



Community Planning & Permitting

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**BOULDER COUNTY
PLANNING COMMISSION
PUBLIC HEARING**

April 19, 2023 at 2:00 p.m.

**Boulder County Courthouse, 3rd Floor,
1325 Pearl Street, Boulder
Virtual and in-person**

April 12, 2023

STAFF RECOMMENDATION

STAFF PLANNER: Pete L'Orange, Planner II

Docket SU-22-0010: Prairie Orchard Reception Hall and Vacation Rental

Proposal: Special Use Review request for the establishment of a Reception Hall venue with a second principal use of a Vacation Rental, using existing structures on an approximately 3.65 acre parcel in the Agricultural zoning district.

Location: 5114 Niwot Road, Parcel number 131733000002, located approximately 0.5 mile west of the intersection of Niwot Road and 55th Street, Section 33, T2N, R70W.

Zoning: Agricultural (A) Zoning District

Owners/Applicants: Stephanie Duffy, Prairie Orchard LLC

Representative: Kimberly Lord, Packard and Dierking LLC

PACKET CONTENTS

Item	Pages
Staff Recommendation	1 – 23
Application Materials (Attachment A)	A1 – A156
Supplemental Materials (Attachment B)	B1 – B126
Referral Responses (Attachment C)	C1 – C40
Public Comments (Attachment D)	D1 – D184

SUMMARY

The applicant requests Special Review approval for a Reception Hall venue and a second principal use of a Vacation Rental, using existing structures on an approximately 3.65-acre property within the Agricultural (A) Zoning District. Additionally, the existing structures on the subject parcel are subject to review as several were constructed or altered without permits. With the recommended conditions, staff finds the request for the Reception Hall use can meet the Special Review Criteria in Article 4-601 of the Boulder County Land Use Code (the Code) and recommends the Planning Commission recommend conditional approval of the Reception Hall use to the Board of County Commissioners. However, staff finds the request for the Vacation Rental use constitutes an increase in density, which

is not allowed under the Land Use Code. Staff therefore recommends that the Planning Commission recommend denial of the Vacation Rental use to the Board of County Commissioners.

DISCUSSION

The applicant has requested a Special Use/Site Specific Development Plan to use the existing structures at the property at 5114 Niwot Road for a Reception Hall venue¹. There are currently six (6) structures on the subject parcel; see Table 1 below for a list of the existing structures and Figure 1 below for their locations on the subject parcel.

Structure	Description
Farmhouse	2,188-square-foot residential structure; 1,388-square-foot house with 800-square-foot covered porch
Studio	125-square-foot accessory residential structure; no cooking or bathing facilities
Settler’s Cabin	296-square-foot accessory structure; unpermitted electrical service, no other improvements
Cottage	366-square-foot accessory residential structure; ½ bath (toilet and sink); no cooking facilities
Reception Hall	2,173-square-foot accessory structure; unpermitted rough-in plumbing for 7 toilets and 4 sinks
Loafing Shed	Approximately 650-square-foot accessory agricultural structure; roof and 2 walls, no other improvements

Table 1: Existing structures

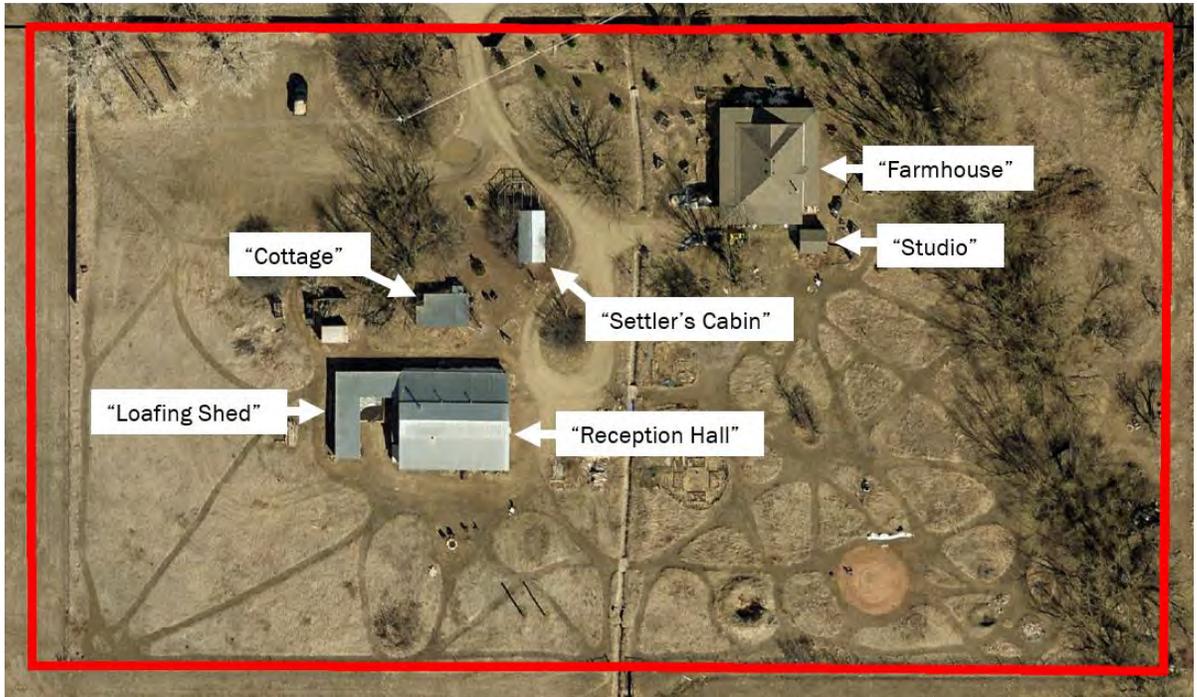


Figure 1: Aerial photograph with locations of existing structures

¹ Note: As this application involves both a use of Reception Hall and an existing reception hall structure, staff has distinguished the two by capitalizing Reception Hall for the use and leaving the reception hall structure in lowercase. The only exceptions to this are in Table 1 and Figure 1 – both of these are capitalized, but refer to the structure.

Per the application materials, the Reception Hall use would include activities such as weddings, photography sessions, ceremonial space, meetings, art exhibits, yoga and fitness space, small concerts, and similar; depending on the size and nature of the particular event, one or more structures might be used. The use as proposed would allow the subject parcel to host events of up to 274 people up to four (4) times per year, events up to 150 people up to 20 times a year, and events up to 50 people an unlimited number per year.² The original application narrative proposed a maximum of 300 people for the large events; based on conversations with staff and the Boulder Rural Fire Protection District, the applicants lowered the proposed maximum number of people to 274.

The applicant has proposed to provide 64 parking spaces on-site (60 regular parking spaces and 4 spaces which meet the Americans with Disabilities Act requirements for “van accessible” spaces). In addition, the applicant has proposed to have off-site parking for events with more than 150 people. The applicant has provided a letter from City Church Boulder, located at 2801 Jay Road, giving the applicant permission to use the City Church Boulder parking lot for Prairie Orchard events in exchange for a \$250 donation to the church per event, and with an understanding that the church parking lot would not be available on Sundays from 8:00 am to 12:00 pm. Subsequent to the submission of the application, staff has been informed by staff from the City of Boulder Planning and Development Services that the property owner for 2801 Jay Road presented a concept plan to the Boulder City Council on February 16, 2023, for redevelopment of this parcel. The concept plan as presented would annex 2801 Jay Road into the City of Boulder and would then redevelop the entire parcel for 84 for-sale dwelling units. This redevelopment would include the demolition of the existing church building and its parking lot. City staff anticipates the property owner will move this concept plan forward as a full application. The applicant for this docket, Prairie Orchard, has been made aware of this and has stated that they will begin looking for an alternate off-site parking location.

In response to concerns expressed by members of the public, the applicant has proposed a number of mitigation measures to try and address potential impacts resulting from the proposed Reception Hall use. A full list of the proposed mitigation measures can be found in the supplemental materials submitted by the applicant (Attachment B), however some of the more significant ones include the following: an on-site employee to monitor and enforce all rules and requirements; an on-site contact phone number for neighbors to reach out with concerns 24/7; requiring all amplified music to use a fixed, indoor sound system; separating the larger events (those with over 150 people) by at least three (3) weeks; adding temporary signage on Niwot Road during events; downward directed lighting; prohibiting pets on site; installing a moveable artificial plant screen to prevent light or noise pollution which might impact nesting osprey; and installing an 8-foot privacy fence.

In addition to the proposed Reception Hall use, the applicant is requesting a Vacation Rental offering transient lodging accommodations to one booking party at a time. As the subject property is not the Primary or Secondary Residence of the applicant (also the property owner), the property cannot qualify as a Primary or Secondary Dwelling Short-Term Rental and can only qualify as a Vacation Rental. The Vacation Rental use would constitute a second principal use on the subject parcel. Per Article 4-102.F of the Code, a second Principal Use may be allowed in the Agricultural Zoning District if it meets the Special Use criteria and does not increase density. However, if a proposed second principal use is required to be located on a legal building lot as defined in Article 9-100.A, that second principal use does constitute an increase in density. A Vacation Rental is required to be located on a building lot. As such, staff finds the second principal use of Vacation Rental is an increase in density and is, therefore, not allowed under the Land Use Code.

The Boulder County Comprehensive Plan identified three (3) important resources on the subject

² For the purposes of this application and review, the term “people” refers all persons on-site including event attendees, customers, staff, caterers, and vendors.

parcel: Agricultural Lands of Statewide Importance; the Boulder Valley Ranch/Beech Open Space Environmental Conservation Area (ECA); and a riparian area (see Figure 2 below). There is a View Protection Score of 0.9 assigned to Niwot Road in the area of the property (this view protection score is discussed under review standard three below).

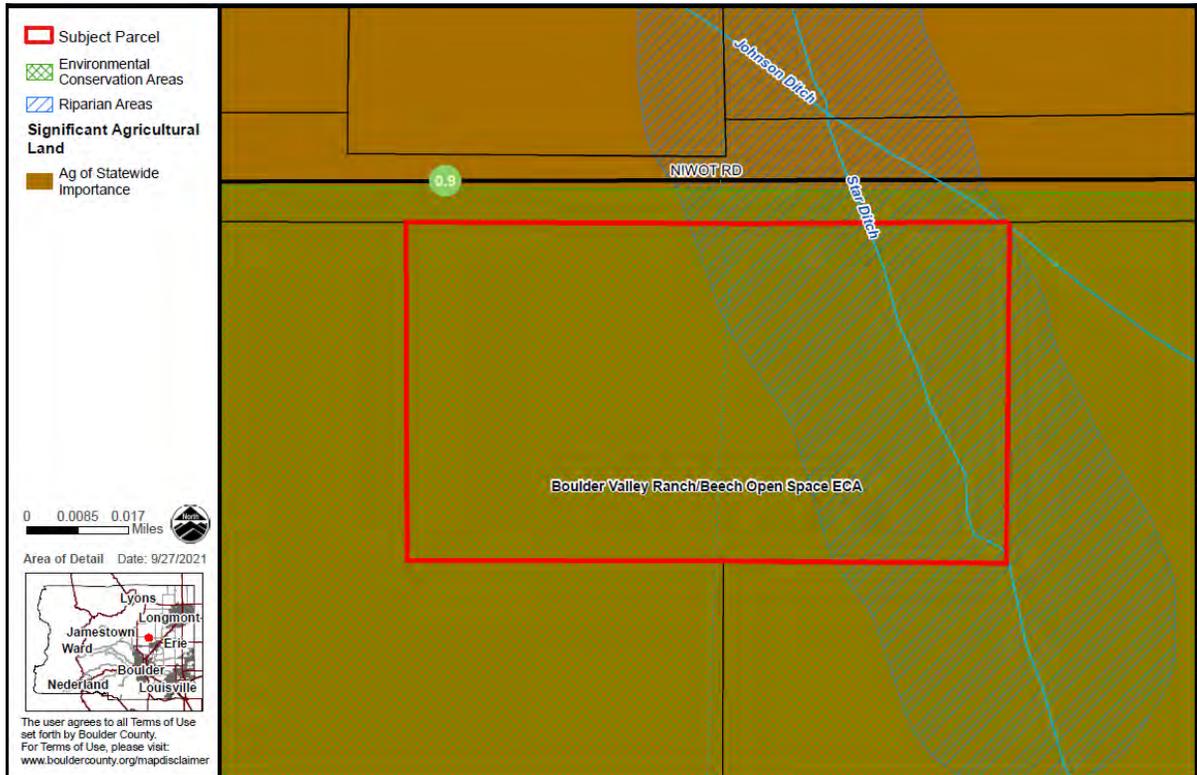


Figure 2: Comprehensive Plan map

As detailed in the criteria review below, staff finds that the proposed Reception Hall use can meet the Special Review Criteria in Article 4-601 of the Code, with the recommended conditions of approval; however, as explained above, staff finds that the proposed Vacation Rental is prohibited by the Code.

REFERRALS

This application was referred to the typical agencies, departments, and adjacent property owners. The application was originally referred on July 21, 2022; after the applicant submitted supplemental information, the application re-referred on February 17, 2023. All responses received are attached and summarized below.

Boulder County Building Safety and Inspection Team: This team reviewed the application materials and noted that there are multiple structures on the subject parcel which have been built or altered without the required building permits. These include: the farmhouse (a kitchen remodel, bathroom remodel, skylights, and a mini split); the reception hall (constructed without permit); the studio (no building permit on record); cottage (work done without permits); the settler’s cabin (work without permits); and the loafing shed (attached to reception hall and must be included in the reception hall permit). The team also provided standard comments related to accessibility requirements, defensible space, and plan reviews.

Boulder County Development Review Team – Access & Engineering: This team reviewed the application materials and required a Transportation System Impact Study (TSIS) be submitted by the applicant. The team reviewed the TSIS when it was submitted by the applicant. They noted that the TSIS used 2.5 people per vehicle in their calculations, which is at the upper range typically used for

wedding venues; they stated that the applicant's traffic engineer must provide justification for this higher number or use a lower carpool rate of 2 people per vehicle. They noted that the TSIS submitted recommended the installation of signage on Niwot Road to warn cyclists of events; the Access & Engineering Team stated that is not a Manual of Uniform Traffic Control Devices (MUTCD) compliant sign that will accurately describe the condition of an event on an adjacent property. Instead, the applicant must provide signage, visible to motorists as they exit the site, warning them to watch for cyclists. They also noted that the proposed parking area(s) would have to meet the Boulder County Multimodal Transportation Standards (MMTS) and the Americans with Disabilities Act (ADA) requirements, and that the circular portion of the driveway near the reception hall must have an outside turning radius of 42 feet, plus an additional 2 feet of clearance to accommodate the front overhang of a vehicle. Plans submitted for permitting must demonstrate full compliance with the MMTS and ADA requirements. Finally, the team noted that the sight distance at the access for the subject property is in excess of 305 feet, the minimum stopping sight distance for a 40 MPH speed limit, in both directions.

Boulder County Parks & Open Space – Natural Resource Planner: The Natural Resource Planner reviewed the application materials and noted that there are the following Comprehensive Plan designations on the subject parcel: Significant Agricultural Lands of Statewide Importance; Environmental Conservation Area; Riparian Area; and View Protection Corridor. The Natural Resource Planner noted that the proposed use could result in the loss of the agricultural land. They also noted that there may be some safety concerns related to the old-growth cottonwoods and crack willows, which are known for dropping large branches without warning. They recommended that a condition of approval be considered requiring an arborist to inspect and recommend safety pruning of trees, as well as having the actual work being completed before uses commence. They noted that the Star Ditch could be a potentially dangerous "attraction" for children. They also recommended that any Russian-olive trees on site be removed, and the stumps treated with systemic herbicide. The Natural Resource Planner expressed concerns with the number of people as proposed by the applicant and the "unlimited" number of events under 50 people as proposed. Finally, the Natural Resources Planner stated that they disagree with the applicant's statement that the proposed movable artificial screen would reduce the noise and light pollution; however, they also noted that since all of the proposed music is inside and since the osprey nest is more than 1/2-mile away from the subject property, it is their opinion that no mitigation is necessary related to the osprey.

Boulder County Public Health: This department reviewed the application materials and noted that there is an existing, permitted onsite wastewater treatment system (OWTS) rated for a 2-bedroom house (this is associated with the farmhouse). They also noted that an OWTS permit application has been submitted for the reception hall, but that the permit has not been issued; that permit must be issued before a building permit can be issued for the reception hall structure, and the OWTS must be installed, inspected, and approved before a Certificate of Occupancy can be issued. The department noted that heavy equipment should be restricted from the surface of the absorption field during construction to avoid soil compaction.

Boulder County Stormwater Team: This team reviewed the application materials and noted that a Stormwater Quality Permit (SWQP) will be required as the area of disturbance may exceed one (1) acre.

Boulder County Wildfire Mitigation Team: This team reviewed the initial application materials and expressed concern about the emergency planning for large events with 150 people or more; specifically, they requested additional information on how all the attendees will be evacuated if many of them have been shuttled to the site. The applicant provided this requested information. The Wildfire Mitigation Team reviewed this additional information and stated that their concerns have been addressed.

Boulder Rural Fire Protection District: This agency reviewed the application materials and provided information on the maximum capacity of the reception hall structure. They noted that no cistern was necessary because a hydrant is within 500 feet of the structure.

City of Boulder Open Space and Mountain Parks (OSMP): This agency reviewed the application materials and stated that they support efforts to maintain trees and vegetation that would help to screen the development from adjacent properties. They also recommended requiring firewise landscaping and the use of native plant species. The agency noted that exterior lighting should be directed downward to minimize glare and the illumination of nearby OSMP lands, conservation easements, or other undeveloped property. The agency noted that the subject property is in direct view of an active osprey nest, located approximately 1/2 mile south of the subject property. They recommended that the applicant should consider how construction and/or event noise and light trespass may affect the birds during the nesting season. They also noted that there are prairie dogs in the vicinity subject property, and that the applicant should be aware of their presence. Finally, the agency stated that the Star Ditch, which serves nearby OSMP lands in the ditch's service area, bisects the eastern half of the property and cannot be interrupted or interfered with. No construction is allowed within 15-20 feet of the easement, no dumping in or tampering with the lateral is allowed. No crossing or modification of the lateral is allowed without the lateral user's permission.

Left Hand Water District: This agency reviewed the application materials and noted that the existing use on the property requires a 3/4" tap and that there is currently only a 5/8" water meter. The agency also noted that the applicant will need to submit a residential Tap Availability Request with Left Hand Water District if the Special Use is not allowed and the property remains residential. To allow the Special Use, a commercial Tap Availability Request with Left Hand Water District will be required. The agency will review required backflow and meter sizing as part of that application.

Longmont and Boulder Valley Conservation Districts (BVLCD): This agency reviewed the application materials and noted that most of the vegetation on the property is deciduous, meaning that the visual impacts of the proposed uses will be different in the winter than in the summer. They also noted that the applicant has proposed haybales on the western property line to serve as visual and sound barriers. They noted that haybales do deteriorate over time, and suggested that the applicant use a stucco-like material over the bales to slow their deterioration. The agency recommended that the applicant monitor the proposed parking area for weeds. Finally, the agency noted that the area surrounding the subject property is similar to the area that helped fuel the December 2021 Marshall fire and that there has been fires from the west which have threatened the Lake Valley Estates neighborhood. The agency recommends defensible space against offsite wildfires.

Adjacent Property Owners: Notices were sent to the 25 property owners within 1,500 feet of the subject property; staff have received 102 public comments, nearly all in opposition. The comments received have cited concerns with a number of issues, including: noise; light; traffic; neighborhood character; wildlife; "commercial operation in agricultural district"; similar venues already exist nearby and there is no need for this one; and safety (intoxicated people, trespassing, wildfire).

Agencies that responded with no conflict: Boulder County Conservation Easement Team; Boulder County Historic Preservation; and Xcel Energy

Agencies that did not respond: County Long Range; County Assessor; Poudre Valley REA; Johnson Ditch; Star Ditch; and City of Boulder Planning & Development Services.

SPECIAL REVIEW CRITERIA

The Community Planning & Permitting staff has reviewed the standards for Special Review approval of a Reception Hall and Community Meeting Facility and finds the following:

(1) *Complies with the minimum zoning requirements of the zoning district in which the use is to be established, and will also comply with all other applicable requirements,*

The applicant has requested approval for the subject parcel as a Reception Hall. The Code classifies Reception Hall as a Community Use and defines it as “A facility for the holding of events including but not limited to weddings, wedding receptions, community meetings, and group gatherings.” (Article 4-504.G) The subject property is located in the Agricultural zoning district; a Reception Hall is one of the Community Uses allowed in the Agricultural zoning district by Special Review.³

Under Article 4-504.G.3, a Reception Hall use must provide one (1) parking space per 30 square feet of floor area. The total floor area on the subject parcel is 5,798 square feet.⁴ However, per the applicant, the settler’s cabin and the loafing shed structures are not going to be used for any activities associated within the Reception Hall use. Thus, only 4,852 square feet of floor area are subject to the parking requirement. Based on this calculation, the applicant must provide a total of 162 parking spaces. The applicant has proposed to provide a total of 145 parking spaces: 64 on-site parking spaces and 81 off-site parking spaces. The proposed off-site parking spaces are located at 2801 Jay Road, the City Church Boulder property. Per Article 4-516.W (Accessory Uses, Parking), shared parking may be used to meet the parking requirements of a proposed use, provided there is “A sufficient, binding agreement for the duration the parking area will be shared[.]” As discussed above, CP&P staff has been informed by staff from the City of Boulder Planning and Development Services that the property owner for 2801 Jay Road presented a concept plan to the Boulder City Council for redevelopment of this parcel which would include the demolition of the existing church building and its parking lot. As such, staff determines that the proposed off-site parking spaces at 2801 Jay Road cannot count toward the parking requirement for the proposed Reception Hall use as there is not a sufficient, binding agreement. Accordingly, the Code limits the maximum floor area for the Reception Hall use to 1,920 square feet total (30 square feet of floor area multiplied by 64 parking spaces). However, per Article 4-516.W.3.a, deviating from the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of a proposal. As discussed in Criterion 2 below, staff recommend a condition of approval that the Reception Hall use be limited to no more than 125 people at any time; additionally, as discussed in Criterion 7 below, staff recommend a condition of approval that on-site parking be limited to no more than 64 vehicles. With these recommended conditions of approval, staff finds that the purpose and intent of the strict limit on the floor area for the Reception Hall use based on the available parking has been met. As such staff determines that some additional floor area may be appropriate in this specific case as any additional floor area allowed for the Reception Hall use would not result in any increase in people or vehicles on the subject parcel. Specifically, staff considers it appropriate to allow Reception Hall use activities to take place in the reception hall structure, as well as the farmhouse structure, provided the activities in the farmhouse are limited to activities such as food preparation, wedding party dressing and preparation, and similar activities which do not include general event attendees. Staff recommend as a condition of approval that the floor area for the Reception Hall use be limited to the reception hall structure and the farmhouse structure for a total of 4,361 square feet, and that no other structures or floor area may be used for the Reception Hall use or activities.

³ Members of the public have expressed concern about the proposed use being a “commercial” use; under the Land Use Code, however, “Commercial/Business Service” uses are separate category from “Community” uses.

⁴ Per 18-162 of the Code, “Floor Area” includes all of the square footage of a structure *except* the area of any covered porch on the principal structure. However, under the Reception Hall use, the principal structure would be the reception hall structure; therefore, the 800-square-foot porch on the farmhouse structure is included in the “floor area.”

Per Article 4-602.C “Special Review for Community Uses and Lodging Uses,” any new Community or Lodging Use established or approved after November 4, 2010, where no Community or Lodging use previously existed, may not exceed a specific floor area based on the size of the parcel. For parcels under 10 acres in size, the maximum floor area of the Community or Lodging use may not exceed 10,000 square feet. The subject parcel is 3.65 acres; the total floor area as proposed by the applicant is 5,798 square feet and maximum floor area of 4,361 square feet as recommended by staff. Therefore, the proposal meets the requirement under 4-602.C of the Code.

Additionally, as discussed above, there are multiple structures on site which were either constructed or altered without the required building permits. To ensure these structures are safe and meet the Building Code, staff recommend as a condition of approval that the applicant obtain all necessary building permits and certificates of occupancy for all the structures on site prior to the commencement of the Reception Hall use

Therefore, with the commitments of record and as conditioned, staff finds this criterion can be met.

- (2) ***Will be compatible with the surrounding area. In determining compatibility, the Board should consider the location of structures and other improvements on the site; the size, height and massing of the structures; the number and arrangement of structures; the design of structures and other site features; the proposed removal or addition of vegetation; the extent of site disturbance, including, but not limited to, any grading and changes to natural topography; and the nature and intensity of the activities that will take place on the site. In determining the surrounding area, the Board should consider the unique location and environment of the proposed use; assess the relevant area that the use is expected to impact; and take note of important features in the area including, but not limited to, scenic vistas, historic townsites and rural communities, mountainous terrain, agricultural lands and activities, sensitive environmental areas, and the characteristics of nearby development and neighborhoods;***

The subject parcel is 3.65 acres and is located in the Agricultural zoning district. The parcels in the immediate vicinity of the subject are a mix of residential and agricultural uses; the parcels range from approximately 1 acre to 158 acres. There are two small, platted subdivisions on Niwot Road east of the subject parcel and one larger platted subdivision southwest of the subject parcel (see Figure 3 below).

The applicants do not propose any new structures; however, several of the existing structures were built without review or permits. All of the structures on the parcel are single-story structures. The reception hall structure is approximately 15 feet tall; the farmhouse is approximately 25 feet tall. This is generally consistent with other parcels in the area, most of which have one- or two-story residential structures, and many have accessory agricultural structures. As discussed in Criterion 1 above, staff recommend a condition of approval that the applicant obtain all necessary building permits and certificates of occupancy for all the structures on site prior to the commencement of the Reception Hall use.

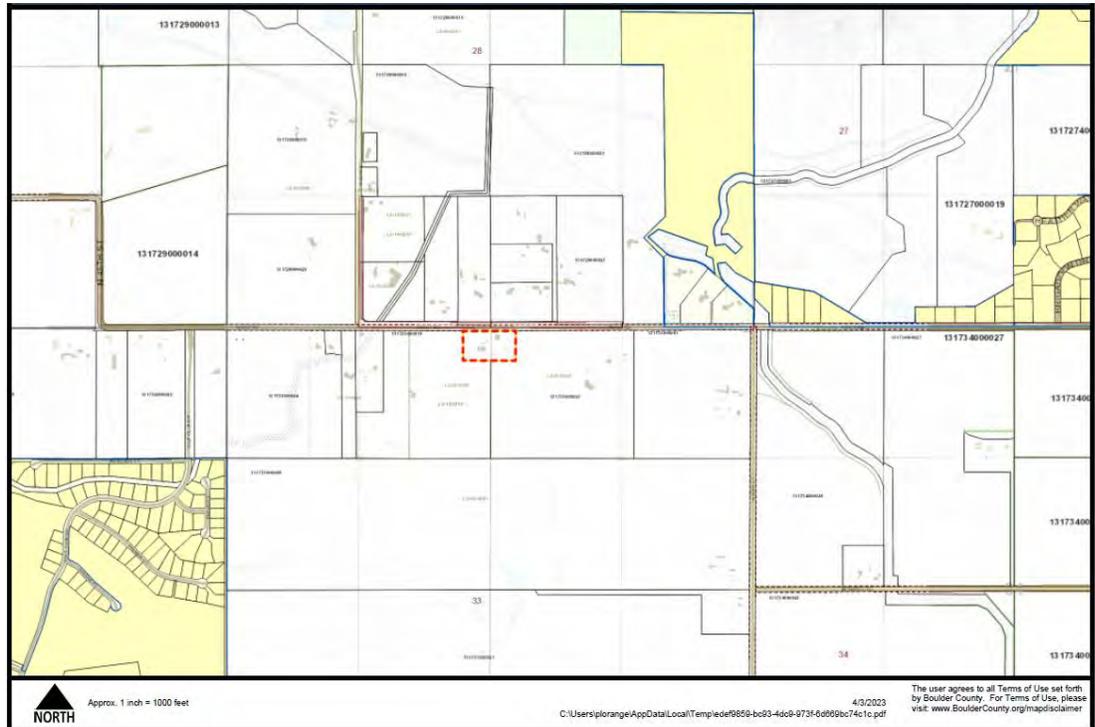


Figure 3: Subject parcel indicated in red; platted subdivisions in yellow.

According to the narrative submitted by the applicant, the Reception Hall use is compatible with the character of the neighborhood as there are two other wedding reception halls in the vicinity: Boulder Flower Farm at 4114 Oxford Road and Lone Hawk Farm at 10790 N. 49th Street. Staff has reviewed both of these locations.

The Boulder Flower Farm is located approximately 1.5 miles from the subject property (as the crow flies). Per the Boulder County Assessor’s records, the Boulder Flower Farm parcel is approximately 9.75 acres and has approximately 21,233 square feet of floor area (4,529-square-foot residential structure, approximately 14,000 square feet of greenhouse floor area, and 2,688-square-foot equipment shed). It does not appear to have gone through the Special Review process for a Reception Hall use; the owners may be hosting weddings as part of an accessory Farm Event use, which can occur by right on a property with an Open Agricultural use, provided there are no more than 12 Farm Events per year. Per the venue’s website, they host events up to 100 guests.

The Lone Hawk Farm is located approximately 4.5 miles from the subject property (again, as the crow flies). Per the Boulder County Assessor’s records, the Lone Hawk Farm parcel is approximately 84 acres and has approximately 18,700 square feet of floor area (approximately 4,000-square-foot residential structure and multiple agricultural structures totaling approximately 14,000 square feet of floor area). The Lone Hawk Farm was reviewed and approved through the Special Review process for a Reception Hall (SU-06-0002). The approval for that docket imposed a number of conditions and limits on the Reception Hall use, including restricting the hours of operations to between 8:00AM and 9:00PM, requiring the development of a 75-space parking lot, limiting the maximum number of people to 150 per event, and a total of 2,500 people per year.

In considering the number of events and people as proposed by the applicant, staff determines that the proposal is not compatible with the surrounding area. Both venues cited by the applicant are on much larger parcels, with much more floor area, and host far fewer people. Even with the proposed shuttle service to reduce the number of vehicles coming and going

from the subject parcel, having up to 275 people attending an event on a 3.65-acre parcel would not be in character with other properties and uses in the area.

However, staff determines that a Reception Hall use could be compatible with the neighborhood given a number of conditions to limit and mitigate the impacts of the use. In addition to the commitments of record made the applicant in their original and supplemental materials, staff recommend conditions related to the maximum number of people, the number of events, the hours of operation, and other mitigation measures.

First, staff recommend as a condition of approval that the maximum number of people allowed on site at any one time be limited to no more than 125 people, including guests, employees, caterers, vendors, et cetera. The limit of 125 people is partially based on the site being able to provide 64 parking spaces on-site. Based on the referral comments from the Access & Engineering Team, an appropriate number of people per vehicle for carpooling is two (2) people per vehicle; this is consistent with the Lone Hawk Farms approval discussed above – that approval limited the number of people to 150 people and required 75 parking spaces, which would be two (2) people per vehicle. Additionally, staff has determined that a limit of 125 people on-site is appropriate given the parcel is only 3.65 acres in size. While the site may have the space to provide additional parking (no such plan has been submitted), increasing the size of the parking lot would result in a corresponding decrease in the amount of the parcel that could be used for Reception Hall activities and events. This decrease in usable area would result in more people in a smaller area, which would increase the intensity of the proposed use. The county has previously found that it was appropriate to limit the Lone Hawk Farm Reception Hall (SU-06-0002) to a maximum of 150 people on a parcel that is approximately 84 acres in size. As such, staff finds it is appropriate and reasonable to limit a proposed Reception Hall use, which is proposed for a much small parcel, to 125 people.

Second, staff recommend as a condition of approval that the maximum number of events of more than 50 people be limited to no more than 20 events per calendar year and may only occur on non-consecutive weekends. Limiting the events of more than 50 people to non-consecutive weekends will help ensure that the overall impact of these events is mitigated.

Third, staff recommend as a condition of approval limiting the events with 50 or fewer people to no more than two (2) per day, with none on weekends with events of over 50 people. Limiting the number of events with 50 or fewer people to no more than two (2) per day will help to prevent excessive numbers of people and vehicles accessing the site. Additionally, given that larger events, those of between 51 and 125 people, are anticipated to have a greater degree of impact on the area, prohibiting events with 50 or fewer people on weekends when a larger event is scheduled will similarly help to limit the impact of the Reception Hall use.

Fourth, staff recommend as a condition of approval that the hours of operation for the Reception Hall use be limited to between 9:00 AM and 7:00 PM for events, with all post-event activities and clean up being completed by 9:00 PM. Requiring events to end by 7:00 PM is consistent with the Boulder County Noise Ordinance (Ord. 92-28, Section 1.01.050.C), which requires a lower maximum decibel level starting at 7:00 PM in residential areas.⁵

⁵ Per the Boulder County Noise Ordinance, “‘Residential area’ means an area of single or multi-family dwellings where businesses may or may not be conducted in such dwellings. ... ‘Residential Area’ includes ... parks and open space. Undeveloped areas adjacent to residential areas constitute a residential area for purposes of this ordinance, notwithstanding the zoning classification under the Zoning Resolution of the County.” As such, the area surrounding the subject parcel is considered a “residential area” for the purposes of the Noise Ordinance.

Fifth, staff recommend as a condition of approval that all amplified sound or music must be inside the reception hall building and comply with the Boulder County Noise Ordinance. The applicant has stated as a commitment of record that all amplified music will be required to use a fixed sound system, installed in the reception hall building. However, given public concerns regarding sound in general, requiring that all amplified sound (not just amplified music) use the fixed, indoor sound system will help to prevent excessive noise which might result from things like portable microphone and speaker systems used for speaking or public presentations, which would not technically fall under “amplified music,” but which would have the potential for similar negative impacts.

Sixth and finally, staff recommend as a condition of approval that the applicant, or any future operator of the Reception Hall, provide written notice of any event of more than 50 people to all mailing addresses within 1,500 feet of the subject property at least one (1) calendar week prior to the event. This notice shall include the type of event, the scheduled start and end times, and the on-site contact number.⁶ This will provide residents in the area advance notice of larger events and provide them basic information on the event, so they know what to expect. Normally, such mailings might be directed to “property owners,” however, in this case, as the impacts resulting from any events will most directly affect the *residents* of the area, it is staff’s determination that sending the notice to mailing addresses is more appropriate as there may be properties which are occupied by those other than the listed property owner.

Therefore, with the commitments of record and as conditioned here and in Criterion 1 above, staff finds this criterion can be met.

(3) *Will be in accordance with the Boulder County Comprehensive Plan;*

The subject property is located in an area identified in the Boulder County Comprehensive Plan as Agricultural Lands of Statewide Importance, the Boulder Valley Ranch/Beech Open Space Environmental Conservation Area (ECA), and contains a riparian area located along the Star Ditch (see Figure 2 above).

The Comprehensive Plan seeks to strike a balance between the desires of individual property owners and the community as a whole. In reviewing the application materials, staff have identified several specific goals or policies in the Comprehensive Plan which are particularly relevant to this docket.

Agricultural Element, Policy 1.04 Development Review: “Boulder County shall consider potential impacts on existing adjacent agricultural uses and shall use its regulatory authority to mitigate those impacts which would be detrimental to the continuation of existing agricultural operations and activities and the establishment of new agricultural operations and activities. New development should be sited in such a way so as to minimize and/or prevent future conflicts.”

The subject parcel is adjacent to agricultural uses, so any proposed development on the subject parcel must be evaluated to determine if that development may have detrimental impacts to agricultural operations and activities. While the subject parcel is adjacent to agricultural uses and is located in agricultural land of statewide importance, the parcel itself is relatively small and the only agricultural activities on the subject parcel in the recent past have been limited to small gardens. The Reception Hall use as proposed by the applicant

⁶ As noted above in Discussion section and as included in the commitments of record from the applicant, there will be an on-site contact number for neighbors to reach out 24/7 with concerns.

would not be an agricultural activity; however, Reception Halls *are* an allowed use within the Agricultural Zoning District and are not, in and of themselves, inconsistent with agricultural activities. For example, it is not uncommon for local Grange Halls, which would be considered a Reception Hall under the Land Use Code, to be located in agricultural areas. The potential area for conflict comes from whether the proposed activities at the Reception Hall would have detrimental impacts to agricultural activities in the area and, if conflicts are identified, how those conflicts might be mitigated. Staff determines that the Reception Hall activities as proposed would likely have a detrimental effect on agricultural activities, including, but not limited to, levels of noise which may negatively impact horses and other livestock in the area, and levels of traffic which may result in conflicts with agricultural vehicles and equipment along Niwot Road. Staff also determines, however, that these impacts can be mitigated and addressed through the recommended conditions of approval in Criteria 1 and 2 above. These conditions will help to mitigate and minimize the impacts of the Reception Hall use on current and future agricultural activities.

Economic Element, Policy 3.03 Small Business: *“Boulder County seeks to help small businesses thrive within the context of existing community character and infrastructure, as these businesses are important contributors to regional economic vitality.”*

This policy seeks to support and encourage small businesses in Boulder County, while ensuring that community character is protected. The Reception Hall use would allow for the applicants to operate a small business, which has the potential to support regional economic vitality. As cited by both the applicant and members of the public, there are other reception hall venues in the area, which indicates that such a use is potentially economically viable. Whether the presence of those other venues is considered a reason to approve or deny this specific application is open to debate. The applicant feels that the presence of these other venues supports their application as it indicates that such a venue is not out of character with the area; members of the public have stated that, since those venues exist, that need is being served and an additional venue is not necessary. Staff does not take a position on the question of economic viability in general, as such a consideration is not part of the Special Review criteria under the Land Use Code. As discussed above, however, staff does find that the Reception Hall as proposed by the applicant would likely be out of character for the area, especially given the relatively small size of the parcel and limited floor area allowed based on the parking which can be provided. It is also staff’s determination, however, that with the recommended conditions of approval in Criteria 1 and 2 above, the proposal can be made to strike a balance between supporting small business efforts and community character.

Plains Planning Area, Policy 1.01 Geographic Scope and Vision for Plains Planning Area: *“Land located outside CSAs and east of the Forestry zoning district, should be designated as the Plains Planning Area, and should remain rural. Urban services should not be extended into the Plains Planning Area, and zoning should continue to prohibit urban development and densities. Land uses within the Plains Planning Area should continue to be related to agricultural activities, environmental resource protection, low density residential development and other activities consistent with the rural character of the county.”*

The subject parcel is located outside of any Community Service Area (CSA) and is east of the Forestry zoning district; as such, it falls under the Plains Planning Area. This policy emphasizes that urban development should be located near existing urban areas, and that uses within the Plains Planning Area should generally be agricultural or residential in nature. While the proposed Reception Hall use is neither agricultural nor residential, it is a use which is expressly allowed in the Agricultural zoning district through the Special Review process. As discussed above, other similar venues have been reviewed and do operate within the Plains Planning Area. Based on Reception Halls being allowed in the Agricultural zoning

district and with the recommended conditions of approval, staff finds that, while the proposed use is not agricultural or residential in nature, it does not necessarily rise the level of “urban development.”

Plains Planning Area, Policy 1.03 Guidelines for Land Use Proposals: “*Where pertinent, land use proposals within the Plains Planning Area should adhere to the following land use guidelines:*

- a) *Conformance with the applicable goals, policies, and land use regulations of the Boulder County Comprehensive Plan;*
- b) *Preservation and utilization of agricultural lands, or when applicable, the preservation of other environmental resources;*
- c) *Provision of adequate access, water availability and sewage disposal by the applicant, and the existence of adequate educational facilities and police and fire protection; and*
- d) *Minimizing potential negative impacts on surrounding lands, including agricultural land, attendant agricultural uses, and established neighborhoods and other adjoining or nearby development and land uses.”*

Similar to the other Comprehensive Plan policies discussed above, this policy emphasizes that any development in the Plains Planning Area should prioritize uses and activities which support, or are at least not detrimental to, the agricultural and rural character of the Plains Planning Area. And as discussed above, while the Reception Hall use is neither agricultural nor residential, with the commitments of record from the applicant and with the recommended conditions of approval, the potential negative impacts of the use can be sufficiently mitigated.

Therefore, with the commitments of record and as conditioned in Criteria 1 and 2 above, staff finds this criterion can be met.

- (4) ***Will not result in an over-intensive use of land or excessive depletion of natural resources. In evaluating the intensity of the use, the Board should consider the extent of the proposed development in relation to parcel size and the natural landscape/topography; the area of impermeable surface; the amount of blasting, grading or other alteration of the natural topography; the elimination or disruption of agricultural lands; the effect on significant natural areas and environmental resources; the disturbance of plant and animal habitat, and wildlife migration corridors; the relationship of the proposed development to natural hazards; and available mitigation measures such as the preservation of open lands, the addition or restoration of natural features and screening, the reduction or arrangement of structures and land disturbance, and the use of sustainable construction techniques, resource use, and transportation management.***

The Reception Hall use as proposed is not anticipated to result in any excessive depletion of natural resources and does not involve any significant changes to the topography. As discussed above, however, staff finds that the Reception Hall use as proposed by the applicant is an over-intensive use of the land. The other similar venues cited by the applicant are located on larger parcels and limit the number of people to much lower numbers than those proposed by the applicant. Allowing up to 100 people on a 9.75-acre parcel, as in the case of the Boulder Flower Farm, or up to 150 people on an 84-acre parcel, as in the case of the Lone Hawk Farm, may be reasonable and may be found to *not* be an over-intensive use of the land. However, the applicant has proposed to host events of up to 275 people on a parcel that is only 3.65 acres. Staff finds that this would constitute an over-intensive use of the land. Limiting the number of people to no more than 125, and limiting the frequency with which events of different sizes can occur, as outlined in the recommended conditions of approval in

Criteria 1 and 2 above, however, may allow the Reception Hall use to occur at a level and frequency which is appropriate for this specific parcel, which is relatively small in size.

Additionally, staff have identified other factors which, based the use as proposed by the applicant, would contribute to the proposal being considered an over-intensive use of the land. These factors include noise, lighting, visual impacts, and impacts to transportation. These factors are evaluated, with recommended conditions of approval, in Criteria 7, 8, and 9 below.

Therefore, with the commitments of record and as conditioned in Criteria 1 and 2 above and Criteria 7, 8, and 9 below, staff finds this criterion can be met.

(5) *Will not have a material adverse effect on community capital improvement programs;*

There is no indication the proposal will have an adverse effect on community capital improvement programs, and no referral agency has responded with such a concern.

Therefore, staff finds this criterion is met.

(6) *Will not require a level of community facilities and services greater than that which is available;*

The applicant has been working with Boulder Rural Fire Protection District. The agency has determined that the reception hall structure would have a capacity of 274 people if used as a dance floor, 196 people if the floor area has movable chairs, and 91 people if it has movable tables and chairs. The agency also noted that a cistern is not required, as there is a fire hydrant within 500 feet of the property. They also noted that an entrance and turnaround that are adequately sized to accommodate a fire truck will be necessary; as conditioned in Criterion 7 below, staff finds these requirements can be met.

Per the referral response from Public Health, the existing on-site wastewater treatment system (OWTS) associated with the farmhouse is sized for a two-bedroom house, and is sized for up to four people, including children. The OWTS proposed by the applicant is sized for up to 50 people per day; the applicant has stated they will bring in portable facilities as needed. Since their initial referral response in August 2022, Boulder County Public Health has issued an OWTS permit for the reception hall structure; this permit is for an OWTS system capable of accommodating events with a maximum of 50 people on site at one time. The OWTS must be installed and inspected before a Certificate of Occupancy can be issued. Staff recommend as a condition of approval that the applicant work with Boulder County Public Health to complete all Boulder County Public Health requirements.

Additionally, per the referral response from Boulder County Public Health, staff recommend as a condition of approval that heavy equipment be restricted from the surface of the absorption field during construction to avoid soil compaction, which could cause premature absorption field malfunction.

Therefore, with the commitments of record and as conditioned, staff finds this criterion can be met.

(7) *Will support a multimodal transportation system and not result in significant negative impacts to the transportation system or traffic hazards;*

The subject property has demonstrated legal access from Niwot Road. Per the revised site plan submitted by the applicant, the existing access drive from Niwot Road will be widened from approximately 13.7 feet to approximately 29 feet wide; the access will also be realigned to provide access to and from Niwot Road at a 90 degree angle (existing access is slightly angled to Niwot Road. These modifications are necessary to meet the Boulder County Multimodal Transportation Standards (MMTS).

The applicant submitted a Transportation System Impact Study (TSIS) for the proposed Reception Hall use; the Reception Hall use was used for the TSIS as that use is expected to have the greatest impact on the transportation system. Based on the TSIS submitted by the applicant and review by County Access & Engineering staff, the Reception Hall use as proposed would be expected to generate different numbers of vehicle trips depending on the number of people expected to attend the event. See Table 2 below.

Event Size	Projected Weekday Vehicle Trips	Projected Weekend Vehicle Trips
50 or fewer people	50/day	50/day
51 to 150 people	130/day	130/day
151 to 300	250/day	250/day

Table 2: Projected vehicles trips per day based on number of attendees per the applicant-submitted TSIS

The numbers provided in the TSIS are based on an assumption of a carpooling rate of 2.5 people per vehicle. Per the Access & Engineering referral response, this carpooling rate is at the high end of what can be expected for a wedding venue; the range often used for wedding venues is 2.0-2.5 people per vehicle. Staff questions the application of the higher end of the range without justification, and no such justification has been provided. Use of the more conservative rate, and limiting the maximum people accordingly, will reduce the likelihood of event parking in the Niwot Road right-of-way. As such, staff finds that the actual vehicle trips per day would likely be higher than the numbers provided in the TSIS.

The applicant has proposed a couple of measures to address traffic impacts. First, for events of over 150 people, the applicant has proposed to contract to provide shuttles, which would transport people between an off-site parking location and the subject property. The applicant has provided documentation of an agreement with the City Church Boulder, located at 2801 Jay Road, for the use of the church’s 81-space parking lot. The applicant would be able to use the lot for their events of over 150 people. Per the submitted agreement, the lot would not be available to the applicant between 8:00 AM and 12:00 PM on Sundays. Per the materials submitted by the applicant, for events of over 150 people with shuttle service, the on-site parking at the subject parcel would be contractually limited to attendees who have pre-paid for an on-site space; the fee for the on-site spaces would be a minimum of \$10.00. The applicant states that this would encourage more people to park at the off-site location and use the shuttle service.

While staff generally supports the use of shuttles, as discussed above, staff has been notified that the parcel at 2801 Jay Road is likely to be redeveloped, which would include elimination of the proposed off-site parking. The applicant has been made aware of the potential redevelopment of the church property, and has stated that they will begin looking for alternate off-site parking locations; no alternate locations have been provided to staff to date. Staff finds that, since the proposed off-site parking location does not appear to be viable in the long run, it cannot reasonably be used to meet the parking requirements of the Reception Hall use floor as proposed. As such, staff finds that only the parking that can be provided on-site at the subject parcel can be used to meet the parking required for a Reception Hall use under 4-

504.G of the Code. Therefore, staff recommend that maximum number of people allowed for the Reception Hall use should be limited based on the parking available on-site.

As discussed above, based on the carpooling rate of 2.0 people per vehicle as discussed in the Access & Engineering referral response, the on-site parking lot is capable of handling parking for 128 people. Limiting the maximum number of people on-site to 125, as conditioned in Criterion 2 above, would ensure that the venue can provide adequate parking on-site. Additionally, to ensure that the number of vehicles on site do not exceed the number of parking spaces available, staff recommend as a condition of approval that no more than 64 vehicles may be parked on site at any time; additionally, once this 64-vehicle limit is reached, the on-site employee proposed by the applicant shall turn away additional vehicles.

A second measure proposed by the applicant to mitigate potential traffic hazards relates to concerns expressed by members of the public that Reception Hall event attendees would park along Niwot Road. Staff agrees that event attendees parking on Niwot Road would pose a significant hazard and cannot be permitted. The applicant has proposed to post “no parking” signs on Niwot Road on event days, to either side of the access entrance to the subject property. Staff recommend that as a condition of approval the applicant submit a traffic control plan completed by the traffic control supervisor identifying the types and location of signs to be placed in the Niwot Road right-of-way to control event parking.

The applicant has also proposed to post signs on Niwot Road to warn bicyclists of potential traffic entering and exiting the subject property. As noted in the referral response from Access & Engineering, there are no Manual of Uniform Traffic Control Devices (MUTCD) compliant sign that will accurately describe the condition of an event on an adjacent property.⁷ Instead, staff recommend as a condition of approval that the applicant must provide signage, visible to motorists as they exit the site, warning them to watch for cyclists.

In reviewing the materials and site plan as submitted, staff have identified some required revisions to the site plan in order for the site to meet the MMTS. Specifically, staff has identified the following issues to be addressed: the proposed parking area is in poor condition and will require grading to grub and level the surface; all drive aisles at the parking area must be at least 24 feet wide; ADA parking spaces and ADA loading/drop-off area must meet all relevant requirements in the 2010 ADA Standards for Accessible Design; and the circular portion of the driveway near the reception hall must have an outside turning radius 42 feet, plus an additional 2 feet to accommodate a single-unit truck. Staff recommend as a condition of approval that, at building permit application, the applicant submit revised plans that demonstrate fully compliant parking and driveway areas.

Therefore, with the commitments of record and as conditioned in this criterion and Criterion 2 above, staff finds this criterion can be met.

(8) *Will not cause significant air, odor, water, or noise pollution;*

One of the major areas of concern expressed by members of the public is that the proposed Reception Hall use will result in significant levels of noise, which would adversely impact

⁷ The Manual of Uniform Traffic Control Devices (MUTCD) is published by the Federal Highway Administration, and contains all national design, application, and placement, standards, guidance, options, and support provisions for traffic control devices. The purpose of the MUTCD is to provide uniformity of these devices, which include signs, signals, and pavement markings, to promote highway safety and efficiency on the Nation's streets and highways.

other properties and residents in the area. In response to these concerns, the applicant has proposed several mitigation measures.

First, as stated in the original application narrative, the applicant intends to install stacks of haybales and extend the privacy fence along the western property line to help block any noise. Additionally, per the supplemental narrative submitted, the applicant will increase the height of the existing 6-foot privacy fence to 8 feet tall. Per the referral response from the Boulder Valley and Longmont Conservation District (BVLCD), haybales tend to deteriorate over time. Staff recommend as a condition of approval that the applicant either cover the haybales with a waterproof covering, tan or neutral in color (e.g. – no bright or intense colors), or replace the haybales at least once per calendar year.

The applicant has also proposed to have on-site staff to enforce the Boulder County Noise Ordinance and to require that all amplified music use a fixed sound system installed in the reception hall structure. As discussed above in Criterion 2, staff has identified some additional measures to mitigate noise impacts, including limiting event hours to align with the Noise Ordinance and clarifying that all amplified sound and music use the fixed indoor system.

Issues and recommended conditions of approval related to lighting and light pollution are discussed in Criterion 9 below.

Therefore, with the commitments of record and as conditioned in this criterion and Criterion 2 above, staff finds this criterion can be met.

(9) *Will be adequately buffered or screened to mitigate any undue visual impacts of the use;*

Generally speaking, the subject property is relatively well screened from other residential structures. There is an existing 6-foot privacy fence on most of the northern property line and the northern half of the western property line. To address visual impact concerns from members of the public, the applicant has stated that they will increase the height of the privacy fence to 8 feet. As discussed above, the applicant has also proposed to install stacks of haybales along the western property line. While the applicant intends these to provide a sound barrier, they will also provide a visual barrier for the property to the west. There are a number of well-established and mature trees on the eastern side of the subject parcel along the Star Ditch. The southern property line of the subject parcel does not currently have any screening. Per the supplemental narrative provided by the applicant, they plan to add landscape screening toward the southwest corner of the property. No plans or details have been provided for this proposed landscape screening; staff recommend as a condition of approval that prior to the issuance of any building permit for the reception hall structure, the applicant submit a landscaping plan for review and approval by Community Planning & Permitting staff and that the landscaping as approved be installed prior to commencement of operation of the Reception Hall.

Another concern which has been expressed by members of the public is the potential for the Reception Hall use to result in excessive light pollution. Given the relatively small size of the subject parcel and the anticipation that there will be events which take place partially or wholly outdoors, the potential impact of any outdoor lighting on adjacent properties is likely to be higher than might otherwise be the case. For example, exterior lighting located in the middle of a parcel that is 35 acres or larger will have less of an impact, just because the lighting is located further away from other parcels. As this parcel is only 3.65 acres, any exterior lighting is going to be relatively close to the adjacent parcels. As such, all exterior lighting needs to be carefully considered to minimize the impacts. The applicant has stated

that all exterior lighting will be directed downward. The applicant has not provided any lighting plan, however. Staff recommend as a condition of approval that at the time of building permit application, the applicant submit a lighting plan for review and approval by Community Planning & Permitting staff. This plan must include the location of all exterior lighting fixtures and manufacturer's cutsheets for all proposed fixtures. All exterior lighting fixtures must be dark-sky compliant. Additionally, the color and brightness of exterior lighting can have significant impacts on light pollution. The color (e.g. – "cool white," "soft white," "warm white," et cetera) of lighting is measured in degrees Kelvin (K), with lower values being warmer in color and higher values being cooler in color. For example, a bulb that is 3000K is commonly referred to a "Warm White," while a bulb that is 6000K is referred to as "Daylight Deluxe." Cooler color lights tend to have a more significant impact in terms of light pollution. Additionally, different bulbs will have different levels of brightness, described as "lumens." The more lumens, the brighter the light. To help mitigate and minimize the impacts of any outdoor lighting, staff recommend as a condition of approval that bulbs for exterior lighting must be 3000K ("Warm White") or less and cannot exceed 630 lumens for each bulb.⁸

Therefore, with the commitments of record and as conditioned, staff finds this criterion can be met.

(10) *Will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County;*

There have been a number of health and safety concerns expressed by referral agencies and members of the public. One of the concerns frequently expressed by members of the public is that people attending events at the proposed Reception Hall may end up leaving the site after having consumed too much alcohol. As many weddings include serving alcohol, this is a reasonable concern. Staff recommend that as a condition of approval, all alcohol service must cease no less than one (1) hour prior the scheduled end of the event.

In reviewing the application as submitted, the Boulder County Parks and Open Space Natural Resource Planner also identified a couple of potential safety issues. The first is related to the existing old-growth cottonwoods and crack willows located on the subject parcel; these tree species are known for dropping large branches without warning. To help prevent injury to people or damage to property or vehicles, staff recommend as a condition of approval that the applicant work with a qualified arborist to inspect and recommend safety pruning of trees, and that all such necessary safety pruning be completed prior to commencement of the Reception Hall use.

The Natural Resource Planner also noted that the Star Ditch and the concrete-lined irrigation ditch may prove to be an attractive nuisance to children. Staff recommend as a condition of approval that, prior to commencement of the Reception Hall use that the applicant submit a plan, for review and approval by Community Planning & Permitting staff, describing measures to be taken to prevent accidents in and around the ditches.

Another safety issue which has been identified through the application review is the potential for wildfire. As seen with the Marshall Fire in December 2021, grassland fires can pose a very serious risk to the residents of Boulder County. In reviewing the original application materials, the Boulder County Wildfire Mitigation Team expressed concern about emergency plans for events with more than 150 people. Specifically, they requested additional information on how attendees would be evacuated, especially those who had parked off-site

⁸ 630 lumens equate to a 60 watt incandescent bulb, 14 watt CFL bulb, or 7 watt LED bulb.

and used the shuttle service. As part of the supplemental materials submitted, the applicant provided an emergency evacuation plan, which addressed both attendees who parked on- and off-site. The evacuation plan as submitted by the applicant includes step-by-step procedures including the following: providing event staff with yellow safety vests, lighted safety wands, and laminated copies of the evacuation map; assigning staff to specific posts; notifying attendees of the evacuation, using a bullhorn if needed; checking all rooms for attendees; directing and escorting event attendees to the parking lot; and directing vehicles on to Niwot Road. The plan also calls for staff to immediately emergency services. The Wildfire Mitigation Team reviewed this plan and stated that their concerns had been addressed. Additionally, the structures on the subject parcel will be subject to Wildfire Zone 2 mitigation measures, which include defensible space and ignition resistant materials; these will be addressed through the building permit process.

Therefore, with the commitments of record and as conditioned, staff finds this criterion can be met.

(11) *Will establish an appropriate balance between current and future economic, environmental, and societal needs by minimizing the consumption and inefficient use of energy, materials, minerals, water, land, and other finite resources;*

As discussed in Criterion 3 above, staff must balance the needs of the community and property owners' ability to use their property. And as discussed in Criterion 2 above, the Reception Use as proposed by the applicant would have too significant an impact on the character of the neighborhood. Staff finds that, as proposed, there is not an appropriate balance of current and future needs as the project as proposed would be an inefficient use of land. However, with the recommended conditions of approval as discussed in Criterion 2 above, staff finds that an appropriate balance can be achieved.

To ensure that all commitments of record and all conditions of approval are being complied with, staff recommend as a condition of approval that the applicant shall submit an annual report to Boulder County Community Planning & Permitting. This report shall include the following for each event: the date of the event; the type of event (e.g. – “wedding,” “meeting,” “class,” et cetera), the start and end time of the event, the total number of people on site during the event, and the total number of vehicles for the event.

The Reception Hall use is not anticipated to have any significant impacts on energy, materials, mineral, water, or other finite resources. However, staff encourages the applicant to consider pursuing energy efficiency upgrades such as the installation of a solar array.

Therefore, as conditioned in Criterion 2 above, staff finds this criterion can be met.

(12) *Will not result in unreasonable risk of harm to people or property – both onsite and in the surrounding area – from natural hazards. Development or activity associated with the use must avoid natural hazards, including those on the subject property and those originating off-site with a reasonable likelihood of affecting the subject property. Natural hazards include, without limitation, expansive soils or claystone, subsiding soils, soil creep areas, or questionable soils where the safe-sustaining power of the soils is in doubt; landslides, mudslides, mudfalls, debris fans, unstable slopes, and rockfalls; flash flooding corridors, alluvial fans, floodways, floodplains, and flood-prone areas; and avalanche corridors; all as identified in the Comprehensive Plan Geologic Hazard and Constraint Areas Map or through the Special Review or Limited Impact Special Review process using the best available information. Best available information includes, without limitation, updated*

topographic or geologic data, Colorado Geologic Survey landslide or earth/debris flow data, interim floodplain mapping data, and creek planning studies.

No portions of the subject property contain areas identified as having any natural or geologic hazards or constraints, and the subject property is not located in any identified floodplain.

The potential for any risk of harm to people or property related to the existing old-growth trees, the existing ditches, and wildfire are discussed in Criterion 10 above.

Therefore, as conditioned in Criterion 10 above, staff finds this criterion can met.

- (13) ***The proposed use shall not alter historic drainage patterns and/or flow rates unless the associated development includes acceptable mitigation measures to compensate for anticipated drainage impacts. The best available information should be used to evaluate these impacts, including without limitation the Boulder County Storm Drainage Criteria Manual, hydrologic evaluations to determine peak flows, floodplain mapping studies, updated topographic data, Colorado Geologic Survey landslide, earth/debris flow data, and creek planning studies, all as applicable given the context of the subject property and the application.***

The Reception Hall use as proposed will not alter historic drainage patterns or flow rates as the use will be located within the existing residence and no new development is proposed. As noted in the referral response from the City of Boulder Open Space and Mountain Parks, that agency and a private landowner hold a 15-foot easement for the lateral ditch that bisects the subject property. To ensure that there are no inappropriate changes or impacts to the existing ditches on the subject property, staff recommend as a condition of approval that all crossings or modifications to the Star Ditch or the lateral ditch must be reviewed and approved by the ditch owner(s) and easement holders prior to any such work.

Therefore, as conditioned, staff finds this criterion can be met.

RECOMMENDATION

Staff has determined that the proposed Reception Hall use can meet all the applicable criteria of the Boulder County Land Use Code for Special Review; however, the proposed Vacation Rental use is prohibited by the Code. Therefore, staff recommend that the Planning Commission recommend to the Board of County Commissioners a ***conditional approval of the Reception Hall Use component docket SU-22-0010 Prairie Orchard Reception Hall and Vacation Rental*** with the following conditions, ***and denial of the Vacation Rental component***:

1. The Reception Hall use is approved subject to all the commitments of record and the recommended conditions of approval; the Vacation Rental use is denied.
2. The applicants shall provide a Development Agreement for the Reception Hall use, for review and approval by County staff, prior to the issuance of a license or permits by the Boulder County Community Planning & Permitting Department and prior to the recordation of said agreement within one year of approval.
3. The applicant shall be subject to the following commitments of record:
 - a. The applicant shall have an on-site employee at all events to enforce any and all requirements and rules, including, but not limited to: enforcement of the Boulder County Noise Ordinance; inform and enforce all red-flag warnings, restrictions, and bans; prevent trespass and vandalism from the subject property on to adjacent

- properties; enforce a “no pets” rule on site; and educate guests on seasonal wildlife activities.
- b. The applicant shall provide a contact phone number for neighbors to reach out with any concerns; this phone number shall be available at all times.
 - c. The applicant agrees to bring all structures up to code and acquire all required permits.
 - d. The applicant shall provide portable bathroom facilities for any events that exceed 50 people; these shall be provided at a 1:50 ratio.
 - e. The applicant shall maintain the property by reducing dead brush and weeds to mitigate wildfire risks.
 - f. The applicant shall improve the gravel parking area to reduce weeds.
 - g. The applicant shall rejuvenate the grass area in front of the reception hall structure.
 - h. The applicant shall stay in close contact with Boulder County about road closures and events along Niwot Road near the subject property.
 - i. All exterior lighting shall be downward directed.
 - j. The applicant shall increase the privacy fence to 8 feet tall and shall fully fence the property to prevent trespass.
 - k. The applicant shall install landscaping and/or haybales on the western property line to mitigate noise and visual impacts.
4. The applicant must obtain all necessary building permits and certificates of occupancy for all the structures on site prior to the commencement of the Reception Hall use.
 5. The applicant shall obtain any necessary Stormwater Quality Permit (SWQP).
 6. The floor area for the Reception Hall use shall be limited to the reception hall structure and the farmhouse structure for a total of 4,361 square feet; no other floor area or structures may be used for the Reception Hall use or activities.
 7. The maximum number of people allowed on site at any one time is limited to no more than 125 people, including guests, employees, caterers, vendors, et cetera.
 8. The maximum number of events of more than 50 people are limited to no more than 20 events per calendar year and may only occur on non-consecutive weekends.
 9. Events with 50 or fewer people shall be limited to no more than two (2) in any single day, and no events with 50 or fewer people shall be allowed on any weekend with an of event of more than 50 people.
 10. The hours of operation for the Reception Hall use must be limited to between 9:00 AM and 7:00 PM for events, with all post-event close down and clean-up activities being completed by no later than 9:00 PM.
 11. All amplified sound or music must use the fixed indoor sound system inside the reception hall structure and shall comply with the Boulder County Noise Ordinance.
 12. The applicant, and any future operator of the Reception Hall, must provide written notice of any event of more than 50 people to all mailing addresses within 1,500 feet of the subject property at least one (1) calendar week prior to the event. This notice shall include the type of event, the scheduled start and end times, and the on-site contact number.

13. The applicant shall work with Boulder County Public Health to complete all Boulder County Public Health requirements. The OWTS must be installed and inspected before any Certificate of Occupancy will be issued.
14. All heavy equipment shall be restricted from the surface of the OWTS absorption field during construction to avoid soil compaction, which could cause premature absorption field malfunction.
15. No more than 64 vehicles may be parked on site at any time; additionally, once this 64-vehicle limit is reached, the on-site employee proposed by the applicant shall turn away additional vehicles.
16. The applicant must install signage, visible to motorists as they exit the site, warning them to watch for cyclists on Niwot Road.
17. ***At building permit application,*** the applicant shall submit a traffic control plan completed by the traffic control supervisor identifying the types and location of signs to be placed in the Niwot Road right-of-way to control event parking.
18. ***At building permit application,*** the applicant submit revised plans that demonstrates fully compliant parking and driveway areas, including: all drive aisles at the parking area must be at least 24 feet wide; ADA parking spaces and ADA loading/drop-off area must meet all relevant requirements in the 2010 ADA Standards for Accessible Design; and the circular portion of the driveway near the reception hall must have an outside turning radius 42 feet, plus an additional 2 feet to accommodate a single-unit truck.
19. The applicant must either cover the haybales located on the western edge of the property with a waterproof covering, tan or neutral in color (e.g. – no bright or intense colors), or replace the haybales at least once per calendar year.
20. ***Prior to the issuance of any building permit*** for the reception hall structure, the applicant must submit a landscaping plan for review and approval by Community Planning & Permitting staff.
21. The landscaping as approved must be installed and established prior to commencement of operation of the Reception Hall use.
22. ***At the time of building permit application*** for the reception hall structure, the applicant must submit a full exterior lighting plan for review and approval by Community Planning & Permitting staff. This plan must include the location of all exterior lighting fixtures and manufacturer’s cutsheets for all proposed fixtures. All exterior lighting fixtures must be dark-sky compliant in accordance with Article 7-1600 of the Boulder County Land Use Code.
23. All bulbs used for exterior lighting must have a degrees Kelvin rating of 3000K (“Warm White”) or less and cannot exceed 630 lumens.
24. All alcohol service must cease no less than one (1) hour prior to the scheduled end of the event.

25. The applicant shall work with a qualified arborist to inspect and recommend safety pruning for all old-growth cottonwoods and crack willows on the subject property. All necessary safety pruning must be completed prior to commencement of the Reception Hall use.
26. Prior to commencement of the Reception Hall use, the applicant must submit a plan for review and approval by Community Planning & Permitting staff, describing measures to be taken to prevent accidents in and around the ditches.
27. The applicant shall submit an annual report to Boulder County Community Planning & Permitting. This report shall include the following for each event: the date of the event; the type of event (e.g. – “wedding,” “meeting,” “class,” et cetera), the start and end time of the event, the total number of people on site during the event, and the total number of vehicles for the event.
28. All crossings or modifications to the Star Ditch or the lateral ditch must be reviewed and approved by the ditch owner(s) and easement holders prior to any such work.
29. The applicants shall be subject to the terms, conditions, and commitments of record and in the file for docket **SU-22-0010 Prairie Orchard Reception Hall and Vacation Rental.**



Boulder County Land Use Department

Courthouse Annex Building
 2045 13th Street • PO Box 471 • Boulder, Colorado 80302
 Phone: 303-441-3930
 Email: planner@bouldercounty.org
 Web: www.bouldercounty.org/lu
 Office Hours: Mon., Wed., Thurs., Fri. 8 a.m. to 4:30 p.m.
 Tuesday 10 a.m. to 4:30 p.m.

<i>Shaded Areas for Staff Use Only</i>
Intake Stamp

Planning Application Form

The Land Use Department maintains a submittal schedule for accepting applications. Planning applications are accepted on Mondays, by appointment only. Please call 303-441-3930 to schedule a submittal appointment.

Project Number		Project Name					
<input type="checkbox"/> Appeal <input type="checkbox"/> Correction Plat <input type="checkbox"/> Exemption Plat <input type="checkbox"/> Final Plat <input type="checkbox"/> Limited Impact Special Use <input type="checkbox"/> Limited Impact Special Use Waiver <input type="checkbox"/> Location and Extent		<input type="checkbox"/> Modification of Site Plan Review <input type="checkbox"/> Modification of Special Use <input type="checkbox"/> Preliminary Plan <input type="checkbox"/> Resubdivision (Replat) <input type="checkbox"/> Rezoning		<input type="checkbox"/> Road Name Change <input type="checkbox"/> Road/Easement Vacation <input type="checkbox"/> Site Plan Review <input type="checkbox"/> Site Plan Review Waiver <input type="checkbox"/> Sketch Plan <input checked="" type="checkbox"/> Special Use/SSDP		<input type="checkbox"/> Special Use (Oil & Gas development) <input type="checkbox"/> State Interest Review (1041) <input type="checkbox"/> Subdivision Exemption <input type="checkbox"/> Variance <input type="checkbox"/> Other:	
Location(s)/Street Address(es) 5114 Niwot Road, Longmont, Colorado 80503							
Subdivision Name N/A							
Lot(s) N/A	Block(s) N/A	Section(s) 33	Township(s) 2 North	Range(s) 70 West			
Area in Acres 3.65 acres	Existing Zoning Agricultural	Existing Use of Property Residential		Number of Proposed Lots N/A			
Proposed Water Supply Left Hand Water District - See application materials (Requirement 7)			Proposed Sewage Disposal Method Septic - See application materials (Requirement 8)				

Applicants:

Applicant/Property Owner Prairie Orchard, LLC			Email PrairieOrchard@outlook.com		
Mailing Address 7025 Strath Boulevard					
City Longmont	State CO	Zip Code 80503	Phone		
Applicant/Property Owner/Agent/Consultant			Email		
Mailing Address					
City	State	Zip Code	Phone		
Agent/Consultant Kimberly Lord, Attorney			Email kim@packarddierking.com		
Mailing Address 2595 Canyon Blvd., Suite 200					
City Boulder	State CO	Zip Code 80302	Phone (303) 447-0450		

Certification (Please refer to the Regulations and Application Submittal Package for complete application requirements.)

I certify that I am signing this Application Form as an owner of record of the property included in the Application. I certify that the information and exhibits I have submitted are true and correct to the best of my knowledge. I understand that all materials required by Boulder County must be submitted prior to having this matter processed. I understand that public hearings or meetings may be required. I understand that I must sign an Agreement of Payment for Application processing fees, and that additional fees or materials may be required as a result of considerations which may arise in the processing of this docket. I understand that the road, school, and park dedications may be required as a condition of approval. I understand that I am consenting to allow the County Staff involved in this application or their designees to enter onto and inspect the subject property at any reasonable time, without obtaining any prior consent.

All landowners are required to sign application. If additional space is needed, attach additional sheet signed and dated.

Signature of Property Owner		Printed Name	Stephanie Duffy as Manager of Prairie Orchard, LLC	Date	07/12/2022
Signature of Property Owner	E2E5127E50E2458...	Printed Name		Date	

The Land Use Director may waive the landowner signature requirement for good cause, under the applicable provisions of the Land Use Code.



Community Planning & Permitting

2045 13th Street, Boulder, CO 80302 303-441-3930 www.bouldercounty.org

Vicinity

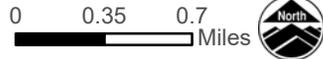
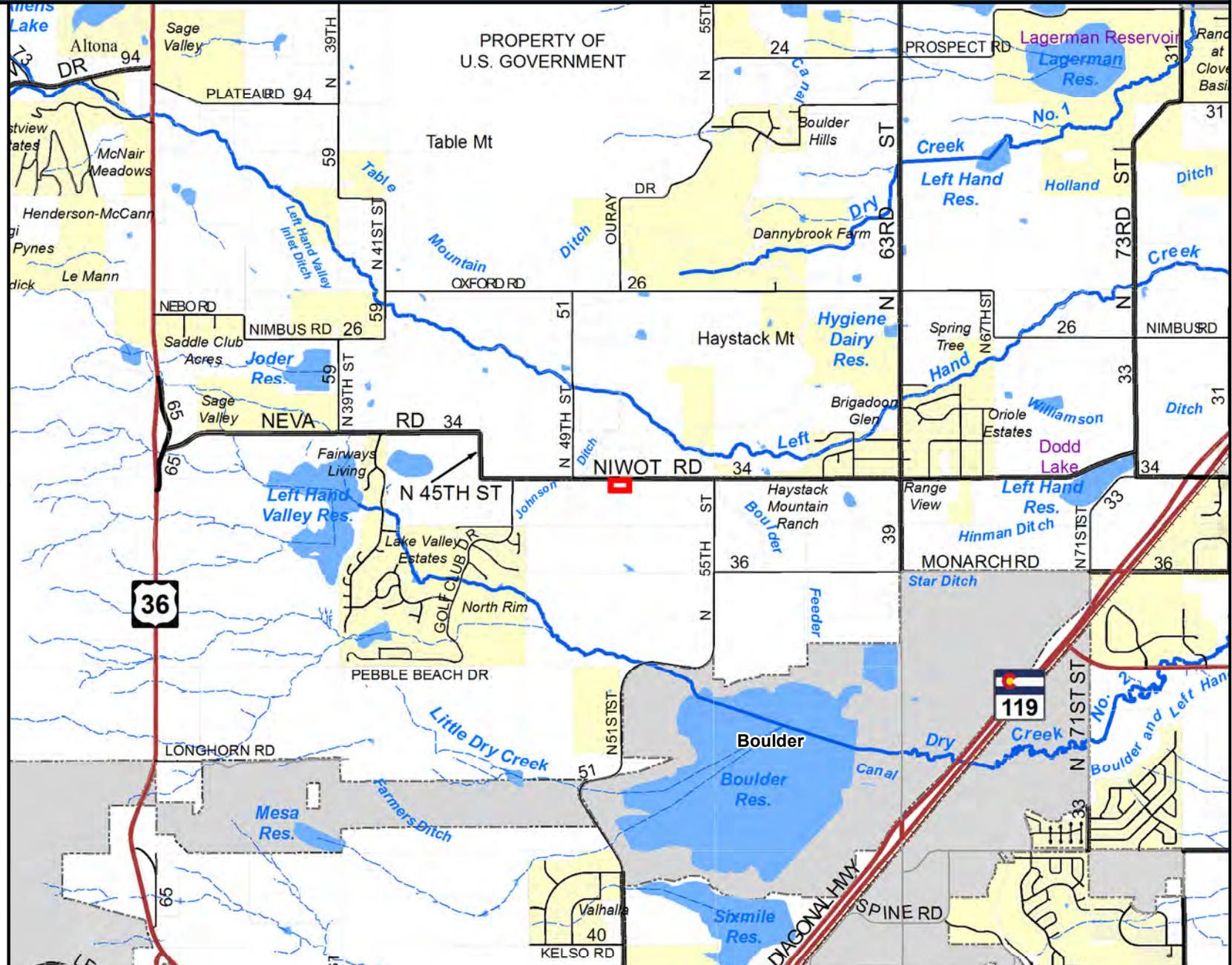
5114 NIWOT

Subject Parcel

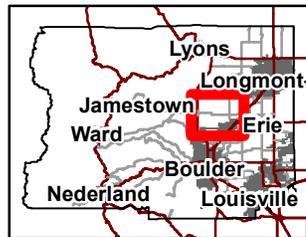
Municipalities

Subdivisions

Subdivisions



Area of Detail Date: 9/27/2021



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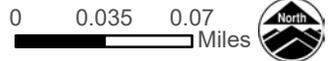
Location

5114 NIWOT

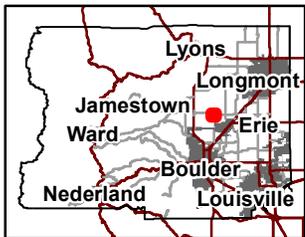
Subject Parcel

Subdivisions

Subdivisions



Area of Detail Date: 9/27/2021



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Aerial
5114 NIWOT

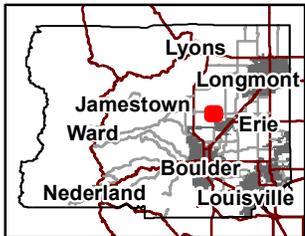
 Subject Parcel



0 0.05 0.1 Miles



Area of Detail Date: 9/27/2021



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Aerial
5114 NIWOT

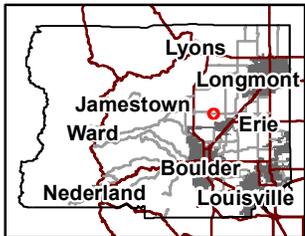
 Subject Parcel



0 0.0085 0.017
Miles



Area of Detail Date: 9/27/2021



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Community Planning & Permitting

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Zoning
5114 NIWOT

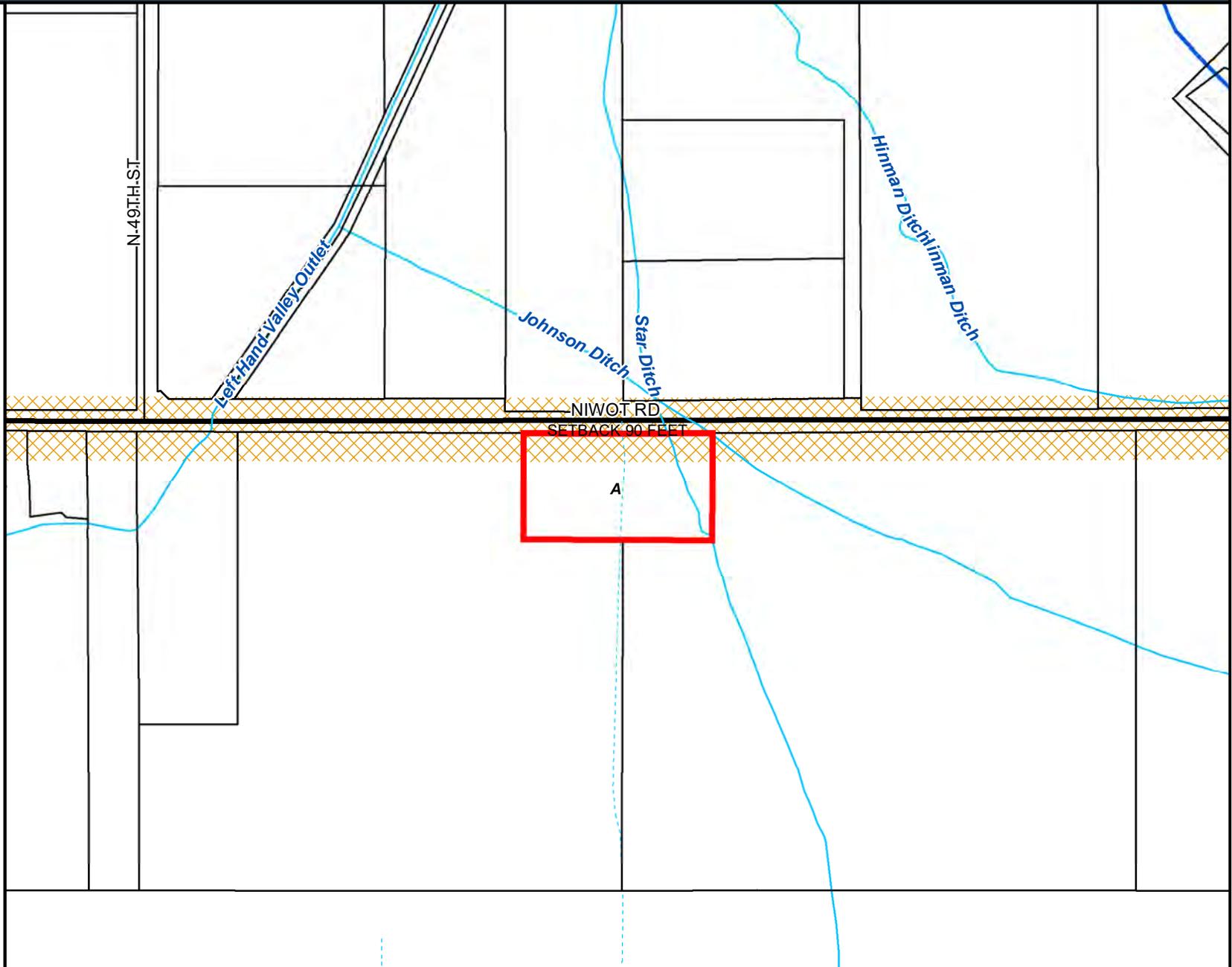
Subject Parcel

Major Road Setbacks

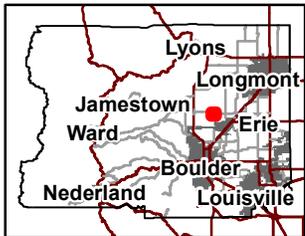
90 feet

Zoning Districts

Agricultural



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Comprehensive Plan

5114 NIWOT

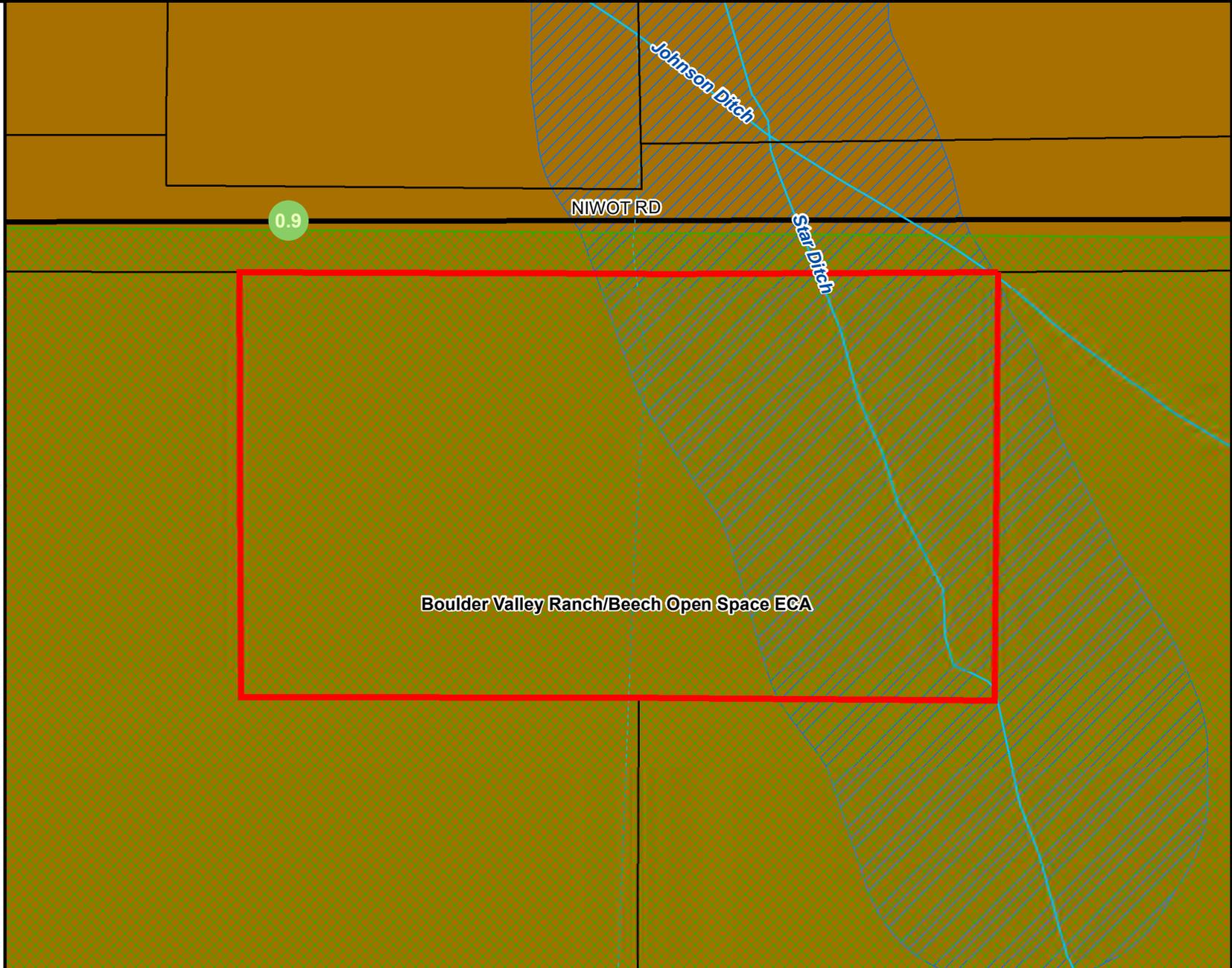
Subject Parcel

Environmental Conservation Areas

Riparian Areas

Significant Agricultural Land

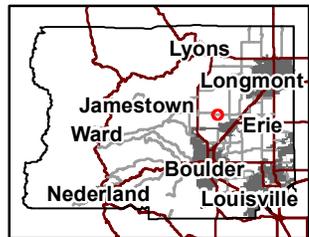
Ag of Statewide Importance



0 0.0085 0.017 Miles



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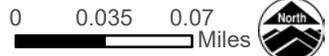
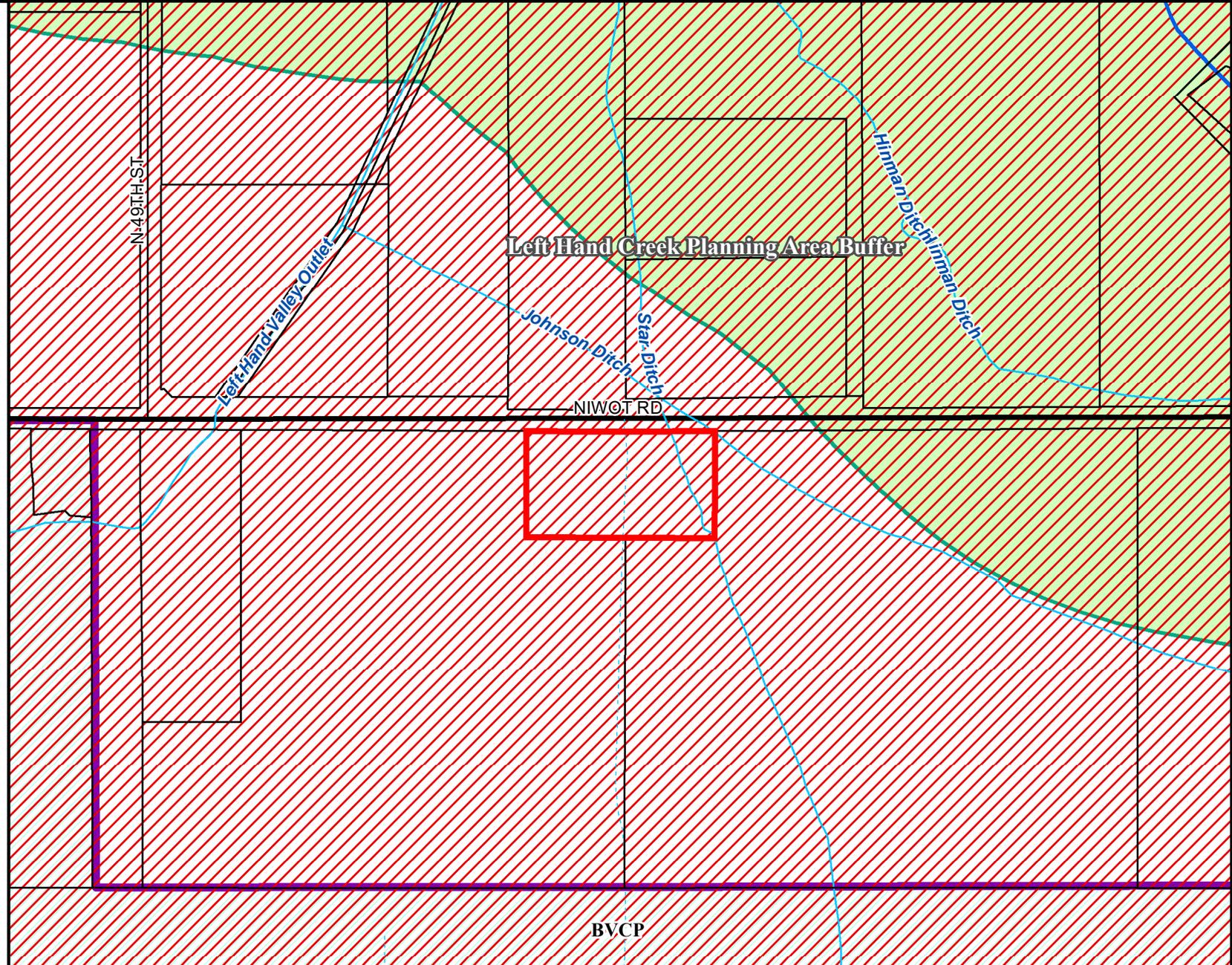
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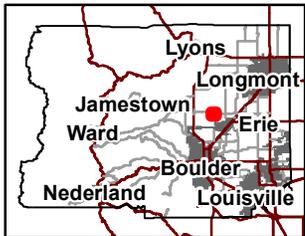
Planning Areas

5114 NIWOT

-  Subject Parcel
-  Telecom Protection
-  Active IGA Boundary
- Active IGA Designation**
-  BVCP
-  Creek Planning Area



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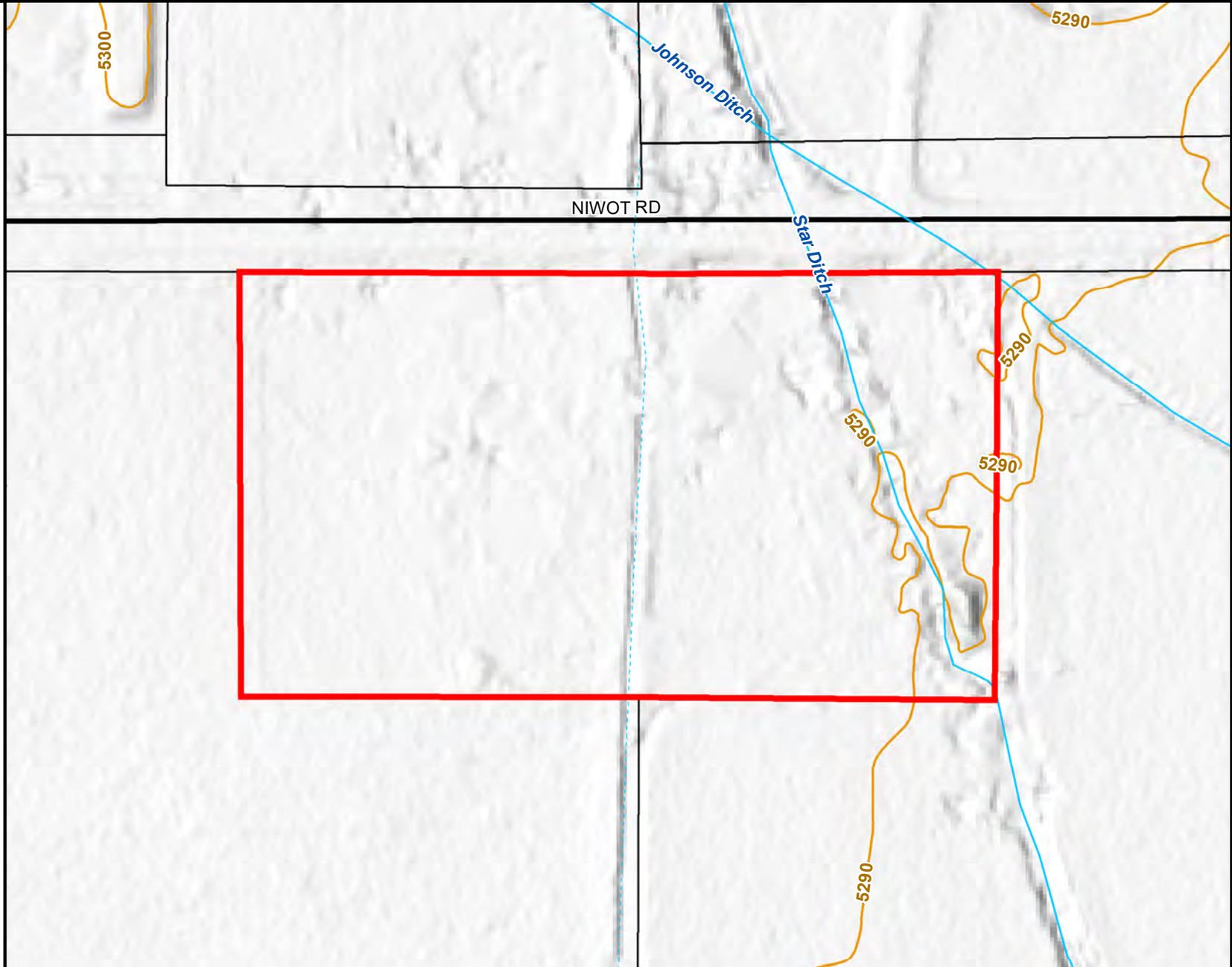
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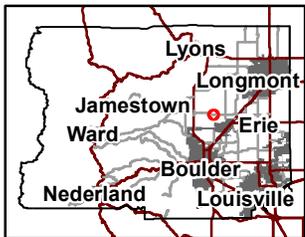
Elevation Contours

5114 NIWOT

-  Subject Parcel
-  Contours 10'



Area of Detail Date: 9/27/2021



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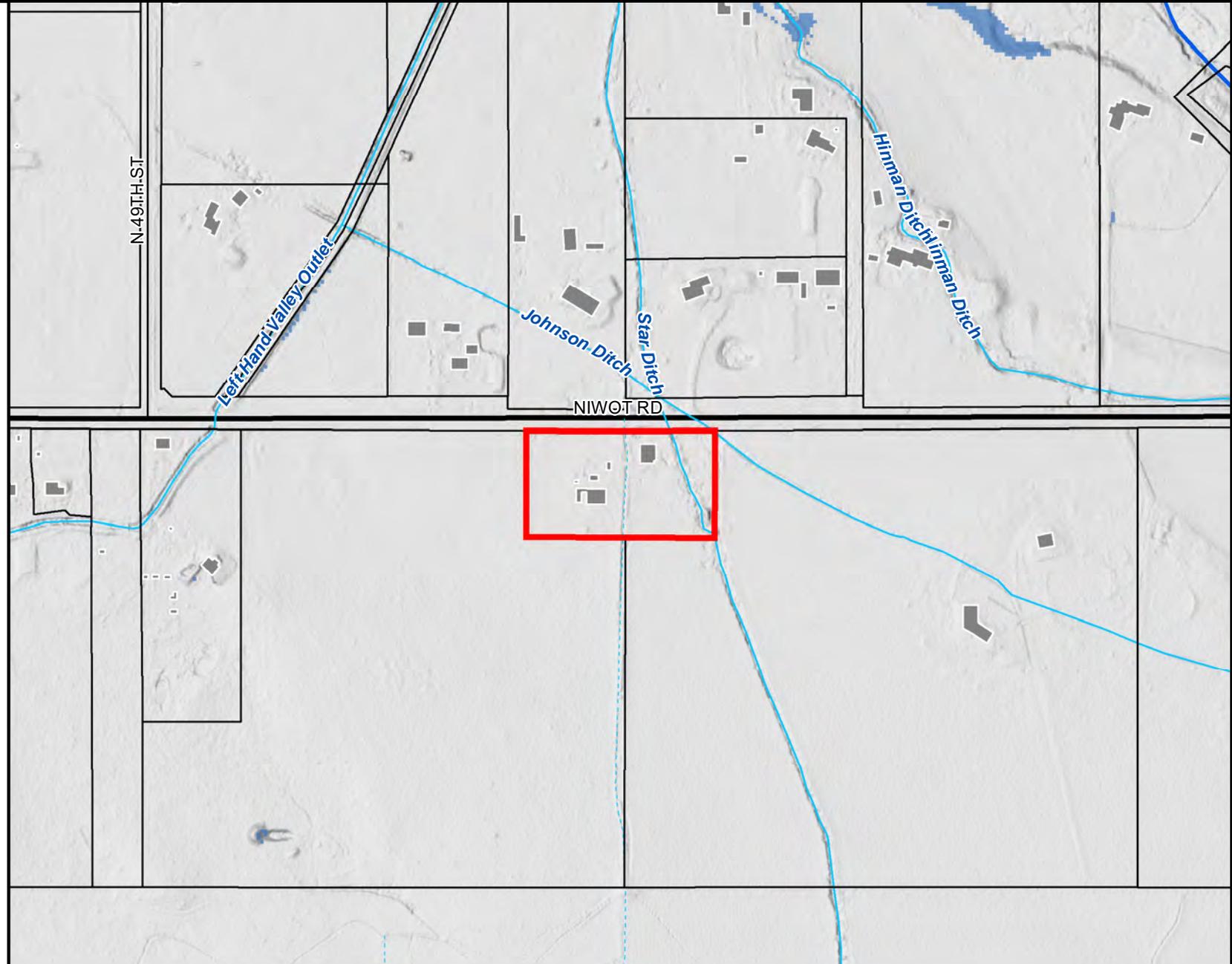
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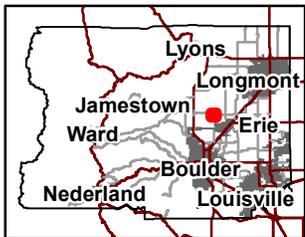
Geologic Hazards

5114 NIWOT

-  Subject Parcel
-  Landslide high susceptibility area



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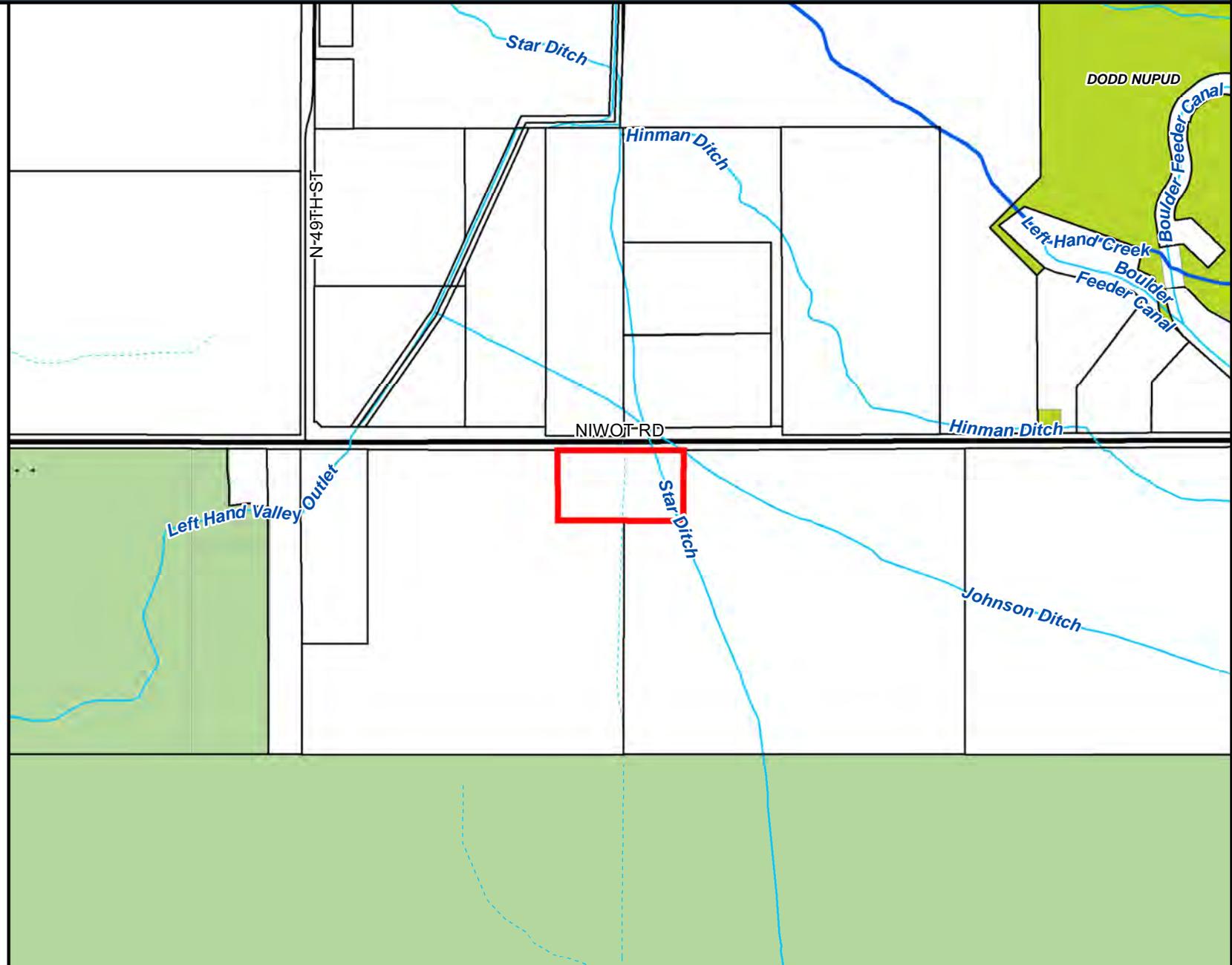
Public Lands & CEs

5114 NIWOT

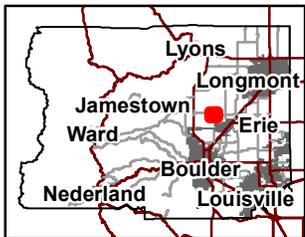
Subject Parcel

Boulder County Open Space

- County Conservation Easement
- OSMP Properties



Area of Detail Date: 9/27/2021



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Special Use Narrative

The special use application is submitted by Prairie Orchard, LLC (“Applicant”) in accordance with the Boulder County Land Use Code (the “Code”). Capitalized terms used herein but not otherwise defined shall have the meanings ascribed to them in the Code.

Description of Proposed Use

Prairie Orchard submits this application for Special Use Review for a Reception Hall and Community Meeting Facility (4-102.B.4.g) and Vacation Rental (4-102.B.7.d). The property is 3.6 acres zoned Agricultural and located at 5114 Niwot Rd. The property has a history of various uses. Applicant recently purchased the property and desires to have its proposed uses recognized and approved by Boulder County.

Basic Information About the Site:

The Prairie Orchard property includes a renovated farm house, stand alone cottage, 120 sf studio, and partially renovated 40’x48’ barn (Reception Hall/Event space), along with the original settler’s cabin. The existing buildings including square footage are identified on the Site Plan. The land is situated on the south side of Niwot Rd and has two irrigation ditches bisecting it from north to south but no associated water rights tied to the property. The irrigation ditch along the east property line (Star Ditch) is traversed completely with large old growth trees providing a natural barrier and screen from the abutting property (5400 Niwot Rd) to the east. The second irrigation ditch bisects the property approximately mid way between the east and west property lines and is lined with concrete. Both ditches have designated easements. The two ditches combined, breakup the land, in such a way that the use of large machinery commonly used for any type of large scale agricultural use is effectively negated. Currently the unfinished portion of the event space is planned for renovations, to include restrooms and a staging space for vendors, and is not in use, except for small ceremonial and spiritual gatherings.

The prior owners used the land for growing a small garden, raising chickens and one goat, along with holding ceremonial, spiritual, therapeutic events, individual and group counseling sessions and retreats associated with their perspective onsite businesses. There is not a prior Special Review on the property, although the prior uses may have been “Home Events”, and work on the barn was started by the prior owners and not completed. The new owners want to pursue required approvals from the County to legally operate their desired uses and make sure all work to complete the barn complies with County standards. Applicant has an architect, JD Signom, to assist with this application and the planned completion of the partially renovated barn as a Reception Hall.

Applicant proposes to use the site for a Reception Hall and Community Meeting Facility for events; weddings, photography sessions, ceremonial space, meeting space for both corporate and local event organizers, art exhibitions, yoga and fitness space, small intimate concerts, therapy and counseling space, and sports team meeting place. The barn provides a beautiful event space and the farm house and the cottage would provide overnight lodging for events. The cottage is simply an overnight structure not equipped to be an actual dwelling and its use would be tied to the site use approval as a

Reception Hall and Community Meeting Facility. In addition, the application seeks approval for the farm house as a Vacation Rental.

The property already has a parking area that was used by the prior owners as parking for their clients. As such, a large area in the north-west corner of the lot roughly 120 feet x 100 feet in size was used for the purposes of parking vehicles and is made up of dirt and gravel. This parking area was and is enclosed by a 6 foot tall wooden privacy fence along the north property line and the west property line. The site plan indicates that the parking area is sized for 61 parking spaces. There are additional parking spaces designated on the Site Plan with a total of 61 proposed on site parking stalls. The privacy fence shields the view of the main parking area from both Niwot Rd and the abutting properties to the west (5050 Niwot Rd) and north (5069 Niwot Rd and 5137 Niwot Rd). This parking area is separate from the driveway and turnaround used for both the farm house and the other structures which have their own associated parking spaces. The parking lot and the other parking spaces were and are routinely used for various home events.

The surrounding properties in all directions are also zoned Agricultural. The property abutting to the east and south property lines (5400 Niwot Rd) is a 41 acre lot where horses and other livestock are raised and consists of numerous out buildings, structures, fencing, and rows of trees. The property abutting to the west and south property lines (5050 Niwot Rd) is a 33 acre lot which is currently prairie with one newly constructed home. Both of these neighboring homes are on the opposite side of their perspective properties and furthest away from Prairie Orchard. The properties to the north are on the opposite side and north side of Niwot Rd from Prairie Orchard. A row of large old growth trees lines the north property line of Prairie Orchard creating a privacy screen along with the existing 6ft wooden privacy fence that spans the north property line. The properties along the north side of Niwot Rd also have large old growth stands of trees that buffer and screen visually along with fields and meadows. As with the properties to the east and west, the two properties across the street (5069 and 5137 Niwot Rd) are developed away from direct Niwot frontage without a view corridor into the Prairie Orchard property. 5137 Niwot Rd has advertising for an onsite business (Broken Tree Appaloosas).

Number and types of trips that will be generated by the proposed use;

Prairie Orchard, LLC is owned by sole member and manager Stephanie Duffy who resides at 7025 Strath Blvd Longmont, CO 8053, which is one mile directly east of Prairie Orchard off Niwot Rd. Manager Stephanie Duffy and family will be routinely staying at Prairie Orchard in an on and off manner depending on what events are being held and how they can be of use. Besides the owner and family, no additional employees will be present excluding outside catering and vendors.

Prairie Orchard is intending to become a Reception Hall and Community Meeting Facility and hold events such as; weddings, photography sessions, ceremonial space, meeting space for both corporate and local event organizers, art exhibitions, yoga and fitness space, small intimate concerts, therapy and counseling space, sports team meeting place (ie, triathletes, bicycle teams, etc,..) due to the location on several race event courses. Each type of event will have its own varying needs. Nothing will be shipped from the property and deliveries will be only associated with the varying events. A

second use as Vacation Rental is also sought so that the Farmhouse can be used for overnight stays. By way of example a member of a wedding party could stay overnight on site to prepare for the event. There are other accessory structures on the property.

It is being proposed to allow 4 events per year with an attendance cap of 300 people, 20 events per year with an attendance cap of 150 people, and unlimited events per year with an attendance cap of 50 people. In each case, "people" shall include employees, guests, customers, caterers, and vendors. The larger cap of 300 people attended events shall only occur on the weekend, wherein only one such larger event could occur during that weekend. Shuttle service will be contractually provided by each of the organizers of the events with 150 or more guests attending. In addition, when a shuttle is necessary a parking fee of \$10.00 will be collected from those guests who do drive and utilize the parking lot and should encourage less trips per event. This will also incentivize the use of the shuttle service, reduce total trips, and recoup the cost of the shuttle service for each event organizer. A nearby church has agreed to provide shuttle parking and a copy of the City Church correspondence confirming this arrangement is attached. City Church can provide an additional 81 parking stalls. Based on the Site Plan and Transportation Study the shuttle parking will only be necessary for large events proposed for only 4 times a year.

The proposed uses will be sustainable since only existing structures already on site will be used. There will be no new structures. In addition, recycling and compost services will be contracted out with Western Disposal. Yard/grass maintenance will consist of mulching rather than bagging. Tree maintenance will consist of mulching/chipping tree trimmings for landscaping to enhance moisture retention. The aesthetics maintenance of the property (yard, and tree upkeep) will enhance the site for the surrounding community while minimizing fire risk.

Prairie Orchard intends to operate year-round with large events taking place during one weekend day and small events taking place during any of the other days. Large events (300 and 150 people) will be primarily reserved for weddings and on those weekend days the space will only be available for that one specific reservation on that day. On all other days, smaller events (50 people or less), will be primarily for the various intended uses described above, and as such, it will be feasible that more than one small event will occur during any given day. For example, a typical yoga class may last for only 90 minutes versus a photography session may take anywhere from 1 hour to 3 hours and may be at the opposite end of hours of operation. All events shall take place between 09:00 am and 11:00 pm and in accordance with the Boulder County Noise Ordinance 92-28 and no outdoor amplified music shall be allowed after 07:00pm.

Prairie Orchard is owned by sole member and Manager Stephanie Duffy and in accordance with maintaining the property she is estimated to have two trips per day from her residence that is one mile from the location, which will often include carpooling with her accompanying husband. It is also estimated that a cleaning service will have four trips per weekend to maintain the property after each of the larger events. The use of the Farmhouse for overnight stays at Prairie Orchard will have an estimated 60 bookings per year with a commensurate amount of traffic.

A traffic report is submitted with the application. This report includes trip generation data that supports the proposed uses without the need for any roadway improvements. The report does recommend off-site shuttle parking for events with over 150 people which would only occur up to four times per year.

The Proposed Use Satisfies the Code Review Criteria

The application satisfies the Review Criteria under 4-601 of the Code as follows:

1. Except as otherwise noted, the use will comply with the minimum zoning requirements of the zoning district in which the use is to be established and will also comply with all other applicable requirements.

ANSWER: The zone district where 5114 Niwot Road, Longmont, a 3.6-acre property (the "Site") is located is Agricultural (A). Applicant seeks to establish the Principal Uses of Reception Halls and Community Meeting Facilities and Vacation Rental for the Site through Special Review. The Vacation Rental for the farm house would be a second use. Per Code, these two uses are allowed through Special Review. Two principal uses are also allowed on one parcel when the uses do not increase density per 4-102.F.2.e. Applicant is not proposing any new buildings and use of the Farmhouse as a Vacation Rental will not change the density. As part of this Special Review application, Applicant seeks to use the existing farmhouse for overnight stays. The cottage (a single room structure measuring approx.. 270 sf) which does not qualify as a dwelling under code would be used for limited/temporary overnight stays associated with events. The intent is to add a restroom to the cottage but it will not have any kitchen or living area and thus, would be considered an accessory structure. The Code defines Reception Halls and Community Meeting Facilities as facilities "for the holding of events including but not limited to weddings, wedding receptions, community meetings, and group gatherings." Applicant proposes to hold events such as weddings, photography sessions, meetings for both corporate and local event organizers, art exhibitions, small intimate music events, and a space for ceremonies, therapy and counseling, yoga and fitness, and sports teams' meetings (i.e. for athletes or teams convening for race events, as the Site located on many race courses). These proposed events all fit within the definitional criteria of Reception Halls and Community Meeting Facilities. Per Section 4-504 of the Code, parking requirements for Reception Halls and Community Meeting Facilities, include "one space per 30 square feet of floor area." This criteria is met through the on-site parking and the shuttle parking that will be available for larger events with combined total of 142 parking stalls. The Code 4-507.E defines Vacation Rental as "single-family dwelling unit offering transient lodging accommodations to a single booking party at a time within that dwelling unit for a rental duration of fewer than 30 days" when not the primary residence of the owner and rented for more than 60 days a year. The Farmhouse is intended to be used primarily as lodging related to on site events and meets the Code definition for Vacation Rental and there will be no increase in density with this additional use.

2. The use will be compatible with the surrounding area. In determining compatibility, the County should consider the location of structures and other improvements on the site; the size, height and massing of the structures; the number and arrangement of structures;

the design of structures and other site features; the proposed removal or addition of vegetation; the extent of site disturbance, including, but not limited to, any grading and changes to natural topography; and the nature and intensity of the activities that will take place on the site. In determining the surrounding area, the Board should consider the unique location and environment of the proposed use; assess the relevant area that the use is expected to impact; and take note of important features in the area including, but not limited to, scenic vistas, historic townsites and rural communities, mountainous terrain, agricultural lands and activities, sensitive environmental areas, and the characteristics of nearby development and neighborhoods.

ANSWER: The proposed use will be compatible with the surrounding area; with respect to use of the Site for weddings, there are at least two other commercial wedding venues in the general area, which are also in the Agricultural (A) zone district – Lone Hawk Farm located at 10790 N. 49th Street and Boulder Flower Farm located at 4114 Oxford Road, both in unincorporated Boulder County. Furthermore, the existing agricultural and rural character of the Site is consistent with the character of the general surrounding area and will not change with the proposed use. The Site as it currently exists will largely be preserved, as no new buildings are proposed, and the topography and vegetation will remain substantially the same. A site plan is included in the application, which shows the location of all existing improvements (the “Site Plan”). The proposed use will utilize the existing structures on the Site, which include a renovated farmhouse, a standalone cottage, a barn currently undergoing interior renovation to be used as the main event space and designated as the “Reception Hall”, a small studio, and the original settler’s cabin, all as shown on the Site Plan and depicted in photos, which are also included in the application. No grading is proposed except that Applicant intends to level the driveway and parking surfaces and lay down gravel prior to proceeding with the project. There is an existing partially fenced-in parking area that is available for 55 parking spaces located in the northwest area of the Site, which was used in connection with the Site’s prior owners’ businesses. The proposed use will preserve the distinct natural features, including many old-growth trees and the two irrigation ditches that traverse the Site, as there will be little to no disturbance of such natural features and vegetation. The Star Ditch, which traverses across the eastern portion of the property, is surrounded by large old growth trees providing a natural barrier and screen from the adjacent property to the east (5400 Niwot Road). In addition, an existing 6’ tall privacy fence and large old growth trees currently provide a barrier that screens the Site from Niwot Road.

With respect to neighboring properties, all surrounding properties are zoned Agricultural (A). The adjacent property to the east and south (5400 Niwot Road) is a 41-acre lot where horses and other livestock are raised, which consists of numerous outbuildings, structures and fencing, and rows of trees. The Star Ditch’s old growth vegetation shields the Site from this property. The adjacent property to the west and south (5050 Niwot Road) is a 33-acre lot that is mostly prairie land with a newly constructed home. Applicant plans to use stacks of large hay bales and extend the existing privacy fence along the Site’s western property line near the parking area in order to further shield the Site from the neighboring property to the west. Both of the homes located at 5400 Niwot Road and 5050 Niwot Road are situated away from the Site (i.e., the adjacent eastern neighbor’s home is located toward its eastern property line and the adjacent western neighbor’s home is located toward its western property line). In addition, like the Site, the

properties north of Niwot Road (5075 and 5137 Niwot Road) also have a row of large old growth trees along Niwot Road that buffer and visually screen themselves from the Site. Much of the existing vegetation on all neighboring properties, including the Site, will help visually screen and mitigate any noise impacts with respect to events hosted at the Site.

Applicant provided an introduction letter (copy attached) to neighboring property owners along Niwot Road and 49th Street and followed up with these owners in person or by phone. Few concerns were raised. One neighbor asked about potential noise and was assured that Boulder County noise ordinances would be followed and any outside music would end by 7P.M.

Applicant proposes to operate year-round and use the Site for four events per year with an attendance cap of 300 people, twenty events per year with an attendance cap of 150 people (the events capped at 300 people and 150 people shall each be referenced herein as a “Large Event”), and unlimited events per year with an attendance cap of fifty people (“Small Events”). As used herein, “people” includes guests, caterers and vendors. In terms of scheduling such events, Large Events will only be permitted to occur on the weekend with only one type of Large Event per weekend. Large Events would primarily consist of weddings, and on the weekend day on which they occur, the Site would only be available for that one specific Large Event reservation. Small Events would be permitted to occur on all other days (i.e., all other days when Large Events are not booked) and would encompass all proposed uses other than weddings contemplated in Answer No. 1 above. Due to the nature of many types of Small Events, it would be feasible to book multiple Small Events on the same day. For example, a typical yoga class may last for only 90 minutes, while a photography session may last anywhere between 60 minutes and three hours and could therefore be booked on the same day. Regardless of event size, all events would take place between 9:00 am and 11:00 p.m. and in compliance with Boulder County Noise Ordinance 92-28. In addition, no outdoor amplified music shall be allowed after 7:00 p.m. Regarding transportation impacts, the Site will use the existing access from Niwot Road. With respect to any event that has 150 or more guests attending, shuttle service to and from the Site for Large Events will contractually be required. In addition, a parking fee of \$10.00 per vehicle will be collected from those guests who drive to and from the Site. The intent of the parking fee is to incentivize use of the shuttle service, reduce total trips per event, and help each event organizer recoup the cost of the required shuttle service. Applicant has already been in contact with a local church which has agreed to allow shuttle parking.

3. The use will be in accordance with the Comprehensive Plan.

ANSWER: The application and proposed uses are consistent with the Boulder Valley Comprehensive Plan. Core values of the BVCP include sustainability, unique community identity, vibrant economy and a culture of creativity. The proposed use for various community events provides access to a historic farm for community events. Boulder County has a lack of such facilities and with the recent closure of Pastures of Plenty the need has become greater. Providing a beautiful farm location provides both access to the community and a viable economic use for the property. This beautiful historic site will be a wonderful community resource. All structures necessary for the proposed use are already built so there will be no further impact on the environment while allowing a site for engagement and community vitality—all BVCP goals. In addition, the property

contains a historic farmhouse and outbuilding from 1900, which are cultural resources harkening back to the Site's agricultural heritage and, therefore, consistent with the Cultural Resources Element in the BVCP.

4. The use will not result in an over-intensive use of land or excessive depletion of natural resources. In evaluating the intensity of the use, the Board should consider the extent of the proposed development in relation to parcel size and the natural landscape/topography; the area of impermeable surface; the amount of blasting, grading, or other alteration of the natural topography; the elimination or disruption of agricultural lands; the effect on significant natural areas and environmental resources; the disturbance of plant and animal habitat, and wildlife migration corridors; the relationship of the proposed development to natural hazards; and available mitigation measures such as the preservation of open lands, the addition or restoration of natural features and screening, the reduction or rearrangement of structures and land disturbance, and the use of sustainable construction techniques, resource use, and transportation management;

ANSWER: The use will not result in an over-intensive use of land or excessive depletion of natural resources, as no new development is proposed and the Site's existing natural resources, including old-growth trees, irrigation ditches and riparian vegetation along such ditches, will remain intact. As described above in Answer No. 2, Large Events will be limited in number per year with shuttle service required for any event over one hundred fifty people and collection of a parking fee to encourage use of the shuttle and/or carpooling, which will minimize impacts to the land and reduce overall intensity. Consistent with the previous owners' prior use, the existing parking area will be utilized, except that Applicant plans to improve it with gravel (a permeable surface), which will be more practical and maintain a natural look. There will be no blasting, grading (other than minimal leveling for the driveway and parking areas, or other alteration of the natural topography, nor will there be the elimination or disruption of agricultural lands. There will be little to no disturbance of plant and animal habitat, as the existing Site will largely remain the same. There are no natural hazards on the Site.

5. The use will not have a material adverse effect on community capital improvement programs.

ANSWER: N/A - The use will not have a material adverse effect on community capital improvement programs.

6. The use will not require a level of community facilities and services greater than that which is available.

ANSWER: The use will not require a level of community facilities and services greater than which is available. The Property is served by Left Hand Water District with a ¾ inch tap. Some improvements have been engineered for the sanitary sewer system which are provided with the application. The location of the sanitary sewer improvements are shown on the Site Plan and include seven (7) toilets and four (4) sinks in the reception hall and one (1) toilet and one (1) sink in the cottage.

7. The use will support a multimodal transportation system and not result in significant negative impacts to the transportation system or traffic hazards.

ANSWER: Given the Site's location in a rural agricultural area, there are no designated bike paths or sidewalks nearby, so vehicular transportation will be the primary form of transportation for Site access. For some events, bike access may be feasible particularly if tied to a bike race/ride event. However, as described above, transportation will be managed through use of a required shuttle service when a particular event has more than 150 guests in attendance, and through collection of a parking fee. Together, these solutions will reduce the total number of vehicular trips to and from the Site, which will effectively mitigate traffic impacts. Most of the events will be smaller in nature and have very limited traffic impacts. A transportation report is provided with the application and indicates that shuttle should be provided for events that exceed 150 persons. There are no traffic hazards present near the Site.

8. The use will not cause significant air, odor, water, or noise pollution.

ANSWER: The use will not cause air, odor, water or noise pollution. The vast majority of events that will be held at the Site (i.e., Small Events) will be of low impact in these regards and will primarily be held in the various indoor spaces. Certain events may have a music component, but measures to mitigate noise impacts will be implemented. For example, Applicant will require that no outdoor amplified music shall be allowed after 7:00 p.m., and all events will be required to operate in compliance with Boulder County Noise Ordinance 92-28. Furthermore, Applicant will use stacks of large hay bales and will extend the privacy fence along the western property line to help absorb and contain sound. The natural vegetation along the Star Ditch on the eastern side of the Site will also absorb sound. Finally, the existing 6' high fencing and mature vegetation along the Site's northern property line will also aid in containing sound and will mitigate any potential noise impacts.

9. The use will be adequately buffered or screened to mitigate any undue visual impacts of the use.

ANSWER: The use will be adequately buffered and screened to mitigate any undue visual impacts of the proposed use. As described above, there is an existing 6' high privacy fence constructed along the Site's northern and western property lines. Applicant also plans to extend the partially completed fence along the western property line near the parking area prior to any proposed use hereunder. A large stack of hay bales will also be used to buffer the Site visually from its western neighbors. The northern property line along Niwot Road also has an existing privacy fence, as well as a long row of mature old-growth trees to further buffer and screen the Site from those properties across the road. Furthermore, old-growth trees and riparian vegetation runs adjacent to the Star Ditch on the eastern portion of the Site, which naturally shields the Site from its eastern neighbors.

10. The use will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County.

ANSWER: The use will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County. In contrast, the proposed use will enhance the lives of Boulder County residents. Applicant proposes uses that are educational and culturally enhancing (i.e., photography classes) and will promote good physical and mental health (i.e. yoga/fitness sessions and group therapy sessions). The Site will be used generally for uses that help build community and will be an asset and resource for the residents of Boulder County.

11. The use will establish an appropriate balance between current and future economic, environmental, and societal needs by minimizing consumption and inefficient use of energy, materials, minerals, water, land, and other finite resources.

ANSWER: The use will establish an appropriate balance between current and future economic, environmental, and societal needs by minimizing consumption and inefficient use of energy, materials, minerals, water, land, and other finite resources. There will be no new structures built. The proposed use will use already existing facilities thereby conserving resources. The barn is an ideal indoor facility for indoor events and the property already has a large area for parking. The prior owners used the site for community events and to continue such events at an already developed site is the ideal balance.

12. The use will not result in unreasonable risk of harm to people or property – both onsite and in the surrounding area – from natural hazards. Development or activity associated with the use must avoid natural hazards, including those on the subject property and those originating off-site with a reasonable likelihood of affecting the subject property. Natural hazards include, without limitation, expansive soils or claystone, subsiding soils, soil creep areas, or questionable soils where the safe-sustaining power of the soils is in doubt; landslides, mudslides, mudfalls, debris fans, unstable slopes, and rockfalls; flash flooding corridors, alluvial fans, floodways, floodplains, and flood-prone areas; and avalanche corridors; all as identified in the Comprehensive Plan Geologic Hazard and Constraint Areas Map or through the Special Review or Limited Impact Special Review process using the best available information. Best available information includes, without limitation, updated topographic or geologic data, Colorado Geologic Survey landslide or earth/debris flow data, interim floodplain mapping data, and creek planning studies.

ANSWER: There are no natural hazards located on the Site, so the use will therefore not result in unreasonable risk of harm to people or property – both onsite and in the surrounding area.

13. The proposed use shall not alter historic drainage patterns and/or flow rates unless the associated development includes acceptable mitigation measures to compensate for anticipated drainage impacts. The best available information should be used to evaluate these impacts, including without limitation the Boulder County Storm Drainage Criteria Manual, hydrologic evaluations to determine peak flows, floodplain mapping studies, updated topographic data, Colorado Geologic Survey landslide, earth/debris flow data, and creek planning studies, all as applicable given the context of the subject property and the application.

ANSWER: N/A - The proposed use does not contemplate any additional development on the Site, so historic drainage patterns and/or flow rates will not be affected and will remain the same.

Attachments to Narrative

Neighborhood Outreach Letter

City Church correspondence confirming parking availability

Hello neighbors!

We are the Duffys from a mile down the road on the north-west corner of Niwot Rd and Strath St (Stephanie and Jason Duffy). We recently purchased 5114 Niwot Rd from Reuvain and Marianah Bacal. This purchase has been a dream in the making for five years; ever since I attended one of Mariana's retreat events on the land and inside the beautifully renovated barn. Our desire is to have this property approved by Boulder County to use for weddings and other smaller community gatherings. Our goal is to share this special property with the community and to be a good neighbor in this process.

We are hoping to meet you as we develop our ideas for the property and in the meantime would like to give a brief introduction.

In 2015 we moved into our home on Strath St. We have thoroughly enjoyed living here and raising our two children Dash (5) and Julia (2). We both have ties to the area from our education and employment. I graduated from CU in 2003 and then obtained a masters degree from Naropa in 2014. Jason attended Western State College and was hired on with the Boulder Police Department as an officer in 2000. In 2018 after catching bad guys and several work injuries, Jason medically retired from the profession at a ripe young age of 42. Since then, we have both concentrated on raising our children and exploring what our next steps professionally might be.

That question was answered when we had the opportunity and privilege to be the next caretakers of this beautiful slice of paradise at 5114 Niwot Rd. In the long term we see it as a perfect smaller one-story home to settle into after our children come of age. In the immediate term, it is a perfect project to landscape, design, and offer to serve the Boulder community by hosting events. Living where we work is ideal in so many ways. In addition to continuing to host healing retreats link the prior owners had held for the last ten years, we are envisioning weddings and other family events (family photo sessions with the Flatiron views, family reunions with the use of the barn and farmhouse). We value this community as we ourselves were married at the Star House up Boulder Canyon and had our reception at Rembrandt Yard across the street from the historic Hotel Boulderado. With Haystack golf course closing we are hoping to fill a void for the need of a community space in collaboration with you. We also plan to set up the house as a lovely vacation rental for people who are looking for a slower pace break from city life and want to appreciate the peace and views our area has to offer.

Please feel free to reach out to either one of us. We are really interested in feedback from our neighbors and want to address any concerns and answer questions. We can provide more detail on our ideas for the site. We would very much love to meet everyone in person or by phone and can provide tours as well. We are excited for this next chapter!

Sincerely and just down the street,

Stephanie and Jason Duffy

7025 Strath St Longmont, CO 80503 (Stephanie) 720-565-5983 or (Jason) 720-606-3807
stephanie-duffy@hotmail.com or jason-duffy@hotmail.com



To whom it may concern,

City Church Boulder gives permission to Prairie Orchard to use our parking lot at 2801 Jay Rd for extra parking for their events.

With this parking lot use is an agreed upon donation to City Church Boulder in the amount of \$250/event.

In addition, the parking lot is routinely unavailable on Sundays between the hours of 8:00am-12:00pm.

Sincerely,

Drake Elkins
Lead Pastor | City Church Boulder
p: 817.939.8504

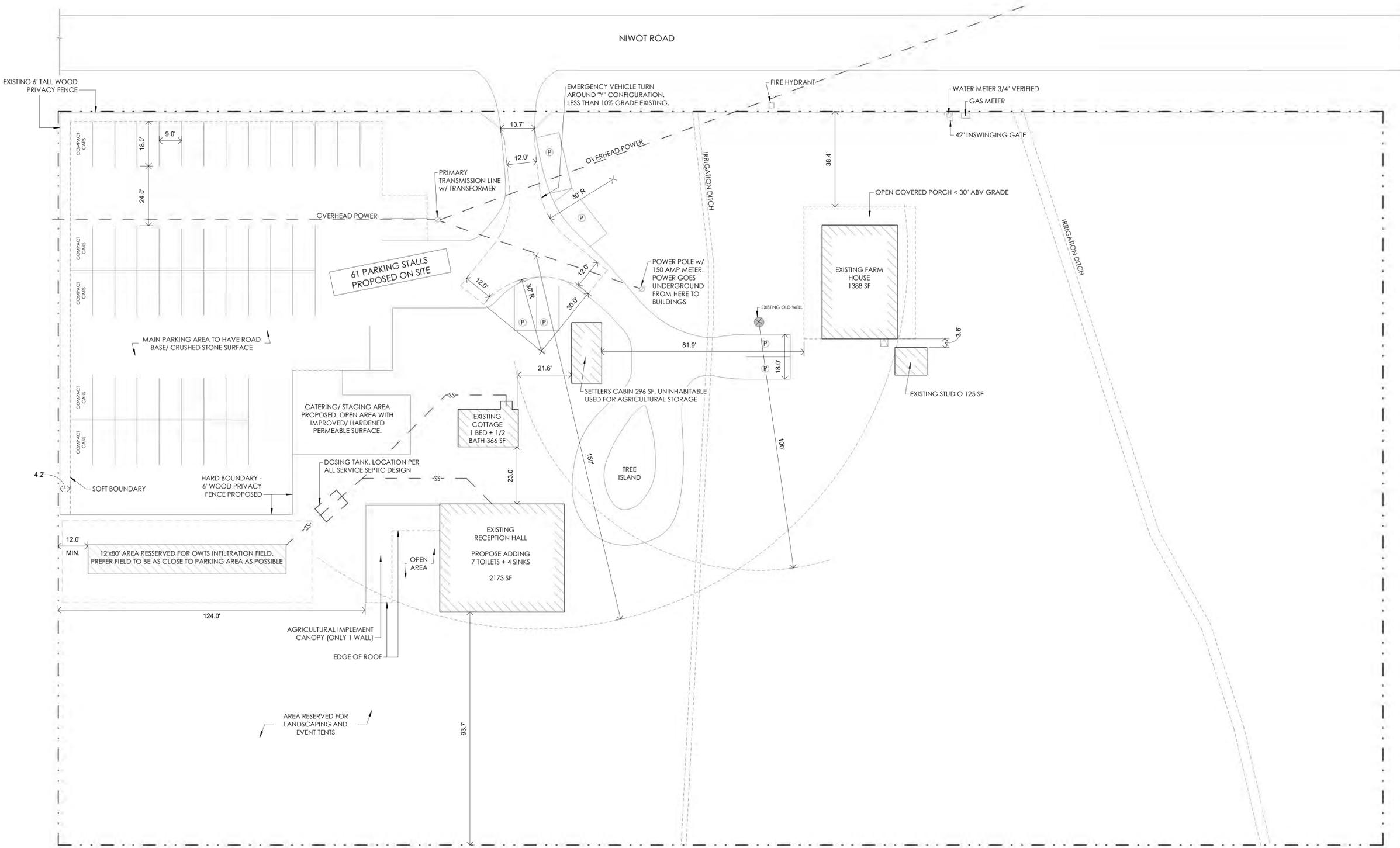


citychurchboulder.com
In the city. For the city.



Praire Orchard, LLC

5114 Niwot Rd
Longmont, CO
80503

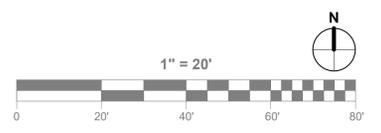


SITE PLAN LEGEND:

- - - - - PROPERTY LINE
- (P) PARKING STALL
- (E) EXISTING TREE TO REMAIN
- (D) DEMO TREE
- (N) NEW TREE
- - - - - EXISTING CONTOUR
- FOUND MONUMENT AS NOTED
- (E) ELECTRICAL METER
- (C) CLEAN OUT
- ⊙ POWER POLE
- (W) WATER METER
- W- WATER LINE
- - - IRRIGATION WATER LINE
- DI- DRIP IRRIGATION
- SS- SANITARY SEWER SERVICE
- ST- STORM CULVERT
- P- OVERHEAD POWER LINE
- PU- UNDERGROUND POWER LINE
- W- UNDERGROUND WATER LINE
- G- UNDERGROUND GAS LINE
- (GM) GAS METER
- (D) WATER MANHOLE
- (C) EMERGENCY FIRE CISTERN (BURIED)- SIZE TBD BY FIRE DEPT
- (M) MAILBOX - PROVIDE NEW POST
- CF- CONSTRUCTION FENCE
- - - - - FENCE LINE

NOTES:
• ALL DRIVEWAYS ARE EXISTING UNLESS NOTED OTHERWISE

1 Site Plan
1" = 20'-0"
DO NOT SCALE DRAWING.
KNOWN DIMENSIONS ARE SHOWN.



Architectural Site Plan

Project Number 2022.47
Date 7.15.22
Drawn by JD

A000
Scale As indicated



West Elevation-Canopy and Reception Hall



NW Elevation-Canopy and Reception Hall



West Elevation-Canopy and Reception Hall



SW Elevation-Canopy and Reception Hall



South Elevation-Reception Hall



East Elevation-cottage



East Elevation-Reception Hall



North Elevation-Cottage



East Elevation-Reception Hall



NE Elevation-Studio



East Elevation-Reception Hall



South Elevation-cottage



West Elevation-cottage



NW Elevation-cottage



West Elevation-Studio



South Elevation - Farm House



West Elevation - Farm House



North Elevation – Farm House



East Elevation – Farm House



South Elevation – Settler's Cabin



West Elevation – Settler's Cabin



North Elevation – Settler's Cabin



East Elevation – Settler's Cabin



LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

July 18, 2022

Ms. Stephanie Duffy
Prairie Orchard, LLC
7025 Strath Boulevard
Niwot, CO 80503

Re: Prairie Orchard Reception Hall
Transportation System Impact
Study (TSIS)
Boulder County, CO
LSC #220430

Dear Ms. Duffy:

In response to your request, LSC Transportation Consultants, Inc. has prepared this Transportation System Impact Study (TSIS) for the proposed Prairie Orchard Reception Hall in Boulder County, Colorado. Figure 1 shows a vicinity map.

REPORT CONTENTS

This report contains the following: a project description; the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday average daily traffic volumes; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts.

PROJECT DESCRIPTION

Land Use

The site is proposed to include a Reception Hall for uses such as weddings, photography sessions, ceremonial space, meeting space for both corporate and local event organizers, art exhibitions, yoga and fitness space, small intimate concerts, and therapy/counseling space. The existing farm house will be used for overnight stays as needed.

Phasing and Timing

The proposed land use is planned to be started once all necessary approvals are secured.

STUDY AREA

Figure 2 shows the study area. The non-highway public streets directly impacted by the site are Niwot Road, N. 49th Street, N. 55th Street, and N. 63rd Street.

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Niwot Road** is an east-west, two-lane collector roadway north of the site that connects to E. Foothills Highway (US 36) on the west via Neva Road and Diagonal Highway (SH 119) to the east and provides access to the site. The intersections with N. 49th Street, N. 55th Street, and N. 63rd Street are stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph.
- **N. 49th Street** is a north-south, two-lane local gravel roadway west of the site. The intersection with Niwot Road is stop-sign controlled. There is no posted speed limit near Niwot Road.
- **N. 55th Street** is a north-south, two-lane local gravel roadway east of the site. The intersection with Niwot Road is stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph.
- **N. 63rd Street** is a north-south, two-lane minor arterial roadway east of the site. The intersection with Niwot Road is all-way stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph north of Niwot Road and 45 mph south of Niwot Road.

Existing Pedestrian and Bike Facilities

There are no existing pedestrian or bike facilities along Niwot Road, N. 49th Street, N. 55th Street, or N. 63rd Street although Niwot Road and N. 63rd Street have narrow paved shoulders that are used by cyclists.

Sight Distance From Existing Driveways

The site has an existing driveway on Niwot Road. The sight distance in each direction of Niwot Road is good because the horizontal and vertical alignments are straight in the vicinity of the site.

Existing Transit Service

There is no bus service along Niwot Road. The nearest bus stop to the site is located on E. Foothills Highway (US 36) to the west or on Diagonal Highway (SH 119) to the east.

Accident History

Accident history was not evaluated but Niwot Road is straight and relatively flat near the site so minimal accident history would be expected near the site.

Access and Parking

Full movement access exists directly to Niwot Road. There is good sight distance in each direction. The site plan provides 61 parking spaces which is sufficient to accommodate a 150-person event with a vehicle occupancy of 2.5 people per vehicle.

Existing Traffic Conditions

Figure 3 shows the existing daily and weekday peak-hour traffic volumes in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and the daily traffic volumes are from the attached traffic counts conducted by Counter Measures in April and June, 2022.

2024 AND 2042 BACKGROUND TRAFFIC

Figure 4 shows the 2024 background traffic volumes and Figure 5 shows the 2042 background traffic volumes. The background traffic volumes assume one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram. It also assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram and a two percent annual growth for all other roadways. Figures 4 and 5 also show the assumed lane geometry and traffic control.

EXISTING, 2024, AND 2042 TRAFFIC LEVELS OF SERVICE

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for unsignalized intersections.

The intersections in Figures 3, 4, and 5 were analyzed as appropriate to determine the existing, 2024 background and 2042 background traffic levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **E. Foothills Highway (US 36)/Neva Access Road:** All movements at this two-way stop-sign controlled intersection currently operate at LOS "D" or better during both morning and afternoon peak-hours and are expected to do so through 2024. In 2042, the west-bound approach is expected to operate at LOS "F" in the afternoon peak-hour.
2. **Niwot Road/N. 49th Street:** All movements at this two-way stop-sign controlled intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to do so through 2042.
3. **Niwot Road/Site Access:** All movements at this two-way stop-sign controlled intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to do so through 2042.
4. **Niwot Road/N. 55th Street:** All movements at this two-way stop-sign controlled intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to operate at LOS "B" or better through 2042.

5. **Niwot Road/N. 63rd Street:** This all-way stop-controlled intersection currently operates at an overall LOS “B” during both morning and afternoon peak-hours and is expected to do so through 2024. In 2042, the morning peak-hour is expected to operate at LOS “C” and the afternoon peak-hour is expected to operate at LOS “D”.
6. **Diagonal Highway (SH 119) (SB)/Niwot Road:** This signalized intersection currently operates at an overall LOS “D” during the morning peak-hour and LOS “C” during the afternoon peak-hour and is expected to do so through 2042.
7. **Diagonal Highway (SH 119) (NB)/Niwot Road:** This signalized intersection currently operates at an overall LOS “C” during both morning and afternoon peak-hours and is expected to do so through 2024. In 2042, the morning peak-hour is expected to operate at LOS “C” and the afternoon peak-hour is expected to operate at LOS “D”.

TRIP GENERATION

The County has referenced CDOT generic trip generation data for wedding events for a venue with a specific seating capacity. The proposed site does not have a specific seating capacity but rather self-imposed attendance limits. An alternative trip generation methodology was used that is specific to the site.

Table 2 shows the estimated average weekday, morning peak-hour, and afternoon peak-hour trip generation for the currently proposed land use based on information from the applicant. The applicant expects an average of 2.5 people per vehicle so the vehicle-trips given below can be multiplied by 2.5 to estimate person trips.

During a typical event (unlimited - 50 people including staff), the currently proposed land use is projected to generate about 50 vehicle-trips on the average weekday and about 50 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon peak-hour, about 20 vehicles are expected to enter and about 7 vehicles are expected to exit the site in the arrival peak-hour and about 7 vehicles are expected to enter and about 20 vehicles are expected to exit the site in the departure peak-hour.

During a mid-sized event (20 per year - 150 people including staff), the currently proposed land use is projected to generate about 130 vehicle-trips on the average weekday and about 130 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon peak-hour, about 50 vehicles are expected to enter and about 10 vehicles are expected to exit the site in the arrival peak-hour and about 10 vehicles are expected to enter and about 50 vehicles are expected to exit the site in the departure peak-hour.

During a large event (4 per year - 300 people including staff), the currently proposed land use is projected to generate no vehicle-trips on the average weekday and about 250 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM and PM peak-hours no vehicles are expected to enter or exit the site. During the Saturday afternoon peak-hour, about 95 vehicles are expected to enter and about

14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour. Large events are expected to have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO 80301. This shuttle lot and service will likely only be used by large events (151 - 300 people) so will likely only occur on about four weekend days per year.

MODE SHARE

Mode share is expected to be primarily private automobile but carpooling will be encouraged. Large events over 150 people (up to four per year) will have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO 80301.

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of the trips generated is shown in Figure 6 and is based on the existing traffic counts.

Figure 7 shows the estimated assignment of site-generated traffic for a mid-sized event based on the estimated trips in Table 2 applied at the percentages shown in Figure 6. The arrival peak-hour and departure peak-hour are evaluated separately.

2024 TOTAL TRAFFIC (2024 BACKGROUND TRAFFIC PLUS SITE-GENERATED TRAFFIC)

Figure 8 shows the 2024 total traffic volumes which is the sum of the 2024 background traffic volumes in Figure 4 and the site-generated traffic volumes in Figure 7.

2042 TOTAL TRAFFIC (2042 BACKGROUND TRAFFIC PLUS SITE-GENERATED TRAFFIC)

Figure 9 shows the 2042 total traffic volumes which is the sum of the 2042 background traffic volumes in Figure 5 and the site-generated traffic volumes in Figure 7.

Traffic signal warrants are not expected to be met at the site access intersection.

2024 AND 2042 TOTAL TRAFFIC LEVELS OF SERVICE

The intersections in Figures 8 and 9 were analyzed as appropriate to determine the 2024 and 2042 total traffic levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **E. Foothills Highway (US 36)/Neva Access Road:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "D" or better during both morning and afternoon peak-hours through 2024. In 2042, the westbound approach is expected to operate at LOS "F" in the afternoon peak-hour with or without development of the site.
2. **Niwot Road/N. 49th Street:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "A" during both morning and afternoon peak-hours through 2042.

3. **Niwot Road/Site Access:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS “A” during both morning and afternoon peak-hours through 2042.
4. **Niwot Road/N. 55th Street:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2042.
5. **Niwot Road/N. 63rd Street:** This all-way stop-controlled intersection is expected to operate at an overall LOS “B” during both morning and afternoon peak-hours through 2024. In 2042, both peak-hours are expected to operate at LOS “D”.
6. **Diagonal Highway (SH 119) (SB)/Niwot Road:** This signalized intersection is expected to operate at an overall LOS “D” or better through 2042.
7. **Diagonal Highway (SH 119) (NB)/Niwot Road:** This signalized intersection is expected to operate at an overall LOS “D” or better in both peak-hours through 2042.

CONCLUSIONS

Trip Generation

1. During a typical event (unlimited - 50 people including staff), the currently proposed land use is projected to generate about 50 vehicle-trips on the average weekday and about 50 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon peak-hour, about 20 vehicles are expected to enter and about 7 vehicles are expected to exit the site in the arrival peak-hour and about 7 vehicles are expected to enter and about 20 vehicles are expected to exit the site in the departure peak-hour.
2. During a mid-sized event (20 per year - 150 people including staff), the currently proposed land use is projected to generate about 130 vehicle-trips on the average weekday and about 130 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon peak-hour, about 50 vehicles are expected to enter and about 10 vehicles are expected to exit the site in the arrival peak-hour and about 10 vehicles are expected to enter and about 50 vehicles are expected to exit the site in the departure peak-hour.
3. During a large event (4 per year - 300 people including staff), the currently proposed land use is projected to generate no vehicle-trips on the average weekday and about 250 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM and PM peak-hours no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon peak-hour, about 95 vehicles are expected to enter and about 14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour. Large events are expected to have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO

80301. This shuttle lot and service will likely only be used by large events (151 - 300 people) so will likely only occur on about four weekend days per year.

Projected Levels of Service

- 4. All movements at the two-way stop-sign controlled intersections are expected to operate at LOS "C" or better with the following exceptions: The westbound approach at the E. Foothills Highway (US 36)/Neva Access Road intersection is expected to operate at LOS "F" in the 2042 afternoon peak-hour with or without development of the site.
- 5. The all-way stop-controlled intersection is expected to operate at an overall LOS "D" or better through 2042.
- 6. All of the signalized intersections are expected to operate at an overall LOS "D" or better through 2042.

Recommendations

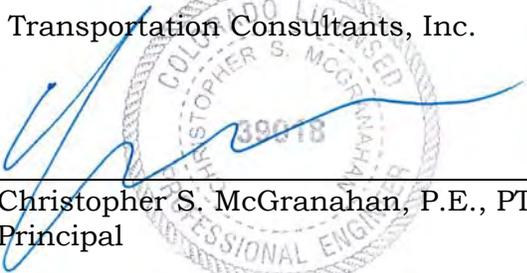
- 7. The applicant should utilize the identified off-site shuttle lot for events over 150 people which could occur up to four times per year but only on weekends. There are no other off-site recommended improvements.

* * * * *

We trust this information will assist you in planning for the proposed Prairie Orchard Reception Hall development.

Respectfully submitted,

LSC Transportation Consultants, Inc.

By: 
 Christopher S. McGranahan, P.E., PTOE
 Principal

CSM/wc

7-18-22

- Enclosures: Tables 1 and 2
 Figures 1 - 9
 Traffic Counts
 US 36 Straight Line Diagram
 SH 119 Straight Line Diagram
 Level of Service Definitions
 Capacity Analysis Reports

**Table 1
Intersection Levels of Service Analysis
Prairie Orchard Reception Hall
Boulder County, CO
LSC #220430; July, 2022**

Intersection No. & Location	Traffic Control	Existing Traffic				2024 Background				2024 Total				2024 Total				2024 Total			
		Level of Service		Seconds of Delay		Level of Service		Seconds of Delay		Level of Service		Seconds of Delay		Level of Service		Seconds of Delay		Level of Service		Seconds of Delay	
		AM	PM	AM	PM																
1) <u>E. Foothills Highway/Neva Access Road</u>	TWSC	C	D	18.6	28.6	C	D	19.2	30.2	D	D	31.3	33.0	D	F	28.7	66.4	F	F	71.1	79.6
WB Approach		A	A	7.8	9.8	A	A	7.8	9.9	A	A	9.9	9.9	A	B	8.0	10.8	B	B	10.9	10.8
SB Left/Through																					
2) <u>Niwot Road/N. 49th Street</u>	TWSC	A	A	7.3	7.4	A	A	7.3	7.5	A	A	7.5	7.5	A	A	7.4	7.6	A	A	7.6	7.6
EB Left/Through		A	A	9.0	9.2	A	A	9.1	9.3	A	A	9.3	9.3	A	A	9.2	9.7	A	A	9.8	9.8
SB Approach																					
3) <u>Niwot Road/Site Access</u>		A	A	9.0	9.2	A	A	9.0	9.3	A	A	9.3	9.3	A	A	9.2	9.7	A	A	9.5	9.7
NB Approach		A	A	7.4	7.4	A	A	7.4	7.4	A	A	7.5	7.4	A	A	7.5	7.5	A	A	7.6	7.5
WB Left/Through																					
4) <u>Niwot Road/55th Street</u>	TWSC	A	A	9.0	9.5	A	A	9.0	9.5	A	A	9.7	9.8	A	B	9.3	10.2	B	B	10.5	10.6
NB Approach		A	A	7.4	7.4	A	A	7.4	7.5	A	A	7.5	7.5	A	A	7.5	7.6	A	A	7.6	7.7
WB Left/Through																					
5) <u>Niwot Road/N. 63rd Street</u>	AWSC	A	B	9.0	12.9	A	B	9.1	13.6	B	B	14.6	14.5	B	E	11.3	38.9	E	E	47.4	46.1
NB Approach		A	A	8.9	9.3	A	A	9.1	9.5	A	B	9.9	10.2	B	B	11.9	12.1	B	B	12.9	13.6
EB Approach		B	A	10.2	9.1	B	A	10.4	9.2	A	A	9.8	9.5	B	B	15.0	11.2	B	B	12.2	11.8
WB Approach		B	A	11.6	8.8	B	A	12.0	8.9	A	A	9.2	9.2	C	B	24.0	10.8	B	B	11.3	11.3
SB Approach																					
Entire Intersection Delay (sec /veh)		10.5		11.3		10.8		11.8		12.4		12.4		18.1		27.5		32.2		31.4	
Entire Intersection LOS		B		B		B		B		B		B		C		D		D		D	
6) <u>Diagonal Highway SB/Niwot Road</u>	Signalized	D	D	45.8	52.9	D	D	48.5	51.1	D	D	53.7	52.9	D	D	53.1	53.2	D	D	53.6	52.6
EB Through		A	A	2.7	2.1	A	A	1.4	2.2	A	A	3.8	4.8	A	A	2.6	4.6	A	A	3.4	4.2
EB Right		E	E	70.2	68.4	E	E	68.8	67.4	E	E	67.1	68.2	E	E	76.2	61.1	E	E	60.4	61.9
WB Left		D	D	53.3	64.1	D	D	54.3	64.2	E	E	59.8	58.9	E	E	68.4	60.0	E	E	61.6	60.9
WB Through		D	D	44.3	52.1	D	D	46.8	52.1	D	D	51.3	51.1	D	D	50.2	48.7	D	D	51.9	51.7
SWB Left		D	B	38.5	11.0	D	B	44.6	11.6	B	B	11.8	11.7	D	B	54.9	15.4	B	B	14.9	15.4
SWB Through		A	A	0.5	0.9	A	A	0.6	1.0	A	A	1.7	1.1	A	A	0.7	1.6	A	A	2.2	1.8
SWB Right																					
Entire Intersection Delay (sec /veh)		40.1		26.4		45.0		26.4		26.5		26.4		54.6		28.2		28.6		28.4	
Entire Intersection LOS		D		C		D		C		C		C		D		C		C		C	
7) <u>Diagonal Highway NB/Niwot Road</u>	Signalized	E	E	58.6	58.7	E	E	63.1	59.1	E	E	59.9	59.5	E	D	64.0	46.6	D	D	47.9	47.1
EB Left		E	E	62.9	68.5	E	E	66.7	68.7	E	E	69.2	68.0	E	D	67.6	55.0	E	E	56.2	54.4
EB Through		D	D	42.2	41.0	D	D	43.5	41.0	D	D	40.9	40.9	D	D	45.4	42.3	D	D	42.4	42.3
WB Through		A	A	0.3	0.8	A	A	0.3	0.8	A	A	0.9	0.9	A	A	0.4	1.0	A	A	0.9	0.9
WB Right		D	D	47.3	45.4	D	D	48.5	45.5	D	D	45.6	44.8	D	D	51.0	46.1	D	D	50.7	49.1
NB Left		A	C	7.0	23.1	A	C	7.3	26.6	C	C	24.9	24.8	A	D	7.8	45.9	D	D	44.9	44.9
NB Through		A	A	0.3	1.7	A	A	0.3	1.8	A	A	2.8	2.8	A	A	0.6	1.6	A	A	1.5	1.5
NB Right																					
Entire Intersection Delay (sec /veh)		25.0		29.2		26.1		31.8		30.7		30.6		26.9		44.1		43.7		43.5	
Entire Intersection LOS		C		C		C		C		C		C		C		D		D		D	

Note:
The Existing, 2024 Background, and 2042 Background scenarios evaluate the morning and afternoon peak-hours. The 2024 Total and 2042 Total scenarios show the event arrival afternoon peak-hour and the event departure afternoon peak-hour. This is to evaluate the impacts if an event begins or ends during the afternoon peak-hour. No events are expected during the morning peak-hour.

Table 2
ESTIMATED TRAFFIC GENERATION
Prairie Orchard Reception Hall
Boulder County, CO
LSC #220430; July, 2022

Trip Generating Category	Vehicle-Trips Generated ⁽¹⁾ ⁽²⁾ ⁽³⁾ ⁽⁴⁾							
	Average Weekday	Average Saturday	Weekday		Event Arrival		Event Departure	
			AM Peak-Hour	AM Peak-Hour	Weekday or Saturday PM Peak-Hour			
			In	Out	In	Out	In	Out
Typical Event (Unlimited) - 50 people								
Guests	40	40	0	0	15	2	2	15
Staff	6	6	0	0	3	3	3	3
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	4	4	0	0	2	2	2	2
Total =	50	50	0	0	20	7	7	20
Mid-Sized Event (20 per year) - 150 people								
Guests	120	120	0	0	45	5	5	45
Staff	6	6	0	0	3	3	3	3
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	4	4	0	0	2	2	2	2
Total =	130	130	0	0	50	10	10	50
Large Event (4 per year) - 300 people								
Guests	0	240	0	0	90	9	9	90
Staff	0	6	0	0	3	3	3	3
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	0	4	0	0	2	2	2	2
Total =	0	250	0	0	95	14	14	95

Notes:

- (1) Assumes 2.5 people/vehicle, 75 percent of guests arrive in the PM peak-hour with 10 percent being dropped off
- (2) Assumes 50- or 150-person event occurs on either weekdays or weekends but 300-person events will only occur on weekends
- (3) The applicant expects an average of 2.5 people per vehicle so the vehicle-trips estimated here can be multiplied by 2.5 to estimate person trips.
- (4) The County has referenced CDOT generic trip generation data for wedding events for a venue with a specific seating capacity. The CDOT data assumes a typical wedding event uses 75 percent of venue capacity, 90 percent of vehicles arrive and depart during the arrival and departure peak-hour. With a 2.5 vehicle occupancy rate, the daily trip generation rate for a 300-person capacity venue would be about 0.27 trips per person entering and exiting or about 162 daily trips. The site specific data included above shows a higher trip generation potential so was used in the analysis. This alternative method was used because the project does not have a seating capacity and because it is specific to the proposed operations plan.

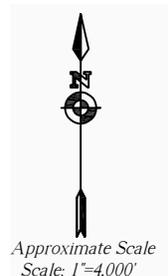


Figure 1
**Vicinity
Map**

Prairie Orchard Reception Hall (LSC #220430)

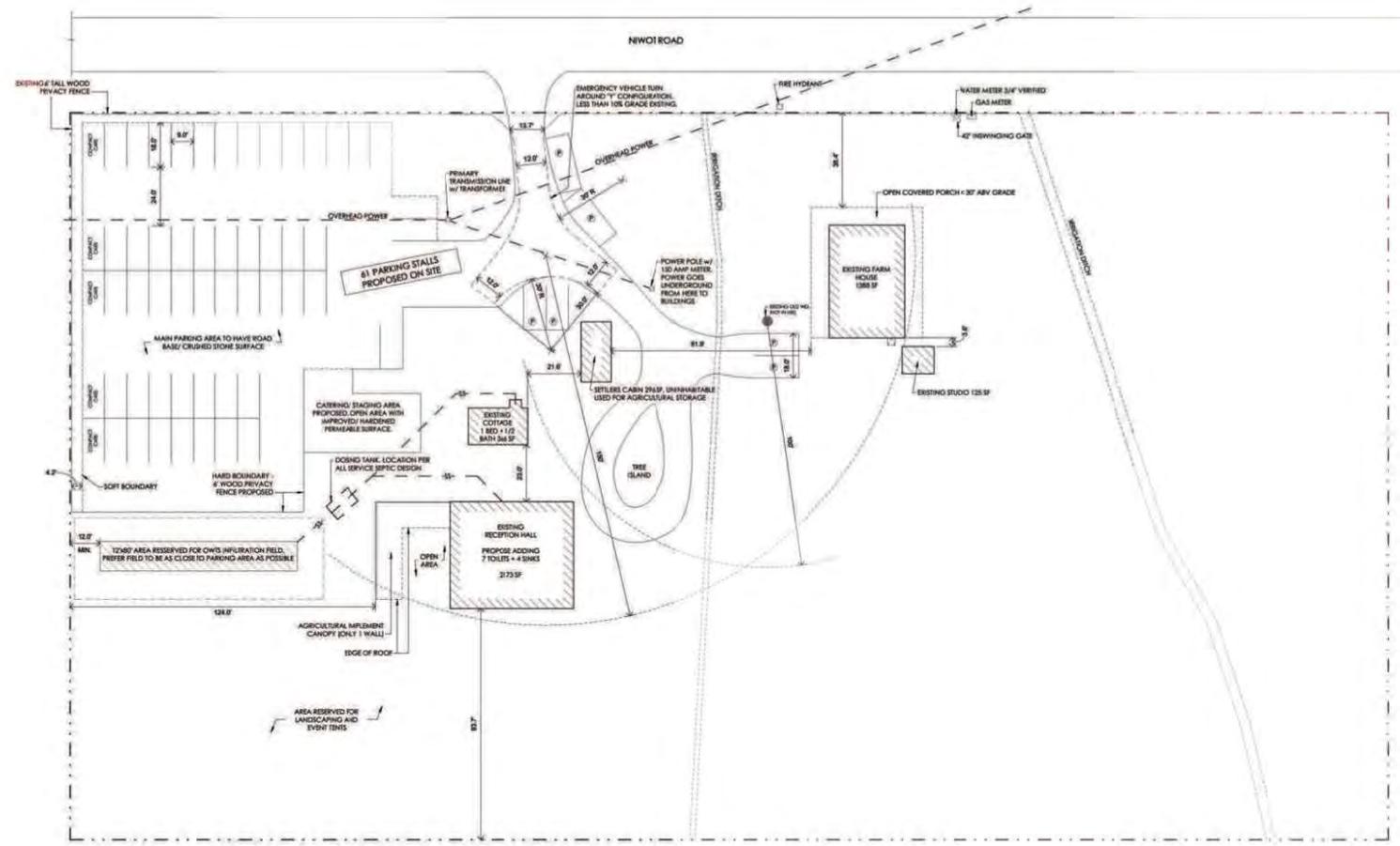
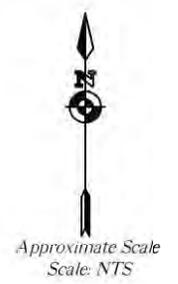
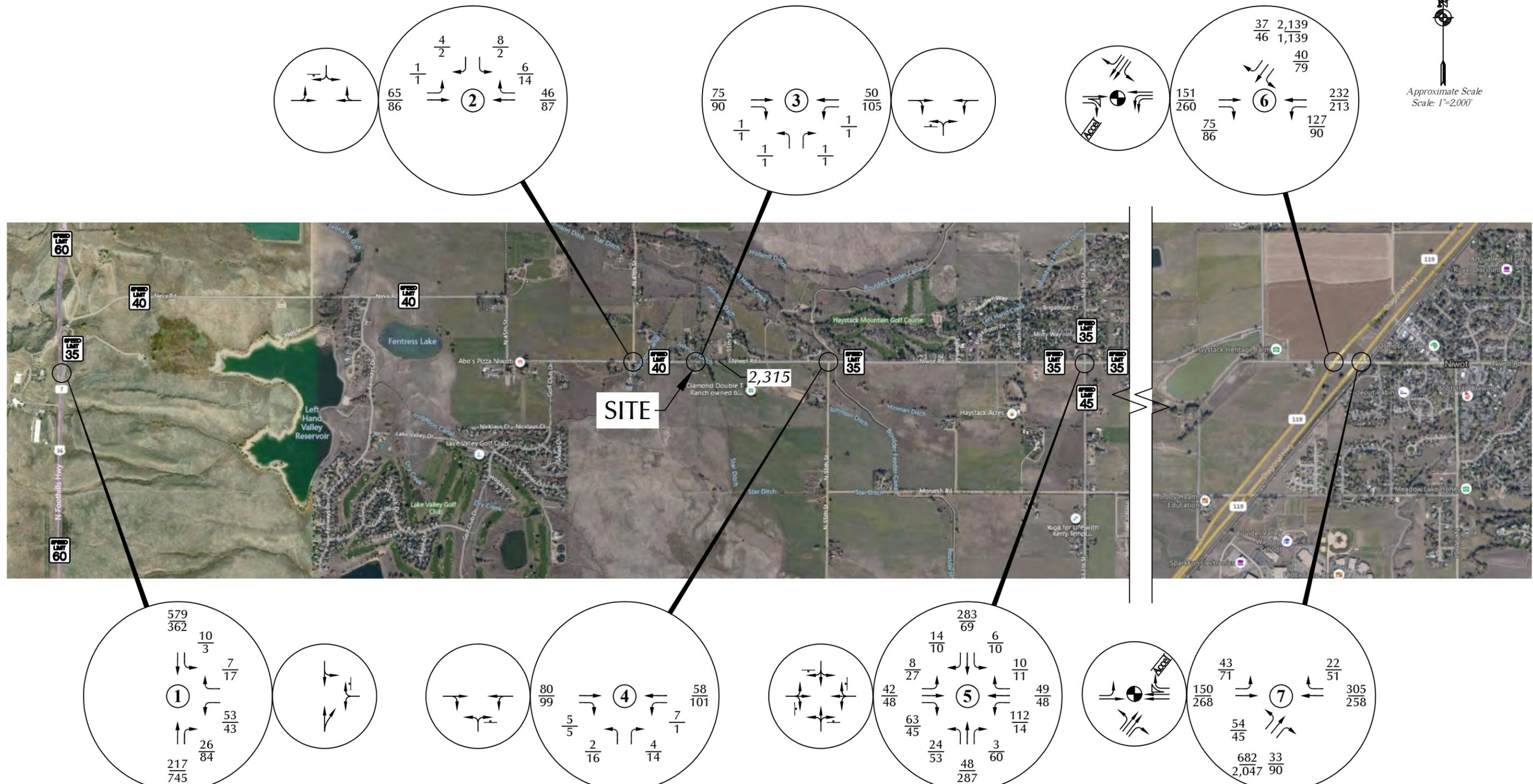
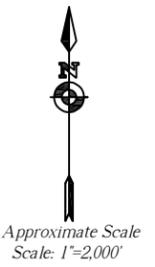


Figure 2
Site Plan

Prairie Orchard Reception Hall (LSC #220430)

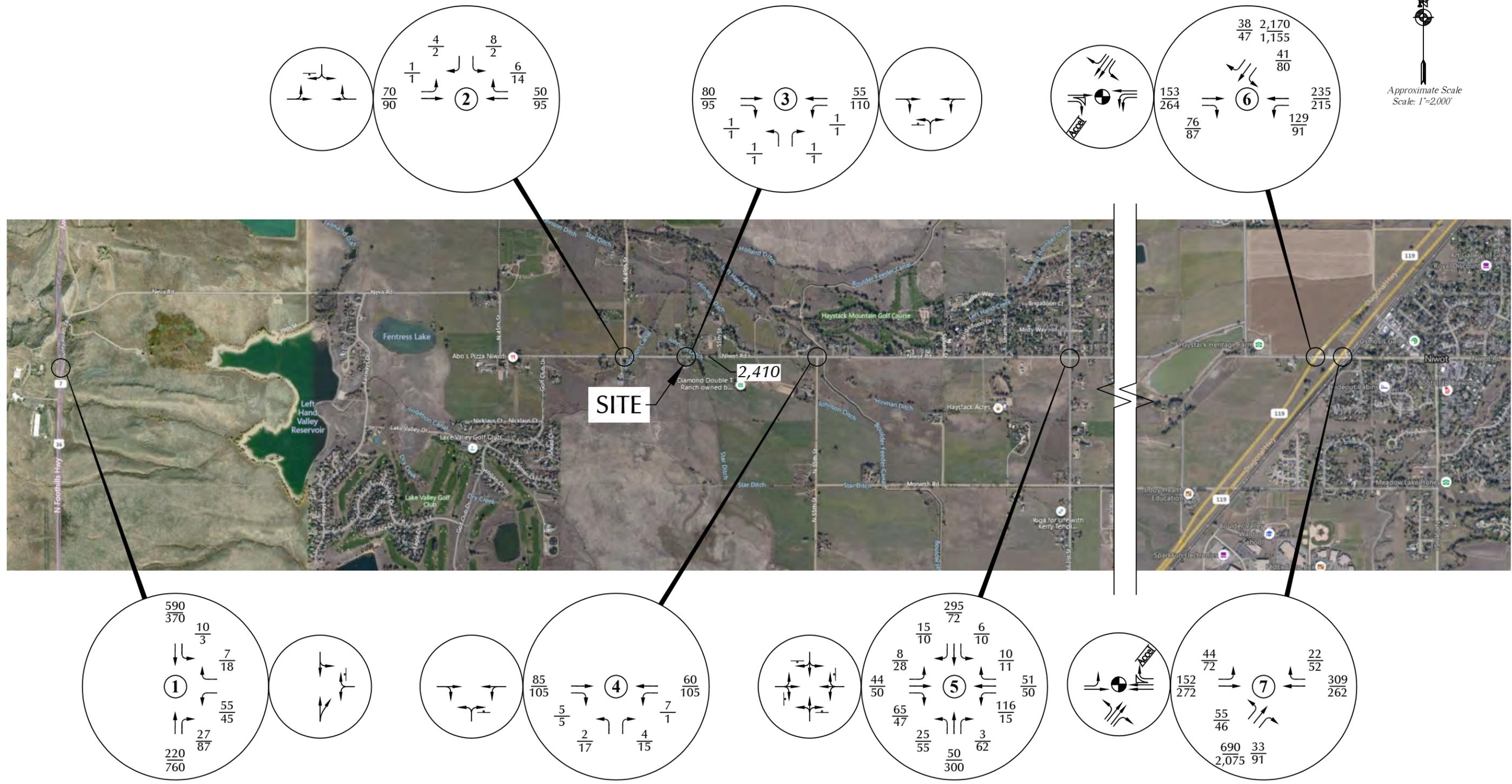
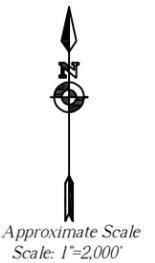


LEGEND:

- = Stop Sign
- = Traffic Signal
- = Speed Limit
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic



Figure 3
**Existing Traffic, Lane
 Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

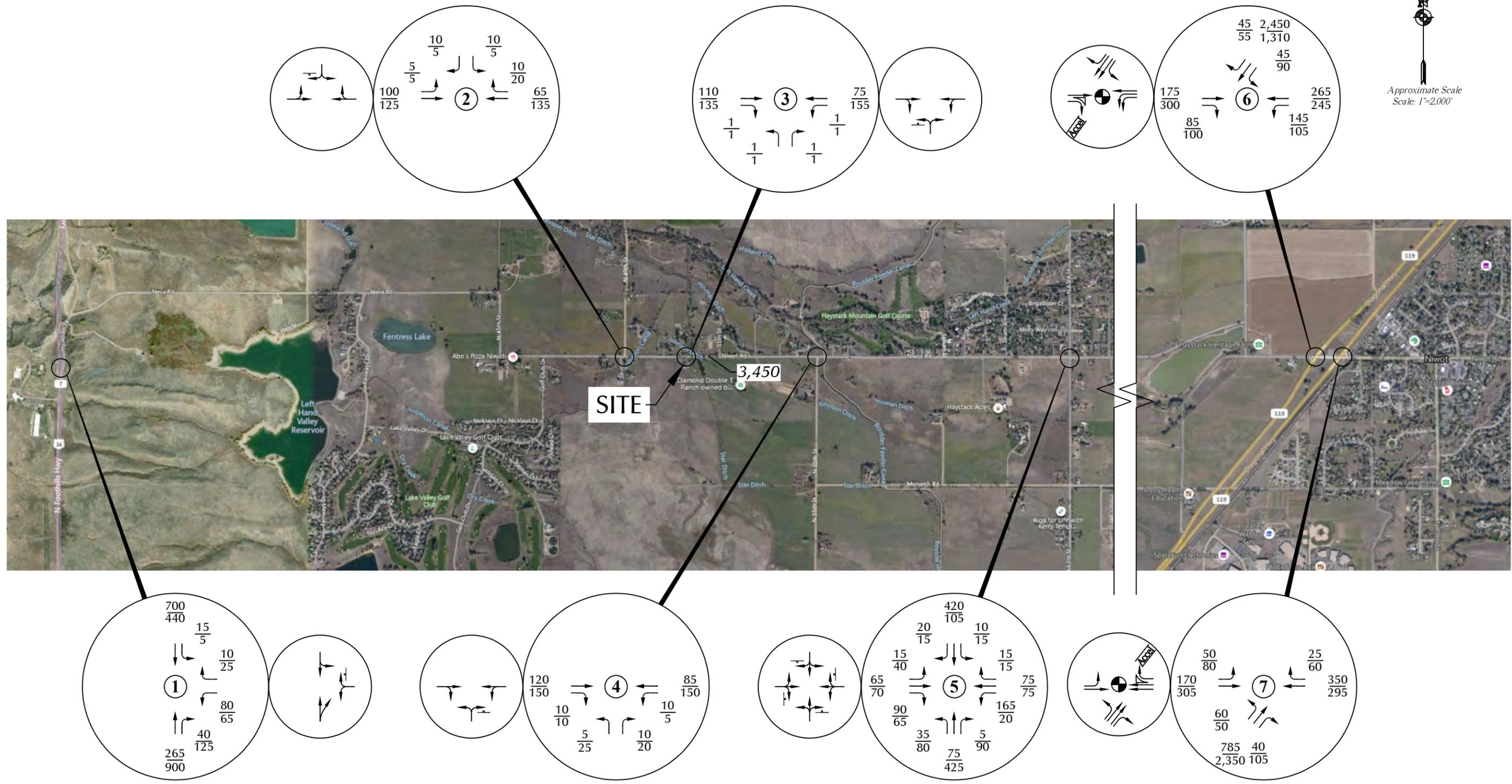
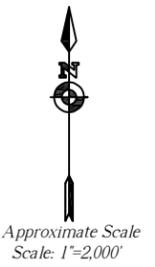
- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

Notes:

1. Assumes one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram.
2. Assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram.
3. Assumes a two percent annual growth for all other roadways.



Figure 4
**Year 2024 Background Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

Notes:

1. Assumes one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram.
2. Assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram.
3. Assumes a two percent annual growth for all other roadways.



Figure 5
**Year 2042 Background Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



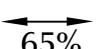
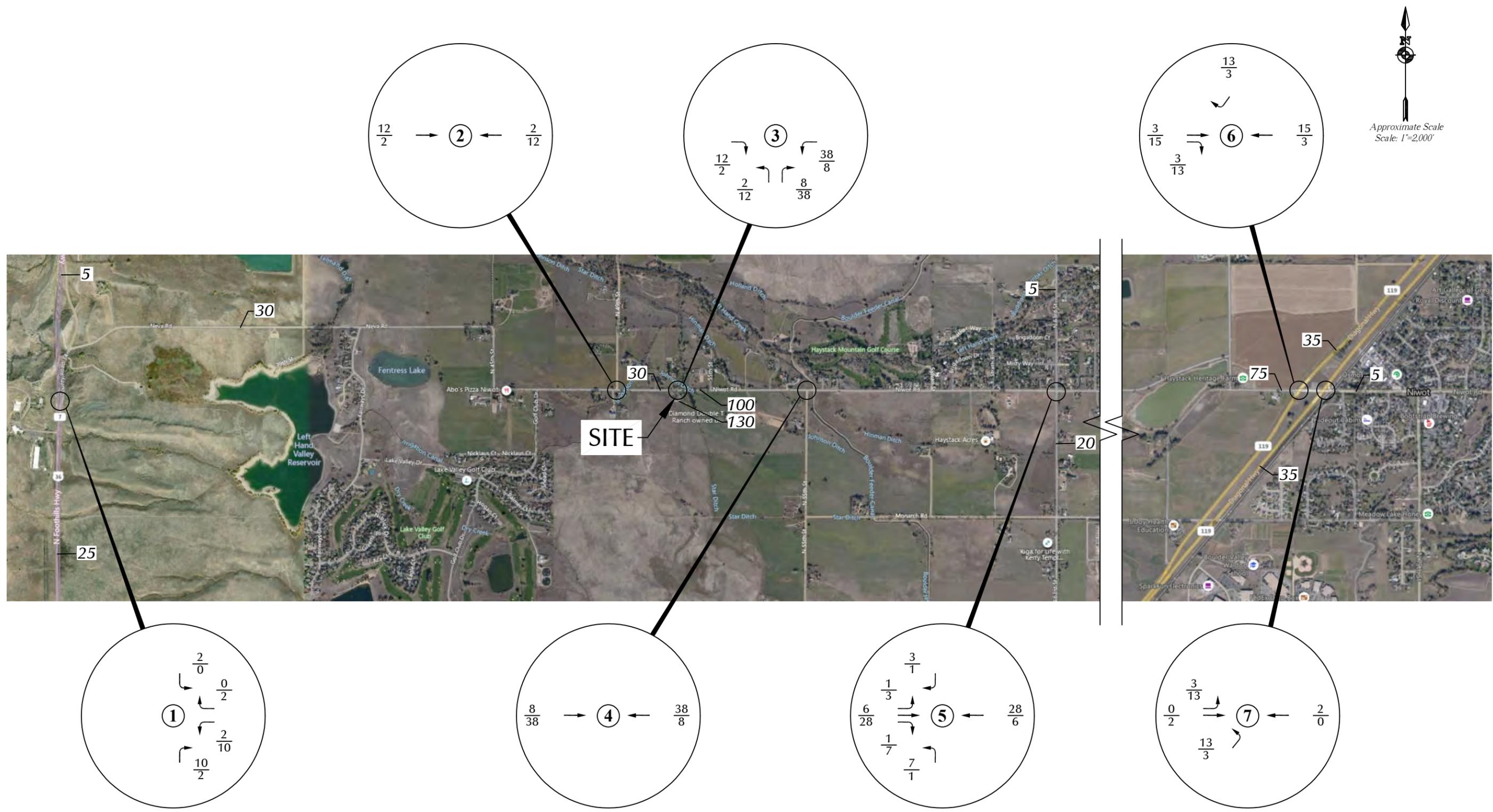
LEGEND:
 = Percent Directional Distribution

Figure 6
Directional Distribution of Site-Generated Traffic
 Prairie Orchard Reception Hall (LSC #220430)



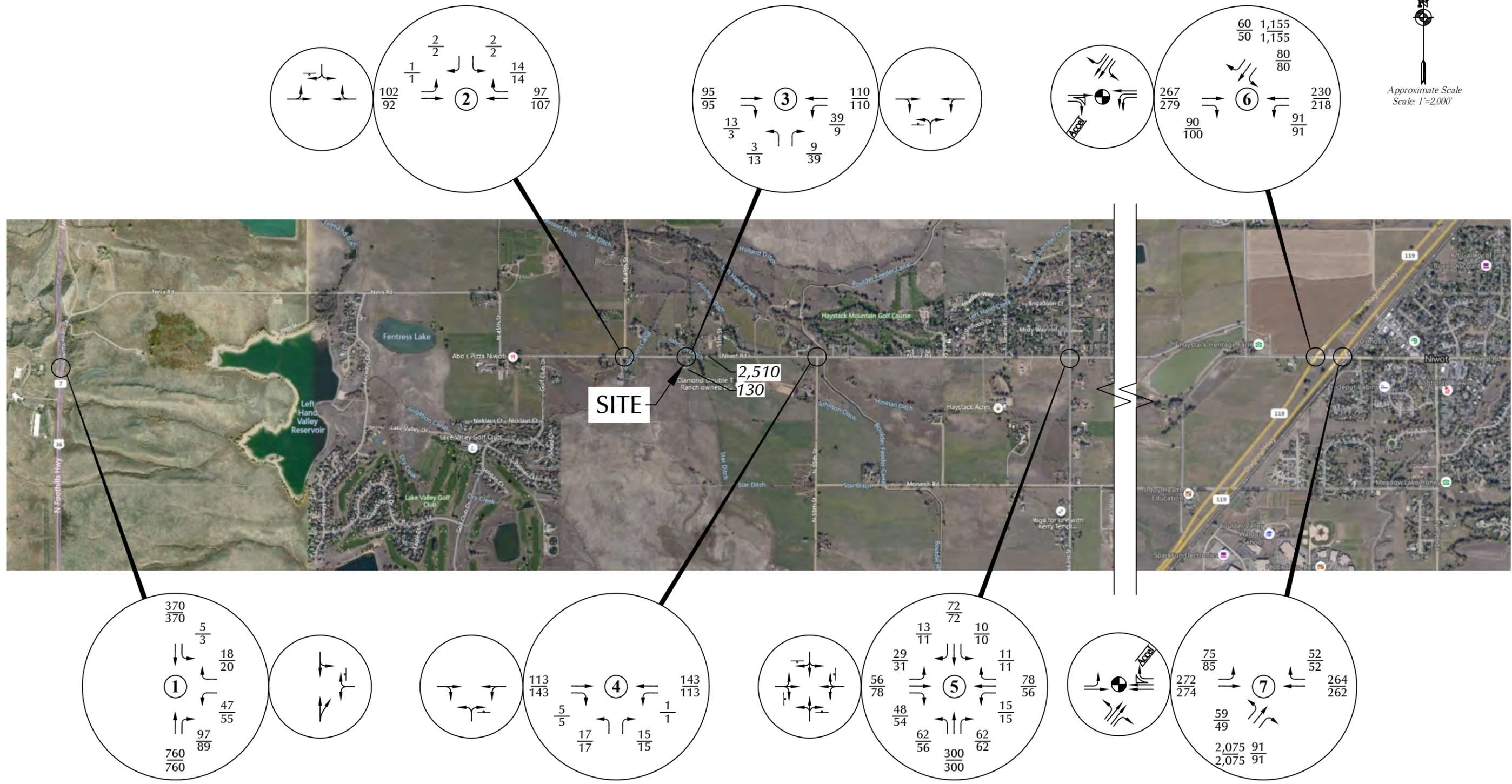
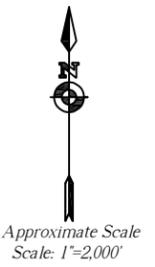
LEGEND:

- $\frac{26}{35}$ = Event Arrival Peak Hour Traffic
- $\frac{35}{26}$ = Event Departure Peak Hour Traffic
- 1,000 = Average Daily Traffic

Note: Mid sized event is up to 150 people including staff and guests.
 Large events will be up to 300 people and will only occur on weekends.
 An off-site shuttle bus option will be provided for large events.

Figure 7
**Assignment of
 Site-Generated Traffic
 for Mid Sized Event**
 Prairie Orchard Reception Hall (LSC #220430)





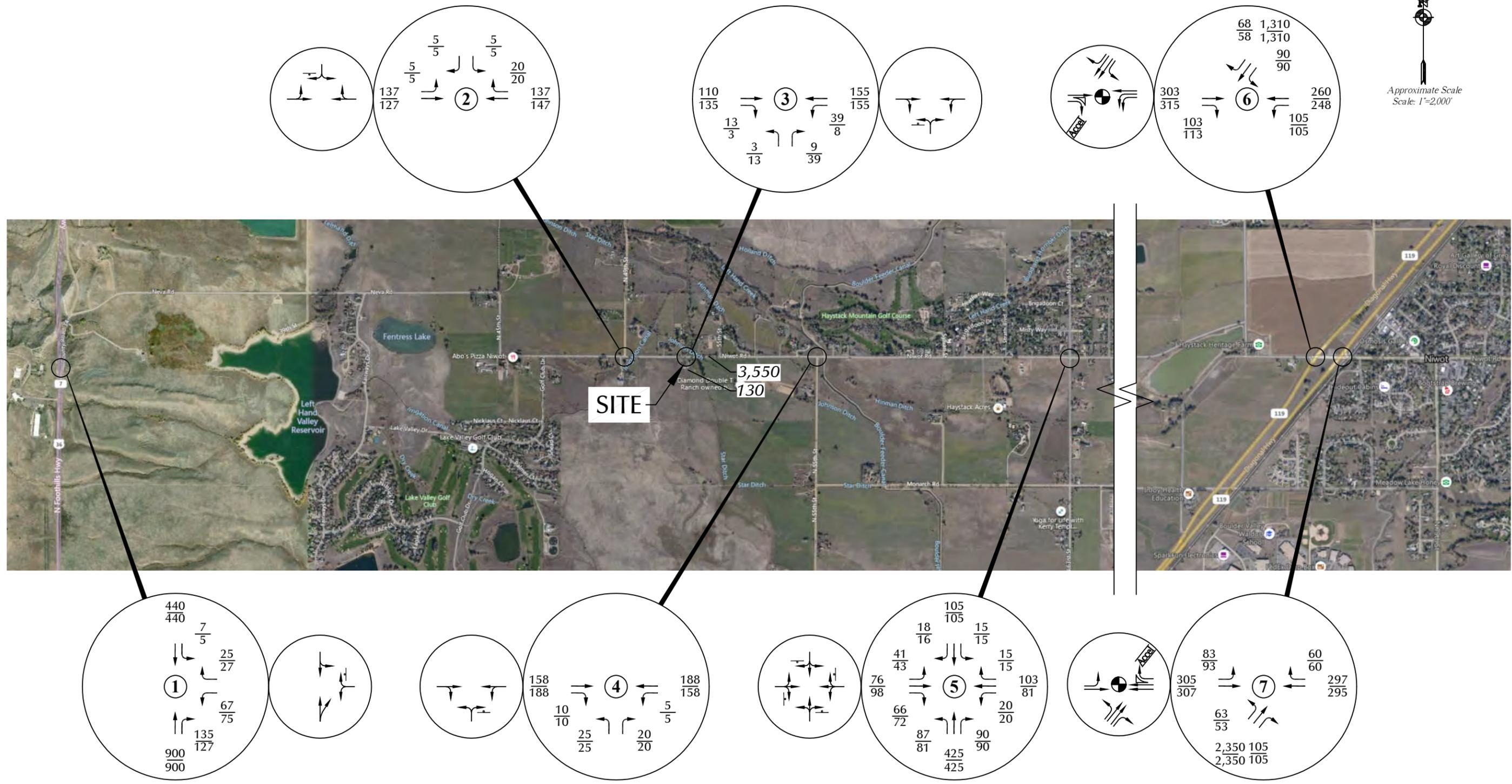
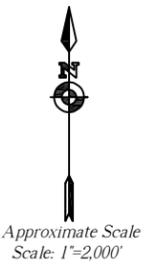
LEGEND:

- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = $\frac{\text{Event Arrival Peak Hour Traffic}}{\text{Event Departure Peak Hour Traffic}}$
- 1,000 = Average Daily Traffic

Note: The numerator is the afternoon event arrival peak hour and the denominator is the afternoon event departure peak hour. Both are assumed to occur during the afternoon peak hour to maintain a conservative analysis.



Figure 8
**Year 2024 Total Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

- ⊥ = Stop Sign
- ⊙ = Traffic Signal
- $\frac{26}{35}$ = $\frac{\text{Event Arrival Peak Hour Traffic}}{\text{Event Departure Peak Hour Traffic}}$
- 1,000 = Average Daily Traffic

Note: The numerator is the afternoon event arrival peak hour and the denominator is the afternoon event departure peak hour. Both are assumed to occur during the afternoon peak hour to maintain a conservative analysis.



Figure 9
**Year 2042 Total Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)

COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDERFile Name : 55THNIWOTRD
Site Code : 00000025
Start Date : 4/26/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	NO ACCESS Southbound				NIWOT RD Westbound				55TH ST Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	2	6
06:45 AM	0	0	0	1	0	7	0	1	0	0	0	0	0	16	0	0	25
Total	0	0	0	1	0	9	0	1	0	0	0	0	0	18	0	2	31
07:00 AM	0	0	0	0	1	4	0	2	0	0	2	2	1	14	2	0	28
07:15 AM	0	0	0	0	2	9	0	1	0	0	0	2	0	25	1	0	40
07:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	9	1	0	12
07:45 AM	0	0	0	0	4	15	0	0	1	0	2	0	0	24	2	0	48
Total	0	0	0	1	8	28	0	3	1	0	4	4	1	72	6	0	128
08:00 AM	0	0	0	0	2	20	0	1	0	0	1	1	0	31	1	0	57
08:15 AM	0	0	0	3	0	23	0	2	1	0	1	0	0	16	1	0	47
Total	0	0	0	3	2	43	0	3	1	0	2	1	0	47	2	0	104
04:00 PM	0	0	0	1	1	23	0	5	4	0	5	4	0	22	1	5	71
04:15 PM	0	0	0	1	0	22	0	2	2	0	1	1	0	26	2	6	63
04:30 PM	0	0	0	3	0	26	0	6	2	0	3	2	0	19	1	7	69
04:45 PM	0	0	0	0	0	30	0	27	8	0	5	27	0	32	1	3	133
Total	0	0	0	5	1	101	0	40	16	0	14	34	0	99	5	21	336
05:00 PM	0	0	0	1	2	23	0	6	2	0	1	4	0	23	2	3	67
05:15 PM	1	0	0	2	1	32	0	4	3	0	7	0	0	25	0	5	80
05:30 PM	0	0	0	0	0	16	0	3	3	0	0	2	0	28	0	2	54
05:45 PM	0	0	0	0	0	21	0	4	0	0	1	2	0	21	1	1	51
Total	1	0	0	3	3	92	0	17	8	0	9	8	0	97	3	11	252
Grand Total	1	0	0	13	14	273	0	64	26	0	29	47	1	333	16	34	851
Apprch %	7.1	0.0	0.0	92.9	4.0	77.8	0.0	18.2	25.5	0.0	28.4	46.1	0.3	86.7	4.2	8.9	
Total %	0.1	0.0	0.0	1.5	1.6	32.1	0.0	7.5	3.1	0.0	3.4	5.5	0.1	39.1	1.9	4.0	

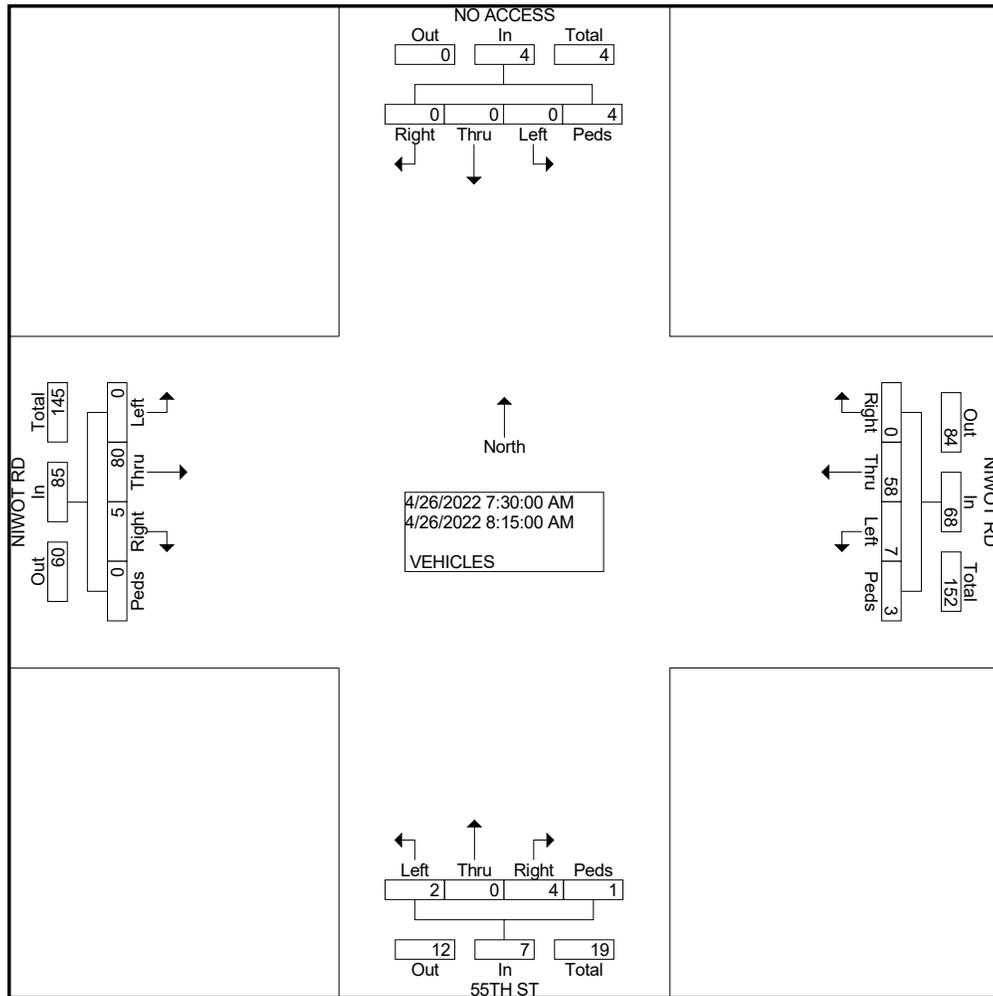
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : 55THNIWOTRD
Site Code : 00000025
Start Date : 4/26/2022
Page No : 2

Start Time	NO ACCESS Southbound					NIWOT RD Westbound					55TH ST Northbound					NIWOT RD Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																						
Intersect on	07:30 AM																					
Volume	0	0	0	4	4	7	58	0	3	68	2	0	4	1	7	0	80	5	0	85	164	
Percent	0.0	0.0	0.0	100.0		10.3	85.3	0.0	4.4		28.6	0.0	57.1	14.3		0.0	94.1	5.9	0.0			
08:00 Volume	0	0	0	0	0	2	20	0	1	23	0	0	1	1	2	0	31	1	0	32	57	
Peak Factor																						0.719
High Int. Volume	08:15 AM																					
Peak Factor	0.33					0.68					0.58					0.66					4	



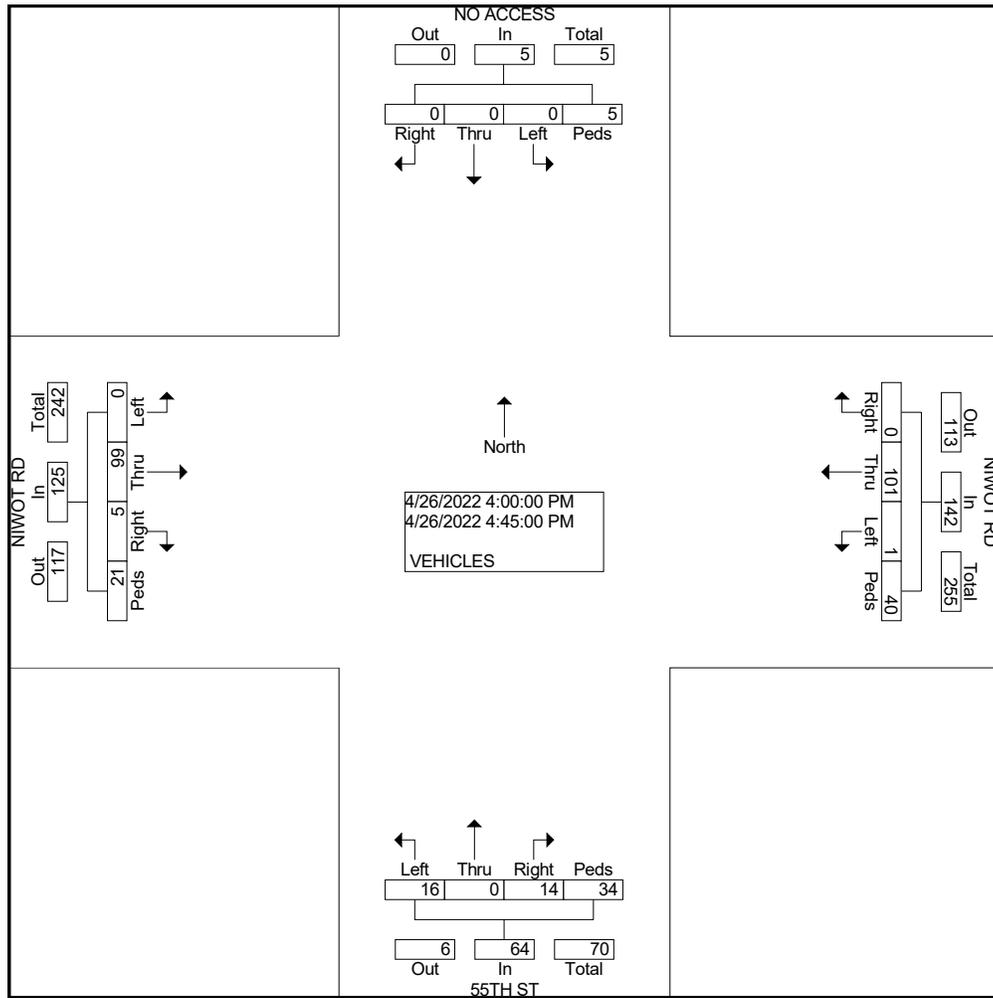
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : 55THNIWOTRD
Site Code : 00000025
Start Date : 4/26/2022
Page No : 3

Start Time	NO ACCESS Southbound					NIWOT RD Westbound					55TH ST Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersect on	04:00 PM																				
Volume	0	0	0	5	5	1	101	0	40	142	16	0	14	34	64	0	99	5	21	125	336
Percent	0.0	0.0	0.0	100.0		0.7	71.1	0.0	28.2		25.0	0.0	21.9	53.1		0.0	79.2	4.0	16.8		
04:45 Volume	0	0	0	0	0	0	30	0	27	57	8	0	5	27	40	0	32	1	3	36	133
Peak Factor																					
High Int.	04:30 PM																				
Volume	0	0	0	3	3	0	30	0	27	57	8	0	5	27	40	0	32	1	3	36	0.632
Peak Factor	0.417					0.623					0.400					0.868					



COUNTER MEASURES INC.1889 YORK STREET
DENVER.COLORADO
303-333-7409N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDERFile Name : HWY36NEVA
Site Code : 00000022
Start Date : 4/21/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	HWY 36 Southbound				NEVA ACCESS RD Westbound				HWY 36 Northbound				NO ACCESS Eastbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	71	0	0	8	0	1	0	0	27	1	0	0	0	0	0	0	108
06:45 AM	0	66	0	0	5	0	0	0	0	33	5	1	0	0	0	0	0	110
Total	0	137	0	0	13	0	1	0	0	60	6	1	0	0	0	0	0	218
07:00 AM	3	79	0	0	6	0	0	0	0	35	1	3	0	0	0	0	0	127
07:15 AM	0	121	0	0	6	0	0	0	0	45	2	0	0	0	0	0	0	174
07:30 AM	3	141	0	1	14	0	1	0	0	38	4	1	0	0	0	0	0	203
07:45 AM	3	148	0	4	14	0	1	0	0	42	5	1	0	0	0	0	2	220
Total	9	489	0	5	40	0	2	0	0	160	12	5	0	0	0	0	2	724
08:00 AM	2	145	0	1	14	0	2	1	0	58	5	1	0	0	0	0	0	229
08:15 AM	2	145	0	0	11	0	3	0	0	79	12	2	0	0	0	0	2	256
Total	4	290	0	1	25	0	5	1	0	137	17	3	0	0	0	0	2	485
04:00 PM	1	97	0	1	12	0	3	1	0	161	18	2	0	0	0	0	0	296
04:15 PM	1	104	0	2	9	0	4	2	0	210	24	7	0	0	0	0	1	364
04:30 PM	0	81	0	0	9	0	5	0	0	194	25	6	0	0	0	0	0	320
04:45 PM	1	80	0	1	13	0	5	2	0	180	17	4	0	0	0	0	0	303
Total	3	362	0	4	43	0	17	5	0	745	84	19	0	0	0	0	1	1283
05:00 PM	0	68	0	3	6	0	0	1	0	172	12	2	0	0	0	0	2	266
05:15 PM	2	84	0	6	16	0	3	3	0	196	17	27	0	0	0	0	0	354
05:30 PM	2	93	0	4	10	0	1	2	0	193	16	8	0	0	0	0	0	329
05:45 PM	0	82	0	3	7	1	1	0	0	147	13	2	0	0	0	0	0	256
Total	4	327	0	16	39	1	5	6	0	708	58	39	0	0	0	0	2	1205
Grand Total	20	1605	0	26	160	1	30	12	0	1810	177	67	0	0	0	7		3915
Apprch %	1.2	97.2	0.0	1.6	78.8	0.5	14.8	5.9	0.0	88.1	8.6	3.3	0.0	0.0	0.0	100.0		
Total %	0.5	41.0	0.0	0.7	4.1	0.0	0.8	0.3	0.0	46.2	4.5	1.7	0.0	0.0	0.0	0.2		

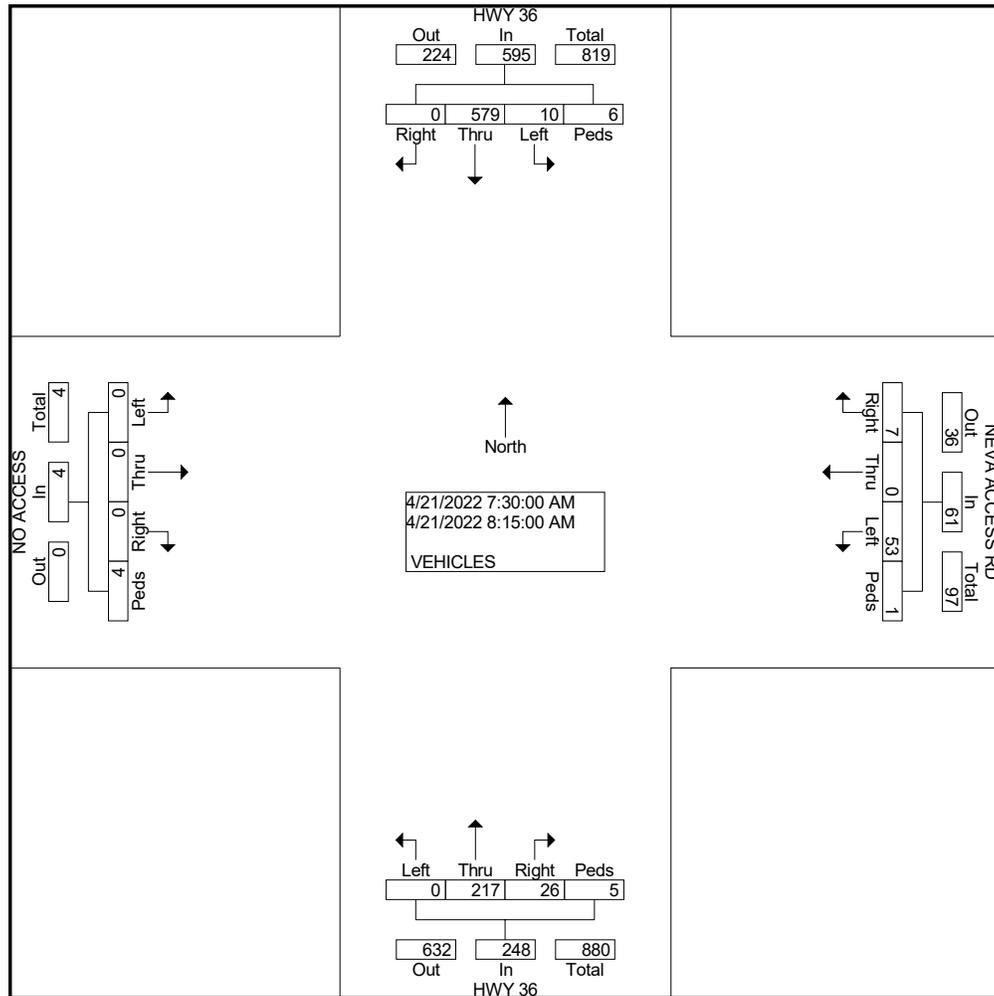
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDER

File Name : HWY36NEVA
Site Code : 0000022
Start Date : 4/21/2022
Page No : 2

Start Time	HWY 36 Southbound					NEVA ACCESS RD Westbound					HWY 36 Northbound					NO ACCESS Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersect on	07:30 AM																				
Volume	10	579	0	6	595	53	0	7	1	61	0	217	26	5	248	0	0	0	4	4	908
Percent	1.7	97.3	0.0	1.0		86.9	0.0	11.5	1.6		0.0	87.5	10.5	2.0		0.0	0.0	0.0	100.0		
08:15 Peak Factor																					
High Int. Volume	2	145	0	0	147	11	0	3	0	14	0	79	12	2	93	0	0	0	2	2	256
Peak Factor																					
High Int. Volume	07:45 AM					08:00 AM					08:15 AM					07:45 AM					
Peak Factor	3	148	0	4	155	14	0	2	1	17	0	79	12	2	93	0	0	0	2	2	2
Factor	0.96					0.89					0.66					0.50					0



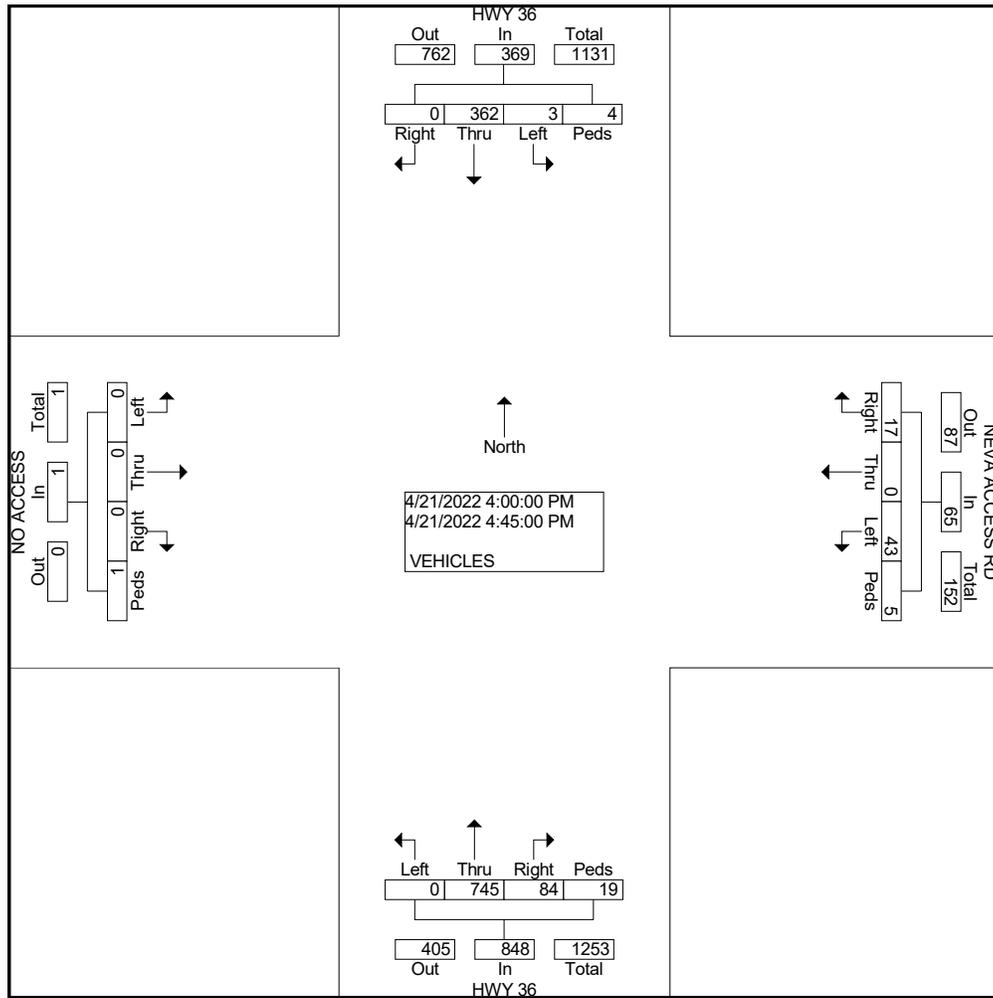
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDER

File Name : HWY36NEVA
Site Code : 0000022
Start Date : 4/21/2022
Page No : 3

Start Time	HWY 36 Southbound					NEVA ACCESS RD Westbound					HWY 36 Northbound					NO ACCESS Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersect on	04:00 PM																				
Volume	3	362	0	4	369	43	0	17	5	65	0	745	84	19	848	0	0	0	1	1	1283
Percent	0.8	98.1	0.0	1.1		66.2	0.0	26.2	7.7		0.0	87.9	9.9	2.2		0.0	0.0	0.0	100.0		
04:15 Volume	1	104	0	2	107	9	0	4	2	15	0	210	24	7	241	0	0	0	1	1	364
Peak Factor																					
High Int.	04:15 PM																				
Volume	1	104	0	2	107	13	0	5	2	20	0	210	24	7	241	0	0	0	1	1	364
Peak Factor	0.86					0.81					0.88					0.25					0



COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDERFile Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	HWY 119 Southbound				NIWOT RD Westbound				HWY 119 Northbound				NIWOT RD Eastbound				Int. Total	
	Left	Thru	Right	Peds														
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	8	486	1	0	13	25	2	4	7	85	3	0	2	11	14	0	0	661
06:45 AM	5	470	5	1	22	26	1	2	3	96	4	1	6	21	22	0	0	685
Total	13	956	6	1	35	51	3	6	10	181	7	1	8	32	36	0	0	1346
07:00 AM	6	450	6	3	12	34	3	4	11	125	7	0	6	22	21	0	0	710
07:15 AM	10	530	2	0	23	47	1	6	13	170	8	1	7	34	17	6	6	875
07:30 AM	8	648	2	1	22	74	5	4	12	179	4	0	7	26	22	0	0	1014
07:45 AM	10	519	9	0	36	63	8	10	17	183	12	1	12	48	16	2	2	946
Total	34	2147	19	4	93	218	17	24	53	657	31	2	32	130	76	8	8	3545
08:00 AM	11	514	9	2	33	80	4	6	12	143	7	1	9	29	23	8	8	891
08:15 AM	11	458	17	3	36	88	5	2	13	177	10	0	15	48	14	2	2	899
Total	22	972	26	5	69	168	9	8	25	320	17	1	24	77	37	10	10	1790
04:00 PM	15	165	5	1	11	55	9	1	19	459	33	0	12	57	8	0	0	850
04:15 PM	22	241	8	1	24	67	7	1	18	568	27	0	11	53	28	0	0	1076
04:30 PM	16	260	9	0	27	85	11	5	19	485	19	3	17	68	20	0	0	1044
04:45 PM	20	278	9	0	18	54	12	2	10	512	23	1	21	76	18	0	0	1054
Total	73	944	31	2	80	261	39	9	66	2024	102	4	61	254	74	0	0	4024
05:00 PM	22	300	15	0	32	91	17	5	18	479	24	0	18	62	24	2	2	1109
05:15 PM	14	267	11	1	24	46	5	0	10	540	26	1	16	56	30	4	4	1051
05:30 PM	23	294	11	0	16	67	17	0	7	516	17	1	16	66	14	6	6	1071
05:45 PM	16	258	14	1	13	58	10	5	18	532	50	0	12	50	14	2	2	1053
Total	75	1119	51	2	85	262	49	10	53	2067	117	2	62	234	82	14	14	4284
Grand Total	217	6138	133	14	362	960	117	57	207	5249	274	10	187	727	305	32	32	14989
Apprch %	3.3	94.4	2.0	0.2	24.2	64.2	7.8	3.8	3.6	91.4	4.8	0.2	14.9	58.1	24.4	2.6	2.6	
Total %	1.4	41.0	0.9	0.1	2.4	6.4	0.8	0.4	1.4	35.0	1.8	0.1	1.2	4.9	2.0	0.2	0.2	

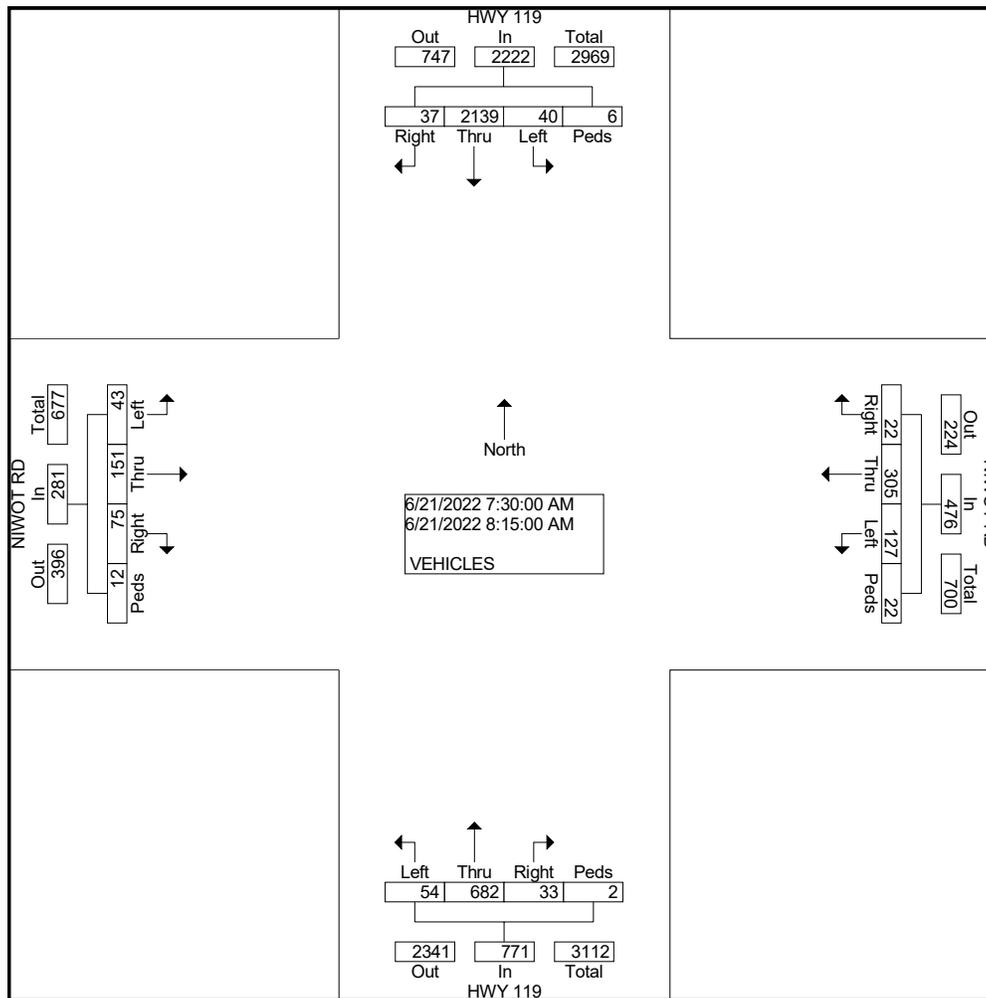
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 2

Start Time	HWY 119 Southbound					NIWOT RD Westbound					HWY 119 Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	40	2139	37	6	2222	127	305	22	22	476	54	682	33	2	771	43	151	75	12	281	3750
Percent	1.8	96.3	1.7	0.3		26.7	64.1	4.6	4.6		7.0	88.5	4.3	0.3		15.3	53.7	26.7	4.3		
07:30 Volume Peak Factor	8	648	2	1	659	22	74	5	4	105	12	179	4	0	195	7	26	22	0	55	1014
High Int. Factor	0.925																				
08:15 AM Volume Peak Factor	8	648	2	1	659	36	88	5	2	131	17	183	12	1	213	15	48	14	2	79	1014
08:15 AM Volume Peak Factor	0.889																				



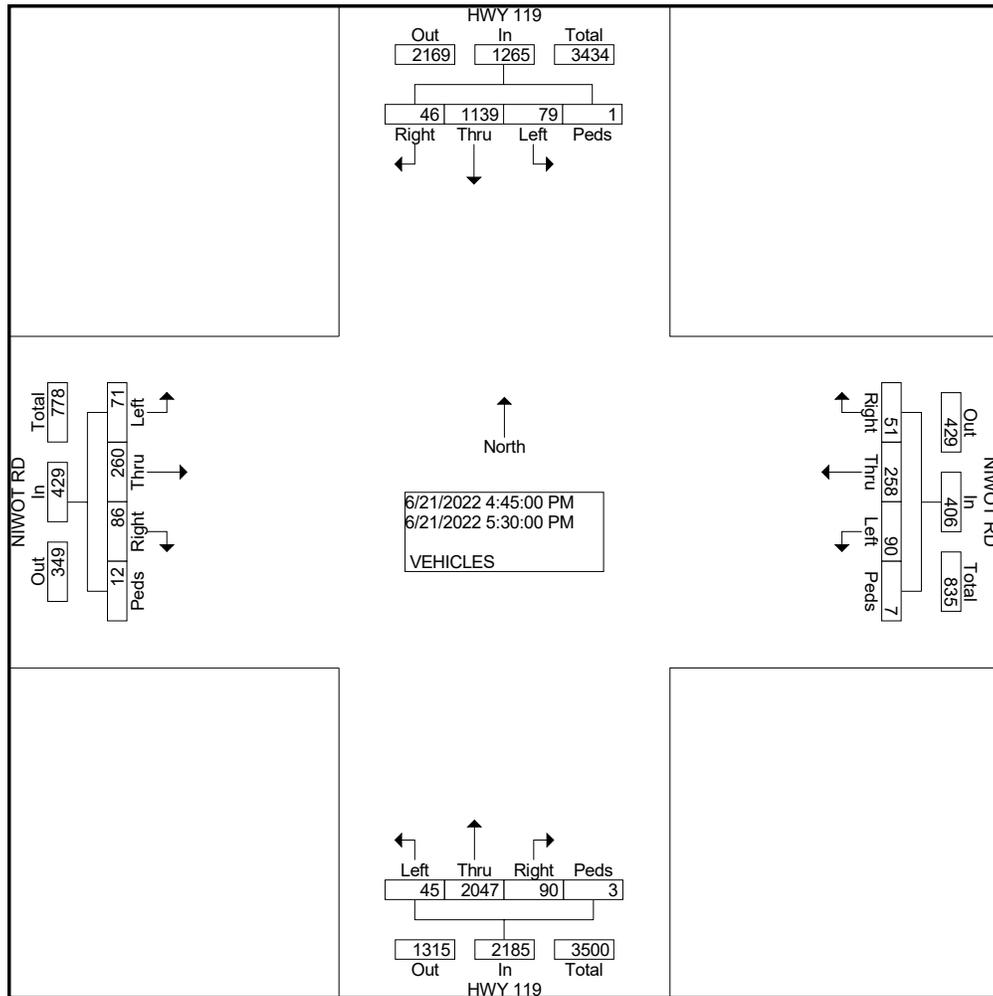
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 3

Start Time	HWY 119 Southbound					NIWOT RD Westbound					HWY 119 Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersect on	04:45 PM																				
Volume	79	1139	46	1	1265	90	258	51	7	406	45	2047	90	3	2185	71	260	86	12	429	4285
Percent	6.2	90.0	3.6	0.1		22.2	63.5	12.6	1.7		2.1	93.7	4.1	0.1		16.6	60.6	20.0	2.8		
05:00 Volume	22	300	15	0	337	32	91	17	5	145	18	479	24	0	521	18	62	24	2	106	1109
Peak Factor	0.966																				
High Int. Volume	05:00 PM					05:00 PM					05:15 PM					04:45 PM					
Peak Factor	0.938					0.700					0.947					0.933					



COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDERFile Name : N49THNIWOT
Site Code : 00000020
Start Date : 6/22/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	N. 49TH ST Southbound				NIWOT RD Westbound				NO ACCESS Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
06:30 AM	0	0	0	0	0	5	1	0	0	0	0	0	0	8	0	4	18
06:45 AM	2	0	0	0	0	5	0	2	0	0	0	0	0	10	0	14	33
Total	2	0	0	0	0	10	1	2	0	0	0	0	0	18	0	18	51
07:00 AM	1	0	0	0	0	8	1	1	0	0	0	0	0	11	0	2	24
07:15 AM	2	0	0	0	0	8	4	2	0	0	0	0	0	13	0	1	30
07:30 AM	2	0	2	0	0	6	2	2	0	0	0	0	1	9	0	2	26
07:45 AM	1	0	1	0	0	9	1	1	0	0	0	0	0	16	0	0	29
Total	6	0	3	0	0	31	8	6	0	0	0	0	1	49	0	5	109
08:00 AM	3	0	0	0	0	14	0	4	0	0	0	0	0	18	0	2	41
08:15 AM	2	0	1	0	0	17	3	0	0	0	0	0	0	22	0	2	47
Total	5	0	1	0	0	31	3	4	0	0	0	0	0	40	0	4	88
04:00 PM	2	0	0	0	0	25	3	2	0	0	0	0	1	28	0	1	62
04:15 PM	4	0	0	0	0	23	0	1	0	0	0	0	0	30	0	3	61
04:30 PM	1	0	2	0	0	21	2	1	0	0	0	0	0	25	0	6	58
04:45 PM	1	0	2	0	0	20	2	2	0	0	0	0	0	18	0	4	49
Total	8	0	4	0	0	89	7	6	0	0	0	0	1	101	0	14	230
05:00 PM	1	0	0	0	0	22	2	1	0	0	0	0	0	26	0	0	52
05:15 PM	0	0	0	0	0	26	1	0	0	0	0	0	1	23	0	6	57
05:30 PM	0	0	0	0	0	19	9	0	0	0	0	0	0	19	0	0	47
05:45 PM	2	0	0	0	0	21	2	1	0	0	0	0	0	12	0	4	42
Total	3	0	0	0	0	88	14	2	0	0	0	0	1	80	0	10	198
Grand Total	24	0	8	0	0	249	33	20	0	0	0	0	3	288	0	51	676
Apprch %	75.0	0.0	25.0	0.0	0.0	82.5	10.9	6.6	0.0	0.0	0.0	0.0	0.9	84.2	0.0	14.9	
Total %	3.6	0.0	1.2	0.0	0.0	36.8	4.9	3.0	0.0	0.0	0.0	0.0	0.4	42.6	0.0	7.5	

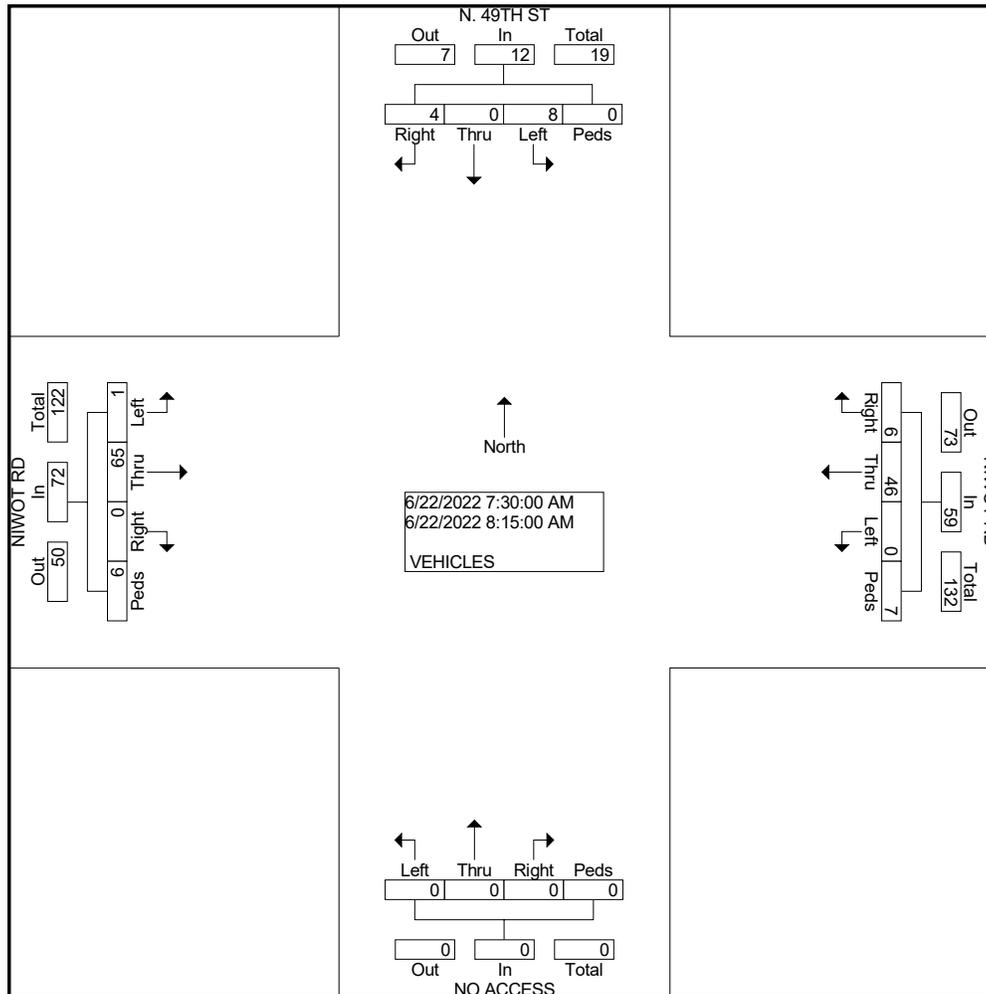
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : N49THNIWOT
Site Code : 0000020
Start Date : 6/22/2022
Page No : 2

Start Time	N. 49TH ST Southbound					NIWOT RD Westbound					NO ACCESS Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection 07:30 AM																					
Volume	8	0	4	0	12	0	46	6	7	59	0	0	0	0	0	1	65	0	6	72	143
Percent	66.7	0.0	33.3	0.0		0.0	78.0	10.2	11.9		0.0	0.0	0.0	0.0		1.4	90.3	0.0	8.3		
08:15 Peak Factor																					
High Int. Volume	2	0	1	0	3	0	17	3	0	20	0	0	0	0	0	0	22	0	2	24	47
Peak Factor																					
High Int. Volume	07:30 AM					08:15 AM					08:15 AM										
Peak Factor	0.75					0.73										0.75					
Factor	0					8										0					



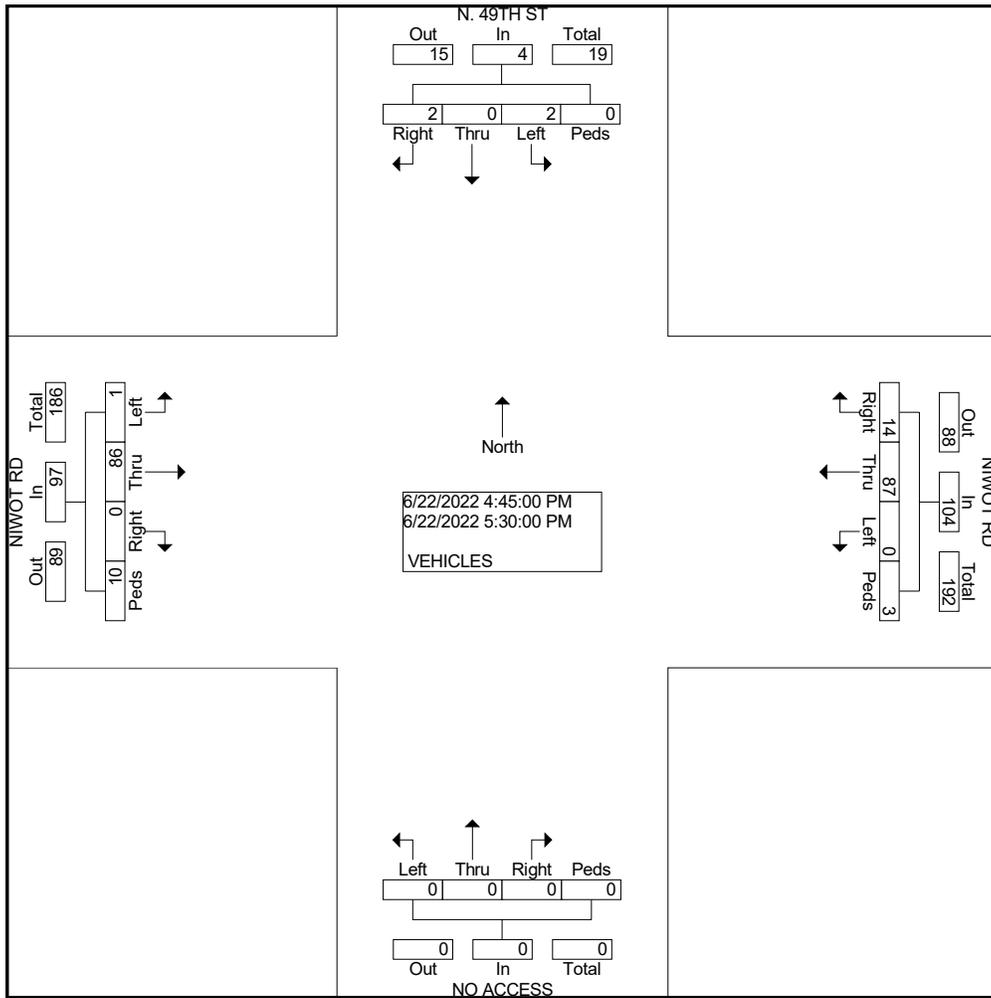
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : N49THNIWOT
Site Code : 00000020
Start Date : 6/22/2022
Page No : 3

Start Time	N. 49TH ST Southbound					NIWOT RD Westbound					NO ACCESS Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Intersect on	04:45 PM																				
Volume	2	0	2	0	4	0	87	14	3	104	0	0	0	0	0	1	86	0	10	97	205
Percent	50.0	0.0	50.0	0.0		0.0	83.7	13.5	2.9		0.0	0.0	0.0	0.0		1.0	88.7	0.0	10.3		
05:15 Volume	0	0	0	0	0	0	26	1	0	27	0	0	0	0	0	1	23	0	6	30	57
Peak Factor	0.899																				
High Int.	04:45 PM					05:30 PM					05:15 PM										
Volume	1	0	2	0	3	0	19	9	0	28	0	0	0	0	0	1	23	0	6	30	
Peak Factor	0.333					0.929					0.808										



COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDERFile Name : N63RDNIWOTRD
Site Code : 00000013
Start Date : 4/26/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	N. 63RD ST Southbound				NIWOT RD Westbound				N. 63RD ST Northbound				NIWOT RD Eastbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	37	0	0	9	1	0	0	0	2	0	0	0	1	3	0	0	53
06:45 AM	0	36	0	0	7	3	0	0	6	4	0	0	2	4	9	0	0	71
Total	0	73	0	0	16	4	0	0	6	6	0	0	2	5	12	0	0	124
07:00 AM	2	42	1	1	7	2	1	2	5	6	2	0	3	6	14	0	0	94
07:15 AM	3	41	4	1	19	4	3	0	3	6	0	0	7	11	11	0	0	113
07:30 AM	1	62	3	0	27	10	1	0	3	5	1	0	2	8	15	0	0	138
07:45 AM	1	90	6	0	32	12	5	0	6	18	1	0	3	7	19	0	0	200
Total	7	235	14	2	85	28	10	2	17	35	4	0	15	32	59	0	0	545
08:00 AM	1	56	2	0	25	9	1	0	9	11	0	0	3	21	11	0	0	149
08:15 AM	3	75	3	0	28	18	3	0	6	14	1	5	0	6	18	0	0	180
Total	4	131	5	0	53	27	4	0	15	25	1	5	3	27	29	0	0	329
04:00 PM	3	11	1	2	5	11	2	1	16	59	19	1	5	11	14	2	0	163
04:15 PM	2	17	2	2	1	9	3	0	12	73	11	1	5	14	10	3	0	165
04:30 PM	2	16	3	1	4	16	4	0	13	77	18	2	9	11	8	1	0	185
04:45 PM	3	25	4	1	4	12	2	0	12	78	12	1	8	12	13	0	0	187
Total	10	69	10	6	14	48	11	1	53	287	60	5	27	48	45	6	0	700
05:00 PM	5	12	2	2	3	18	1	0	15	75	22	2	1	17	11	0	0	186
05:15 PM	1	13	6	1	4	11	5	0	24	81	13	4	7	17	13	2	0	202
05:30 PM	0	10	0	0	1	5	1	0	11	84	12	2	4	12	13	0	0	155
05:45 PM	2	15	3	0	5	10	6	0	12	55	10	4	2	9	9	1	0	143
Total	8	50	11	3	13	44	13	0	62	295	57	12	14	55	46	3	0	686
Grand Total	29	558	40	11	181	151	38	3	153	648	122	22	61	167	191	9	0	2384
Apprch %	4.5	87.5	6.3	1.7	48.5	40.5	10.2	0.8	16.2	68.6	12.9	2.3	14.3	39.0	44.6	2.1	0	
Total %	1.2	23.4	1.7	0.5	7.6	6.3	1.6	0.1	6.4	27.2	5.1	0.9	2.6	7.0	8.0	0.4	0	

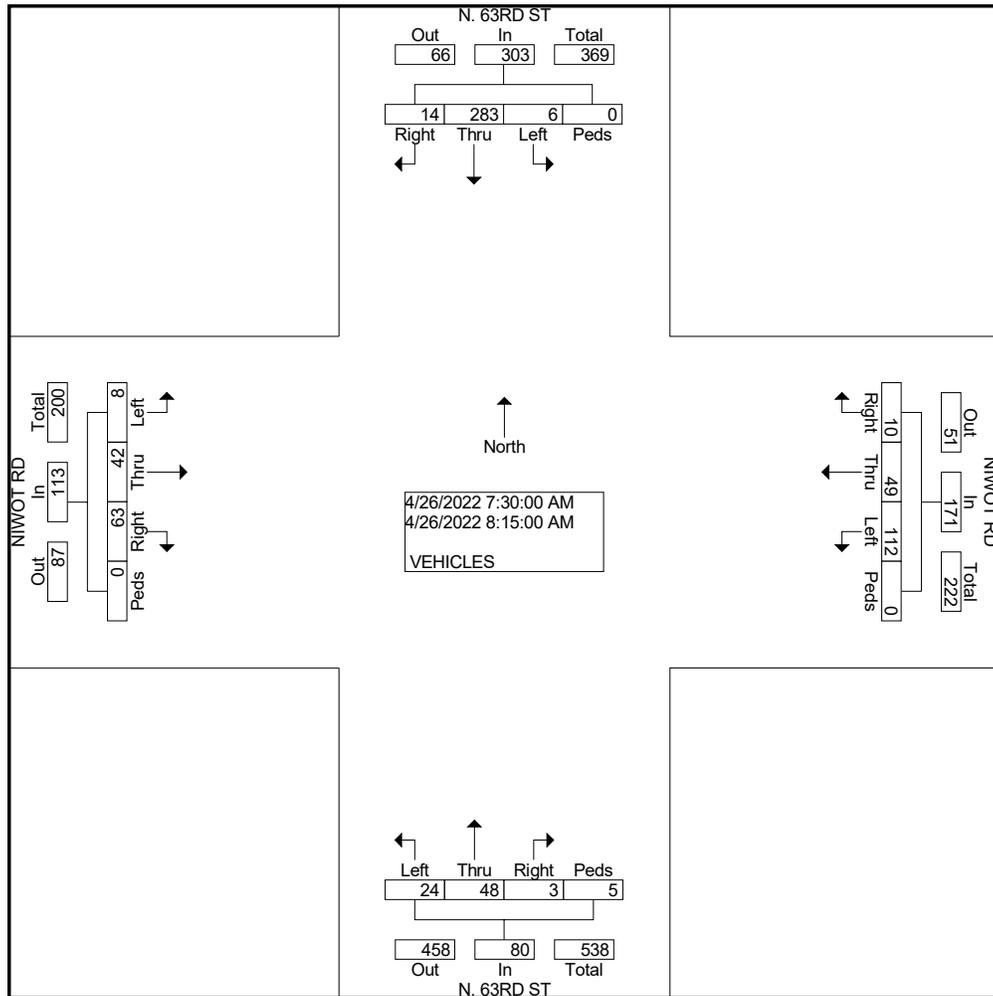
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : N63RDNIWOTRD
Site Code : 00000013
Start Date : 4/26/2022
Page No : 2

Start Time	N. 63RD ST Southbound					NIWOT RD Westbound					N. 63RD ST Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	6	283	14	0	303	112	49	10	0	171	24	48	3	5	80	8	42	63	0	113	667
Percent	2.0	93.4	4.6	0.0		65.5	28.7	5.8	0.0		30.0	60.0	3.8	6.3		7.1	37.2	55.8	0.0		
07:45 Volume	1	90	6	0	97	32	12	5	0	49	6	18	1	0	25	3	7	19	0	29	200
Peak Factor	0.834																				
High Int. Volume	07:45 AM																				
Peak Factor	0.78					0.87					0.76					0.80					
	1					2					9					7					



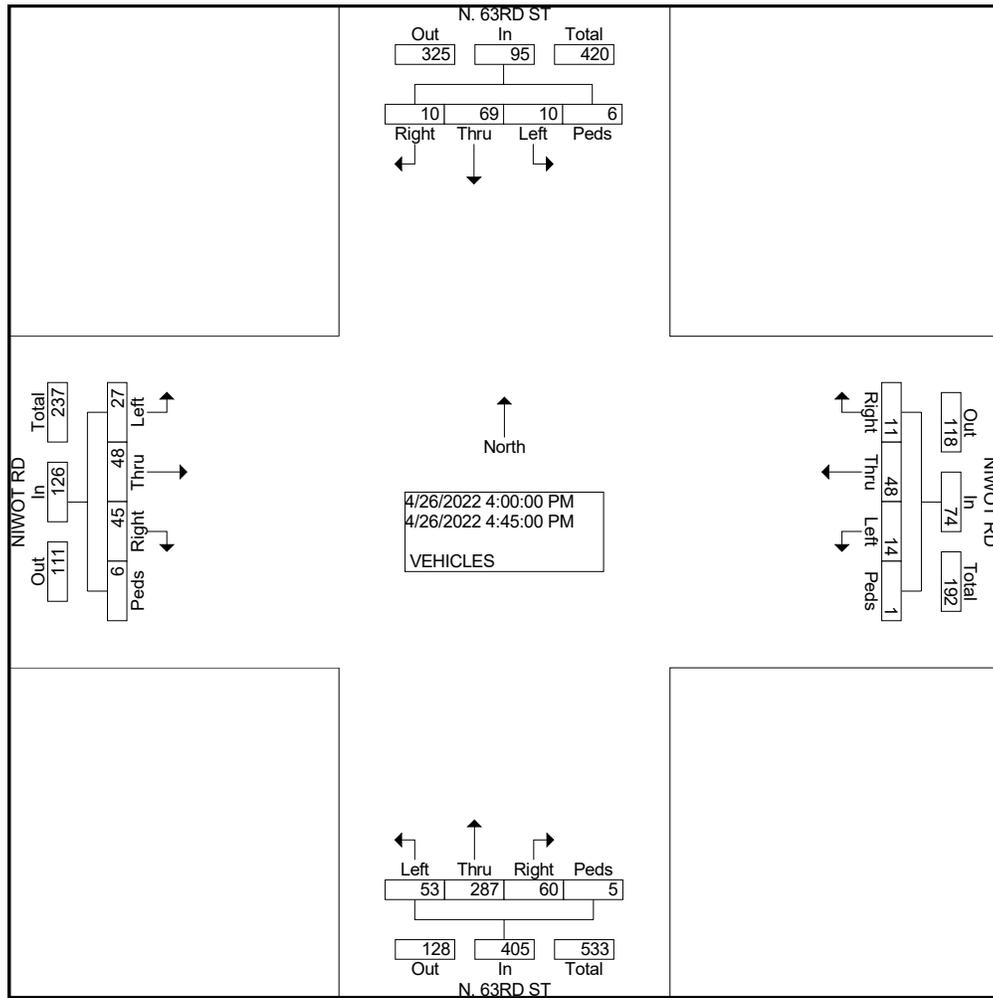
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : N63RDNIWOTRD
Site Code : 0000013
Start Date : 4/26/2022
Page No : 3

Start Time	N. 63RD ST Southbound					NIWOT RD Westbound					N. 63RD ST Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersect on	04:00 PM																				
Volume	10	69	10	6	95	14	48	11	1	74	53	287	60	5	405	27	48	45	6	126	700
Percent	10.	72.	10.	6.3		18.	64.	14.	1.4		13.	70.	14.	1.2		21.	38.	35.	4.8		
	5	6	5			9	9	9			1	9	8			4	1	7			
04:45																					
Volume	3	25	4	1	33	4	12	2	0	18	12	78	12	1	103	8	12	13	0	33	187
Peak Factor																					
High Int.																					
Volume	04:45 PM					04:30 PM					04:30 PM					04:45 PM					
Peak Factor	3	25	4	1	0.72	4	16	4	0	0.77	13	77	18	2	0.92	8	12	13	0	0.95	5



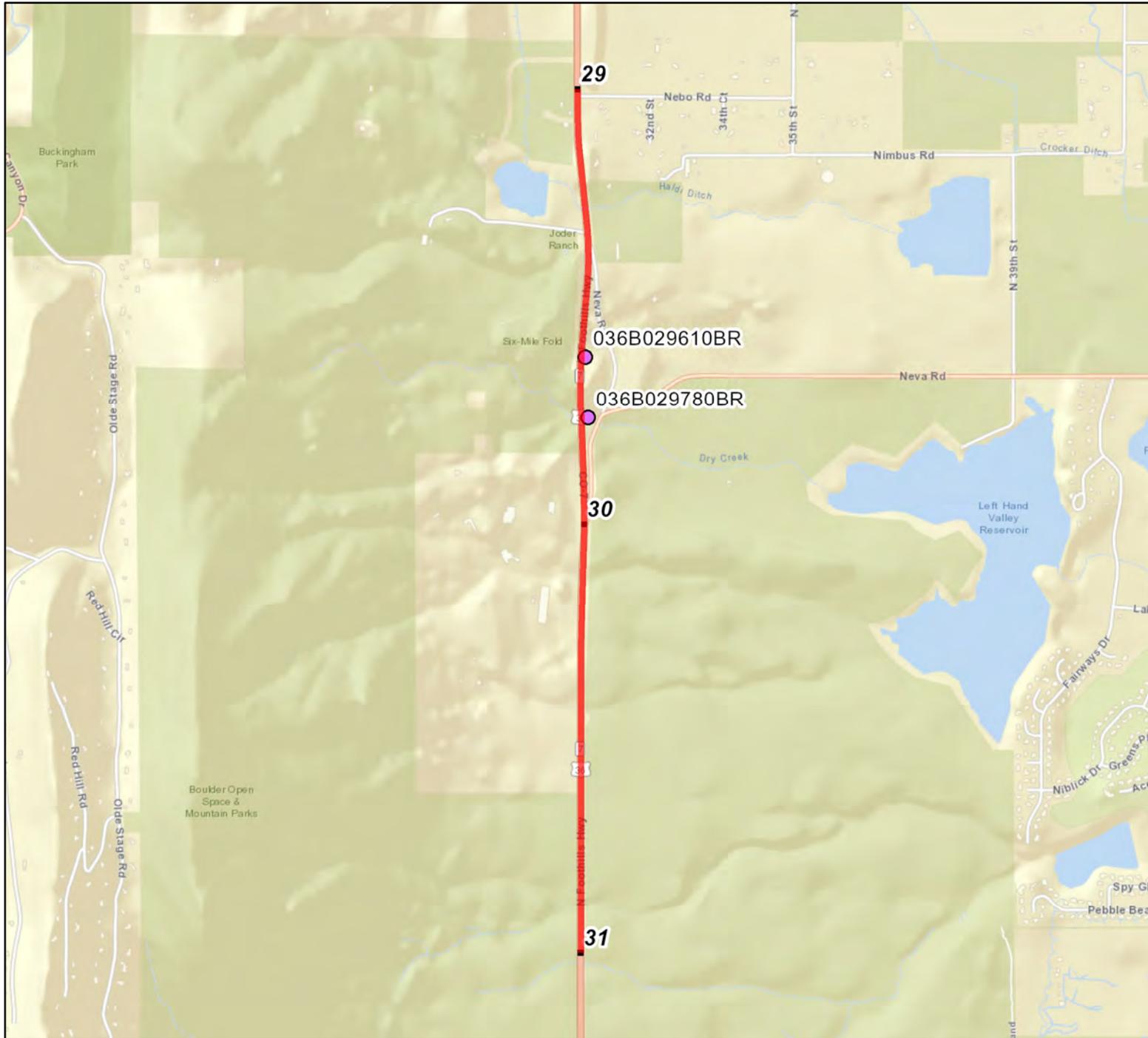
COUNTER MEASURES INC.
1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

Location: NIWOT RD E-O 55TH ST
 City: NIWOT
 County: BOULDER
 Direction: EAST/WEST

Site Code: 422190
 Station ID: 422190

Start Time	20-Apr-22 Wed	EAST	WEST	Total					
12:00 AM		1	1	2					
01:00		0	2	2					
02:00		0	2	2					
03:00		0	0	0					
04:00		0	0	0					
05:00		5	11	16					
06:00		16	19	35					
07:00		81	38	119					
08:00		76	92	168					
09:00		67	86	153					
10:00		57	87	144					
11:00		73	94	167					
12:00 PM		70	99	169					
01:00		57	98	155					
02:00		65	76	141					
03:00		96	137	233					
04:00		102	189	291					
05:00		86	106	192					
06:00		44	82	126					
07:00		40	55	95					
08:00		26	42	68					
09:00		6	6	12					
10:00		6	5	11					
11:00		2	11	13					
Total		976	1338	2314					
Percent		42.2%	57.8%						
AM Peak	-	07:00	11:00	-	-	-	-	-	08:00
Vol.	-	81	94	-	-	-	-	-	168
PM Peak	-	16:00	16:00	-	-	-	-	-	16:00
Vol.	-	102	189	-	-	-	-	-	291
Grand Total		976	1338						2314
Percent		42.2%	57.8%						
ADT		ADT 2,280	AADT 2,280						

Route 036B From 29 to 31



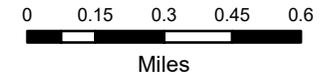
Legend

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

Created:

Date: 4/30/2022

Time: 9:00:30 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".

Route 036B
From 29 To 31

- ◊ Ramps
- Overpass
- |- Underpass
- Structures



CLASSIFICATION

Access Control	R-A: Regional Highway
----------------	-----------------------

SAFETY

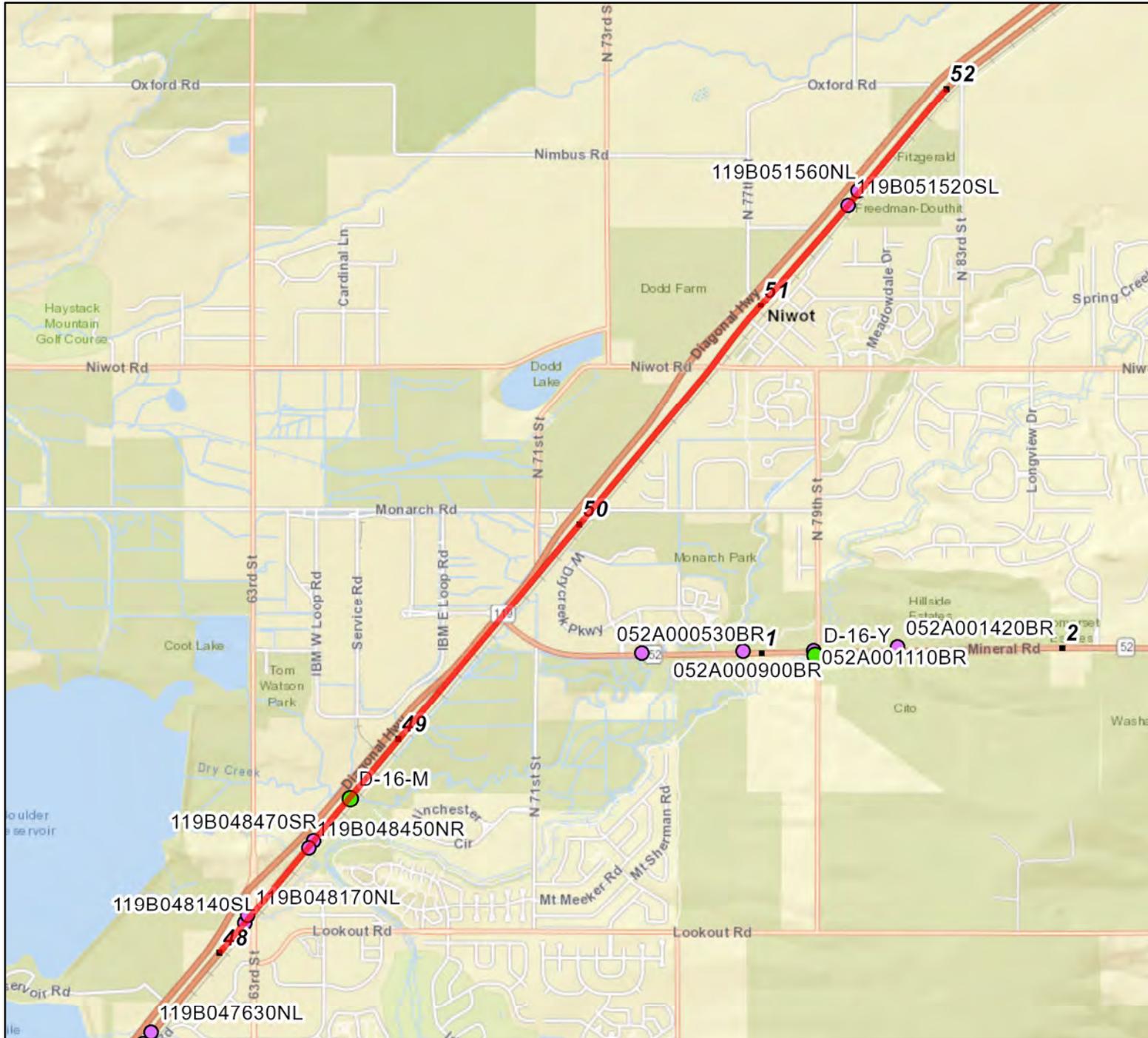
Primary Speed Limit	55	60
---------------------	----	----

TRAFFIC

AADT	11000	13000
DHV	11.5	
Off Peak Truck Percentage	2.10	2.30
Peak Truck Percentage	0.09	0.14
Route Capacity	3200	3100
V/C Ratio	0.45	0.55
V/C Ratio 20	0.52	0.67
VMT	24948	32591
Year 20 Factor	1.16	1.22

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.

Route 119B From 48 to 52

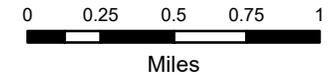


Legend

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

Created:

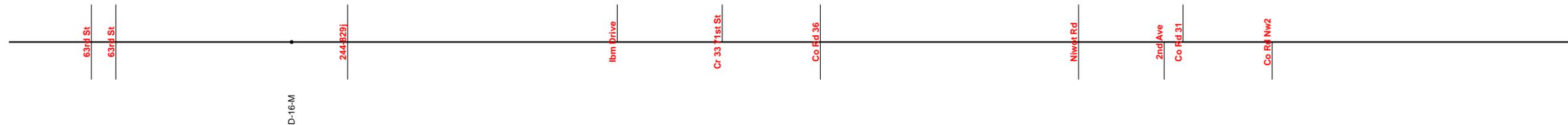
Date: 6/23/2022
Time: 10:32:42 AM



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".

Route 119B
From 48 To 52

- ◊ Ramps
- Overpass
- - Underpass
- Structures



CLASSIFICATION

Access Control	E-X: Expressway, Major Bypass
----------------	-------------------------------

SAFETY

Primary Speed Limit	55	65
---------------------	----	----

TRAFFIC

AADT	44000	37000	33000
DHV	8.0	9.0	
Off Peak Truck Percentage	3.30	3.50	3.40
Peak Truck Percentage			0.20
Route Capacity	6100	6050	6000
V/C Ratio	0.72	0.69	0.61
V/C Ratio 20	0.83	0.79	0.70
VMT	92004	50505	104610
Year 20 Factor	1.16		1.15

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	<u>Average Vehicle Delay</u> sec/vehicle	<u>Operational Characteristics</u>
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 15 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>
D	25 to 35 seconds	<u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Existing
AM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	7	217	26	10	579
Future Vol, veh/h	53	7	217	26	10	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	8	236	28	11	629
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	901	250	0	0	264	0
Stage 1	250	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	309	789	-	-	1300	-
Stage 1	792	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	789	-	-	1300	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.6	0		0.1		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	329	1300	-	
HCM Lane V/C Ratio	-	-	0.198	0.008	-	
HCM Control Delay (s)	-	-	18.6	7.8	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0	-	

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Existing
AM Peak

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations

Traffic Vol, veh/h 1 65 46 6 8 4

Future Vol, veh/h 1 65 46 6 8 4

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 1 71 50 7 9 4

Major/Minor	Major1	Major2	Minor2
-------------	--------	--------	--------

Conflicting Flow All 57 0 - 0 127 54

Stage 1 - - - - 54 -

Stage 2 - - - - 73 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1547 - - - 868 1013

Stage 1 - - - - 969 -

Stage 2 - - - - 950 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1547 - - - 867 1013

Mov Cap-2 Maneuver - - - - 867 -

Stage 1 - - - - 968 -

Stage 2 - - - - 950 -

Approach	EB	WB	SB
----------	----	----	----

HCM Control Delay, s 0.1 0 9

HCM LOS A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
-----------------------	-----	-----	-----	-----	-------

Capacity (veh/h) 1547 - - - 911

HCM Lane V/C Ratio 0.001 - - - 0.014

HCM Control Delay (s) 7.3 0 - - 9

HCM Lane LOS A A - - A

HCM 95th %tile Q(veh) 0 - - - 0

HCM 6th TWSC

3: Site Access & Niwot Road

Existing
AM Peak

Intersection

Int Delay, s/veh 0.2

Movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	75	1	1	50	1	1
Future Vol, veh/h	75	1	1	50	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	1	1	54	1	1

Major/Minor

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	83
Stage 1	-	-	83
Stage 2	-	-	56
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1514	854
Stage 1	-	-	940
Stage 2	-	-	967
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1514	853
Mov Cap-2 Maneuver	-	-	853
Stage 1	-	-	940
Stage 2	-	-	966

Approach

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	910	-	-	1514	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC

4: 55th Street & Niwot Road

Existing
AM Peak

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
----------	-----	-----	-----	-----	-----	-----

Lane Configurations						
---------------------	--	--	--	--	--	--

Traffic Vol, veh/h	80	5	7	58	2	4
--------------------	----	---	---	----	---	---

Future Vol, veh/h	80	5	7	58	2	4
-------------------	----	---	---	----	---	---

Conflicting Peds, #/hr	0	0	0	0	0	0
------------------------	---	---	---	---	---	---

Sign Control	Free	Free	Free	Free	Stop	Stop
--------------	------	------	------	------	------	------

RT Channelized	-	None	-	None	-	None
----------------	---	------	---	------	---	------

Storage Length	-	-	-	-	0	-
----------------	---	---	---	---	---	---

Veh in Median Storage, #	0	-	-	0	0	-
--------------------------	---	---	---	---	---	---

Grade, %	0	-	-	0	0	-
----------	---	---	---	---	---	---

Peak Hour Factor	92	92	92	92	92	92
------------------	----	----	----	----	----	----

Heavy Vehicles, %	2	2	2	2	2	2
-------------------	---	---	---	---	---	---

Mvmt Flow	87	5	8	63	2	4
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Major/Minor	Major1	Major2	Minor1
-------------	--------	--------	--------

Conflicting Flow All	0	0	92	0	169	90
----------------------	---	---	----	---	-----	----

Stage 1	-	-	-	-	90	-
---------	---	---	---	---	----	---

Stage 2	-	-	-	-	79	-
---------	---	---	---	---	----	---

Critical Hdwy	-	-	4.12	-	6.42	6.22
---------------	---	---	------	---	------	------

Critical Hdwy Stg 1	-	-	-	-	5.42	-
---------------------	---	---	---	---	------	---

Critical Hdwy Stg 2	-	-	-	-	5.42	-
---------------------	---	---	---	---	------	---

Follow-up Hdwy	-	-	2.218	-	3.518	3.318
----------------	---	---	-------	---	-------	-------

Pot Cap-1 Maneuver	-	-	1503	-	821	968
--------------------	---	---	------	---	-----	-----

Stage 1	-	-	-	-	934	-
---------	---	---	---	---	-----	---

Stage 2	-	-	-	-	944	-
---------	---	---	---	---	-----	---

Platoon blocked, %	-	-	-	-	-	-
--------------------	---	---	---	---	---	---

Mov Cap-1 Maneuver	-	-	1503	-	816	968
--------------------	---	---	------	---	-----	-----

Mov Cap-2 Maneuver	-	-	-	-	816	-
--------------------	---	---	---	---	-----	---

Stage 1	-	-	-	-	934	-
---------	---	---	---	---	-----	---

Stage 2	-	-	-	-	938	-
---------	---	---	---	---	-----	---

Approach	EB	WB	NB
----------	----	----	----

HCM Control Delay, s	0	0.8	9
----------------------	---	-----	---

HCM LOS			A
---------	--	--	---

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
-----------------------	-------	-----	-----	-----	-----

Capacity (veh/h)	911	-	-	1503	-
------------------	-----	---	---	------	---

HCM Lane V/C Ratio	0.007	-	-	0.005	-
--------------------	-------	---	---	-------	---

HCM Control Delay (s)	9	-	-	7.4	0
-----------------------	---	---	---	-----	---

HCM Lane LOS	A	-	-	A	A
--------------	---	---	---	---	---

HCM 95th %tile Q(veh)	0	-	-	0	-
-----------------------	---	---	---	---	---

HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Existing
AM Peak

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	42	63	112	49	10	24	48	3	6	283	14
Future Vol, veh/h	8	42	63	112	49	10	24	48	3	6	283	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	46	68	122	53	11	26	52	3	7	308	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

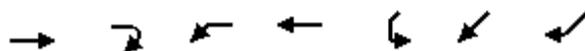
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	10.2	9	11.6
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	7%	65%	2%
Vol Thru, %	64%	37%	29%	93%
Vol Right, %	4%	56%	6%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	113	171	303
LT Vol	24	8	112	6
Through Vol	48	42	49	283
RT Vol	3	63	10	14
Lane Flow Rate	82	123	186	329
Geometry Grp	1	1	1	1
Degree of Util (X)	0.117	0.166	0.268	0.438
Departure Headway (Hd)	5.169	4.874	5.188	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	727	686	748
Service Time	3.261	2.964	3.27	2.855
HCM Lane V/C Ratio	0.12	0.169	0.271	0.44
HCM Control Delay	9	8.9	10.2	11.6
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.4	0.6	1.1	2.2

Timings

6: Diagonal Highway (SB) & Niwot Road

Existing
AM Peak

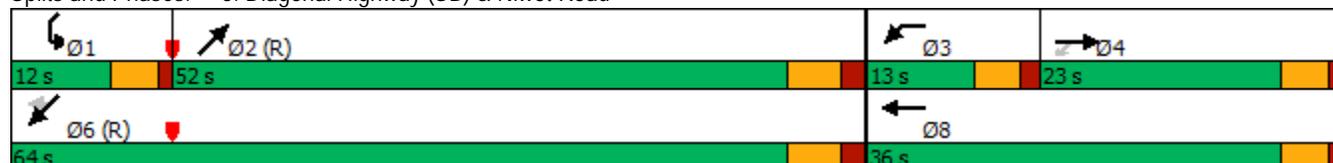


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	151	75	127	232	40	2139	37	
Future Volume (vph)	151	75	127	232	40	2139	37	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	23.0	23.0	13.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	23.0%	23.0%	13.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.8	15.8	9.8	28.5	10.3	65.5	65.5	
Actuated g/C Ratio	0.16	0.16	0.10	0.28	0.10	0.66	0.66	
v/c Ratio	0.56	0.23	0.41	0.47	0.24	1.00	0.04	
Control Delay	45.8	2.7	70.2	53.3	44.3	38.5	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.8	2.7	70.2	53.3	44.3	38.5	0.5	
LOS	D	A	E	D	D	D	A	
Approach Delay	31.4			59.3		37.9		
Approach LOS	C			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 40.1
 Intersection LOS: D
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

Existing
AM Peak

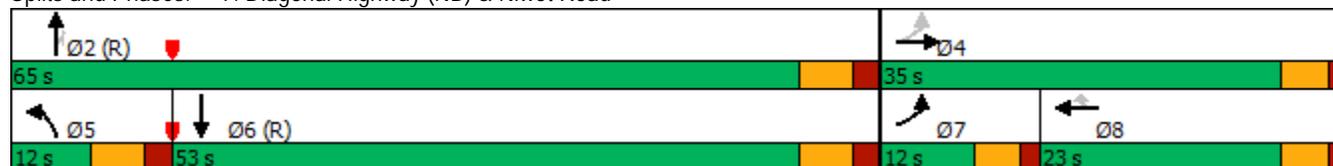


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↷	↷	↶	↷↷	↷	
Traffic Volume (vph)	43	150	305	22	54	682	33	
Future Volume (vph)	43	150	305	22	54	682	33	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	23.7	23.7	16.5	16.5	10.1	70.3	70.3	
Actuated g/C Ratio	0.24	0.24	0.16	0.16	0.10	0.70	0.70	
v/c Ratio	0.20	0.37	0.57	0.06	0.33	0.30	0.03	
Control Delay	58.6	62.9	42.2	0.3	47.3	7.0	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	62.9	42.2	0.3	47.3	7.0	0.3	
LOS	E	E	D	A	D	A	A	
Approach Delay		62.0	39.3			9.6		
Approach LOS		E	D			A		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 25.0
 Intersection LOS: C
 Intersection Capacity Utilization 41.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Existing
PM Peak

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	17	745	84	3	362
Future Vol, veh/h	43	17	745	84	3	362
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	18	810	91	3	393

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1255	856	0	0	901
Stage 1	856	-	-	-	-
Stage 2	399	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	189	357	-	-	754
Stage 1	416	-	-	-	-
Stage 2	678	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	188	357	-	-	754
Mov Cap-2 Maneuver	188	-	-	-	-
Stage 1	416	-	-	-	-
Stage 2	675	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.6	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	754
HCM Lane V/C Ratio	-	-	0.301	0.004
HCM Control Delay (s)	-	-	28.6	9.8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.2	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Existing
PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	86	87	14	2	2
Future Vol, veh/h	1	86	87	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	93	95	15	2	2
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	110	0	-	0	198	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1480	-	-	-	791	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1480	-	-	-	790	952
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	929	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.1	0	9.2			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1480	-	-	-	863	
HCM Lane V/C Ratio	0.001	-	-	-	0.005	
HCM Control Delay (s)	7.4	0	-	-	9.2	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM 6th TWSC

3: Site Access & Niwot Road

Existing
PM Peak

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	90	1	1	105	1	1
Future Vol, veh/h	90	1	1	105	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	98	1	1	114	1	1
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	99	0	215	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1494	-	773	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1494	-	772	957
Mov Cap-2 Maneuver	-	-	-	-	772	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	908	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	9.2			
HCM LOS				A		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	855	-	-	1494	-	
HCM Lane V/C Ratio	0.003	-	-	0.001	-	
HCM Control Delay (s)	9.2	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC

4: 55th Street & Niwot Road

Existing
PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	99	5	1	101	16	14
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Future Vol, veh/h	99	5	1	101	16	14
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	108	5	1	110	17	15
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	113	0	223	111
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Stage 1	-	-	-	-	111	-
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Stage 2	-	-	-	-	112	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1476	-	765	942
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Stage 1	-	-	-	-	914	-
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Stage 2	-	-	-	-	913	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1476	-	764	942
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Mov Cap-2 Maneuver	-	-	-	-	764	-
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Stage 1	-	-	-	-	914	-
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Stage 2	-	-	-	-	912	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.5
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	838	-	-	1476	-
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HCM Lane V/C Ratio	0.039	-	-	0.001	-
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HCM Control Delay (s)	9.5	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Existing
PM Peak

Intersection

Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	48	45	14	48	11	53	287	60	10	69	10
Future Vol, veh/h	27	48	45	14	48	11	53	287	60	10	69	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	52	49	15	52	12	58	312	65	11	75	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

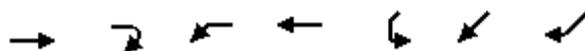
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	12.9	8.8
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	23%	19%	11%
Vol Thru, %	72%	40%	66%	78%
Vol Right, %	15%	38%	15%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	120	73	89
LT Vol	53	27	14	10
Through Vol	287	48	48	69
RT Vol	60	45	11	10
Lane Flow Rate	435	130	79	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.546	0.185	0.117	0.132
Departure Headway (Hd)	4.525	5.099	5.302	4.929
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	698	670	721
Service Time	2.577	3.171	3.382	3.004
HCM Lane V/C Ratio	0.55	0.186	0.118	0.135
HCM Control Delay	12.9	9.3	9.1	8.8
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3.4	0.7	0.4	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

Existing
PM Peak

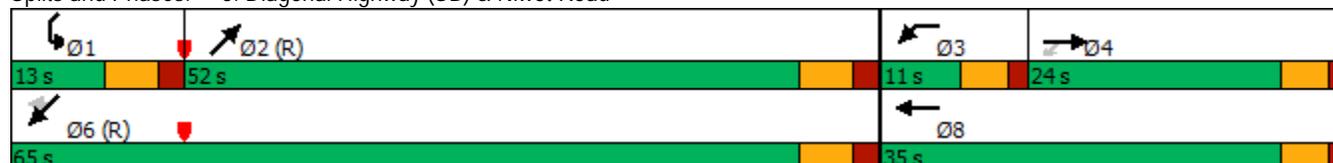


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↖ ↗	↑	↖	↑↑	↖	
Traffic Volume (vph)	260	86	90	213	79	1139	46	
Future Volume (vph)	260	86	90	213	79	1139	46	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	11.0	35.0	13.0	65.0	65.0	52.0
Total Split (%)	24.0%	24.0%	11.0%	35.0%	13.0%	65.0%	65.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	19.7	19.7	8.0	28.5	10.1	65.5	65.5	
Actuated g/C Ratio	0.20	0.20	0.08	0.28	0.10	0.66	0.66	
v/c Ratio	0.77	0.21	0.36	0.44	0.48	0.53	0.05	
Control Delay	52.9	2.1	68.4	64.1	52.1	11.0	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	2.1	68.4	64.1	52.1	11.0	0.9	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.3			65.4		13.2		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 59.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

Existing
PM Peak

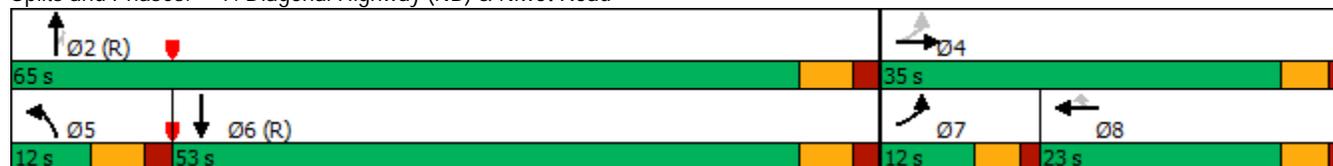


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗↗	↗	↘	↗↗	↗	
Traffic Volume (vph)	71	268	258	51	45	2047	90	
Future Volume (vph)	71	268	258	51	45	2047	90	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	25.8	25.8	16.2	16.2	10.2	68.2	68.2	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.10	0.68	0.68	
v/c Ratio	0.29	0.61	0.49	0.14	0.27	0.92	0.09	
Control Delay	58.7	68.5	41.0	0.8	45.4	23.1	1.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	68.5	41.0	0.8	45.4	23.1	1.7	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.5	34.4			22.7		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 29.2
 Intersection LOS: C
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Background
AM Peak

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	7	220	27	10	590
Future Vol, veh/h	55	7	220	27	10	590
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	8	239	29	11	641

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	917	254	0
Stage 1	254	-	-
Stage 2	663	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	302	785	-
Stage 1	788	-	-
Stage 2	512	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	298	785	-
Mov Cap-2 Maneuver	298	-	-
Stage 1	788	-	-
Stage 2	505	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	320	1296
HCM Lane V/C Ratio	-	-	0.211	0.008
HCM Control Delay (s)	-	-	19.2	7.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.8	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations ↶ ↷ ↶ ↷

Traffic Vol, veh/h 1 70 50 6 8 4

Future Vol, veh/h 1 70 50 6 8 4

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 1 76 54 7 9 4

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All 61 0 - 0 136 58

Stage 1 - - - - 58 -

Stage 2 - - - - 78 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1542 - - - 857 1008

Stage 1 - - - - 965 -

Stage 2 - - - - 945 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1542 - - - 856 1008

Mov Cap-2 Maneuver - - - - 856 -

Stage 1 - - - - 964 -

Stage 2 - - - - 945 -

Approach	EB	WB	SB
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HCM Control Delay, s 0.1 0 9.1

HCM LOS A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h) 1542 - - - 901

HCM Lane V/C Ratio 0.001 - - - 0.014

HCM Control Delay (s) 7.3 0 - - 9.1

HCM Lane LOS A A - - A

HCM 95th %tile Q(veh) 0 - - - 0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.2

Movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	80	1	1	55	1	1
Future Vol, veh/h	80	1	1	55	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	1	1	60	1	1

Major/Minor

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	88	0	150
Stage 1	-	-	-	-	88
Stage 2	-	-	-	-	62
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1508	-	842
Stage 1	-	-	-	-	935
Stage 2	-	-	-	-	961
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1508	-	841
Mov Cap-2 Maneuver	-	-	-	-	841
Stage 1	-	-	-	-	935
Stage 2	-	-	-	-	960

Approach

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	901	-	-	1508	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	85	5	7	60	2	4
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Future Vol, veh/h	85	5	7	60	2	4
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	92	5	8	65	2	4
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	97	0	176	95
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Stage 1	-	-	-	-	95	-
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Stage 2	-	-	-	-	81	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1496	-	814	962
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Stage 1	-	-	-	-	929	-
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Stage 2	-	-	-	-	942	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1496	-	809	962
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Mov Cap-2 Maneuver	-	-	-	-	809	-
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Stage 1	-	-	-	-	929	-
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Stage 2	-	-	-	-	936	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.8	9
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	905	-	-	1496	-
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HCM Lane V/C Ratio	0.007	-	-	0.005	-
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HCM Control Delay (s)	9	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2024 Background
AM Peak

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	44	65	116	51	10	25	50	3	6	295	15
Future Vol, veh/h	8	44	65	116	51	10	25	50	3	6	295	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	48	71	126	55	11	27	54	3	7	321	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

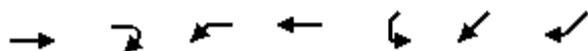
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	10.4	9.1	12
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	7%	66%	2%
Vol Thru, %	64%	38%	29%	93%
Vol Right, %	4%	56%	6%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	117	177	316
LT Vol	25	8	116	6
Through Vol	50	44	51	295
RT Vol	3	65	10	15
Lane Flow Rate	85	127	192	343
Geometry Grp	1	1	1	1
Degree of Util (X)	0.125	0.178	0.28	0.46
Departure Headway (Hd)	5.328	5.038	5.245	4.823
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	716	677	738
Service Time	3.336	3.038	3.343	2.908
HCM Lane V/C Ratio	0.126	0.177	0.284	0.465
HCM Control Delay	9.1	9.1	10.4	12
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.4	0.6	1.1	2.4

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Background
AM Peak

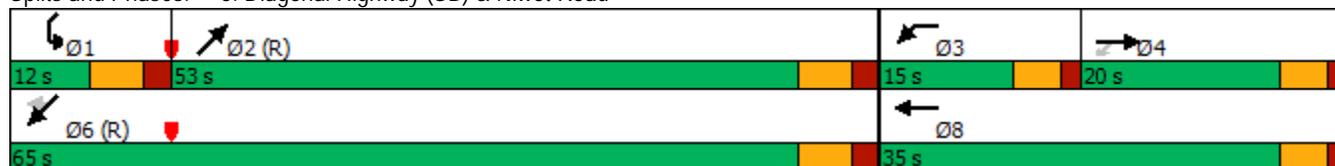


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	153	76	129	235	41	2170	38	
Future Volume (vph)	153	76	129	235	41	2170	38	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	20.0	20.0	15.0	35.0	12.0	65.0	65.0	53.0
Total Split (%)	20.0%	20.0%	15.0%	35.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.0	15.0	10.9	28.9	9.4	65.1	65.1	
Actuated g/C Ratio	0.15	0.15	0.11	0.29	0.09	0.65	0.65	
v/c Ratio	0.59	0.23	0.37	0.47	0.27	1.02	0.04	
Control Delay	48.5	1.4	68.8	54.3	46.8	44.6	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.5	1.4	68.8	54.3	46.8	44.6	0.6	
LOS	D	A	E	D	D	D	A	
Approach Delay	32.8			59.4		43.9		
Approach LOS	C			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 82.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Background
AM Peak

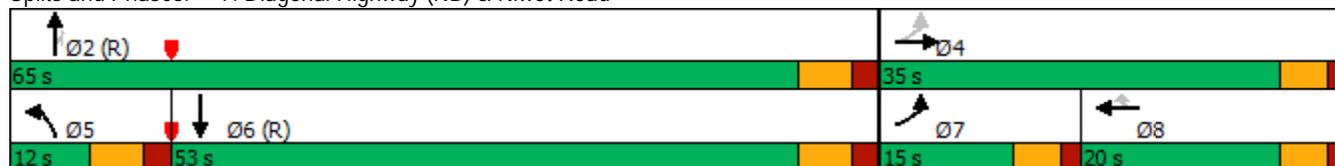


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↖	↗	↔	↗	↖	↕	↗	
Traffic Volume (vph)	44	152	309	22	55	690	33	
Future Volume (vph)	44	152	309	22	55	690	33	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	19.0	29.0	29.0	24.0
Total Split (s)	15.0	35.0	20.0	20.0	12.0	65.0	65.0	53.0
Total Split (%)	15.0%	35.0%	20.0%	20.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.3	24.3	15.9	15.9	9.7	69.7	69.7	
Actuated g/C Ratio	0.24	0.24	0.16	0.16	0.10	0.70	0.70	
v/c Ratio	0.19	0.37	0.60	0.06	0.35	0.30	0.03	
Control Delay	63.1	66.7	43.5	0.3	48.5	7.3	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.1	66.7	43.5	0.3	48.5	7.3	0.3	
LOS	E	E	D	A	D	A	A	
Approach Delay		65.9	40.7			10.0		
Approach LOS		E	D			A		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 26.1
 Intersection LOS: C
 Intersection Capacity Utilization 41.8%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Background
PM Peak

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	18	760	87	3	370
Future Vol, veh/h	45	18	760	87	3	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	20	826	95	3	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1282	874	0	0	921
Stage 1	874	-	-	-	-
Stage 2	408	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	182	349	-	-	741
Stage 1	408	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	181	349	-	-	741
Mov Cap-2 Maneuver	181	-	-	-	-
Stage 1	408	-	-	-	-
Stage 2	668	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.2	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	210	741
HCM Lane V/C Ratio	-	-	0.326	0.004
HCM Control Delay (s)	-	-	30.2	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.3	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Background
PM Peak

Intersection

Int Delay, s/veh 0.2

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	90	95	14	2	2
Future Vol, veh/h	1	90	95	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	98	103	15	2	2

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	118	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1470	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1470	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1470	-	-	-	851
HCM Lane V/C Ratio	0.001	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Background
PM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	95	1	1	110	1	1
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Future Vol, veh/h	95	1	1	110	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	103	1	1	120	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	104	0	226	104
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Stage 1	-	-	-	-	104	-
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Stage 2	-	-	-	-	122	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1488	-	762	951
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Stage 1	-	-	-	-	920	-
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Stage 2	-	-	-	-	903	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1488	-	761	951
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Mov Cap-2 Maneuver	-	-	-	-	761	-
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Stage 1	-	-	-	-	920	-
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Stage 2	-	-	-	-	902	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	845	-	-	1488	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.3	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Background
PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	105	5	1	105	17	15
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Future Vol, veh/h	105	5	1	105	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	114	5	1	114	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	119	0	233	117
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Stage 1	-	-	-	-	117	-
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Stage 2	-	-	-	-	116	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1469	-	755	935
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Stage 1	-	-	-	-	908	-
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Stage 2	-	-	-	-	909	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1469	-	754	935
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Mov Cap-2 Maneuver	-	-	-	-	754	-
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Stage 1	-	-	-	-	908	-
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Stage 2	-	-	-	-	908	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.5
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	829	-	-	1469	-
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HCM Lane V/C Ratio	0.042	-	-	0.001	-
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HCM Control Delay (s)	9.5	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2024 Background
PM Peak

Intersection

Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	50	47	15	50	11	55	300	62	10	72	10
Future Vol, veh/h	28	50	47	15	50	11	55	300	62	10	72	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	54	51	16	54	12	60	326	67	11	78	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

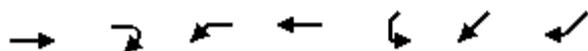
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	9.2	13.6	8.9
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	22%	20%	11%
Vol Thru, %	72%	40%	66%	78%
Vol Right, %	15%	38%	14%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	417	125	76	92
LT Vol	55	28	15	10
Through Vol	300	50	50	72
RT Vol	62	47	11	10
Lane Flow Rate	453	136	83	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.574	0.195	0.123	0.139
Departure Headway (Hd)	4.56	5.16	5.374	4.987
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	789	689	660	712
Service Time	2.616	3.244	3.467	3.068
HCM Lane V/C Ratio	0.574	0.197	0.126	0.14
HCM Control Delay	13.6	9.5	9.2	8.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3.7	0.7	0.4	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Background
PM Peak

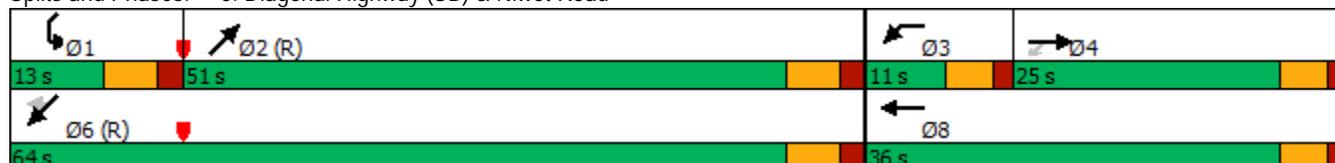


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	264	87	91	215	80	1155	47	
Future Volume (vph)	264	87	91	215	80	1155	47	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	25.0	25.0	11.0	36.0	13.0	64.0	64.0	51.0
Total Split (%)	25.0%	25.0%	11.0%	36.0%	13.0%	64.0%	64.0%	51%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	20.3	20.3	8.0	29.1	10.2	64.9	64.9	
Actuated g/C Ratio	0.20	0.20	0.08	0.29	0.10	0.65	0.65	
v/c Ratio	0.76	0.21	0.36	0.43	0.48	0.55	0.05	
Control Delay	51.1	2.2	67.4	64.2	52.1	11.6	1.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.1	2.2	67.4	64.2	52.1	11.6	1.0	
LOS	D	A	E	E	D	B	A	
Approach Delay	38.9			65.1		13.7		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 60.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Background
PM Peak

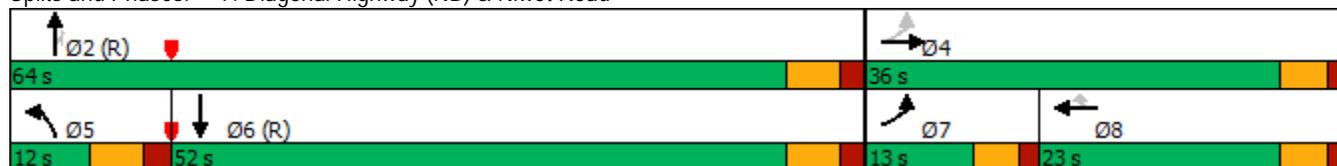


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗	↗	↘	↗	↗	
Traffic Volume (vph)	72	272	262	52	46	2075	91	
Future Volume (vph)	72	272	262	52	46	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	13.0	36.0	23.0	23.0	12.0	64.0	64.0	52.0
Total Split (%)	13.0%	36.0%	23.0%	23.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.7	26.7	16.3	16.3	10.2	67.3	67.3	
Actuated g/C Ratio	0.27	0.27	0.16	0.16	0.10	0.67	0.67	
v/c Ratio	0.28	0.60	0.49	0.15	0.28	0.95	0.09	
Control Delay	59.1	68.7	41.0	0.8	45.5	26.6	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	68.7	41.0	0.8	45.5	26.6	1.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.7	34.3			26.0		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 78.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	18	760	97	5	370
Future Vol, veh/h	47	18	760	97	5	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	20	826	105	5	402
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1291	879	0	0	931	0
Stage 1	879	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	347	-	-	735	-
Stage 1	406	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	178	347	-	-	735	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	31.3	0	0.1			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	206	735	-	
HCM Lane V/C Ratio	-	-	0.343	0.007	-	
HCM Control Delay (s)	-	-	31.3	9.9	0	
HCM Lane LOS	-	-	D	A	A	
HCM 95th %tile Q(veh)	-	-	1.4	0	-	

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 0.2

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	102	97	14	2	2
Future Vol, veh/h	1	102	97	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	111	105	15	2	2

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	120	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1468	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1468	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1468	-	-	-	841
HCM Lane V/C Ratio	0.001	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	13	39	110	3	9
Future Vol, veh/h	95	13	39	110	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	103	14	42	120	3	10

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	117	0	314
Stage 1	-	-	-	-	110
Stage 2	-	-	-	-	204
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1471	-	679
Stage 1	-	-	-	-	915
Stage 2	-	-	-	-	830
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1471	-	658
Mov Cap-2 Maneuver	-	-	-	-	658
Stage 1	-	-	-	-	915
Stage 2	-	-	-	-	804

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	851	-	-	1471	-
HCM Lane V/C Ratio	0.015	-	-	0.029	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

HCM 6th TWSC 4: 55th Street & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	113	5	1	143	17	15
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Future Vol, veh/h	113	5	1	143	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	123	5	1	155	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	128	0	283	126
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Stage 1	-	-	-	-	126	-
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Stage 2	-	-	-	-	157	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1458	-	707	924
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Stage 1	-	-	-	-	900	-
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Stage 2	-	-	-	-	871	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1458	-	706	924
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Mov Cap-2 Maneuver	-	-	-	-	706	-
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Stage 1	-	-	-	-	900	-
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Stage 2	-	-	-	-	870	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	794	-	-	1458	-
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HCM Lane V/C Ratio	0.044	-	-	0.001	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection

Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	56	48	15	78	11	62	300	62	10	72	13
Future Vol, veh/h	29	56	48	15	78	11	62	300	62	10	72	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	61	52	16	85	12	67	326	67	11	78	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

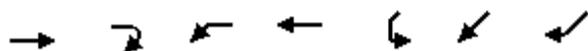
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	9.8	14.6	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	22%	14%	11%
Vol Thru, %	71%	42%	75%	76%
Vol Right, %	15%	36%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	424	133	104	95
LT Vol	62	29	15	10
Through Vol	300	56	78	72
RT Vol	62	48	11	13
Lane Flow Rate	461	145	113	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.599	0.216	0.175	0.15
Departure Headway (Hd)	4.679	5.373	5.564	5.218
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	671	648	689
Service Time	2.771	3.383	3.574	3.236
HCM Lane V/C Ratio	0.607	0.216	0.174	0.149
HCM Control Delay	14.6	9.9	9.8	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	4	0.8	0.6	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Total
Event Arrival PM Peak

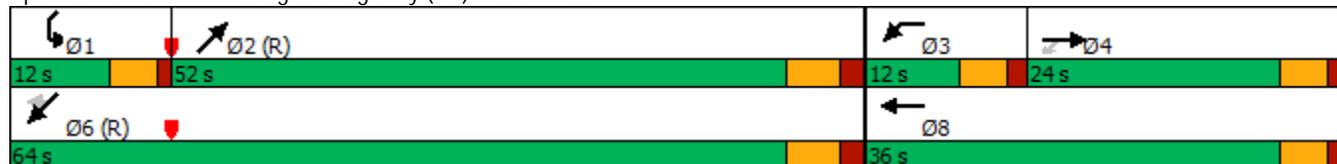


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	267	90	91	230	80	1155	60	
Future Volume (vph)	267	90	91	230	80	1155	60	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	24.0	24.0	12.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	24.0%	24.0%	12.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	19.9	19.9	8.8	29.5	10.4	64.5	64.5	
Actuated g/C Ratio	0.20	0.20	0.09	0.30	0.10	0.64	0.64	
v/c Ratio	0.78	0.23	0.33	0.46	0.47	0.55	0.06	
Control Delay	53.7	3.8	67.1	59.8	51.3	11.8	1.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	3.8	67.1	59.8	51.3	11.8	1.7	
LOS	D	A	E	E	D	B	A	
Approach Delay	41.1			61.9		13.7		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 26.5
 Intersection LOS: C
 Intersection Capacity Utilization 60.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Total
Event Arrival PM Peak

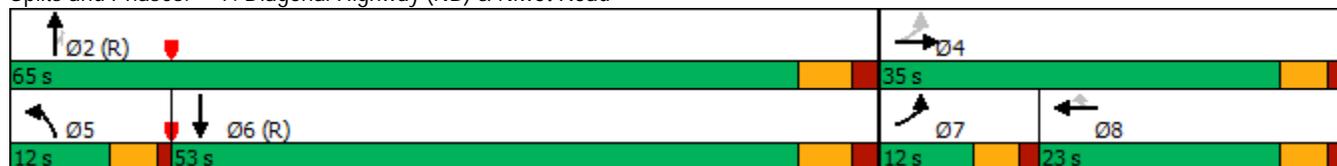


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↶	↷	↶	↷↶	↷	
Traffic Volume (vph)	75	272	264	52	59	2075	91	
Future Volume (vph)	75	272	264	52	59	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	9.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	26.0	26.0	16.4	16.4	11.0	68.0	62.0	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.11	0.68	0.62	
v/c Ratio	0.31	0.61	0.49	0.15	0.33	0.94	0.10	
Control Delay	59.9	69.2	40.9	0.9	45.6	24.9	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.9	69.2	40.9	0.9	45.6	24.9	2.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		67.2	34.3			24.5		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 30.7
 Intersection LOS: C
 Intersection Capacity Utilization 78.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Total
Event Departure PM Peak

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	20	760	89	3	370
Future Vol, veh/h	55	20	760	89	3	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	22	826	97	3	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1283	875	0	0	923
Stage 1	875	-	-	-	-
Stage 2	408	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	182	349	-	-	740
Stage 1	408	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	181	349	-	-	740
Mov Cap-2 Maneuver	181	-	-	-	-
Stage 1	408	-	-	-	-
Stage 2	668	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	740
HCM Lane V/C Ratio	-	-	0.392	0.004
HCM Control Delay (s)	-	-	33	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.7	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 0.2

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	92	107	14	2	2
Future Vol, veh/h	1	92	107	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	100	116	15	2	2

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	131	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1454	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1454	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1454	-	-	-	836
HCM Lane V/C Ratio	0.001	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	95	3	9	110	13	39
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Future Vol, veh/h	95	3	9	110	13	39
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	103	3	10	120	14	42
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	106	0	245	105
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Stage 1	-	-	-	-	105	-
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Stage 2	-	-	-	-	140	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1485	-	743	949
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Stage 1	-	-	-	-	919	-
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Stage 2	-	-	-	-	887	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1485	-	738	949
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Mov Cap-2 Maneuver	-	-	-	-	738	-
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Stage 1	-	-	-	-	919	-
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Stage 2	-	-	-	-	881	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.6	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	886	-	-	1485	-
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HCM Lane V/C Ratio	0.064	-	-	0.007	-
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HCM Control Delay (s)	9.3	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	143	5	1	113	17	15
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Future Vol, veh/h	143	5	1	113	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	155	5	1	123	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	160	0	283	158
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Stage 1	-	-	-	-	158	-
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Stage 2	-	-	-	-	125	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1419	-	707	887
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Stage 1	-	-	-	-	871	-
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Stage 2	-	-	-	-	901	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1419	-	706	887
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Mov Cap-2 Maneuver	-	-	-	-	706	-
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Stage 1	-	-	-	-	871	-
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Stage 2	-	-	-	-	900	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.8
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	781	-	-	1419	-
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HCM Lane V/C Ratio	0.045	-	-	0.001	-
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HCM Control Delay (s)	9.8	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	78	54	15	56	11	56	300	62	10	72	11
Future Vol, veh/h	31	78	54	15	56	11	56	300	62	10	72	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	85	59	16	61	12	61	326	67	11	78	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

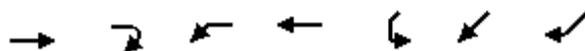
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.5	14.5	9.2
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	19%	18%	11%
Vol Thru, %	72%	48%	68%	77%
Vol Right, %	15%	33%	13%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	418	163	82	93
LT Vol	56	31	15	10
Through Vol	300	78	56	72
RT Vol	62	54	11	11
Lane Flow Rate	454	177	89	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.592	0.262	0.138	0.147
Departure Headway (Hd)	4.692	5.323	5.591	5.245
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	759	679	644	686
Service Time	2.784	3.331	3.603	3.26
HCM Lane V/C Ratio	0.598	0.261	0.138	0.147
HCM Control Delay	14.5	10.2	9.5	9.2
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.9	1	0.5	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Total
Event Departure PM Peak

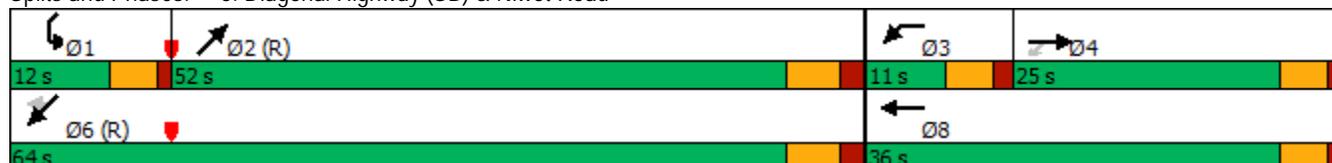


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	279	100	91	218	80	1155	50	
Future Volume (vph)	279	100	91	218	80	1155	50	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	25.0	25.0	11.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	25.0%	25.0%	11.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	8.0	29.5	10.5	64.5	64.5	
Actuated g/C Ratio	0.21	0.21	0.08	0.30	0.10	0.64	0.64	
v/c Ratio	0.79	0.25	0.36	0.43	0.47	0.55	0.05	
Control Delay	52.9	4.8	68.2	58.9	51.1	11.7	1.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	4.8	68.2	58.9	51.1	11.7	1.1	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.2			61.7		13.8		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 60.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Total
Event Departure PM Peak

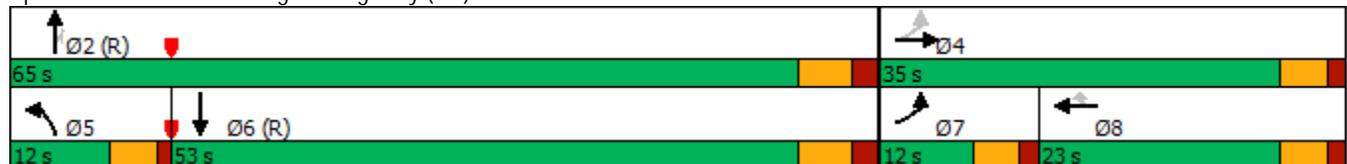


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗	↗	↘	↗	↗	
Traffic Volume (vph)	85	274	262	52	49	2075	91	
Future Volume (vph)	85	274	262	52	49	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	9.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	26.0	26.0	16.4	16.4	10.7	68.0	62.0	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.11	0.68	0.62	
v/c Ratio	0.34	0.62	0.49	0.15	0.28	0.94	0.10	
Control Delay	59.5	68.0	40.9	0.9	44.8	24.8	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.5	68.0	40.9	0.9	44.8	24.8	2.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.0	34.3			24.3		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 30.6
 Intersection LOS: C
 Intersection Capacity Utilization 79.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Background
AM Peak

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	10	265	40	15	700
Future Vol, veh/h	80	10	265	40	15	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	11	288	43	16	761

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1103	310	0	0	331
Stage 1	310	-	-	-	-
Stage 2	793	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	234	730	-	-	1228
Stage 1	744	-	-	-	-
Stage 2	446	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	229	730	-	-	1228
Mov Cap-2 Maneuver	229	-	-	-	-
Stage 1	744	-	-	-	-
Stage 2	436	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.7	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	248	1228
HCM Lane V/C Ratio	-	-	0.394	0.013
HCM Control Delay (s)	-	-	28.7	8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.8	0

HCM 6th TWSC 2: Niwot Road & N. 49th Street

2042 Background
AM Peak

Intersection

Int Delay, s/veh 1.1

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	5	100	65	10	10	10
Future Vol, veh/h	5	100	65	10	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	109	71	11	11	11

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	82	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1515	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1515	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1515	-	-	-	876
HCM Lane V/C Ratio	0.004	-	-	-	0.025
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC

3: Site Access & Niwot Road

2042 Background
AM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	110	1	1	75	1	1
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Future Vol, veh/h	110	1	1	75	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	120	1	1	82	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	121	0	205	121
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Stage 1	-	-	-	-	121	-
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Stage 2	-	-	-	-	84	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1467	-	783	930
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Stage 1	-	-	-	-	904	-
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Stage 2	-	-	-	-	939	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1467	-	782	930
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Mov Cap-2 Maneuver	-	-	-	-	782	-
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Stage 1	-	-	-	-	904	-
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Stage 2	-	-	-	-	938	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.2
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	850	-	-	1467	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.2	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2042 Background
AM Peak

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	120	10	10	85	5	10
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Future Vol, veh/h	120	10	10	85	5	10
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	130	11	11	92	5	11
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	141	0	250	136
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Stage 1	-	-	-	-	136	-
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Stage 2	-	-	-	-	114	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1442	-	739	913
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Stage 1	-	-	-	-	890	-
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Stage 2	-	-	-	-	911	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1442	-	733	913
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Mov Cap-2 Maneuver	-	-	-	-	733	-
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Stage 1	-	-	-	-	890	-
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Stage 2	-	-	-	-	904	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.8	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	844	-	-	1442	-
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HCM Lane V/C Ratio	0.019	-	-	0.008	-
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HCM Control Delay (s)	9.3	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2042 Background
AM Peak

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	65	90	165	75	15	35	75	5	10	420	20
Future Vol, veh/h	15	65	90	165	75	15	35	75	5	10	420	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	71	98	179	82	16	38	82	5	11	457	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

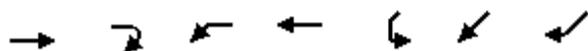
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.9	15	11.3	24
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	9%	65%	2%
Vol Thru, %	65%	38%	29%	93%
Vol Right, %	4%	53%	6%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	170	255	450
LT Vol	35	15	165	10
Through Vol	75	65	75	420
RT Vol	5	90	15	20
Lane Flow Rate	125	185	277	489
Geometry Grp	1	1	1	1
Degree of Util (X)	0.222	0.313	0.483	0.755
Departure Headway (Hd)	6.394	6.094	6.274	5.662
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	563	591	579	641
Service Time	4.427	4.113	4.274	3.662
HCM Lane V/C Ratio	0.222	0.313	0.478	0.763
HCM Control Delay	11.3	11.9	15	24
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	0.8	1.3	2.6	6.8

Timings

6: Diagonal Highway (SB) & Niwot Road

2042 Background
AM Peak

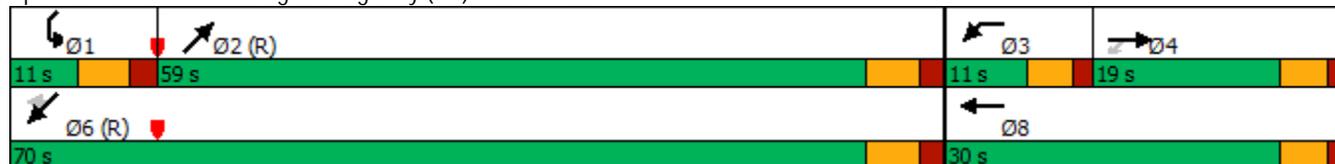


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	175	85	145	265	45	2450	45	
Future Volume (vph)	175	85	145	265	45	2450	45	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	19.0	19.0	11.0	30.0	11.0	70.0	70.0	59.0
Total Split (%)	19.0%	19.0%	11.0%	30.0%	11.0%	70.0%	70.0%	59%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.0	15.0	8.0	26.0	8.3	68.0	68.0	
Actuated g/C Ratio	0.15	0.15	0.08	0.26	0.08	0.68	0.68	
v/c Ratio	0.68	0.25	0.58	0.60	0.34	1.06	0.04	
Control Delay	53.1	2.6	76.2	68.4	50.2	54.9	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.1	2.6	76.2	68.4	50.2	54.9	0.7	
LOS	D	A	E	E	D	D	A	
Approach Delay	36.7			71.2		53.8		
Approach LOS	D			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 54.6
 Intersection LOS: D
 Intersection Capacity Utilization 91.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Background
AM Peak

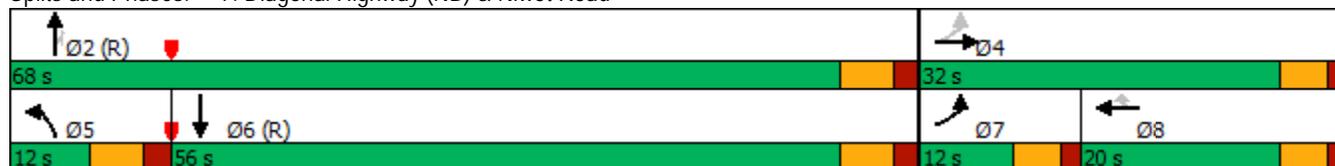


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↶	↷	↶	↷↶	↷	
Traffic Volume (vph)	50	170	350	25	60	785	40	
Future Volume (vph)	50	170	350	25	60	785	40	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	25.8	25.8	16.2	16.2	9.1	68.2	68.2	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.23	0.39	0.66	0.07	0.41	0.35	0.04	
Control Delay	64.0	67.6	45.4	0.4	51.0	7.8	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.0	67.6	45.4	0.4	51.0	7.8	0.6	
LOS	E	E	D	A	D	A	A	
Approach Delay		66.8	42.4			10.4		
Approach LOS		E	D			B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 26.9
 Intersection Capacity Utilization 45.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Background
PM Peak

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	25	900	125	5	440
Future Vol, veh/h	65	25	900	125	5	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	27	978	136	5	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1534	1046	0	0	1114
Stage 1	1046	-	-	-	-
Stage 2	488	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	128	277	-	-	627
Stage 1	338	-	-	-	-
Stage 2	617	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	127	277	-	-	627
Mov Cap-2 Maneuver	127	-	-	-	-
Stage 1	338	-	-	-	-
Stage 2	610	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	66.4	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	149	627
HCM Lane V/C Ratio	-	-	0.657	0.009
HCM Control Delay (s)	-	-	66.4	10.8
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	3.7	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Background
PM Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	5	125	135	20	5	5
Future Vol, veh/h	5	125	135	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	136	147	22	5	5
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	169	0	-	0	304	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	146	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1409	-	-	-	688	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	685	887
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	881	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.3	0	9.7			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1409	-	-	-	773	
HCM Lane V/C Ratio	0.004	-	-	-	0.014	
HCM Control Delay (s)	7.6	0	-	-	9.7	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM 6th TWSC

3: Site Access & Niwot Road

Background
PM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	135	1	1	155	1	1
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Future Vol, veh/h	135	1	1	155	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	147	1	1	168	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	148	0	318	148
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Stage 1	-	-	-	-	148	-
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Stage 2	-	-	-	-	170	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1434	-	675	899
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Stage 1	-	-	-	-	880	-
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Stage 2	-	-	-	-	860	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1434	-	674	899
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Mov Cap-2 Maneuver	-	-	-	-	674	-
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Stage 1	-	-	-	-	880	-
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Stage 2	-	-	-	-	859	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	770	-	-	1434	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

Background
PM Peak

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	150	10	5	150	25	20
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Future Vol, veh/h	150	10	5	150	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	163	11	5	163	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	174	0	342	169
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Stage 1	-	-	-	-	169	-
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Stage 2	-	-	-	-	173	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1403	-	654	875
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Stage 1	-	-	-	-	861	-
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Stage 2	-	-	-	-	857	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1403	-	651	875
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Mov Cap-2 Maneuver	-	-	-	-	651	-
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Stage 1	-	-	-	-	861	-
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Stage 2	-	-	-	-	854	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.2
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	735	-	-	1403	-
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HCM Lane V/C Ratio	0.067	-	-	0.004	-
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HCM Control Delay (s)	10.2	-	-	7.6	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Background
PM Peak

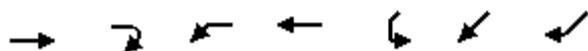
Intersection	
Intersection Delay, s/veh	27.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	70	65	20	75	15	80	425	90	15	105	15
Future Vol, veh/h	40	70	65	20	75	15	80	425	90	15	105	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	76	71	22	82	16	87	462	98	16	114	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.1	11.2	38.9	10.8
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	23%	18%	11%
Vol Thru, %	71%	40%	68%	78%
Vol Right, %	15%	37%	14%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	595	175	110	135
LT Vol	80	40	20	15
Through Vol	425	70	75	105
RT Vol	90	65	15	15
Lane Flow Rate	647	190	120	147
Geometry Grp	1	1	1	1
Degree of Util (X)	0.915	0.323	0.213	0.239
Departure Headway (Hd)	5.093	6.115	6.41	5.852
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	584	556	609
Service Time	3.144	4.194	4.499	3.929
HCM Lane V/C Ratio	0.91	0.325	0.216	0.241
HCM Control Delay	38.9	12.1	11.2	10.8
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	12.2	1.4	0.8	0.9

Timings 6: Diagonal Highway (SB) & Niwot Road

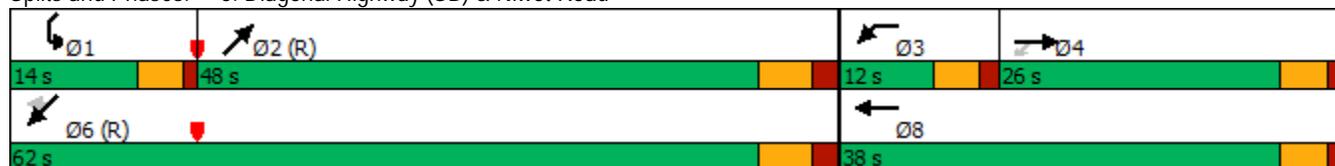


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖	↑	↘	↗	↖	
Traffic Volume (vph)	300	100	105	245	90	1310	55	
Future Volume (vph)	300	100	105	245	90	1310	55	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	26.0	26.0	12.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	26.0%	26.0%	12.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	21.8	21.8	8.9	33.6	11.9	60.4	60.4	
Actuated g/C Ratio	0.22	0.22	0.09	0.34	0.12	0.60	0.60	
v/c Ratio	0.80	0.24	0.38	0.42	0.47	0.67	0.06	
Control Delay	53.2	4.6	61.1	60.0	48.7	15.4	1.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.2	4.6	61.1	60.0	48.7	15.4	1.6	
LOS	D	A	E	E	D	B	A	
Approach Delay	41.0			60.3		16.9		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 28.2
 Intersection LOS: C
 Intersection Capacity Utilization 66.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings
7: Diagonal Highway (NB) & Niwot Road

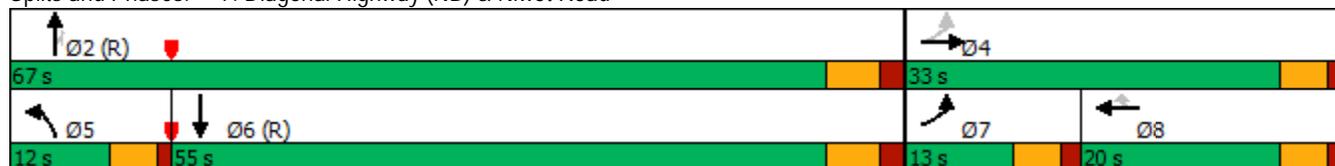


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↗	↗	↗↗	↗	↗	↗↗	↗	
Traffic Volume (vph)	80	305	295	60	50	2350	105	
Future Volume (vph)	80	305	295	60	50	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	13.0	33.0	20.0	20.0	12.0	67.0	67.0	55.0
Total Split (%)	13.0%	33.0%	20.0%	20.0%	12.0%	67.0%	67.0%	55%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.9	26.9	16.5	16.5	10.2	67.1	67.1	
Actuated g/C Ratio	0.27	0.27	0.16	0.16	0.10	0.67	0.67	
v/c Ratio	0.32	0.66	0.55	0.17	0.30	1.03	0.10	
Control Delay	46.6	55.0	42.3	1.0	46.1	45.9	1.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.6	55.0	42.3	1.0	46.1	45.9	1.6	
LOS	D	D	D	A	D	D	A	
Approach Delay		53.2	35.4			43.9		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 44.1
 Intersection LOS: D
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	67	25	900	135	7	440
Future Vol, veh/h	67	25	900	135	7	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	27	978	147	8	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1546	1052	0	0	1125
Stage 1	1052	-	-	-	-
Stage 2	494	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	126	275	-	-	621
Stage 1	336	-	-	-	-
Stage 2	613	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	124	275	-	-	621
Mov Cap-2 Maneuver	124	-	-	-	-
Stage 1	336	-	-	-	-
Stage 2	602	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	71.1	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	146	621
HCM Lane V/C Ratio	-	-	0.685	0.012
HCM Control Delay (s)	-	-	71.1	10.9
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	3.9	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2042 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	5	137	137	20	5	5
Future Vol, veh/h	5	137	137	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	149	149	22	5	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	171	0	0	319	160
Stage 1	-	-	-	160	-
Stage 2	-	-	-	159	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1406	-	-	674	885
Stage 1	-	-	-	869	-
Stage 2	-	-	-	870	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1406	-	-	671	885
Mov Cap-2 Maneuver	-	-	-	671	-
Stage 1	-	-	-	866	-
Stage 2	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1406	-	-	-	763
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations 

Traffic Vol, veh/h	110	13	39	155	3	9
Future Vol, veh/h	110	13	39	155	3	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	14	42	168	3	10

Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	134	0	379	127
Stage 1	-	-	-	-	127	-
Stage 2	-	-	-	-	252	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1451	-	623	923
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	790	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1451	-	603	923
Mov Cap-2 Maneuver	-	-	-	-	603	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	NB
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HCM Control Delay, s	0	1.5	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	815	-	-	1451	-
HCM Lane V/C Ratio	0.016	-	-	0.029	-
HCM Control Delay (s)	9.5	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	-

HCM 6th TWSC 4: 55th Street & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	158	10	5	188	25	20
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Future Vol, veh/h	158	10	5	188	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	172	11	5	204	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	183	0	392	178
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Stage 1	-	-	-	-	178	-
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Stage 2	-	-	-	-	214	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1392	-	612	865
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Stage 1	-	-	-	-	853	-
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Stage 2	-	-	-	-	822	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1392	-	610	865
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Mov Cap-2 Maneuver	-	-	-	-	610	-
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Stage 1	-	-	-	-	853	-
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Stage 2	-	-	-	-	819	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.5
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	702	-	-	1392	-
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HCM Lane V/C Ratio	0.07	-	-	0.004	-
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HCM Control Delay (s)	10.5	-	-	7.6	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection	
Intersection Delay, s/veh	32.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	76	66	20	103	15	87	425	90	15	105	18
Future Vol, veh/h	41	76	66	20	103	15	87	425	90	15	105	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	83	72	22	112	16	95	462	98	16	114	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

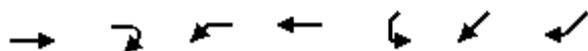
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	12.2	47.4	11.3
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	22%	14%	11%
Vol Thru, %	71%	42%	75%	76%
Vol Right, %	15%	36%	11%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	602	183	138	138
LT Vol	87	41	20	15
Through Vol	425	76	103	105
RT Vol	90	66	15	18
Lane Flow Rate	654	199	150	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.956	0.353	0.277	0.257
Departure Headway (Hd)	5.258	6.396	6.655	6.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	565	542	584
Service Time	3.349	4.409	4.67	4.193
HCM Lane V/C Ratio	0.96	0.352	0.277	0.257
HCM Control Delay	47.4	12.9	12.2	11.3
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	13.8	1.6	1.1	1

Timings

6: Diagonal Highway (SB) & Niwot Road

2042 Total
Event Arrival PM Peak

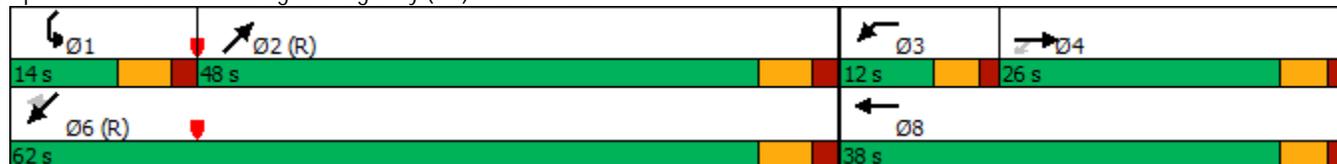


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	303	103	105	260	90	1310	68	
Future Volume (vph)	303	103	105	260	90	1310	68	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	26.0	26.0	12.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	26.0%	26.0%	12.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	21.8	21.8	8.9	33.7	10.9	60.3	60.3	
Actuated g/C Ratio	0.22	0.22	0.09	0.34	0.11	0.60	0.60	
v/c Ratio	0.81	0.24	0.38	0.45	0.51	0.64	0.08	
Control Delay	53.6	3.4	60.4	61.6	51.9	14.9	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.6	3.4	60.4	61.6	51.9	14.9	2.2	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.9			61.3		16.6		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 66.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Total
Event Arrival PM Peak

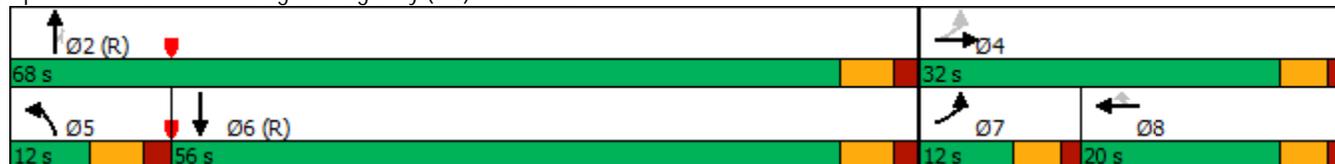


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↶	↷	↶	↷↷	↷	
Traffic Volume (vph)	83	305	297	60	63	2350	105	
Future Volume (vph)	83	305	297	60	63	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.1	26.1	16.5	16.5	9.4	67.9	67.9	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.35	0.68	0.55	0.17	0.41	1.03	0.10	
Control Delay	47.9	56.2	42.4	0.9	50.7	44.9	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.9	56.2	42.4	0.9	50.7	44.9	1.5	
LOS	D	E	D	A	D	D	A	
Approach Delay		54.4	35.4			43.2		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 43.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Total
Event Departure PM Peak

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	27	900	127	5	440
Future Vol, veh/h	75	27	900	127	5	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	29	978	138	5	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1535	1047	0	0	1116
Stage 1	1047	-	-	-	-
Stage 2	488	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	128	277	-	-	626
Stage 1	338	-	-	-	-
Stage 2	617	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	127	277	-	-	626
Mov Cap-2 Maneuver	127	-	-	-	-
Stage 1	338	-	-	-	-
Stage 2	610	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	79.6	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	148	626
HCM Lane V/C Ratio	-	-	0.749	0.009
HCM Control Delay (s)	-	-	79.6	10.8
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	4.5	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 0.4

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	5	127	147	20	5	5
Future Vol, veh/h	5	127	147	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	138	160	22	5	5

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	182	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1393	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1393	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	759
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	135	3	8	155	13	39
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Future Vol, veh/h	135	3	8	155	13	39
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	147	3	9	168	14	42
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	150	0	335	149
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Stage 1	-	-	-	-	149	-
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Stage 2	-	-	-	-	186	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1431	-	660	898
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Stage 1	-	-	-	-	879	-
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Stage 2	-	-	-	-	846	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1431	-	655	898
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Mov Cap-2 Maneuver	-	-	-	-	655	-
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Stage 1	-	-	-	-	879	-
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Stage 2	-	-	-	-	840	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.4	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	822	-	-	1431	-
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HCM Lane V/C Ratio	0.069	-	-	0.006	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	188	10	5	158	25	20
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Future Vol, veh/h	188	10	5	158	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	204	11	5	172	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	215	0	392	210
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Stage 1	-	-	-	-	210	-
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Stage 2	-	-	-	-	182	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1355	-	612	830
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Stage 1	-	-	-	-	825	-
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Stage 2	-	-	-	-	849	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1355	-	610	830
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Mov Cap-2 Maneuver	-	-	-	-	610	-
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Stage 1	-	-	-	-	825	-
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Stage 2	-	-	-	-	846	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.6
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	691	-	-	1355	-
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HCM Lane V/C Ratio	0.071	-	-	0.004	-
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HCM Control Delay (s)	10.6	-	-	7.7	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2042 Total
Event Departure PM Peak

Intersection	
Intersection Delay, s/veh	31.4
Intersection LOS	D

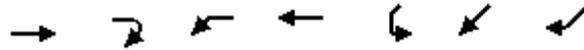
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	98	72	20	81	15	81	425	90	15	105	16
Future Vol, veh/h	43	98	72	20	81	15	81	425	90	15	105	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	107	78	22	88	16	88	462	98	16	114	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.6	11.8	46.1	11.3
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	20%	17%	11%
Vol Thru, %	71%	46%	70%	77%
Vol Right, %	15%	34%	13%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	596	213	116	136
LT Vol	81	43	20	15
Through Vol	425	98	81	105
RT Vol	90	72	15	16
Lane Flow Rate	648	232	126	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.949	0.407	0.235	0.254
Departure Headway (Hd)	5.275	6.333	6.71	6.194
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	572	537	581
Service Time	3.368	4.333	4.729	4.221
HCM Lane V/C Ratio	0.953	0.406	0.235	0.255
HCM Control Delay	46.1	13.6	11.8	11.3
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	13.5	2	0.9	1

Timings
6: Diagonal Highway (SB) & Niwot Road

2042 Total
Event Departure PM Peak

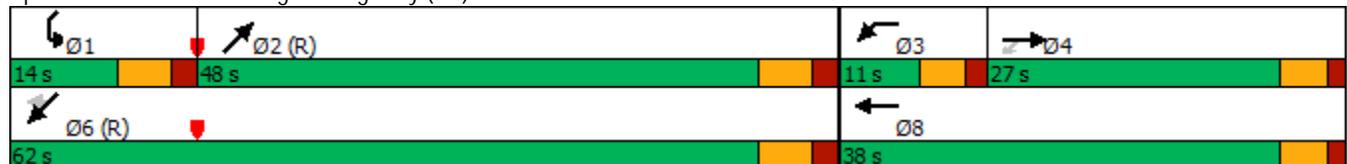


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	315	113	105	248	90	1310	58	
Future Volume (vph)	315	113	105	248	90	1310	58	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	11.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	27.0%	27.0%	11.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	22.6	22.6	8.0	33.6	11.0	60.4	60.4	
Actuated g/C Ratio	0.23	0.23	0.08	0.34	0.11	0.60	0.60	
v/c Ratio	0.81	0.26	0.42	0.43	0.51	0.67	0.06	
Control Delay	52.6	4.2	61.9	60.9	51.7	15.4	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.6	4.2	61.9	60.9	51.7	15.4	1.8	
LOS	D	A	E	E	D	B	A	
Approach Delay	39.8			61.2		17.1		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.4
 Intersection Capacity Utilization 67.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Total
Event Departure PM Peak

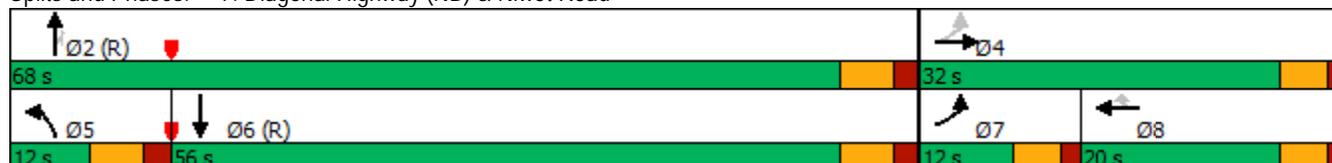


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗	↗	↘	↗	↗	
Traffic Volume (vph)	93	307	295	60	53	2350	105	
Future Volume (vph)	93	307	295	60	53	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.1	26.1	16.5	16.5	9.3	67.9	67.9	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.39	0.69	0.55	0.17	0.35	1.03	0.10	
Control Delay	47.1	54.4	42.3	0.9	49.1	44.9	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.1	54.4	42.3	0.9	49.1	44.9	1.5	
LOS	D	D	D	A	D	D	A	
Approach Delay		52.7	35.3			43.2		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 43.5
 Intersection LOS: D
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road





July 15th 2022

Project No 1160E

Prairie Orchard
Attn: Stephanie Duffy
prairieorchard@outlook.com

Soils Report and Onsite Wastewater Treatment Engineering
5114 Niwot Road
Boulder, CO 80403
Boulder County, Colorado

Stephanie,

ALL SERVICE septic, LLC performed a soils investigation and completed an onsite wastewater treatment system (OWTS) design for the subject property. The property is located in Boulder County Colorado, in an area where OWTSs are necessary. An existing well will serve water to the property.

SITE CONDITIONS

A farmhouse, cottage, barn, and a few sheds exist on the property. The farmhouse has an OWTS which will remain. The other buildings will be turned into an event venue. There is an onsite well, and 100 feet can be maintained to the STA. The site will also be served by Left Hand Water District. The vegetation in the area of the STA consists of grasses and very sparse trees. The new STA area will not be used as a drive. The slope at the proposed STA is 3% to the south.

LAND USE – No land use changes will affect the performance of the OWTS. This includes drainages, vegetation, and proximity to current wells. The proposed current land use for the STA is a native area with no landscaping. There is no planned construction on the STA after installation.

SUBSURFACE

The subsurface was investigated on March 25th 2022 by digging two soil profile test pit excavations (Test Pits) with a John Deer Rubber Tire Backhoe. A visual and tactile analysis of the soils were performed at approximately 3 -feet below grade.

The materials encountered in the Test Pit #1 consisted of top soil and root zone soil to 8-inches, underlain by sandy loam, granular and moderate, red to brown, 20% rocks to 3 feet, underlain by loamy sand, granular and moderate, 35% rocks, to the maximum depth explored of 8 feet. Groundwater evidence at 2 feet.

The materials encountered in the Test Pit #2 consisted of top soil and root zone soil to 6-inches, underlain by sandy loam, granular and moderate, red to brown, 20% rocks to 2.5 feet, underlain by loamy sand, granular and moderate, 40% rocks, to the maximum depth explored of 8 feet.

A long term acceptance rate (LTAR) of 0.5 gallons per square foot, will be used to design the chambers on secondary sand, and the SLR will be 1.1 per mound calculations attached, and, in accordance with Soil Type 2A, outlined in County On-Site Treatment System Regulations.

DESIGN SPECIFICATIONS

The OWTS design is based on 750 gallons per day. Fifty (50) persons per day @ 15 gallons per person.

*7 bathrooms and 4 sinks in the Barn and Bathroom House

*1 bathroom and 1 sink in the Cottage/Studio

- The farmhouse has a private existing separate OWTS.

Design Calculations

750 gallons/day

(TL1 treatment) Soils Type 2A

SLR – 0.5

LLR -12.0

Proposed 76 chambers placed on a sand bed of 14' x 82'. The top of sand bed should be 1 feet above grade. Scarify and strip the topsoil prior to placement of fill and mound. Stockpile and replace to re-vegetate mound.

Install a new 2000-gallon 3-compartment septic tank with a Biotube Pump in the third compartment. Add buoyancy collars/ The pump must be capable of 63.7 GPM and 30.9 TDH. The tanks must be approximately 1 foot below grade with a maximum of 3 feet. The tank and the STA should be not constructed in the driveway. Risers and lids to grade.

Buoyancy instructions -

The tanks must be ballasted with two concrete buoyancy collars per FLXX 2000 gallon tank.

- *Burial Depth – 2 feet x area of lid (75SF) = 6000 lbs soil load*
- *Lid Weight = 5,145 lbs*
- *Baffle Walls = 2220 lbs*
- *Tank = 11,890 lbs*
- *TOTAL = **25,255 lbs***
- *Upward lift = 435 Cubic feet tank area x 62.3 weight water = **27,162 upward force.***
- *Add 2000 lbs of Buoyancy collars.*

Pump calculations are attached. Effluent will be dosed to the STA through a 2.0" discharge pipe, to drain after each dose, and serve a 2.0" manifold, and 1.5" diam suspended laterals within the chambers. The laterals must have 5/32" holes on 3.0 foot centers facing up, with two holes per lateral facing down. Each lateral must end in a 90 degree *long sweep* elbow facing up with a ball valve for flushing in a valve box, accessible from grade. An observation port is required at each corner of bed.

Float Settings:

On / Off Floats must have 12" separation. The high water level alarm float should be 3" above top 'on' float. This setting will deliver a dose of approximately 85 gallons in a 500 gallon tank.

Drainback:

16 gallons per 100 feet of 2" pipe. Drainback will be to the tank at 7.5 gallons per dose.

An S1 Orenco Control Panel with audible and visual alarm, elapsed time meter, and dose counter must accompany the specified P Series Orenco pump.

The component manufacturers are typical of applications used by contractors and engineers in this area. Alternatives may be considered or recommended by contacting our office. Construction must be to County Land Use Regulations, and On-Site Wastewater Treatment System Regulations, the OWTS Permit provided by the County, and this design.

REVEGETATION REQUIREMENTS

An adequate layer of good quality topsoil capable of supporting revegetation shall be placed over the entire disturbed area of the OWTS installation. A mixture of native grass seed that has good soil stabilizing characteristics (but without taproots), provides a maximum transpiration rate, and competes well with successional species. No trees or shrubs, or any vegetation requiring regular irrigation shall be placed over the STA. Until vegetation is reestablished, erosion and sediment control measures shall be implemented and maintained on site. The owner of the OWTS shall be responsible for maintaining proper vegetation cover.

OPERATION INFORMATION AND MAINTENANCE

The property owner shall be responsible for the operation and maintenance of each OWTS servicing the property. The property owner is responsible for maintaining service contracts for manufactured units, alternating STAs, and any other components needing maintenance.

Geo-fabrics or plastics should not be used over the absorption area. No heavy equipment, machinery, or materials should be placed on backfilled STAs. Livestock should not graze on the STA. Plumbing fixtures should be checked to ensure that no additional water is being discharged to OWTS. For example, a running toilet or leaky faucet can discharge hundreds of gallons of water a day and harm a STA.

The homeowner should pump the septic tank every two years, or as needed gauged by measurement of solids in the tank. Garbage disposal use should be minimized, and non-biodegradable materials should not be placed into the OWTS. Grease should not be placed in household drains. Loading from a water softener should not be discharged into the OWTS. No hazardous wastes should be directed into the OWTS. Mechanical room drains should not discharge into the OWTS. The OWTS is engineered for domestic waste only.

ADDITIONAL CONSTRUCTION NOTES

If design includes a pump, air release valves and weep holes must be installed to allow pump lines to drain to minimize risk of freezing. The pump shall have an audible and visual alarm notification in the event of excessively high water conditions and shall be connected to a control breaker separate from the high water alarm breaker and from any other control system circuits. The pump system shall have a switch so the pump can be manually operated. If bedrock is encountered our office should be contacted.

Excavation equipment must not drive in excavation of the STA due to the potential to compact soil. Extensions should be placed on all septic tank components to allow access to them from existing grade. Backfill over the STA must be uniform and granular with no material greater than minus 3-inch.

INSTALLATION OBSERVATIONS

ALL SERVICE septic, LLC must view the OWTS during construction. The OWTS observation should be performed before backfill, after placement of OWTS components. Septic tanks, distribution devices, pumps, dosing siphons, and other plumbing, as applicable, must also be observed. ALL SERVICE septic, LLC should be notified 48 hours in advance to observe the installation.

LIMITS:

The design is based on information submitted. If soil conditions encountered are different from conditions described in report, ALL SERVICE septic, LLC should be notified. All OWTS construction must be according to the county regulations. Requirements not specified in this report must follow applicable county regulations. The contractor should have documented and demonstrated knowledge of the requirements and regulations of the county in which they are working. Licensing of Systems Contractors may be required by county regulation

Sincerely,

ALL SERVICE septic, LLC



Timothy R. Petz

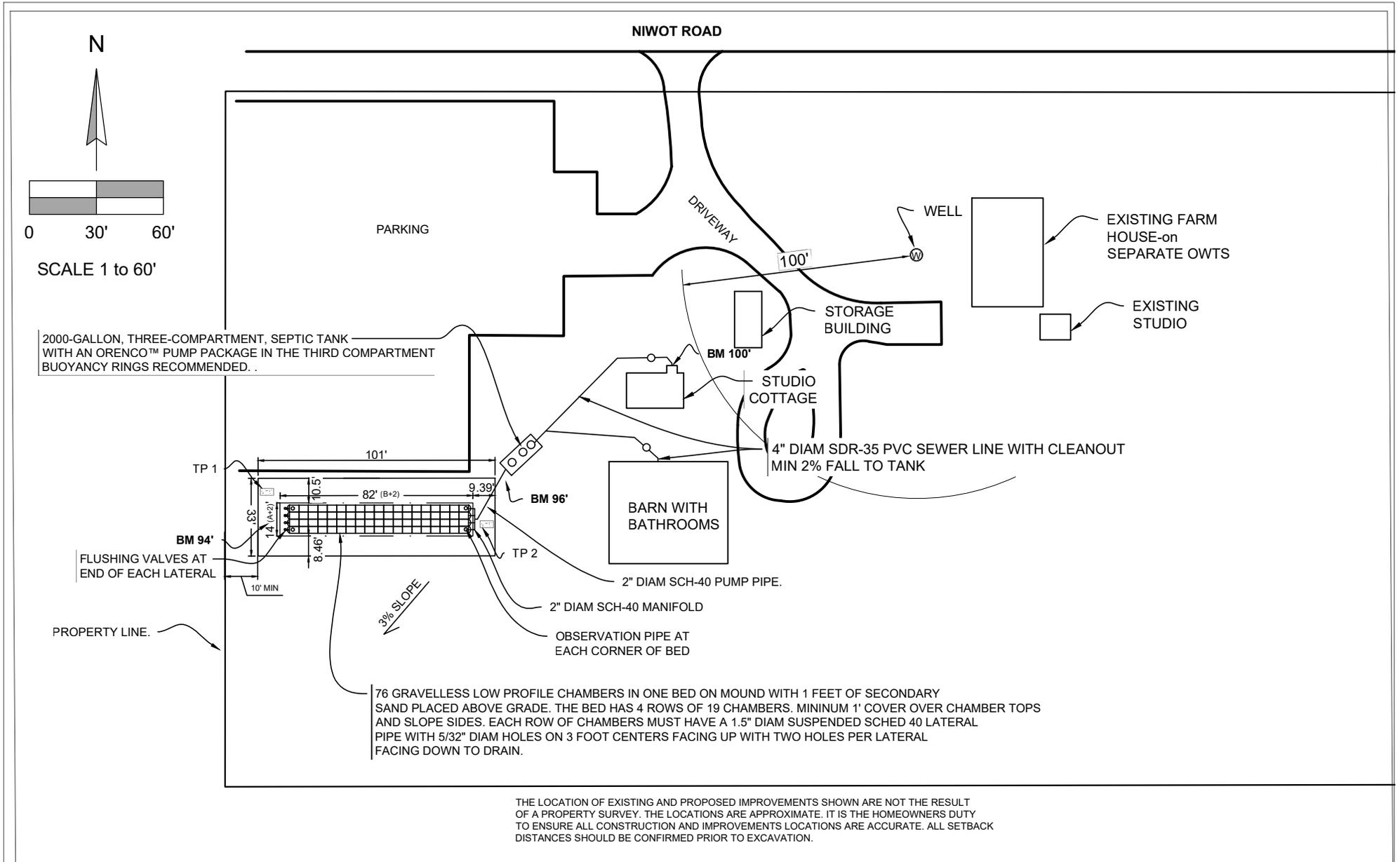
Reviewed By:



Richard H. Petz, PE



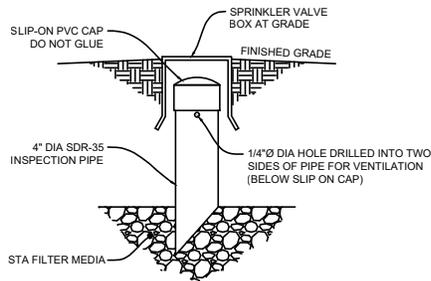
7/15/2022



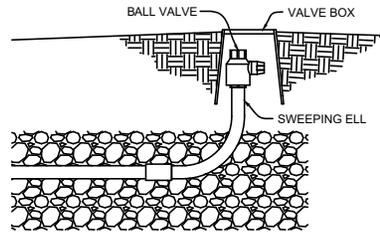
www.allservicesepptic.com
Phone: 303.908.7823

5114 NIWOT ROAD
Residence
Boulder County, Colorado
1160E

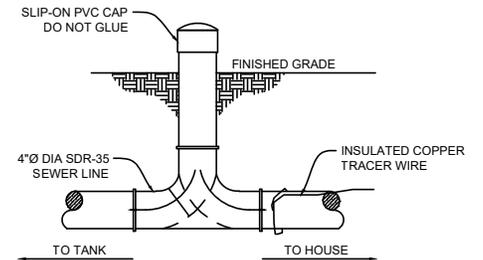
W1
1 of 4



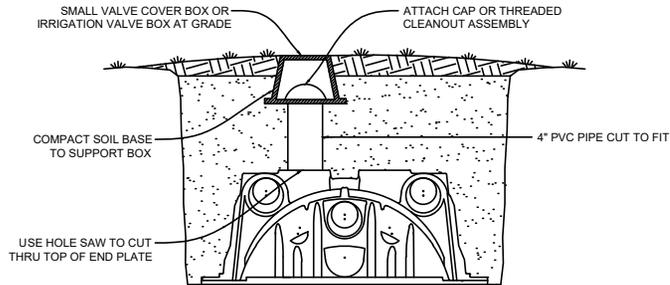
1 INSPECTION PORT
NTS



1 FLUSHING VALVE
NTS



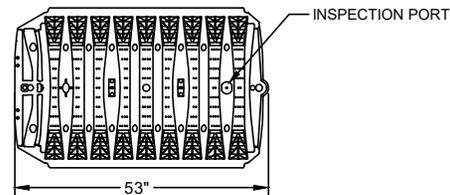
1 CLEANOUT DETAIL
NTS



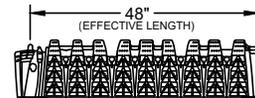
2 CHAMBER DETAILS W/ COVER BOX
NTS

**INFILTRATOR WATER TECHNOLOGIES
QUICK4 PLUS STANDARD CHAMBER
PRODUCT SPECIFICATION
(NOT TO SCALE)**

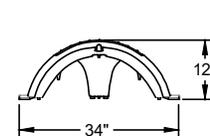
TOP VIEW



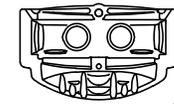
SIDE VIEW



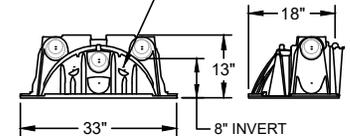
END VIEW



QUICK4 PLUS ALL-IN-ONE 12 END CAP



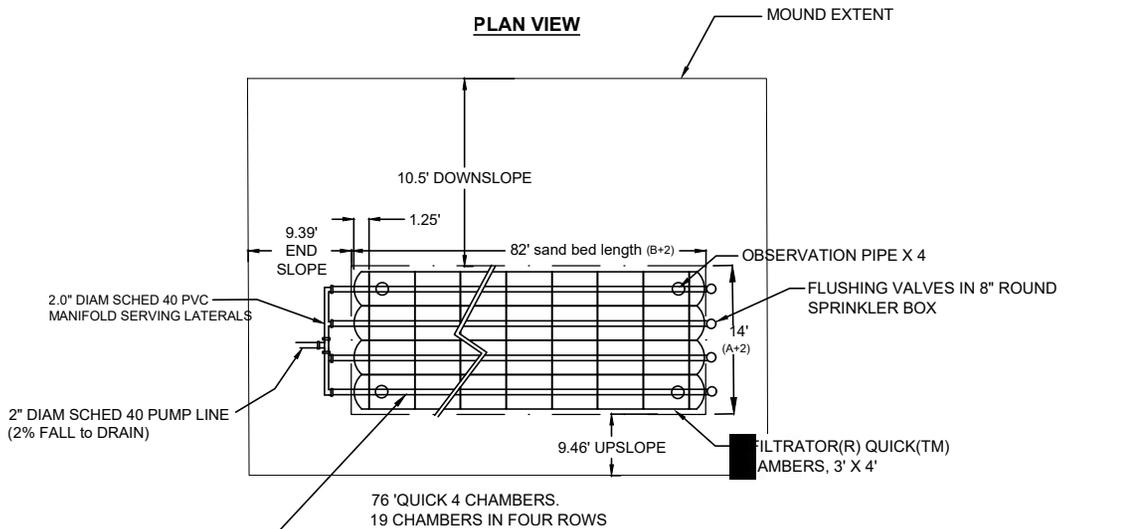
PRESSURIZED PIPE DRILL POINTS LOCATIONS (2 PLACES)



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Residence
Boulder County, Colorado
1160E

W2
2 of 4



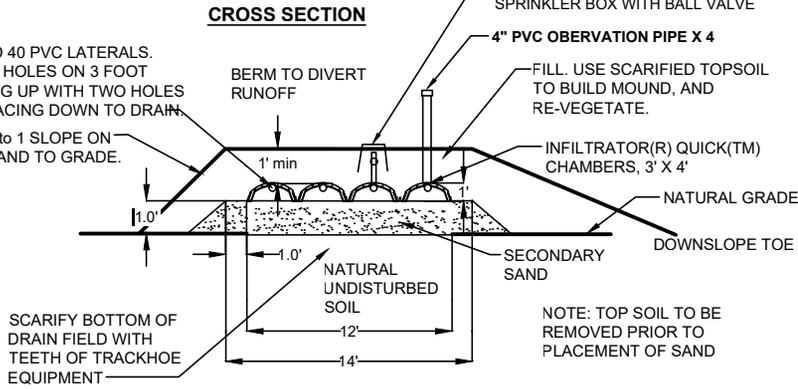
1.5" SCHED 40 LATERALS WITH 1/4" DIAM HOLES 3' ON CENTERS FACING DOWN WITH ORIFICE SHIELDS.

1.5" DIAM SCHED 40 PVC LATERALS. WITH 5/32" DIAM HOLES ON 3 FOOT CENTERS FACING UP WITH TWO HOLES PER LATERAL FACING DOWN TO DRAIN.

3 to 1 SLOPE ON SAND TO GRADE.

REVEGETATE DRAIN FIELD SURFACE

SAND FILTER MATERIAL	
PREFERRED SAND MEDIA	
EFFECTIVE SIZE:	2.25-0.60 MM
UNIFORMITY COEFFICIENT:	<= 4.0
PERCENT FINES PASSING #200 SIEVE:	<= 3.0
SECONDARY SAND MEDIA	
EFFECTIVE SIZE:	0.15-0.60 MM
UNIFORMITY COEFFICIENT:	<= 7.0
PERCENT FINES PASSING #200 SIEVE:	<= 3.0



SCARIFY BOTTOM OF DRAIN FIELD WITH TEETH OF TRACKHOE EQUIPMENT

NOTE: TOP SOIL TO BE REMOVED PRIOR TO PLACEMENT OF SAND

CALCULATIONS	
STUDIO/COTTAGE PLUS BARN WITH BATHROOMS = 750 GALS/PER/DAY TREATMENT LEVEL = TL1	
APPLICATION RATE = 0.5 GPD/SF SLR = 0.5 LLR = 12.0	
CHAMBERS FOUR ROWS OF 19 CHAMBERS = 76 CHAMBERS	
SOIL TYPE = 2A SANDY LOAM.	
Design Flow	750 GPD
% Slope	2.0 %
Soil LTAR (SLR)	0.5
Linear Loading Rate (LLR)	12.0
Sand Fill Loading Rate	0.8
Minimum sand depth (C)	1.00'
Distribution Media Depth (E)	1.00'
Soil Cover Depth (F)	1.00'
Downslope correction	1.06
Upslope correction	0.94
Calculated Data - Mound dimensions	
Distribution Cell Width (A)	12.00'
Distribution Cell Width (A+2)	14.00'
Distribution Cell Lenth (B)	80.00'
Distribution Cell Lenth (B+2)	82.00'
Distribution Cell Area	960 SF
Basal Area (sand) Width (I)	24.00'
Downslope mound fill depth (D)	1.26'
Actual width to toe of slope (H)	10.50'
Upslope width (J)	8.46'
End slope length (K)	9.39'
Overall width (W)	33.00'
Overall length (L)	101.00'



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Boulder County, Colorado
1160E

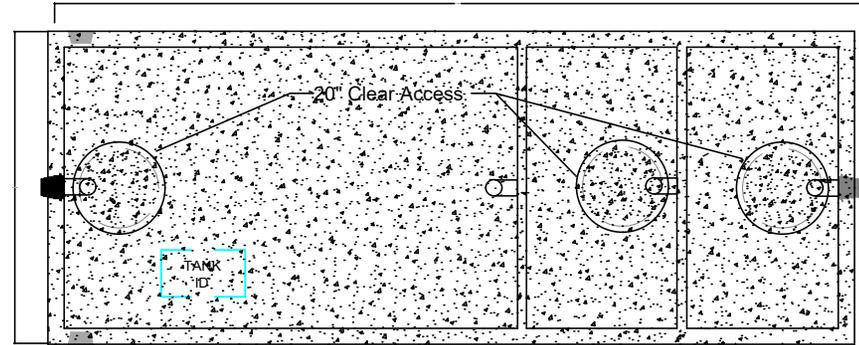
W3
3 of 4

DESIGN NOTES

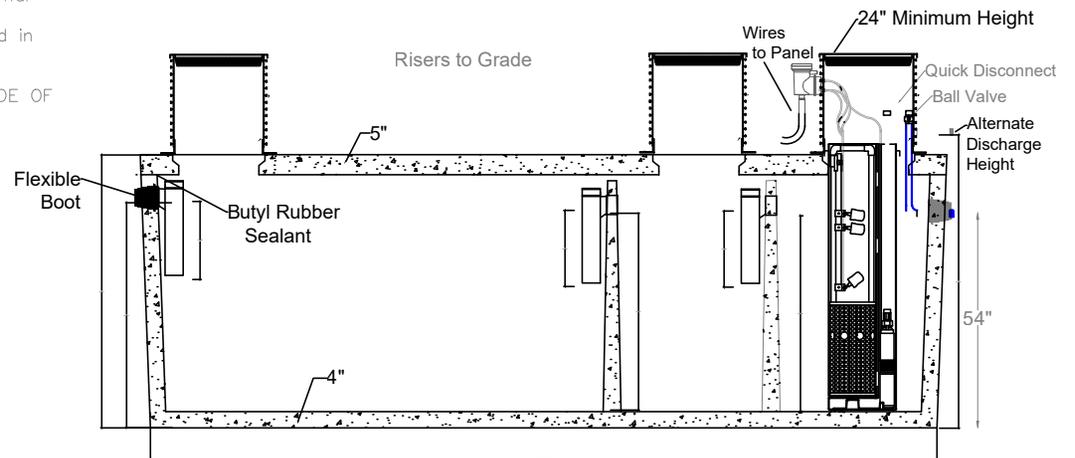
- Design per performance test per ASTM C1227
- Top surface area 108.88 ft²
- f'c @ 28 days; concrete = 6,000 PSI Min.

Installation:

- Tank to be set on 5" min. sand bed or pea gravel
- Tank to be backfilled uniformly on all sides in lifts less than 24" and mechanically compacted
- Excavated material may be used for backfill, provided large stones are removed
- Excavation should be dewatered and tank filled with water prior to being put in service for installation with water table less than 2' below grade
- Meets C1644-06 for resilient connectors
- Inlet and Outlet identified above pipe
- Delivered complete with internal piping
- Control Panel to be mounted in sight line of tank
- TRUCK MUST BACK UP PERPENDICULAR TO LONG SIDE OF HOLE, LID IS A SECOND SET (NO EXCEPTIONS)
- 4' Maximum bury depth



Top View



Section View

ALLOWABLE BURY (Based on Water Table)	
WATER TABLE	ALLOWABLE EARTH FILL
0' - 0"	2' - 0"
1' - 0"	3' - 0"
2' - 0"	3' - 0"
3' - 0"	4' - 0"
DRY	4' - 0"



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Residence
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1160E

W4
4 of 4

SOIL PROFILE TEST PIT NO. 1

SOIL PROFILE TEST PIT NO. 2

DEPTH - FEET

0

1

2

3

4

5

6

7

8

9

10



8" TOPSOIL AND ROOT ZONE DEPTH

SANDY LOAM, MODERATE AND GRANULAR
20% ROCKS
TYPE 2A

Groundwater at 2 feet

LOAMY SAND, MODERATE AND GRANULAR
35% ROCKS
50% <20MM
TYPE 2A
R-1, OPT. 1



6" TOPSOIL AND ROOT ZONE DEPTH

SANDY LOAM, MODERATE AND GRANULAR
20% ROCKS
TYPE 2A

Groundwater at 2 feet

LOAMY SAND, MODERATE AND GRANULAR
40% ROCKS
55% <20MM
R-1, OPT. 1

GROUNDWATER AT 2 FEET.



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5114 Niwot Road
2-Bedroom Residence
Boulder County, Colorado
1160E

W5
5 of 5

2000 Gal. Three Compartment Electric Lift Septic Tank

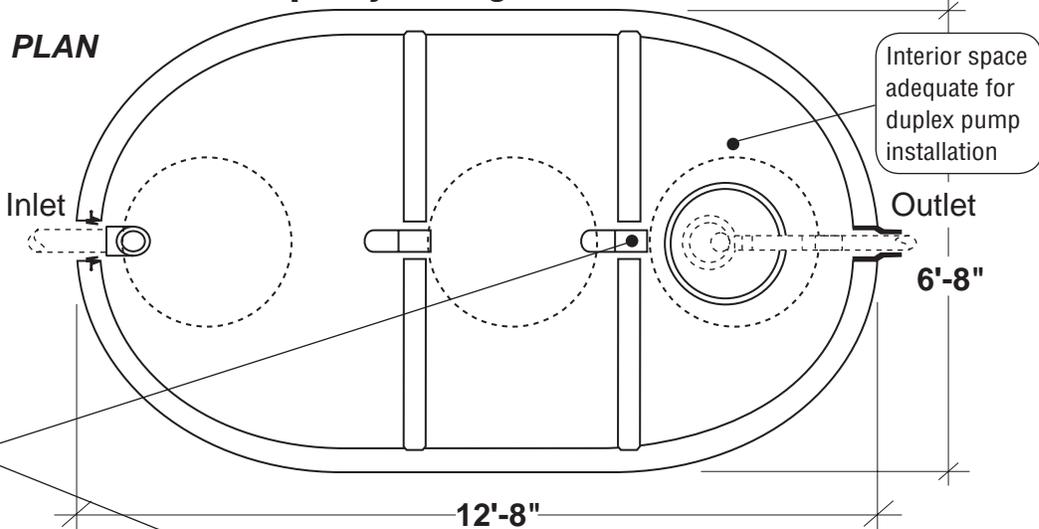
FLXX

FLXX

Total Capacity: 2000 gallons

- Monolithic tank meets ASTM-C-1227 Spec. for water and wastewater structures.
- Butyl rubber sealant meets Fed. Spec. SS-S-210A. (Provided with tank)
- See pages 35 - 41 for pumps and controls.

PLAN



Interior space adequate for duplex pump installation

Outlet

6'-8"

12'-8"

Sealed baffle wall. Install effluent filter at this location.

2' x 1' Modified riser w/J-box float tree bracket

SECTION

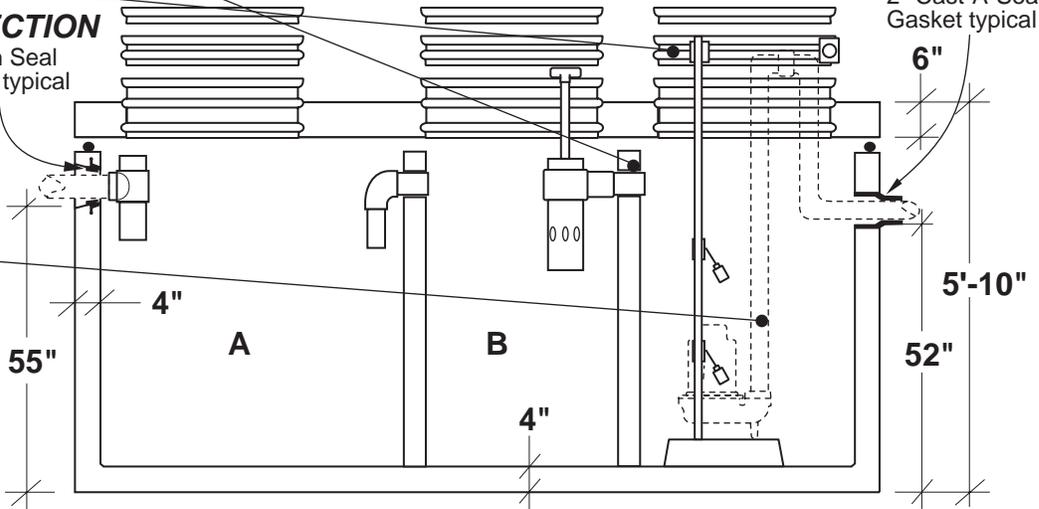
4" Push Seal Gasket typical

2" Cast-A-Seal Gasket typical

6"

Effluent pump (sized per specification) / remote alarm box, float tree, control and alarm switches installed and pump plumbed to stub-out including preassembled pipes and fittings.

Connections to electrical source by others.



5'-10"

52"

55"

4"

A

B

4"

Part #	Capacities (gallons)		Lift Station Chamber (gallons)	Discharge Per Cycle	Approximate Weights			
	A	B			Tank	Lid	Baffle Walls	Total
PCA-000-269	1,000	500	500	Variable 10.5 Gal. / Vertical Inch	11,690 lbs	5,145 lbs	2,220 lbs	19,055 lbs

Note: N.T.S.

FLXX 
Watertight
Front Range Precast Concrete, Inc.
 5901 Dexter Street, Unit 200, Commerce City, CO 80022
 Phone (303) 442-3207 • (800) 783-3207 • Fax (303) 442-3209
www.flxx.com

Pump Selection for a Pressurized System - Single Family Residence Project

1160E / PRAIRIE ORCHARD

Parameters

Discharge Assembly Size	2.00	inches
Transport Length	50	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	None	
Max Elevation Lift	15	feet
Manifold Length	9	feet
Manifold Pipe Class	40	
Manifold Pipe Size	2.00	inches
Number of Laterals per Cell	4	
Lateral Length	76	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.50	inches
Orifice Size	5/32	inches
Orifice Spacing	3	feet
Residual Head	4	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet

Calculations

Minimum Flow Rate per Orifice	0.61	gpm
Number of Orifices per Zone	104	
Total Flow Rate per Zone	63.7	gpm
Number of Laterals per Zone	4	
% Flow Differential 1st/Last Orifice	5.1	%
Transport Velocity	6.1	fps

Frictional Head Losses

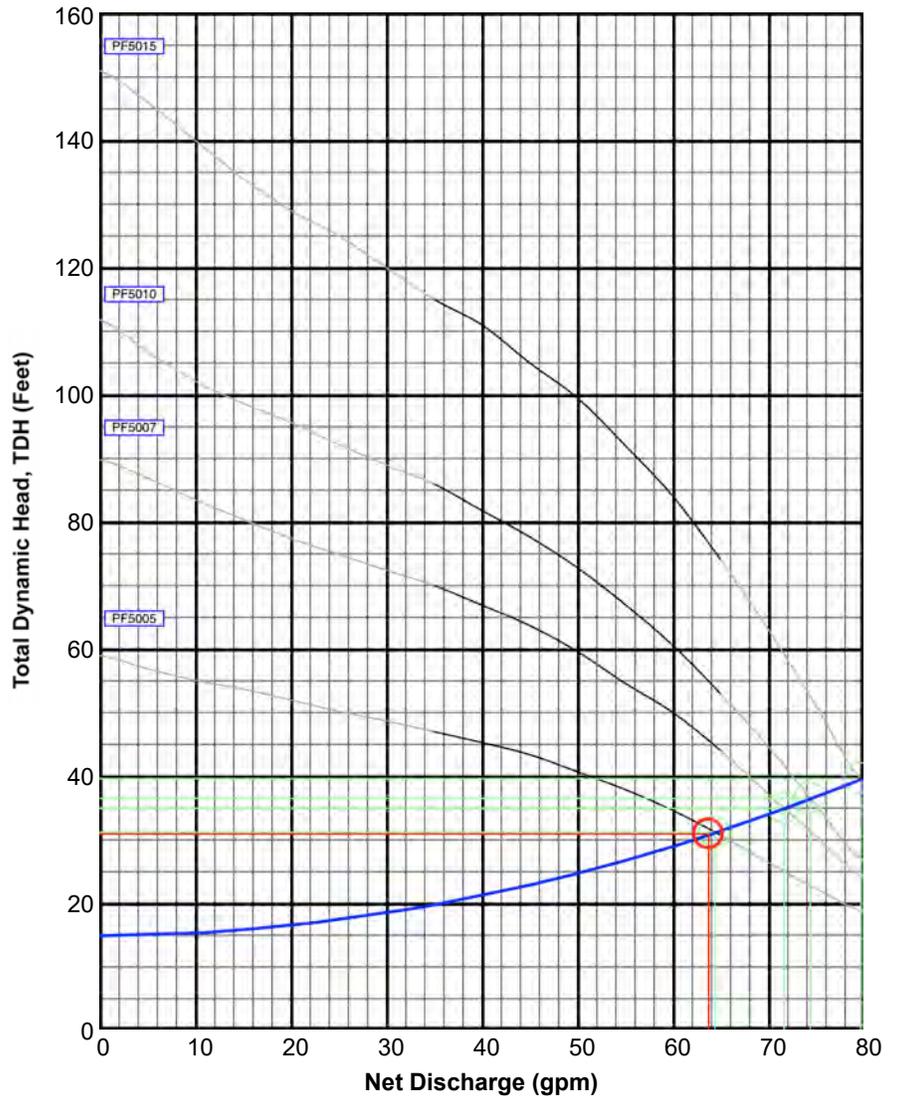
Loss through Discharge	8.1	feet
Loss in Transport	3.1	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.2	feet
Loss in Laterals	0.5	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes

Vol of Transport Line	8.7	gals
Vol of Manifold	1.6	gals
Vol of Laterals per Zone	32.1	gals
Total Volume	42.4	gals

Minimum Pump Requirements

Design Flow Rate	63.7	gpm
Total Dynamic Head	30.9	feet



PumpData

PF5005 High Head Effluent Pump
50 GPM, 1/2HP
115/230V 1Ø 60Hz, 200/230V 3Ø 60Hz

PF5007 High Head Effluent Pump
50 GPM, 3/4HP
230V 1Ø 60Hz, 200/230/460V 3Ø 60Hz

PF5010 High Head Effluent Pump
50 GPM, 1HP
230V 1Ø 60Hz, 200/460V 3Ø 60Hz

PF5015 High Head Effluent Pump
50 GPM, 1-1/2HP
230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:	—
Pump Curve:	—
Pump Optimal Range:	—
Operating Point:	○
Design Point:	○



Calculation: OWTS - Mound System Design

Site Identification: 5114 Niwot Road
 County: Boulder
 Date: 7/14/22
 Engineer/Designer: OWTS Engineering
 Add'l site information: 1160E

[1. The calculation is based on the Mounded Wastewater Treatment Systems Technical Guidance for Site Suitability, Design, Construction, Operation and Maintenance, dated August, 2020](#)

- Notes:
2. Highlighted Yellow Cells / Red Text indicates User to Input Data
 3. Once calculation inputs are finalized, click ctrl + P to print.

1. User Input and Calculated Values

Parameters	Values	Units
Design Flow	750	GPD
% Slope	2.0	Percent
Soil LTAR (SLR)	0.5	Unitless
Linear Loading Rate (LLR)	12	Unitless
Sand Fill Loading Rate	0.8	Gal./sq.ft./day
Minimum sand depth (C)	1	Feet
Distribution Media Depth (E)	1	Feet
Soil Cover Depth (F)	1	Feet
Downslope correction	1.06	Unitless
Upslope correction	0.94	Unitless

Parameters	Minimum Calculated Values	Manually Input Values	Units
Distribution Cell Width (A)	15	12.00	Feet
Distribution Cell Length (B)	62.5	80.00	Feet
Distribution Cell Area	937.5	960	Sq. Feet
Basal Area (sand) Width (I)	24.00	24.00	Feet
Downslope mound fill depth (D)	1.32	1.26	Feet
Actual width to toe of slope (H)	10.56	10.50	Feet
Upslope width (J)	8.46	8.46	Feet
End slope length (K)	9.48	9.39	Feet
Overall width (W)	36.02	33.00	Feet
Overall length (L)	83.46	101.00	Feet

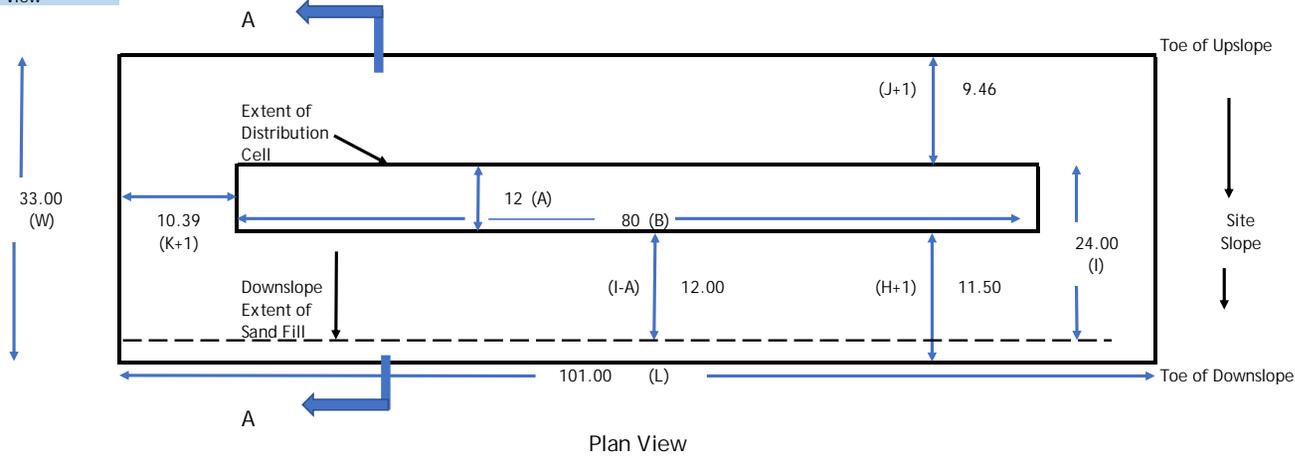
Attachment A - Application Materials

2. Plan and Section Schematics

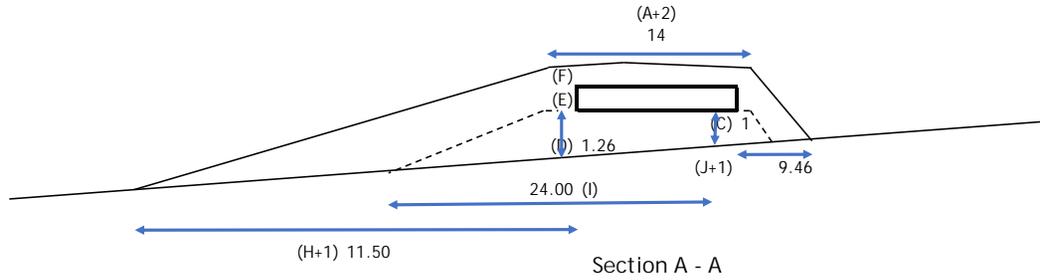
Select Basis of Drawings: Minimum Values (Col K) Manually Input Values (Col L)

- Notes:
 1. All dimensions are in feet.
 2. Drawings are not to scale

Plan View



Section View



Simplex Control Panels

Submittal
Data Sheet

Applications

Oreco Simplex Control Panels are used to control effluent pumps, alarms, and other equipment as specified in pressure sewers and onsite septic systems.



General

Oreco Simplex Control Panels are specifically engineered for pressure sewer (STEP) systems, onsite septic treatment systems, and for pump control into conventional gravity systems. Standard features include circuit breakers, an automatic/manual/off toggle switch, automatic motor control operation, and an audio/visual high water level with auto reset. Other standard features and options are listed on page 2. Oreco Panels are designed for use with mechanical and/or mercury float switches. Listed per UL 508; a UL-Canada listing is available.

Standard Models

S1, S2

Nomenclature

S

Indicates selected options (see page 2).

Indicates voltage
1 = 120 VAC
2 = 240 VAC

Specifications

Feature	Specification(s)
Panel Enclosure:	Measures 11.5" high x 9.3" wide x 5.4" deep. NEMA 4X rated. Constructed of UV resistant fiberglass; hinge and latch are stainless steel.
S1 Panel Ratings:	120 VAC, 3/4 hp, 14 amps, single phase, 60 Hz.
S2 Panel Ratings:	240 VAC, 2 hp, 14 amps, single phase, 60 Hz.

Simplex Control Panels (continued)

Standard Features

Feature	Specification(s)
Motor-Start Contactor	120 VAC: 16 FLA, 1 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% of FLA). 240 VAC: 16 FLA, 3 hp, 60 hz; 2.5 million cycles at FLA (10 million at 50% FLA).
Pump Circuit Breaker	20 amps, OFF/ON switch. Single pole 120 VAC, double pole 240 VAC. DIN rail mounting with thermal magnetic tripping characteristics.
Controls Circuit Breaker	10 amps, OFF/ON switch. Single pole 120V. DIN rail mounting with thermal magnetic tripping characteristics.
Toggle Switch	Single pole-double throw HOA switch rated at 20 amps.
Audio Alarm	95 dB at 24", warble-tone sound.
Audio Alarm Silence Relay	120 VAC, automatic reset. DIN rail mount.
Visual Alarm	7/8" diameter red lens, "Push-to-silence." NEMA 4X, 1 Watt bulb, 120 VAC.

Optional Features

Feature	Specification(s)	Product Code Adder
Intrinsically Safe Control Relays	120 VAC. Listed per UL 698A, for Class 1 Div. 1, groups A, B, C, D hazardous locations. Larger enclosure required.	IR
Programmable Timer	120 VAC, Repeat cycle from 0.05 seconds to 30 hours. Separate variable controls for OFF & ON time periods.	PT
Redundant Off Relay	120 VAC, provides a secondary off. Sounds alarm on low level condition. DIN rail mount.	RO
Heater	Anti-condensation heater. Self-adjusting: radiates additional wattage as temperature drops.	HT
Disconnect Switch	Single pole-single throw, 20 amps, motor rated at 1 hp.	DS
Elapsed Time Meter	120 VAC, 7-digit, non-resettable. Limit of 99,999 hours; accurate to 0.01 hours.	ETM
Event Counter	120 VAC, 6-digit, non-resettable.	CT
Pump Run Light	7/8" green lens. NEMA 4X, 1 Watt bulb, 120 VAC.	PRL

Do Your Part, Be SepticSmart: The Do's and Don'ts of Your Septic System

Learn these simple steps to protect your home, health, environment and property value:



Protect It and Inspect It:

Do:

- Have your system inspected (in general) every three years by a licensed contractor and have the tank pumped, when necessary, generally every three to five years.

Think at the Sink:

Don't:

- Pour cooking grease or oil down the sink or toilet.
- Rinse coffee grounds into the sink.
- Pour household chemicals down the sink or flush them.

Do:

- Eliminate or limit the use of a garbage disposal.
- Properly dispose of coffee grounds & food.
- Put grease in a container to harden before discarding in the trash.

Don't Overload the Commode:

Don't:

- Flush non-degradable products or chemicals, such as feminine hygiene products, condoms, dental floss, diapers, cigarette butts, cat litter, paper towels, pharmaceuticals.

Do:

- Dispose of these items in the trash can!

Shield Your Field:

Don't:

- Park or drive on your drainfield. The weight can damage the drain lines.
- Plant trees or shrubs too close to your drainfield, roots can grow into your system and clog it.

Do:

- Consult a septic service professional to advise you of the proper distance for planting trees and shrubs, depending on your septic tank location.

Don't Strain Your Drain:

Don't

- Concentrate your water use by using your dishwasher, shower, washing machine, and toilet at the same time. All that extra water can really strain your septic system.

Do:

- Stagger the use of water-generating appliances. This can be helpful especially if your system has not been pumped in a long time.
- Become more **water efficient** by fixing plumbing leaks and consider installing bathroom and kitchen faucet aerators and water-efficient products.

For more SepticSmart tips, visit: www.epa.gov/septicmart

Prairie Orchard, LLC

Special Use Review Application

Requirement No. 7 (Water Information/Documentation)

Left Hand Water District serves 5114 Niwot Road, Longmont, Colorado 80503 (the "Property") with water through use of a $\frac{3}{4}$ inch tap. The tap is noted on the Site Plan submitted as part of the Special Use Review Application as "water meter $\frac{3}{4}$ " verified"). In addition, attached hereto as Exhibit A is a recent water bill from Left Hand Water District, which evidences water service to the Property.

Exhibit A

Water Bill



Left Hand Water District

PO Box 210
 Niwot, CO 80544
 (303) 530-4200
 lhwd@lefthandwater.org
 Office hours are Monday - Friday 8:30am - 4:30pm

[Remove Account](#)

Billing Address

PRAIRIE ORCHARD LLC
 7025 STRATH BLVD
 LONGMONT, CO 80503-8837

Service Address

5114 NIWOT RD
 LONGMONT CO 80503-8823

Account Information

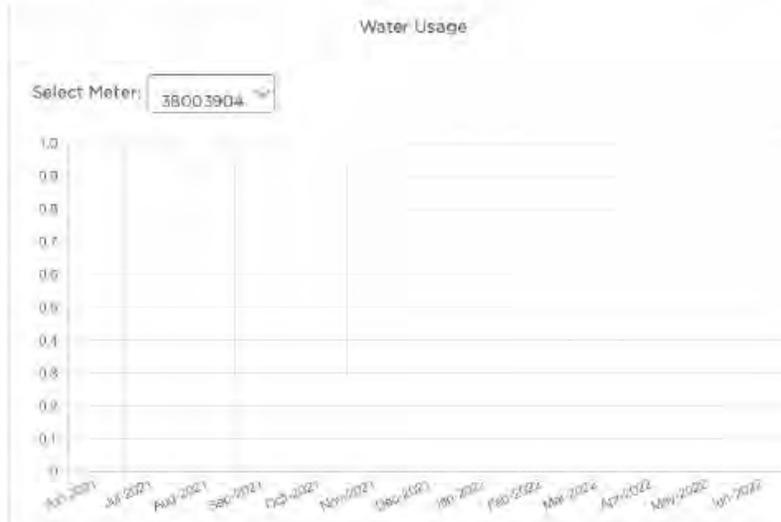
Account Number: 659703
 Account Type: Utility
 Due Date: 7/11/2022
 Auto Pay Scheduled: 7/7/2022
 Select Billing Period: 6/15/2022

Description	Read Date	Prev Reading	Present Reading	Total Usage
US	6/7/2022	106	106	0

Total Charges

WATER BASIC FEE	\$34.40
Statement Charges	\$34.40
Total Amount Due	\$34.40

Previous Payment Date 6/7/2022
Previous Payment Amount \$34.40



The information displayed here is provided by Left Hand Water District. If there is a discrepancy, please contact Left Hand Water District. Please note that model bill is only displaying payments made on or after 06/15/2022. Payments made directly to Left Hand Water may or may not be displayed here.

Supplement to Special Use Narrative

This Supplement to Special Use Narrative is provided by Prairie Orchard, LLC (“Applicant”) to clarify certain facts in the original Narrative, respond to certain questions from staff and identify proposed approval conditions that will address and mitigate certain issues raised by staff and neighbors.

Description of Proposed Use

Prairie Orchard submits this application for Special Use Review for a Reception Hall and Community Meeting Facility (4-102.B.4.g) and Vacation Rental (4-102.B.7.d). This use may include up to 4 large events (150-274 people) per year, 20 events with an attendance cap of 150 and unlimited events with a cap of 50 people. The large events will only be up to 4 per year and will be spaced out and separated by at least three weeks, never occurring on consecutive weekends.

Applicant met with Boulder Rural Fire and reviewed the intended site usage and capacity limitations. Based on feedback from Fire, the number of guests attending a large event (no more than 4 per year) should not exceed 274. Capacity limits are outlined in Attachment B. The 274 capacity is based on an indoor use for a dance floor and an event tent for outdoor dining. Based on this feedback, Applicant agrees that the maximum number of people for a large event would not exceed 274. This is a reduction from the originally proposed figure of 300 people. It should be noted that the number of “people” includes employees, guests, customers, caterers, and vendors. It is likely that an event that did not exceed 274 persons would serve no more than 250 guests. An event of this size would require caterers, vendors and on-site employees which have been considered in the maximum calculations.

A number of mitigation efforts are proposed for the limited large and mid-size events. It is very important to note that the majority of uses will be smaller community meetings such as group therapy/counseling sessions, small retreats and yoga. These events would be not exceed 50 people and would likely end up being smaller than fifty person events. The size of events and noise mitigation appear to be the main issues raised. Applicant has already limited the number of larger events as set forth in the original narrative, as modified in response to Fire comments, and proposed noise compliance with Boulder County’s Noise Ordinance. Applicant is further proposing that amplified sound not only be restricted per ordinance but in addition the sound system will be a fixed (non-moveable) indoor system. We understand and appreciate that neighbors do not want amplified sound moved outside and we will honor that request.

Traffic and Parking Mitigation

Traffic mitigation for large events is detailed in the TSIS report submitted with the application. For events in excess of 150 persons an off-site shuttle will be used. Such large events would not occur more than 4 times a year. The off-site shuttle provides additional parking that would be necessary for large events and reduces traffic to the site.

Staff asked for clarification of a comment in the TSIS at p. 5 about 95 cars going in and out for large events. Applicant’s traffic engineer clarified that the 95 cars refers to the number of vehicles for a large event without a shuttle. We are planning on having a shuttle to mitigate traffic impacts so this threshold of 95 cars would never be reached.

Building Permitting Issues

Applicants are now aware that there are several site buildings that were not properly permitted by the prior owners. Applicants desire with this application is to be sure that they are engaging in proper uses and buildings have proper permits. We have been working with staff and our architect to understand potential code upgrades/modifications that will be required. This will include additional restrooms, ADA parking and restrooms. We intend to work with staff through the permitting process to be in compliance with code and achieve all required permits.

Signage

Per direction from Boulder County staff and in accordance with specifications from Applicant's transportation engineer, signage will be in accordance with the MUTCD and approved by Boulder County engineering. Our transportation engineer proposed an intersection ahead sign (W2-2 @ 30"x30") with a supplemental panel underneath showing 500 Feet ahead (W16-2P @24"x18"). A picture of these signs can be found on Pages 127 and 132 of the MUTCD document. One set for each direction on a moveable base - the W2-2 would have separate orientations with the eastbound sign showing the access on the right and the westbound sign showing the access on the left.

Proposed Conditions:

Applicant reviewed staff, referral agency and neighborhood comments. Applicant had a follow up meeting with staff to discuss updated capacity figures from Boulder Rural Fire based on a recent site visit and proposed conditions of approval to address comments. The number of large events is very limited and will not exceed 4 in any calendar year. The larger events prompted the bulk of community concern and Applicant has always intended that the number of such events would be limited and Applicant is very willing to engage in numerous site mitigation measures to address concerns. These conditions are detailed in Attachment A.

List of Proposed Conditions is Attachment A

Capacity based on Boulder Rural Fire site visit is Attachment B

Large Event Example Timeline and proposed traffic flow is Attachment C

Emergency Evacuation Plan Attachment D

Attachment A

Proposed Conditions

- On-site employee to enforce any and all requirements and rules
- On-site contact number for neighbors to reach out 24/7 with concerns
- The 4 large events will be spaced out, will be at least three weeks apart, and will not occur on consecutive weekends

Unpermitted Space

- Bringing all spaces up to code and acquire required permits
- Adding ADA parking and restrooms
- Installing restrooms to accommodate up to 50 guests
- Hiring portable toilets at a 1/50 ratio for larger events
- Reducing number of occupants based on how the space would be used to meet Boulder Rural Fire requirements, with a maximum occupancy of 274

Noise mitigation

- Enforcing all current noise ordinances strictly
- Requiring all amplified music to use a fixed system installed indoors.
- Separating the largest size events (150-274) by at least 3 weeks apart to reduce impact

Fire Mitigation

- Maintaining property to reduce dead brush and weeds for wildfires
- Improving on gravel parking area to reduce weeds
- Paving and widening driveway and entrance
- Rejuvenating grass in front of barn
- Adding gravel around existing fire pit.
- On-duty staff to inform and enforce all red flag warnings, restrictions, and bans

Traffic Mitigation

- Adding temporary signage on road during events.
- Staying in close contact with Boulder County about road closures and events
- Meeting all Boulder County Access and Engineering requirements
- Specific traffic mitigation for the large events-not to exceed 4 in a year. The larger cap of 300 people attended events shall only occur on the weekend, wherein only one such larger event could occur during that weekend. Shuttle service is required and will be contractually provided by each of the organizers of the events with 150 or more guests attending. In addition, when a shuttle is necessary a parking fee of \$10.00 (minimum) will be collected from those guests who do drive and utilize the parking lot and should encourage less trips per event. This limited on site parking will be contractually limited and by advanced predetermined invitation only. The onsite parking is limited by the number of on-site parking spaces. This will also incentivize the use of the shuttle service, reduce total trips, and recoup the cost of the shuttle service for each event organizer. A nearby church has agreed to provide shuttle parking and a copy of the City Church correspondence confirming this arrangement is attached. City Church can provide an additional 81 parking stalls. Based on the Site

Plan and Transportation Study the shuttle parking will be necessary for large events (151-274 people) which are proposed for only 4 times a year and will only take place Saturdays or Sundays after 1 pm when shuttle parking is available.

- Prairie Orchard has met with shuttle providers and shuttles are available for rental with a capacity of 20 to 57 persons. Smaller shuttles (20 people) can be reserved for large events that only require offsite parking for up to 40 people and larger size shuttles will be used to when additional shuttle parking is necessary. The maximum number of shuttles used would be three in each direction, so six total. Arriving/departing in approximately ten minute increments. Site design will include a drop off circle that with capacity for the largest size shuttles that might be used.

Light Pollution Mitigation

- Exterior lighting will be directed downward to minimize glare and illumination.
- Increase privacy fence to 8 feet

Trespass/Vandalism/Privacy Concerns

- Fully fence property to reduce trespassing
- On-site employee to enforce rules
- Adding landscaping screen towards southwest corner

Wildlife Mitigation

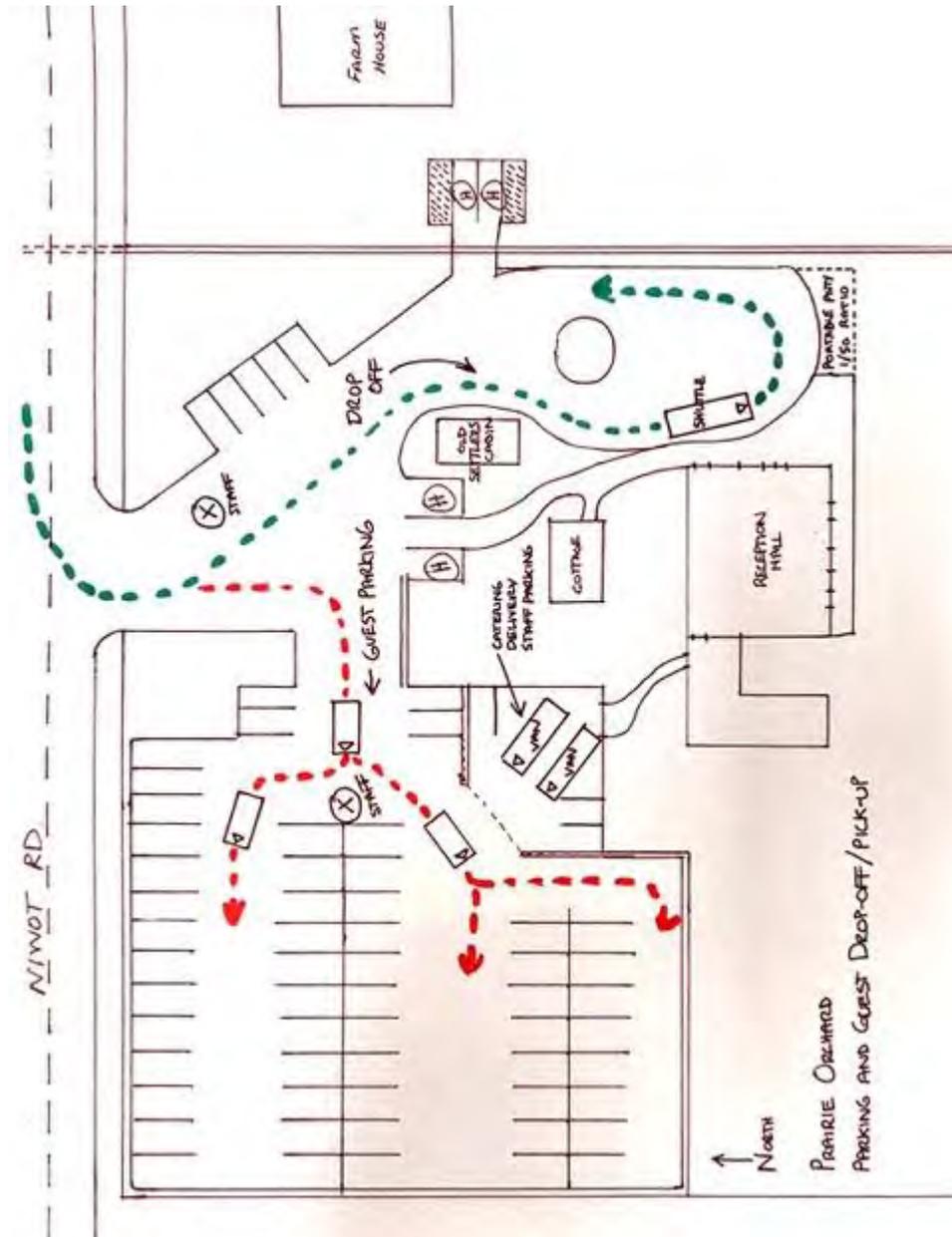
- No-pet rules
- Educating guests of seasonal wildlife activity
- Using a movable artificial plant screen to reduce noise and light pollution that could affect Osprey nest during outdoor events occurring March 15- September 10.

Attachment B

The following chart shows the number of people able to participate, taking into consideration the suggestions from the engineer, Dean Rogers, from Boulder Rural Fire

	4/YEAR	20/YEAR	Unlimited
DANCE FLOOR	274	150	50
SEATING	196	150	50
DINING	91	91	50

Attachment C-traffic flow for large events and event timeline



Large Event Timeline Example

- 9am Outdoor reception and wedding altar set up (rental tent, dining tables, etc)
- Noon Catering vans start set up utilizing the designated catering, delivery, and staff parking lot area. Florist drop off, Photographer arrives
- 2pm Family/wedding party arrives for Portraits, officiant sets up, DJ arrives for indoor set up 3pm Guests start to arrive via shuttle and personal vehicles.

Shuttles pick out of town

guests from designated hotel and local guests can carpool and use parking lot by invitation only, or park in the off-site shuttle pick up location. Shuttles will be departing and arriving at 10 minute increments to avoid traffic buildup on Niwot Rd. Shuttles will off-board guests in the designated drop-off circle in front of the reception hall. Guests parking on-site by invitation only will be asked to carpool and will utilize the on-site 61 stall parking lot. At maximum guest amount, 5 shuttles carrying 20 people would be required. 1-2 event staff members would assist with guest parking and overall traffic flow on the property and would be wearing yellow traffic safety vests and directional light batons.

4pm Ceremony

Begins 5pm

Reception

9pm End of Reception, one event staff member assists and directs vehicles and shuttles exiting driveway onto Niwot Rd in an orderly manner and wearing yellow traffic safety vests and directional light baton. The shuttle vans shall be awaiting to onboard guests in the designated pick-up circle which can accommodate up to five vans. Clean up begins with the departing guests.

11pm All activities cease.

Attachment D

PRAIRIE ORCHARD

Emergency Evacuation Plan

In the event of an evacuation the On-site Manager shall do the following:

- Request all event staff to meet in the employee area for instructions on how to assist.

Provide event staff with yellow traffic safety vests, lighted safety wands, laminated evacuation map with assigned post locations, and then assign them to each of the following posts:

- Head of forming event guest line #1 (those who drove to the event). Escort to the parking lot in single file line, release the guests to the parking lot and then take position up near the roadway and provide direction as to which way to turn onto Niwot Road depending on the situation at hand.
- Head of forming event guest line #2 (those who need a ride). Assist guests with entry onto shuttle busses. If no shuttle bus is available in the designated turn around circle for pick-ups and drop-offs, then escort them to the designated parking lot exit point. Assign guests to each vehicle leaving with available passenger seating.
- Take position at designated parking lot exit point and traffic direct each vehicle prior to their departure and onboard all available passenger seating space with the assistance of assigned staff post B.
- Notify Police Dispatch at 303-441-4444 of intended evacuation and direction of travel.
- Notify guests of the need for an evacuation along with the use of bull horn if needed and to gather their belongings.
- Prop open the east door way. If the crisis requires then prop open all 7 exterior doors.

- Ask guests to form two lines on assigned event staff at the selected east exit door. One line for those who had driven to the event and the second line for those who need a ride.
- Direct the guests in the line who have driven to the event to proceed to their vehicles following behind the assigned staff member to the parking lot in single file and advise them they may need to take on additional passengers when asked to do so when exiting.
- Direct the second line of event guests to walk single file toward the designated turn around circle for drop-offs and pick-ups if shuttle busses are available, otherwise lead them to the designated drive way exit point along the path and await exiting cars with available space to onboard to capacity.
- On-Site Manager checks all structures and bathrooms for any remaining guests.

1. Reception Hall
 - Employee Area
 - Men's Restroom
 - Women's Restroom
 - ADA Restroom.

- Cottage
- Farm House
- Studio

After all-clear is determined then release assigned staff to evacuate themselves. Then from the safety of their own vehicle the On-site Manager will perform another sweep of the parking lot and the turn around area before determining a second all-clear after which they will evacuate themselves.

9. Notify Police Dispatch at 303-441-4444 of confirmed evacuation.



PARKING BUMPER ALTERNATIVE:
 • PORTABLE PARKING STANCHIONS TO BE USED IN LIEU OF BUMPERS TO ALLOW FOR EASE OF GRADING AND FLOWING.
 • STANCHIONS SHALL BE TALL ENOUGH TO BE SEEN ABOVE THE NORMAL HEIGHT OF A CAR HOOD, 36" MIN.

CITY CHURCH PARKING LAYOUT:
 TO BE USED FOR OFF SITE PARKING AS NEEDED



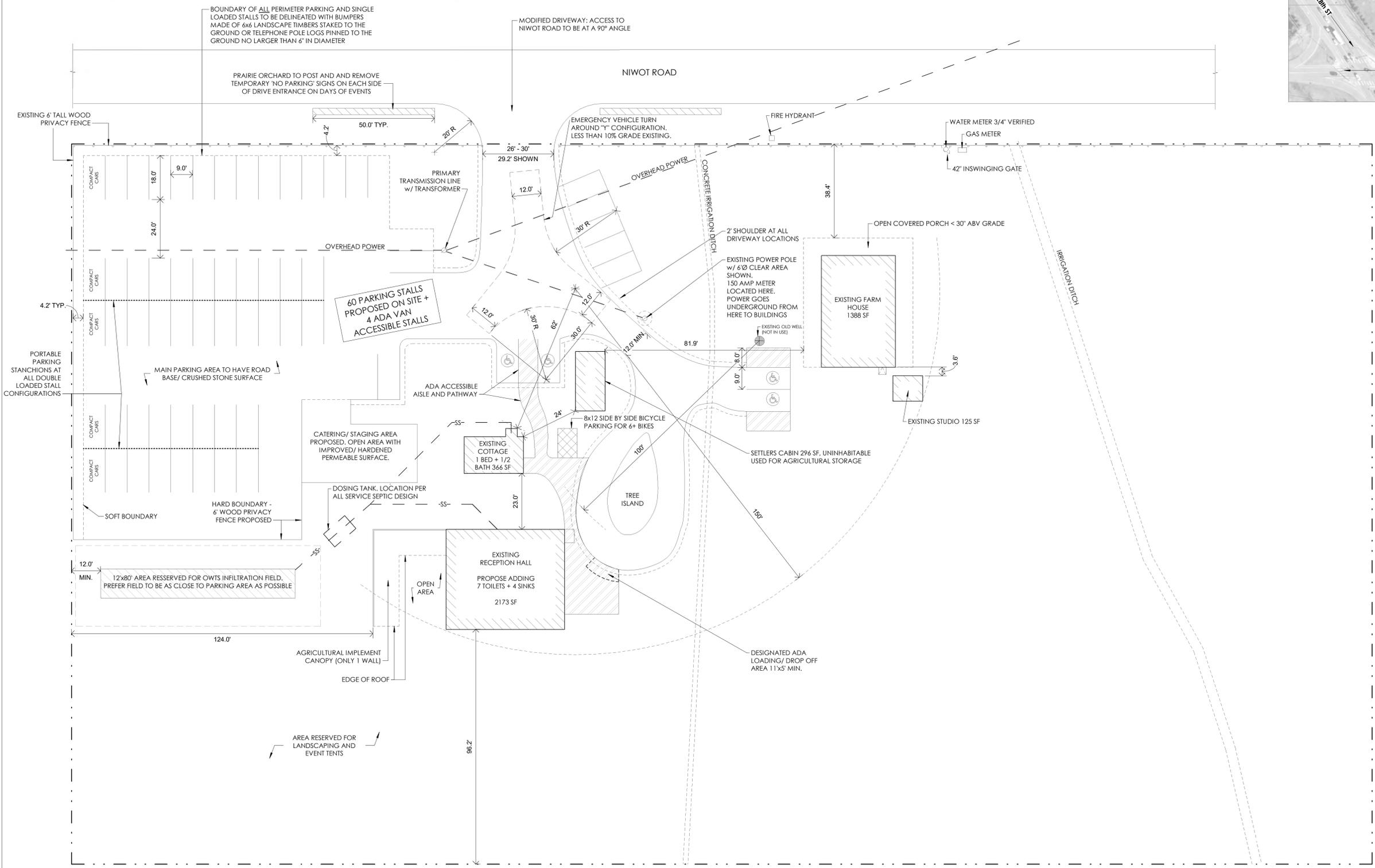
SH-6
 SAWHORSE-6
 architecture
 + design

SH-6 architecture + design
 2126 COLUMBINE AVENUE
 BOULDER, COLORADO
 303.579.1667



Praire Orchard, LLC

5114 Niwot Rd
 Longmont, CO
 80503

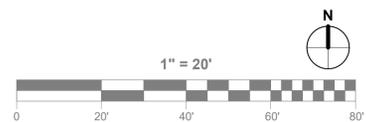


SITE PLAN LEGEND:

---	PROPERTY LINE
P	PARKING STALL 9'x18' U.N.O.
Ⓜ	VAN ACCESSIBLE ADA PARKING STALL 9'x18' w/ 8' AISLE
Ⓧ	EXISTING TREE TO REMAIN
Ⓝ	DEMO TREE
Ⓝ	NEW TREE
---	EXISTING CONTOUR
●	FOUND MONUMENT AS NOTED
Ⓧ	ELECTRICAL METER
Ⓞ	CLEAN OUT
Ⓜ	POWER POLE
Ⓜ	WATER METER
-W-	WATER LINE
-I-	IRRIGATION WATER LINE
-DI-	DRIP IRRIGATION
-SS-	SANITARY SEWER SERVICE
-ST-	STORM CULVERT
-P-	OVERHEAD POWER LINE
-PU-	UNDERGROUND POWER LINE
-W-	UNDERGROUND WATER LINE
-G-	UNDERGROUND GAS LINE
Ⓜ	GAS METER
Ⓜ	WATER MANHOLE
Ⓜ	EMERGENCY FIRE CISTERN (BURIED)- SIZE TBD BY FIRE DEPT
Ⓜ	MAILBOX - PROVIDE NEW POST
-CF-	CONSTRUCTION FENCE
---	FENCE LINE

NOTES:
 • ALL DRIVEWAYS ARE EXISTING UNLESS NOTED OTHERWISE

1 Site Plan
 1" = 20'-0"
 DO NOT SCALE DRAWING.
 KNOWN DIMENSIONS ARE SHOWN.



Architectural Site Plan

Project Number 2022.47
 Date 10.4.22
 Drawn by JD

A000
 Scale As indicated



LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

October 5, 2022

Ms. Stephanie Duffy
Prairie Orchard, LLC
7025 Strath Boulevard
Niwot, CO 80503

Re: Prairie Orchard Reception Hall
Transportation System Impact
Study (TSIS)
Boulder County, CO
LSC #220430

Dear Ms. Duffy:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated Transportation System Impact Study (TSIS) for the proposed Prairie Orchard Reception Hall in Boulder County, Colorado, to address County comments. Figure 1 shows a vicinity map.

REPORT CONTENTS

This report contains the following: a project description; the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday average daily traffic volumes; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts.

PROJECT DESCRIPTION

Land Use

The site is proposed to include a Reception Hall for uses such as weddings, photography sessions, ceremonial space, meeting space for both corporate and local event organizers, art exhibitions, yoga and fitness space, small intimate concerts, and therapy/counseling space. The existing farm house will be used for overnight stays as needed.

This study divides the proposed events into three categories: 1) Less than 50 people (unlimited); 2) 51 to 150 people on-site (up to 20 events per year); and 3) 151 to 300 people (four per year only on Saturdays and after 1:00 pm on Sundays).

Phasing and Timing

The proposed land use is planned to be started once all necessary approvals are secured.

The applicant and event organizer should be aware of organized cycling events or planned road closures in the area when planning events.

STUDY AREA

Figure 2 shows the study area. The non-highway public streets directly impacted by the site are Niwot Road, N. 49th Street, N. 55th Street, and N. 63rd Street.

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Niwot Road** is an east-west, two-lane collector roadway north of the site that connects to E. Foothills Highway (US 36) on the west via Neva Road and Diagonal Highway (SH 119) to the east and provides access to the site. The intersections with N. 49th Street, N. 55th Street, and N. 63rd Street are stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph. There are no pedestrian facilities but the shoulders are heavily used by cyclists.
- **N. 49th Street** is a north-south, two-lane local gravel roadway west of the site. The intersection with Niwot Road is stop-sign controlled. There is no posted speed limit near Niwot Road.
- **N. 55th Street** is a north-south, two-lane local gravel roadway east of the site. The intersection with Niwot Road is stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph.
- **N. 63rd Street** is a north-south, two-lane minor arterial roadway east of the site. The intersection with Niwot Road is all-way stop-sign controlled. The posted speed limit in the vicinity of the site is 35 mph north of Niwot Road and 45 mph south of Niwot Road. There are no pedestrian facilities but the shoulders are heavily used by cyclists.

Existing Pedestrian and Bike Facilities

There are no existing pedestrian facilities along Niwot Road, N. 49th Street, N. 55th Street, or N. 63rd Street although Niwot Road and N. 63rd Street have narrow paved shoulders that are heavily used by cyclists. The applicant will provide advanced warning signs 500 feet in advance of the driveway in each direction warning drivers and cyclists of an event in progress.

Sight Distance From Existing Driveway

The site has an existing driveway on Niwot Road. The sight distance in each direction of Niwot Road is good because the horizontal and vertical alignments are straight in the vicinity of the

site. The County has indicated the driveway width should be 26 to 30 feet wide to accommodate efficient ingress and egress during events.

Existing Transit Service

There is no bus service along Niwot Road. The nearest bus stop to the site is located on E. Foothills Highway (US 36) to the west or on Diagonal Highway (SH 119) to the east.

Accident History

Accident history was not evaluated but Niwot Road is straight and relatively flat near the site so minimal accident history would be expected near the site.

Access and Parking

Full movement access exists directly to Niwot Road. The County has indicated the driveway should be 26 to 30 feet wide to accommodate efficient ingress and egress during events. There is good sight distance in each direction. The site plan provides 60 parking spaces plus the required ADA parking spaces which is sufficient to accommodate a 150-person event with a vehicle occupancy of 2.5 people per vehicle.

On-site parking will be provided for a fee of \$10 per vehicle. This limited on-site parking will be contractually limited and by advanced invitation only. The on-site parking is limited by the number of on-site parking spaces. The off-site shuttle will likely be needed for events with over 150 people planned to be on site.

Existing Traffic Conditions

Figure 3 shows the existing daily and weekday peak-hour traffic volumes in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and the daily traffic volumes are from the attached traffic counts conducted by Counter Measures in April and June, 2022.

2024 AND 2042 BACKGROUND TRAFFIC

Figure 4 shows the 2024 background traffic volumes and Figure 5 shows the 2042 background traffic volumes. The background traffic volumes assume one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram. It also assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram and a two percent annual growth for all other roadways. Figures 4 and 5 also show the assumed lane geometry and traffic control.

EXISTING, 2024, AND 2042 TRAFFIC LEVELS OF SERVICE

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for unsignalized intersections.

The intersections in Figures 3, 4, and 5 were analyzed as appropriate to determine the existing, 2024 background and 2042 background traffic levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **E. Foothills Highway (US 36)/Neva Access Road:** All movements at this two-way stop-sign controlled intersection currently operate at LOS “D” or better during both arrival and departure peak-hours and are expected to do so through 2024. In 2042, the westbound approach is expected to operate at LOS “F” in the departure peak-hour.
2. **Niwot Road/N. 49th Street:** All movements at this two-way stop-sign controlled intersection currently operate at LOS “A” during both arrival and departure peak-hours and are expected to do so through 2042.
3. **Niwot Road/Site Access:** All movements at this two-way stop-sign controlled intersection currently operate at LOS “A” during both arrival and departure peak-hours and are expected to do so through 2042.
4. **Niwot Road/N. 55th Street:** All movements at this two-way stop-sign controlled intersection currently operate at LOS “A” during both arrival and departure peak-hours and are expected to operate at LOS “B” or better through 2042.
5. **Niwot Road/N. 63rd Street:** This all-way stop-controlled intersection currently operates at an overall LOS “B” during both arrival and departure peak-hours and is expected to do so through 2024. In 2042, the arrival peak-hour is expected to operate at LOS “C” and the departure peak-hour is expected to operate at LOS “D”.
6. **Diagonal Highway (SH 119) (SB)/Niwot Road:** This signalized intersection currently operates at an overall LOS “D” during the arrival peak-hour and LOS “C” during the departure peak-hour and is expected to do so through 2042.
7. **Diagonal Highway (SH 119) (NB)/Niwot Road:** This signalized intersection currently operates at an overall LOS “C” during both arrival and departure peak-hours and is expected to do so through 2024. In 2042, the arrival peak-hour is expected to operate at LOS “C” and the departure peak-hour is expected to operate at LOS “D”.

TRIP GENERATION

The County has referenced CDOT generic trip generation data for wedding events for a venue with a specific seating capacity. The proposed site does not have a specific seating capacity but rather self-imposed attendance limits. An alternative trip generation methodology was used that is specific to the site.

Table 2 shows the estimated average weekday, arrival peak-hour, and departure peak-hour trip generation for the currently proposed land use based on information from the applicant. The applicant expects an average of 2.5 people per vehicle so the vehicle-trips given below can be multiplied by 2.5 to estimate person trips. This study divides the proposed events into three categories as follows:

Up to 50 People On-Site

During a typical event (unlimited - 50 people including staff), the currently proposed land use is projected to generate about 50 vehicle-trips on the average weekday and about 50 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon, about 20 vehicles are expected to enter and about 7 vehicles are expected to exit the site in the arrival peak-hour and about 7 vehicles are expected to enter and about 20 vehicles are expected to exit the site in the departure peak-hour.

51 to 150 People On-Site

During a mid-sized event (20 per year - 150 people including staff), the currently proposed land use is projected to generate about 130 vehicle-trips on the average weekday and about 130 vehicle-trips on the average Saturday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday afternoon, about 50 vehicles are expected to enter and about 10 vehicles are expected to exit the site in the arrival peak-hour and about 10 vehicles are expected to enter and about 50 vehicles are expected to exit the site in the departure peak-hour.

151 to 300 People On-Site (Only on Saturday and after 1:00 PM on Sunday)

During a large event (4 per year - 300 people including staff), the currently proposed land use is projected to generate no vehicle-trips on the average weekday and about 250 vehicle-trips on the average Saturday or Sunday (after 1:00 PM), with about half entering and half exiting during a 24-hour period. During the weekday AM and PM peak-hours no vehicles are expected to enter or exit the site. During the Saturday/Sunday afternoon, about 95 vehicles are expected to enter and about 14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour. Large events are expected to have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO 80301. This shuttle lot and service will likely only be used by large events (151 - 300 people) so will likely only occur on about four weekend days per year.

The traffic impact to the shuttle lot will be similar to that for the site for events with 300 people on site. 150 people are expected to arrive via private vehicles and 150 people via shuttle for a capacity event. Events with between 151 and 300 people on site will have a lesser shuttle impact based on the number of people in attendance over 150.

MODE SHARE

Mode share is expected to be primarily private automobile but carpooling will be encouraged. Large events over 150 people (up to four per year) will have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO 80301. The traffic impact to the shuttle lot will be similar to that for the site for events with 300 people on site. 150 people are expected to arrive via private vehicles and 150 people via shuttle for a capacity event. Events

with between 151 and 300 people on site will have a lesser shuttle impact based on the number of people over 150.

TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of the trips generated is shown in Figure 6 and is based on the existing traffic counts.

Figure 7 shows the estimated assignment of site-generated traffic for a mid-sized event based on the estimated trips in Table 2 applied at the percentages shown in Figure 6. The arrival peak-hour and departure peak-hour are evaluated separately.

2024 TOTAL TRAFFIC (2024 BACKGROUND TRAFFIC PLUS SITE-GENERATED TRAFFIC)

Figure 8 shows the 2024 total traffic volumes which is the sum of the 2024 background traffic volumes in Figure 4 and the site-generated traffic volumes in Figure 7.

2042 TOTAL TRAFFIC (2042 BACKGROUND TRAFFIC PLUS SITE-GENERATED TRAFFIC)

Figure 9 shows the 2042 total traffic volumes which is the sum of the 2042 background traffic volumes in Figure 5 and the site-generated traffic volumes in Figure 7.

Traffic signal warrants are not expected to be met at the site access intersection.

2024 AND 2042 TOTAL TRAFFIC LEVELS OF SERVICE

The intersections in Figures 8 and 9 were analyzed as appropriate to determine the 2024 and 2042 total traffic levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **E. Foothills Highway (US 36)/Neva Access Road:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "D" or better during both arrival and departure peak-hours through 2024. In 2042, the westbound approach is expected to operate at LOS "F" in the departure peak-hour with or without development of the site.
2. **Niwot Road/N. 49th Street:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "A" during both arrival and departure peak-hours through 2042.
3. **Niwot Road/Site Access:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "A" during both arrival and departure peak-hours through 2042.
4. **Niwot Road/N. 55th Street:** All movements at this two-way stop-sign controlled intersection are expected to operate at LOS "B" or better during both arrival and departure peak-hours through 2042.

5. **Niwot Road/N. 63rd Street:** This all-way stop-controlled intersection is expected to operate at an overall LOS “B” during both arrival and departure peak-hours through 2024. In 2042, both peak-hours are expected to operate at LOS “D”.
6. **Diagonal Highway (SH 119) (SB)/Niwot Road:** This signalized intersection is expected to operate at an overall LOS “D” or better during both arrival and departure peak-hours through 2042.
7. **Diagonal Highway (SH 119) (NB)/Niwot Road:** This signalized intersection is expected to operate at an overall LOS “D” or better during both arrival and departure peak-hours through 2042.

CONCLUSIONS

Trip Generation

1. During a typical event (unlimited - 50 people including staff), the currently proposed land use is projected to generate about 50 vehicle-trips on the average weekday and about 50 vehicle-trips on the average Saturday or Sunday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday/Sunday afternoon, about 20 vehicles are expected to enter and about 7 vehicles are expected to exit the site in the arrival peak-hour and about 7 vehicles are expected to enter and about 20 vehicles are expected to exit the site in the departure peak-hour.
2. During a mid-sized event (20 per year - 150 people including staff), the currently proposed land use is projected to generate about 130 vehicle-trips on the average weekday and about 130 vehicle-trips on the average Saturday or Sunday, with about half entering and half exiting during a 24-hour period. During the weekday AM peak-hour no vehicles are expected to enter or exit the site. During the weekday or Saturday/Sunday afternoon, about 50 vehicles are expected to enter and about 10 vehicles are expected to exit the site in the arrival peak-hour and about 10 vehicles are expected to enter and about 50 vehicles are expected to exit the site in the departure peak-hour.
3. During a large event (4 per year - 300 people including staff - Saturdays and after 1:00 PM Sundays only), the currently proposed land use is projected to generate no vehicle-trips on the average weekday and about 250 vehicle-trips on the average Saturday or Sunday, with about half entering and half exiting during a 24-hour period. During the weekday AM and PM peak-hours no vehicles are expected to enter or exit the site. During the weekday or Saturday or Sunday afternoon, about 95 vehicles are expected to enter and about 14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour. Large events are expected to have an off-site shuttle lot at the City Church of Boulder located at 2801 Jay Road, Boulder, CO 80301. This shuttle lot and service will likely only be used by large events (151 - 300 people) so will likely only occur on about four weekend days per year. The traffic impact to the shuttle lot will be similar to that for the site for events with 300 people on site. 150 people are expected to arrive via private vehicles and 150 people via shuttle for a capacity event. Events with between

151 and 300 people on site will have a lesser shuttle impact based on the number of people in attendance over 150.

Projected Levels of Service

4. All movements at the two-way stop-sign controlled intersections are expected to operate at LOS “C” or better with the following exceptions: The westbound approach at the E. Foothills Highway (US 36)/Neva Access Road intersection is expected to operate at LOS “F” in the 2042 departure peak-hour with or without development of the site.
5. The all-way stop-controlled intersection is expected to operate at an overall LOS “D” or better through 2042.
6. All of the signalized intersections are expected to operate at an overall LOS “D” or better through 2042.

Recommendations

7. The applicant should utilize the identified off-site shuttle lot for events over 150 people which could occur up to four times per year but only on Saturdays or after 1:00 PM on Sundays.
8. The applicant should place a sign in each direction of Niwot Road located about 500 feet from the driveway warning drivers and cyclists of an event in progress.

* * * * *

Ms. Stephanie Duffy

Page 9

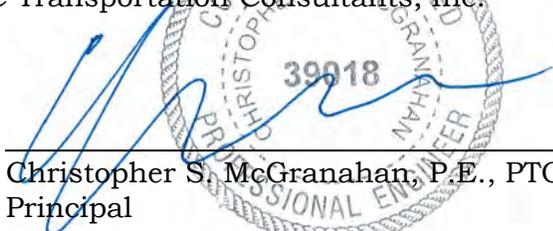
October 5, 2022
Prairie Orchard Reception Hall TSIS

We trust this information will assist you in planning for the proposed Prairie Orchard Reception Hall development.

Respectfully submitted,

LSC Transportation Consultants, Inc.

By:



Christopher S. McGranahan, P.E., PTOE
Principal



CSM/wc

- Enclosures: Tables 1 and 2
Figures 1 - 9
Traffic Counts
US 36 Straight Line Diagram
SH 119 Straight Line Diagram
Level of Service Definitions
Capacity Analysis Reports

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**Table 1
Intersection Levels of Service Analysis
Prairie Orchard Reception Hall
Boulder County, CO
LSC #220430; October, 2022**

Intersection No. & Location	Traffic Control	Existing Traffic								2024 Total				2024 Total				2042 Total			
		Level of Service		Seconds of Delay		Level of Service		Seconds of Delay		Level of Service	Seconds of Delay	Level of Service	Seconds of Delay	Level of Service		Seconds of Delay		Level of Service	Seconds of Delay	Level of Service	Seconds of Delay
		AM	PM	AM	PM	AM	PM	AM	PM	Event Arrival	Event Departure	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1) <u>E. Foothills Highway/Neva Access Road</u>	TWSC	C	D	18.6	28.6	C	D	19.2	30.2	D	D	31.3	33.0	D	F	28.7	66.4	F	F	71.1	79.6
WB Approach		A	A	7.8	9.8	A	A	7.8	9.9	A	A	9.9	9.9	A	B	8.0	10.8	B	B	10.9	10.8
SB Left/Through																					
2) <u>Niwot Road/N. 49th Street</u>	TWSC	A	A	7.3	7.4	A	A	7.3	7.5	A	A	7.5	7.5	A	A	7.4	7.6	A	A	7.6	7.6
EB Left/Through		A	A	9.0	9.2	A	A	9.1	9.3	A	A	9.3	9.3	A	A	9.2	9.7	A	A	9.8	9.8
SB Approach																					
3) <u>Niwot Road/Site Access</u>		A	A	9.0	9.2	A	A	9.0	9.3	A	A	9.3	9.3	A	A	9.2	9.7	A	A	9.5	9.7
NB Approach		A	A	7.4	7.4	A	A	7.4	7.4	A	A	7.5	7.4	A	A	7.5	7.5	A	A	7.6	7.5
WB Left/Through																					
4) <u>Niwot Road/55th Street</u>	TWSC	A	A	9.0	9.5	A	A	9.0	9.5	A	A	9.7	9.8	A	B	9.3	10.2	B	B	10.5	10.6
NB Approach		A	A	7.4	7.4	A	A	7.4	7.5	A	A	7.5	7.5	A	A	7.5	7.6	A	A	7.6	7.7
WB Left/Through																					
5) <u>Niwot Road/N. 63rd Street</u>	AWSC	A	B	9.0	12.9	A	B	9.1	13.6	B	B	14.6	14.5	B	E	11.3	38.9	E	E	47.4	46.1
NB Approach		A	A	8.9	9.3	A	A	9.1	9.5	A	B	9.9	10.2	B	B	11.9	12.1	B	B	12.9	13.6
EB Approach		B	A	10.2	9.1	B	A	10.4	9.2	A	A	9.8	9.5	B	B	15.0	11.2	B	B	12.2	11.8
WB Approach		B	A	11.6	8.8	B	A	12.0	8.9	A	A	9.2	9.2	C	B	24.0	10.8	B	B	11.3	11.3
SB Approach																					
Entire Intersection Delay (sec /veh)		10.5	11.3			10.8	11.8			12.4	12.4			18.1	27.5			32.2	31.4		
Entire Intersection LOS		B	B			B	B			B	B			C	D			D	D		
6) <u>Diagonal Highway SB/Niwot Road</u>	Signalized	D	D	45.8	52.9	D	D	48.5	51.1	D	D	53.7	52.9	D	D	53.1	53.2	D	D	53.6	52.6
EB Through		A	A	2.7	2.1	A	A	1.4	2.2	A	A	3.8	4.8	A	A	2.6	4.6	A	A	3.4	4.2
EB Right		E	E	70.2	68.4	E	E	68.8	67.4	E	E	67.1	68.2	E	E	76.2	61.1	E	E	60.4	61.9
WB Left		D	D	53.3	64.1	D	D	54.3	64.2	E	E	59.8	58.9	E	E	68.4	60.0	E	E	61.6	60.9
WB Through		D	D	44.3	52.1	D	D	46.8	52.1	D	D	51.3	51.1	D	D	50.2	48.7	D	D	51.9	51.7
SWB Left		D	B	38.5	11.0	D	B	44.6	11.6	B	B	11.8	11.7	D	B	54.9	15.4	B	B	14.9	15.4
SWB Through		A	A	0.5	0.9	A	A	0.6	1.0	A	A	1.7	1.1	A	A	0.7	1.6	A	A	2.2	1.8
SWB Right																					
Entire Intersection Delay (sec /veh)		40.1	26.4			45.0	26.4			26.5	26.4			54.6	28.2			28.6	28.4		
Entire Intersection LOS		D	C			D	C			C	C			D	C			C	C		
7) <u>Diagonal Highway NB/Niwot Road</u>	Signalized	E	E	58.6	58.7	E	E	63.1	59.1	E	E	59.9	59.5	E	D	64.0	46.6	D	D	47.9	47.1
EB Left		E	E	62.9	68.5	E	E	66.7	68.7	E	E	69.2	68.0	E	D	67.6	55.0	E	E	56.2	54.4
EB Through		D	D	42.2	41.0	D	D	43.5	41.0	D	D	40.9	40.9	D	D	45.4	42.3	D	D	42.4	42.3
WB Through		A	A	0.3	0.8	A	A	0.3	0.8	A	A	0.9	0.9	A	A	0.4	1.0	A	A	0.9	0.9
WB Right		D	D	47.3	45.4	D	D	48.5	45.5	D	D	45.6	44.8	D	D	51.0	46.1	D	D	50.7	49.1
NB Left		A	C	7.0	23.1	A	C	7.3	26.6	C	C	24.9	24.8	A	D	7.8	45.9	D	D	44.9	44.9
NB Through		A	A	0.3	1.7	A	A	0.3	1.8	A	A	2.8	2.8	A	A	0.6	1.6	A	A	1.5	1.5
NB Right																					
Entire Intersection Delay (sec /veh)		25.0	29.2			26.1	31.8			30.7	30.6			26.9	44.1			43.7	43.5		
Entire Intersection LOS		C	C			C	C			C	C			C	D			D	D		

Note:
The Existing, 2024 Background, and 2042 Background scenarios evaluate the morning and afternoon peak-hours. The 2024 Total and 2042 Total scenarios show the event arrival afternoon peak-hour and the event departure afternoon peak-hour. This is to evaluate the impacts if an event begins or ends during the afternoon peak-hour. No events are expected during the morning peak-hour.

Table 2
ESTIMATED TRAFFIC GENERATION
Prairie Orchard Reception Hall
Boulder County, CO
LSC #220430; October, 2022

Trip Generating Category	Vehicle-Trips Generated ^{(1) (2) (3) (4)}								
	Average Weekday	Average Saturday	Weekday		Event Arrival		Event Departure		
			AM Peak-Hour In	Out	Weekday or Saturday PM Peak-Hour In	Out	Weekday or Saturday PM Peak-Hour In	Out	
Typical Event (Unlimited) - Up to 50 people on site - No Shuttle									
Guests	40	40	0	0	15	2	2	15	
Staff	6	6	0	0	3	3	3	3	
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	4	4	0	0	2	2	2	2	
Total =	50	50	0	0	20	7	7	20	
Mid-Sized Event (20 per year) - 51 to 150 people on site (No Shuttle)									
Guests	120	120	0	0	45	5	5	45	
Staff	6	6	0	0	3	3	3	3	
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	4	4	0	0	2	2	2	2	
Total =	130	130	0	0	50	10	10	50	
Large Event (4 per year) - 151 to 300 people on site ⁽⁵⁾ - With Shuttle									
Guests	0	240	0	0	90	9	9	90	
Staff	0	6	0	0	3	3	3	3	
Deliveries (Mail, UPS, FedEx, Amazon, Courier, Caterer, etc.)	0	4	0	0	2	2	2	2	
Total =	0	250	0	0	95	14	14	95	
Potential Maximum Trips That Could Utilize The Shuttle Lot =	0	120	0	0	45	4	4	45	

Notes:

- (1) Assumes 2.5 people/vehicle, 75 percent of guests arrive in the PM peak-hour with 10 percent being dropped off
- (2) Assumes 50- or 150-person event occurs on either weekdays or weekends but 300-person events will only occur on weekends
- (3) The applicant expects an average of 2.5 people per vehicle so the vehicle-trips estimated here can be multiplied by 2.5 to estimate person trips.
- (4) The County has referenced CDOT generic trip generation data for wedding events for a venue with a specific seating capacity. The CDOT data assumes a typical wedding event uses 75 percent of venue capacity, 90 percent of vehicles arrive and depart during the arrival and departure peak-hour. With a 2.5 vehicle occupancy rate, the daily trip generation rate for a 300-person capacity venue would be about 0.27 trips per person entering and exiting or about 162 daily trips. The site specific data included above shows a higher trip generation potential so was used in the analysis. This alternative method was used because the project does not have a seating capacity and because it is specific to the proposed operations plan.
- (5) On-site parking is not capable of accommodating more than 150 people so the trips above those for a mid-sized event will be accommodated by the shuttle service and impact the off-site shuttle lot.

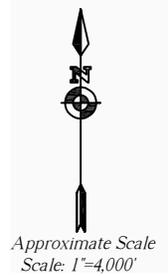


Figure 1
**Vicinity
Map**

Prairie Orchard Reception Hall (LSC #220430)

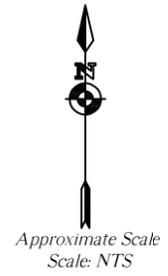
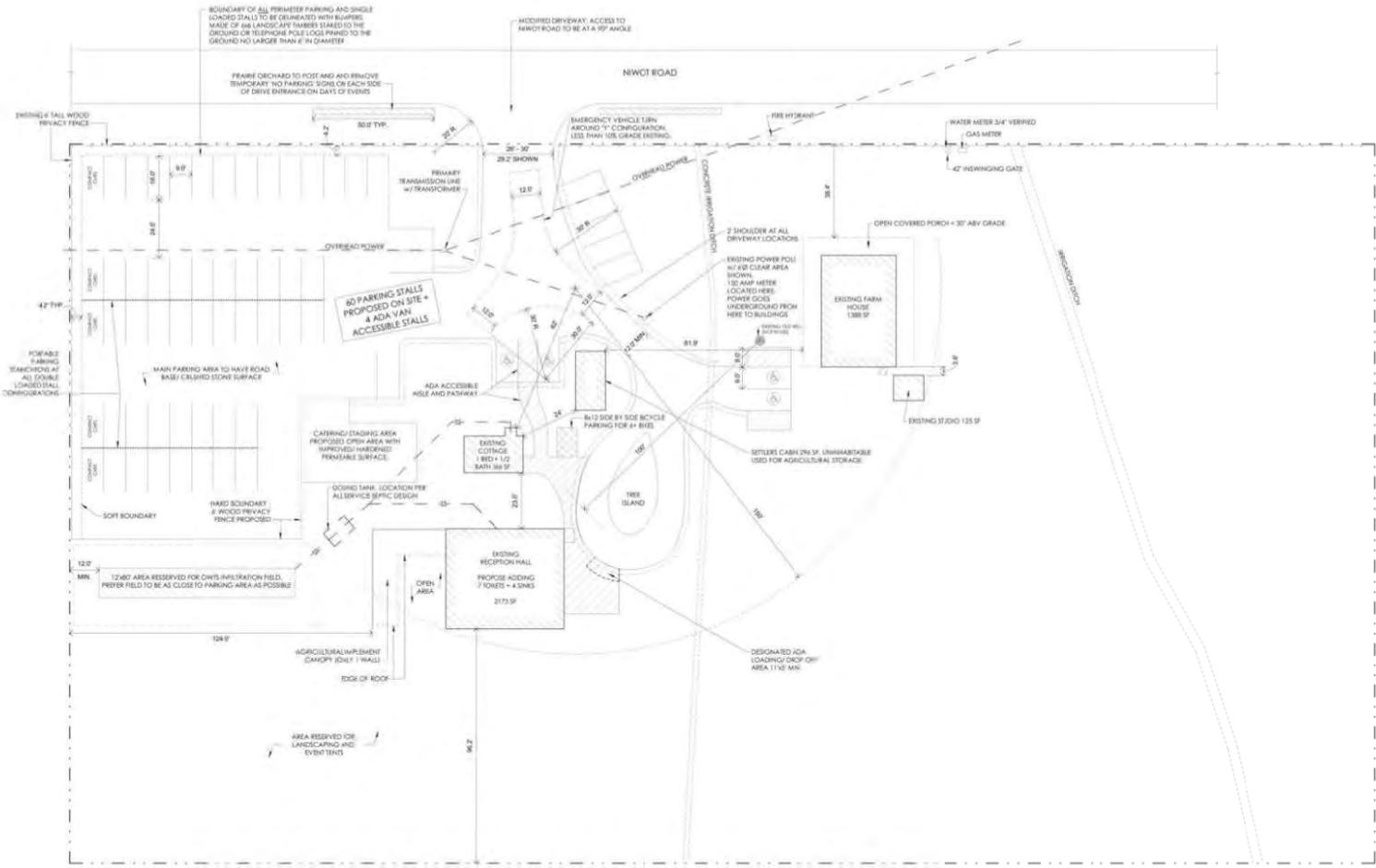
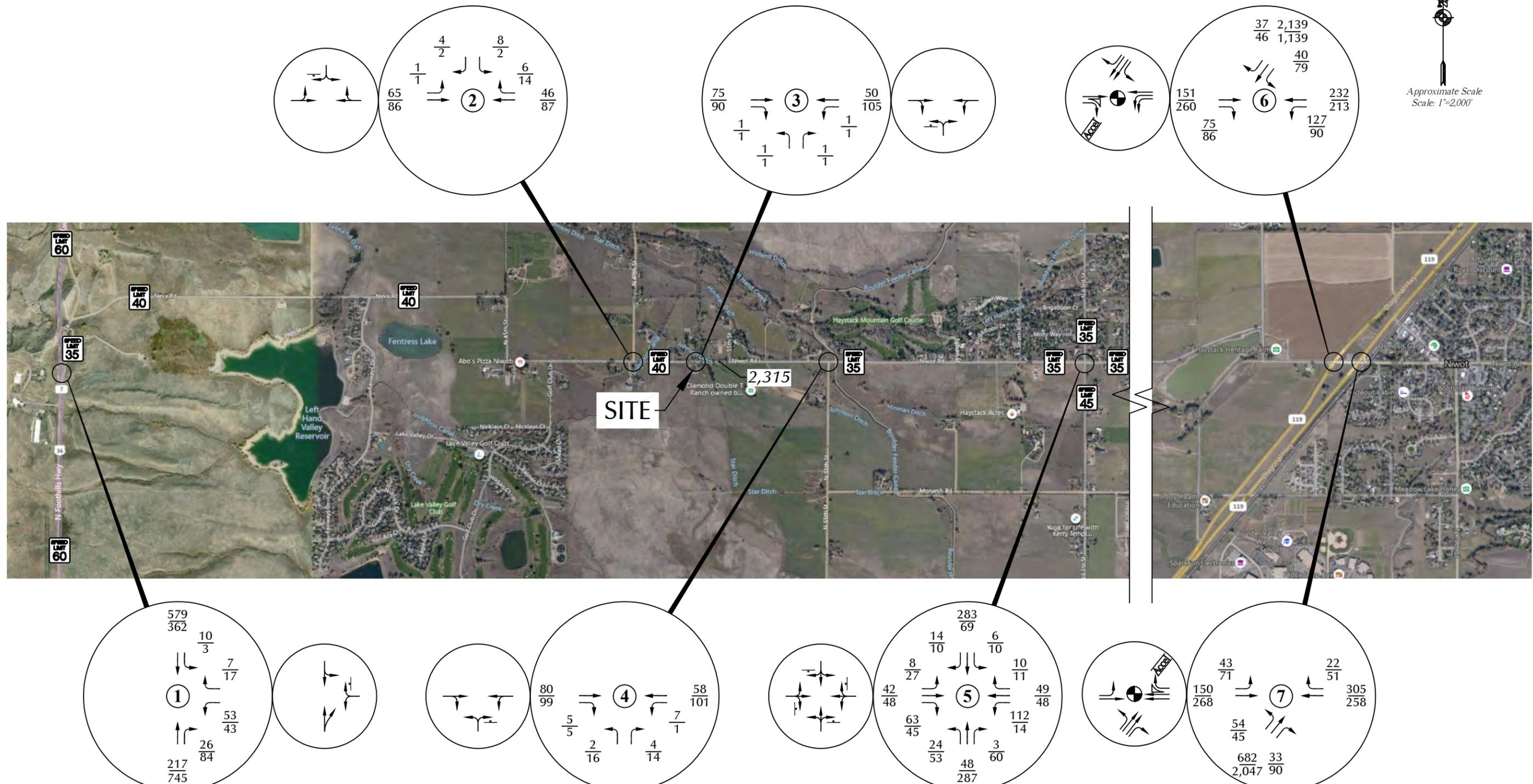
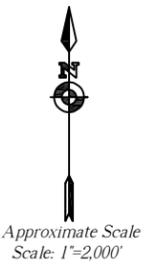


Figure 2
Site Plan

Prairie Orchard Reception Hall (LSC #220430)

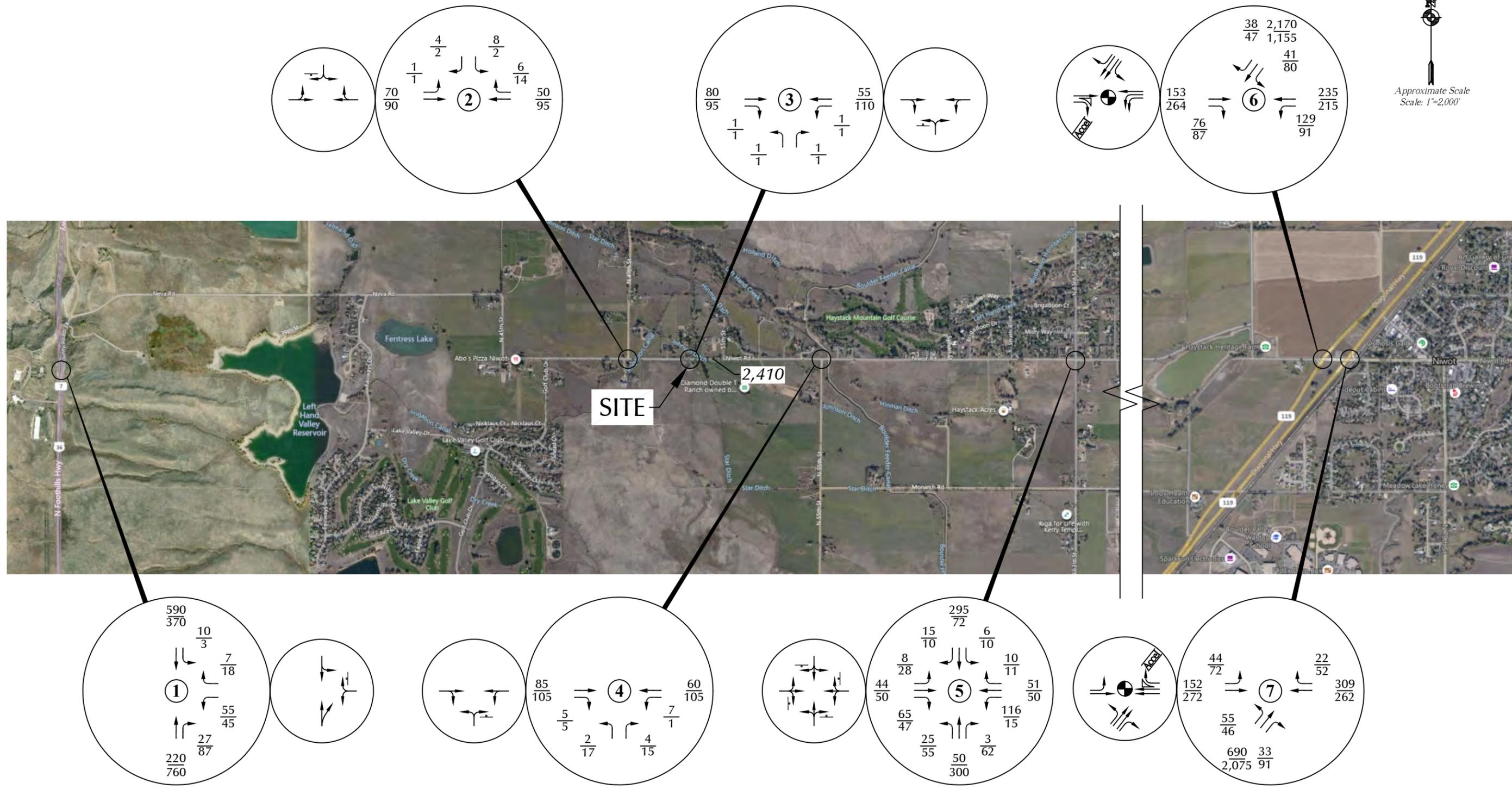
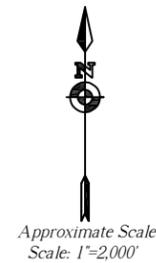


LEGEND:

-  = Stop Sign
-  = Traffic Signal
-  = Speed Limit
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic



Figure 3
**Existing Traffic, Lane
 Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

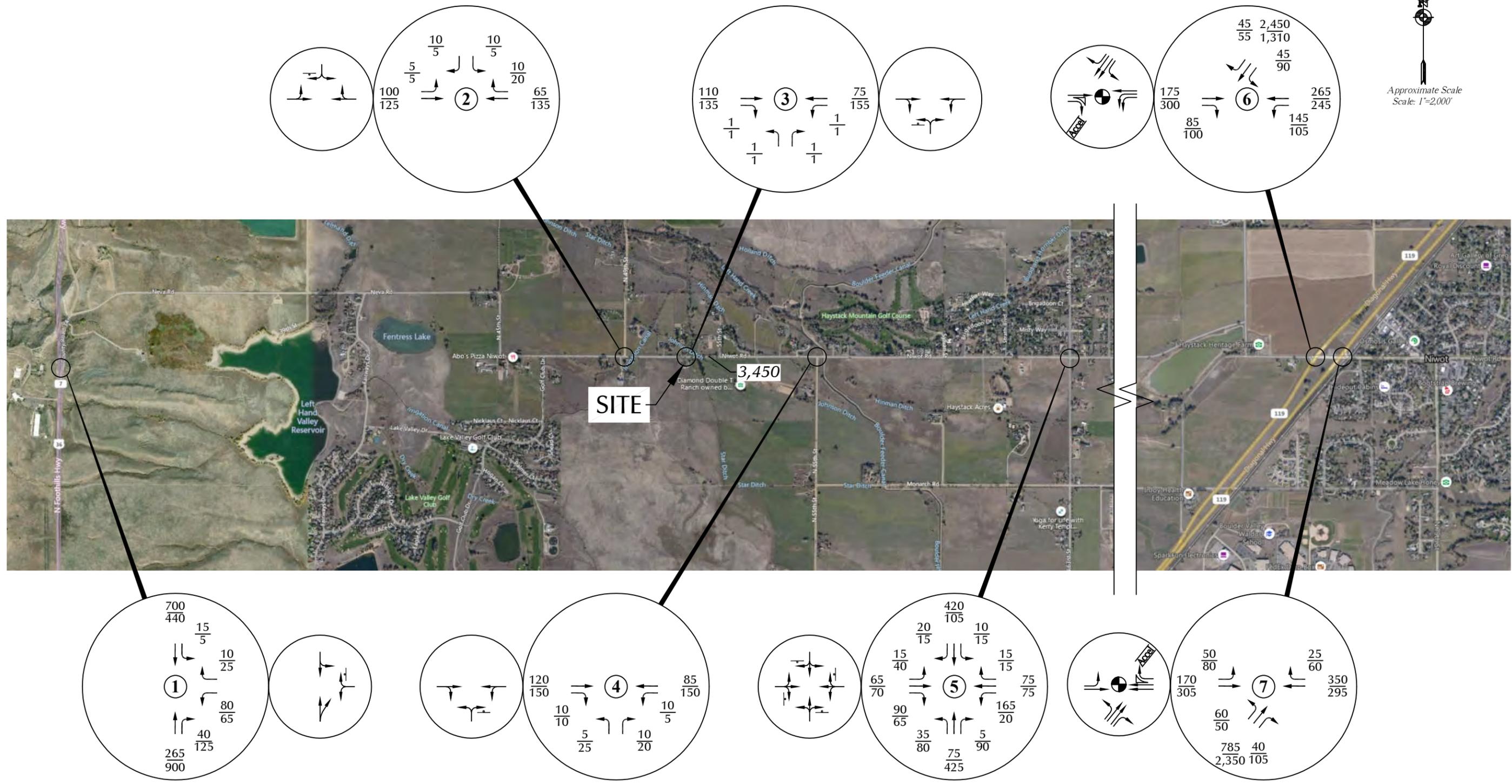
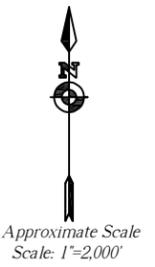
- ⊥ = Stop Sign
- ⊙ = Traffic Signal
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

Notes:

1. Assumes one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram.
2. Assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram.
3. Assumes a two percent annual growth for all other roadways.



Figure 4
**Year 2024 Background Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = AM Peak Hour Traffic / PM Peak Hour Traffic
- 1,000 = Average Daily Traffic

Notes:

1. Assumes one percent annual growth on US 36 based on the CDOT 20-year factor of 1.22 from the attached Straight Line Diagram.
2. Assumes 0.7 percent annual growth on SH 119 based on the CDOT 20-year factor of 1.15 from the attached Straight Line Diagram.
3. Assumes a two percent annual growth for all other roadways.

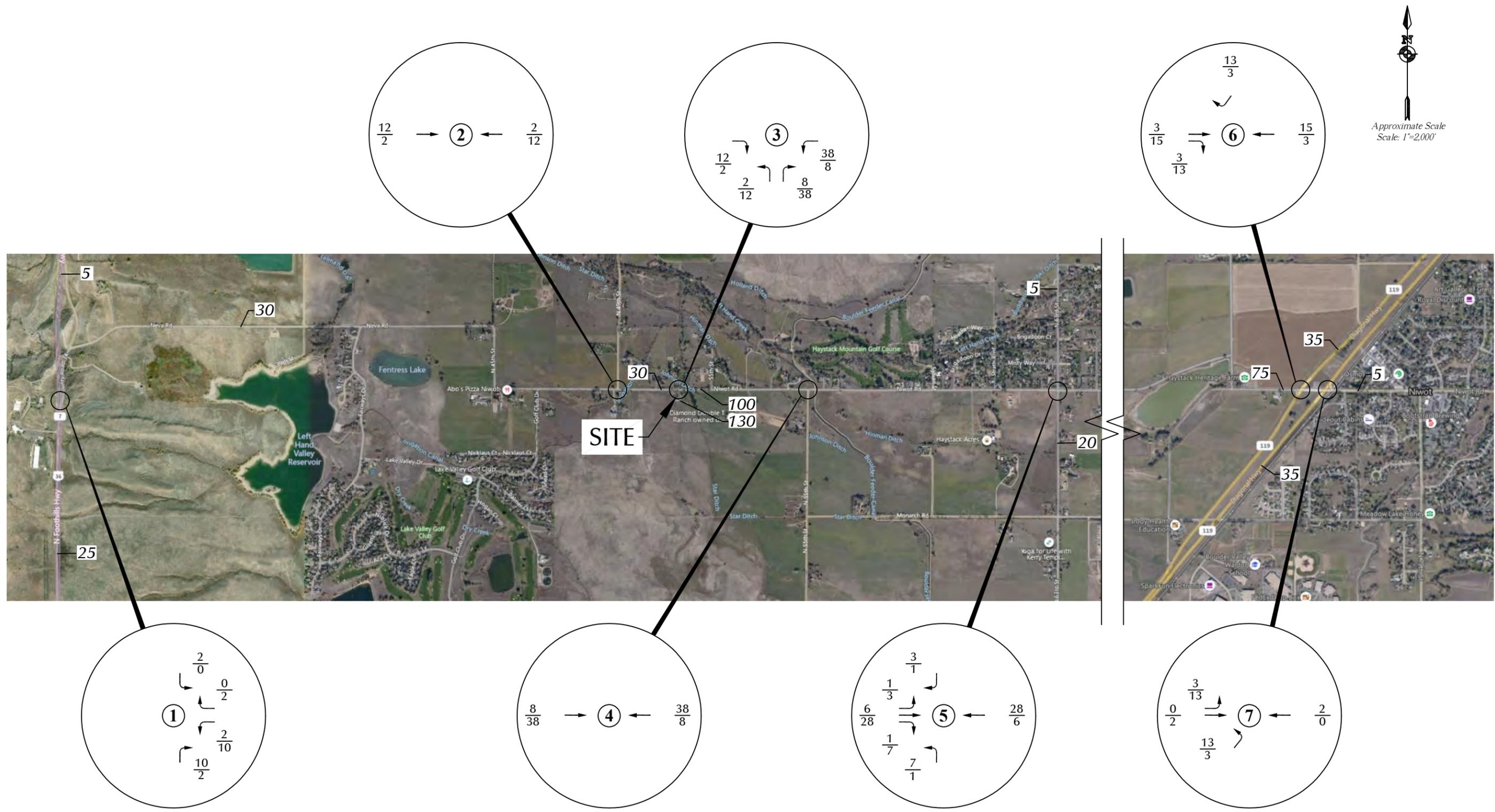


Figure 5
**Year 2042 Background Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:
 = Percent Directional Distribution

Figure 6
Directional Distribution of Site-Generated Traffic
 Prairie Orchard Reception Hall (LSC #220430)

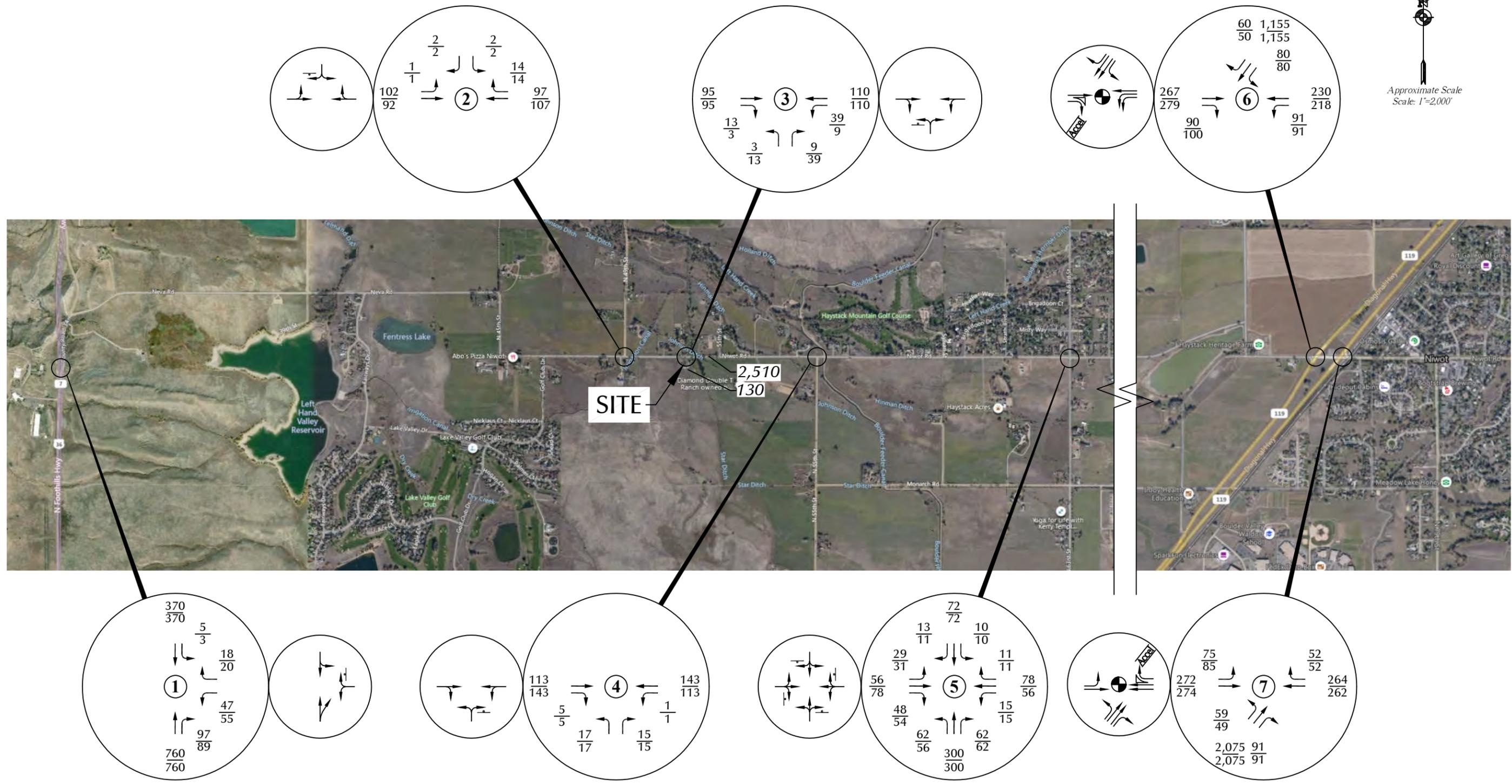
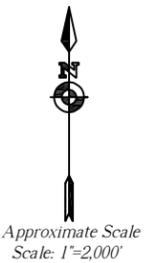


Note: Mid sized event is up to 150 people including staff and guests.
 Large events will be up to 300 people and will only occur on weekends.
 An off-site shuttle bus option will be provided for large events.

LEGEND:
 $\frac{26}{35}$ = Event Arrival Peak Hour Traffic
 $\frac{35}{26}$ = Event Departure Peak Hour Traffic
 1,000 = Average Daily Traffic

Figure 7
Assignment of Site-Generated Traffic for Mid Sized Event
 Prairie Orchard Reception Hall (LSC #220430)





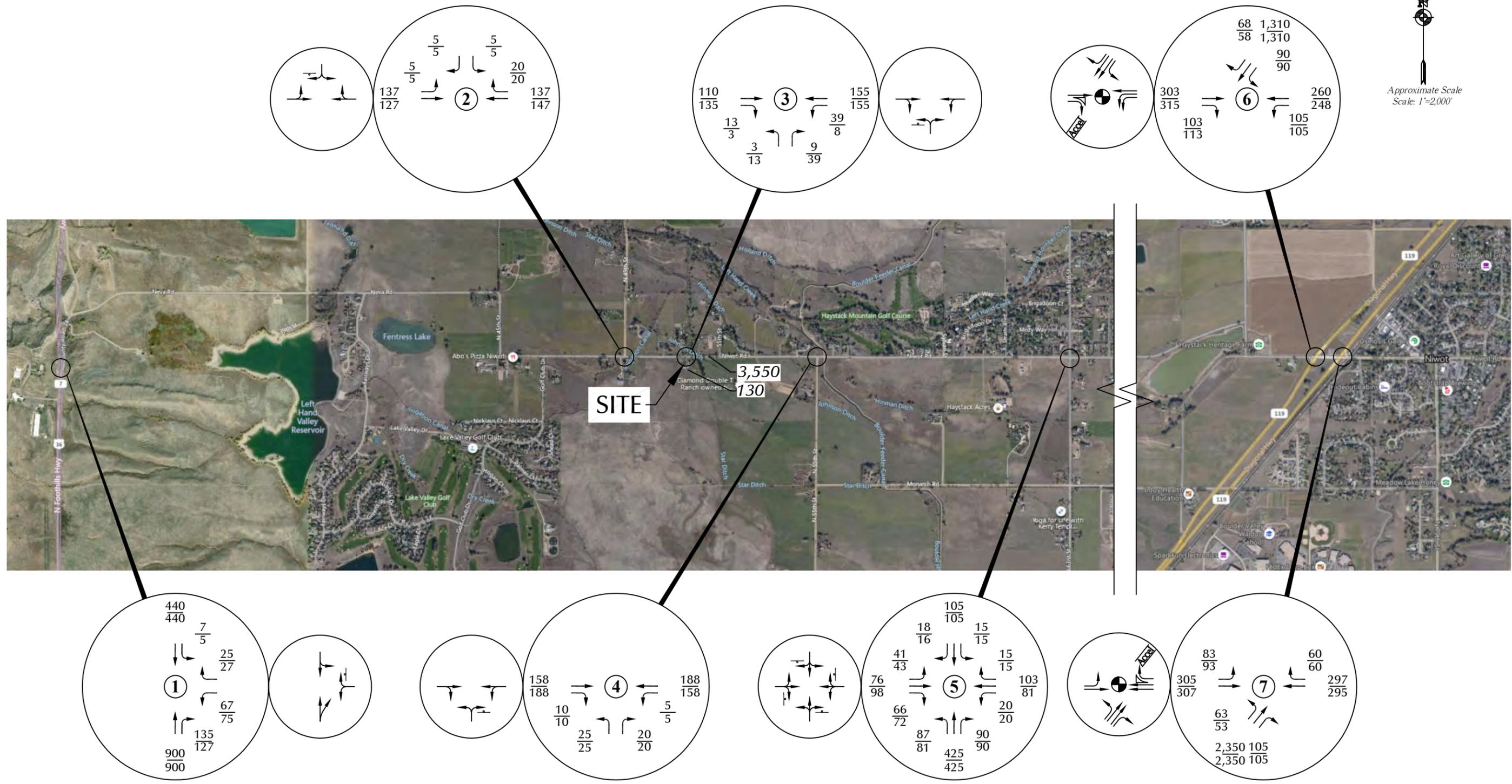
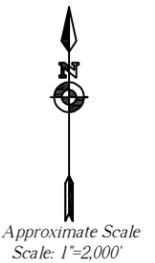
LEGEND:

- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = $\frac{\text{Event Arrival Peak Hour Traffic}}{\text{Event Departure Peak Hour Traffic}}$
- 1,000 = Average Daily Traffic

Note: The numerator is the afternoon event arrival peak hour and the denominator is the afternoon event departure peak hour. Both are assumed to occur during the afternoon peak hour to maintain a conservative analysis.



Figure 8
**Year 2024 Total Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)



LEGEND:

- ⊥ = Stop Sign
- ⦿ = Traffic Signal
- $\frac{26}{35}$ = $\frac{\text{Event Arrival Peak Hour Traffic}}{\text{Event Departure Peak Hour Traffic}}$
- 1,000 = Average Daily Traffic

Note: The numerator is the afternoon event arrival peak hour and the denominator is the afternoon event departure peak hour. Both are assumed to occur during the afternoon peak hour to maintain a conservative analysis.



Figure 9
**Year 2042 Total Traffic,
 Lane Geometry and Traffic Control**
 Prairie Orchard Reception Hall (LSC #220430)

COUNTER MEASURES INC.1889 YORK STREET
DENVER.COLORADO
303-333-7409N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDERFile Name : 55THNIWOTRD
Site Code : 00000025
Start Date : 4/26/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	NO ACCESS Southbound				NIWOT RD Westbound				55TH ST Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	2	6
06:45 AM	0	0	0	1	0	7	0	1	0	0	0	0	0	16	0	0	25
Total	0	0	0	1	0	9	0	1	0	0	0	0	0	18	0	2	31
07:00 AM	0	0	0	0	1	4	0	2	0	0	2	2	1	14	2	0	28
07:15 AM	0	0	0	0	2	9	0	1	0	0	0	2	0	25	1	0	40
07:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	9	1	0	12
07:45 AM	0	0	0	0	4	15	0	0	1	0	2	0	0	24	2	0	48
Total	0	0	0	1	8	28	0	3	1	0	4	4	1	72	6	0	128
08:00 AM	0	0	0	0	2	20	0	1	0	0	1	1	0	31	1	0	57
08:15 AM	0	0	0	3	0	23	0	2	1	0	1	0	0	16	1	0	47
Total	0	0	0	3	2	43	0	3	1	0	2	1	0	47	2	0	104
04:00 PM	0	0	0	1	1	23	0	5	4	0	5	4	0	22	1	5	71
04:15 PM	0	0	0	1	0	22	0	2	2	0	1	1	0	26	2	6	63
04:30 PM	0	0	0	3	0	26	0	6	2	0	3	2	0	19	1	7	69
04:45 PM	0	0	0	0	0	30	0	27	8	0	5	27	0	32	1	3	133
Total	0	0	0	5	1	101	0	40	16	0	14	34	0	99	5	21	336
05:00 PM	0	0	0	1	2	23	0	6	2	0	1	4	0	23	2	3	67
05:15 PM	1	0	0	2	1	32	0	4	3	0	7	0	0	25	0	5	80
05:30 PM	0	0	0	0	0	16	0	3	3	0	0	2	0	28	0	2	54
05:45 PM	0	0	0	0	0	21	0	4	0	0	1	2	0	21	1	1	51
Total	1	0	0	3	3	92	0	17	8	0	9	8	0	97	3	11	252
Grand Total	1	0	0	13	14	273	0	64	26	0	29	47	1	333	16	34	851
Apprch %	7.1	0.0	0.0	92.9	4.0	77.8	0.0	18.2	25.5	0.0	28.4	46.1	0.3	86.7	4.2	8.9	
Total %	0.1	0.0	0.0	1.5	1.6	32.1	0.0	7.5	3.1	0.0	3.4	5.5	0.1	39.1	1.9	4.0	

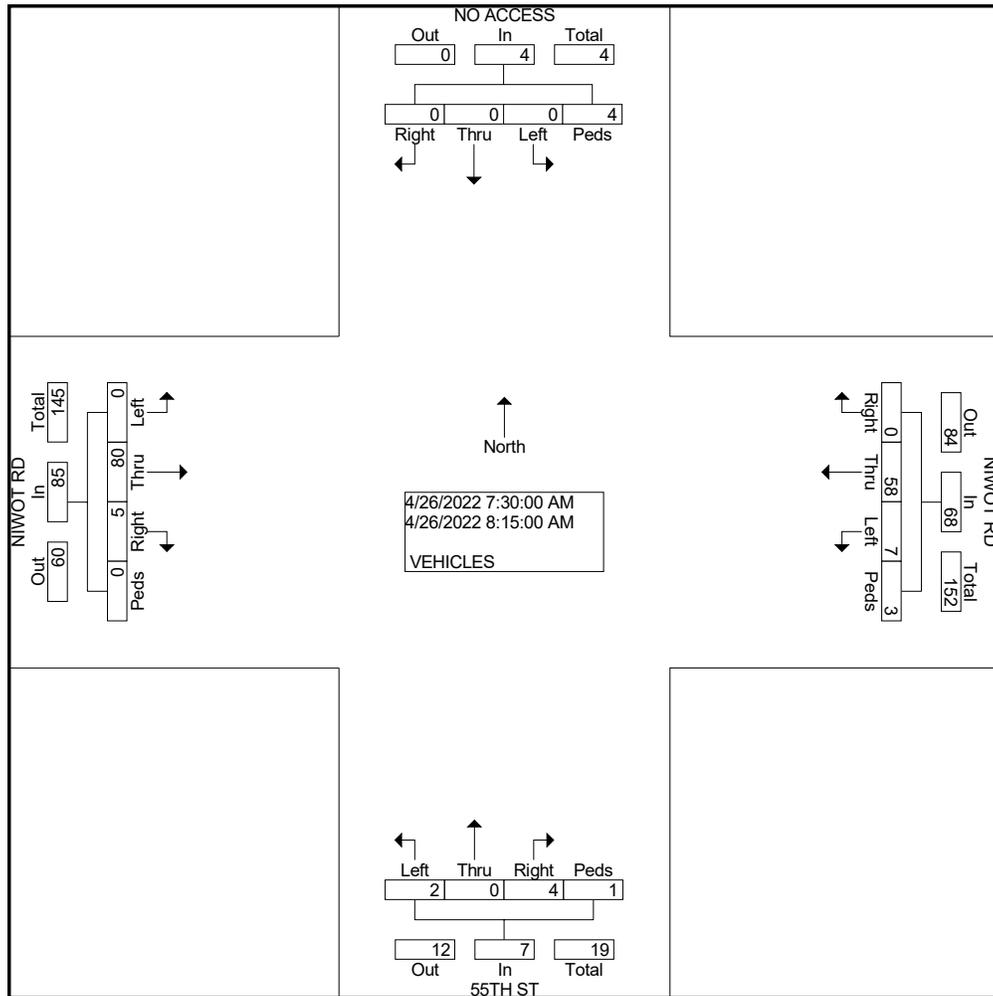
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : 55THNIWOTRD
Site Code : 0000025
Start Date : 4/26/2022
Page No : 2

Start Time	NO ACCESS Southbound					NIWOT RD Westbound					55TH ST Northbound					NIWOT RD Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																						
Intersect on	07:30 AM																					
Volume	0	0	0	4	4	7	58	0	3	68	2	0	4	1	7	0	80	5	0	85	164	
Percent	0.0	0.0	0.0	100.0		10.3	85.3	0.0	4.4		28.6	0.0	57.1	14.3		0.0	94.1	5.9	0.0			
08:00 Volume	0	0	0	0	0	2	20	0	1	23	0	0	1	1	2	0	31	1	0	32	57	
Peak Factor																						0.719
High Int. Volume	08:15 AM																					
Peak Factor	0.33					0.68					0.58					0.66					4	



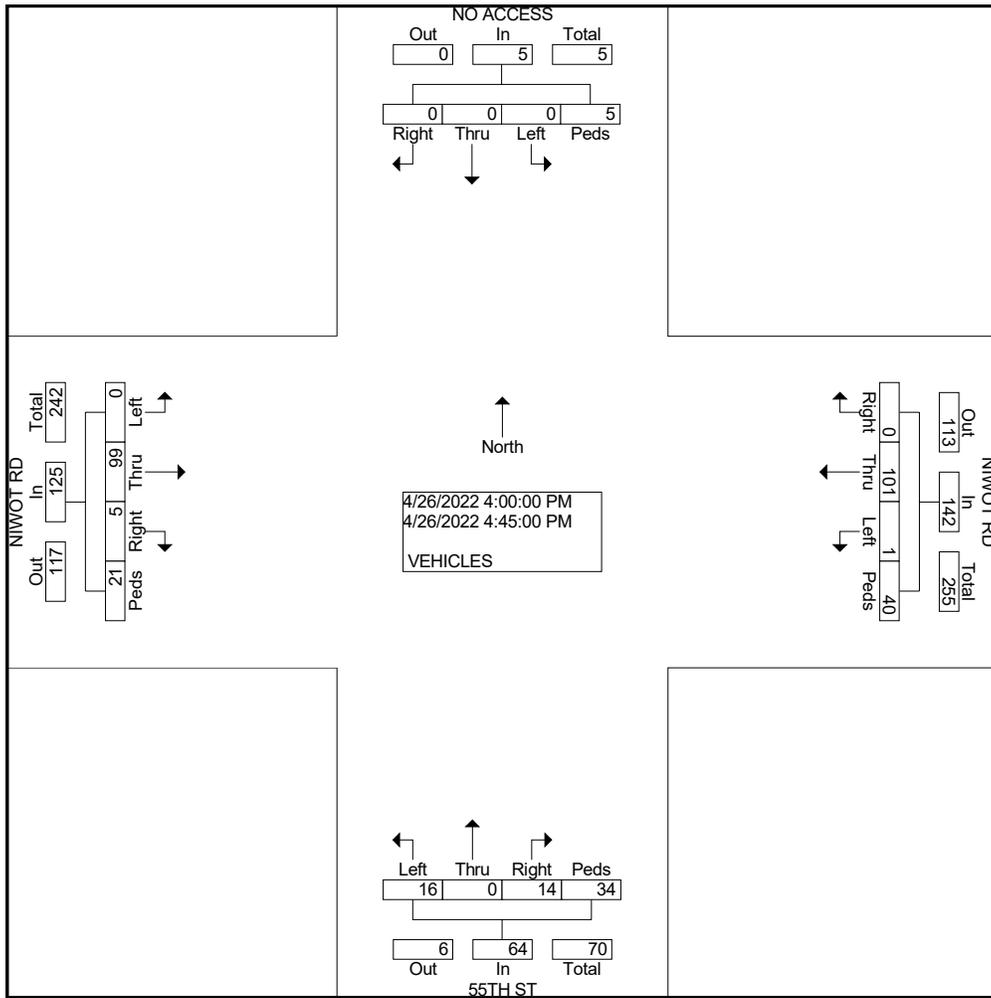
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: 55TH ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : 55THNIWOTRD
Site Code : 00000025
Start Date : 4/26/2022
Page No : 3

Start Time	NO ACCESS Southbound					NIWOT RD Westbound					55TH ST Northbound					NIWOT RD Eastbound					Int. Total				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total					
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																									
Intersect on	04:00 PM																								
Volume	0	0	0	5	5	1	101	0	40	142	16	0	14	34	64	0	99	5	21	125	336				
Percent	0.0	0.0	0.0	100.0		0.7	71.1	0.0	28.2		25.0	0.0	21.9	53.1		0.0	79.2	4.0	16.8						
04:45 Volume	0	0	0	0	0	0	30	0	27	57	8	0	5	27	40	0	32	1	3	36	133				
Peak Factor																									
High Int.	04:30 PM																								
Volume	0	0	0	3	3	04:45 PM					04:45 PM					04:45 PM									
Peak Factor	0.417										0.623					0.400					0.868				



COUNTER MEASURES INC.1889 YORK STREET
DENVER.COLORADO
303-333-7409N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDERFile Name : HWY36NEVA
Site Code : 0000022
Start Date : 4/21/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	HWY 36 Southbound				NEVA ACCESS RD Westbound				HWY 36 Northbound				NO ACCESS Eastbound				Int. Total	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	71	0	0	8	0	1	0	0	27	1	0	0	0	0	0	0	108
06:45 AM	0	66	0	0	5	0	0	0	0	33	5	1	0	0	0	0	0	110
Total	0	137	0	0	13	0	1	0	0	60	6	1	0	0	0	0	0	218
07:00 AM	3	79	0	0	6	0	0	0	0	35	1	3	0	0	0	0	0	127
07:15 AM	0	121	0	0	6	0	0	0	0	45	2	0	0	0	0	0	0	174
07:30 AM	3	141	0	1	14	0	1	0	0	38	4	1	0	0	0	0	0	203
07:45 AM	3	148	0	4	14	0	1	0	0	42	5	1	0	0	0	0	2	220
Total	9	489	0	5	40	0	2	0	0	160	12	5	0	0	0	0	2	724
08:00 AM	2	145	0	1	14	0	2	1	0	58	5	1	0	0	0	0	0	229
08:15 AM	2	145	0	0	11	0	3	0	0	79	12	2	0	0	0	0	2	256
Total	4	290	0	1	25	0	5	1	0	137	17	3	0	0	0	0	2	485
04:00 PM	1	97	0	1	12	0	3	1	0	161	18	2	0	0	0	0	0	296
04:15 PM	1	104	0	2	9	0	4	2	0	210	24	7	0	0	0	0	1	364
04:30 PM	0	81	0	0	9	0	5	0	0	194	25	6	0	0	0	0	0	320
04:45 PM	1	80	0	1	13	0	5	2	0	180	17	4	0	0	0	0	0	303
Total	3	362	0	4	43	0	17	5	0	745	84	19	0	0	0	0	1	1283
05:00 PM	0	68	0	3	6	0	0	1	0	172	12	2	0	0	0	0	2	266
05:15 PM	2	84	0	6	16	0	3	3	0	196	17	27	0	0	0	0	0	354
05:30 PM	2	93	0	4	10	0	1	2	0	193	16	8	0	0	0	0	0	329
05:45 PM	0	82	0	3	7	1	1	0	0	147	13	2	0	0	0	0	0	256
Total	4	327	0	16	39	1	5	6	0	708	58	39	0	0	0	0	2	1205
Grand Total	20	1605	0	26	160	1	30	12	0	1810	177	67	0	0	0	7		3915
Apprch %	1.2	97.2	0.0	1.6	78.8	0.5	14.8	5.9	0.0	88.1	8.6	3.3	0.0	0.0	0.0	100.0		
Total %	0.5	41.0	0.0	0.7	4.1	0.0	0.8	0.3	0.0	46.2	4.5	1.7	0.0	0.0	0.0	0.2		

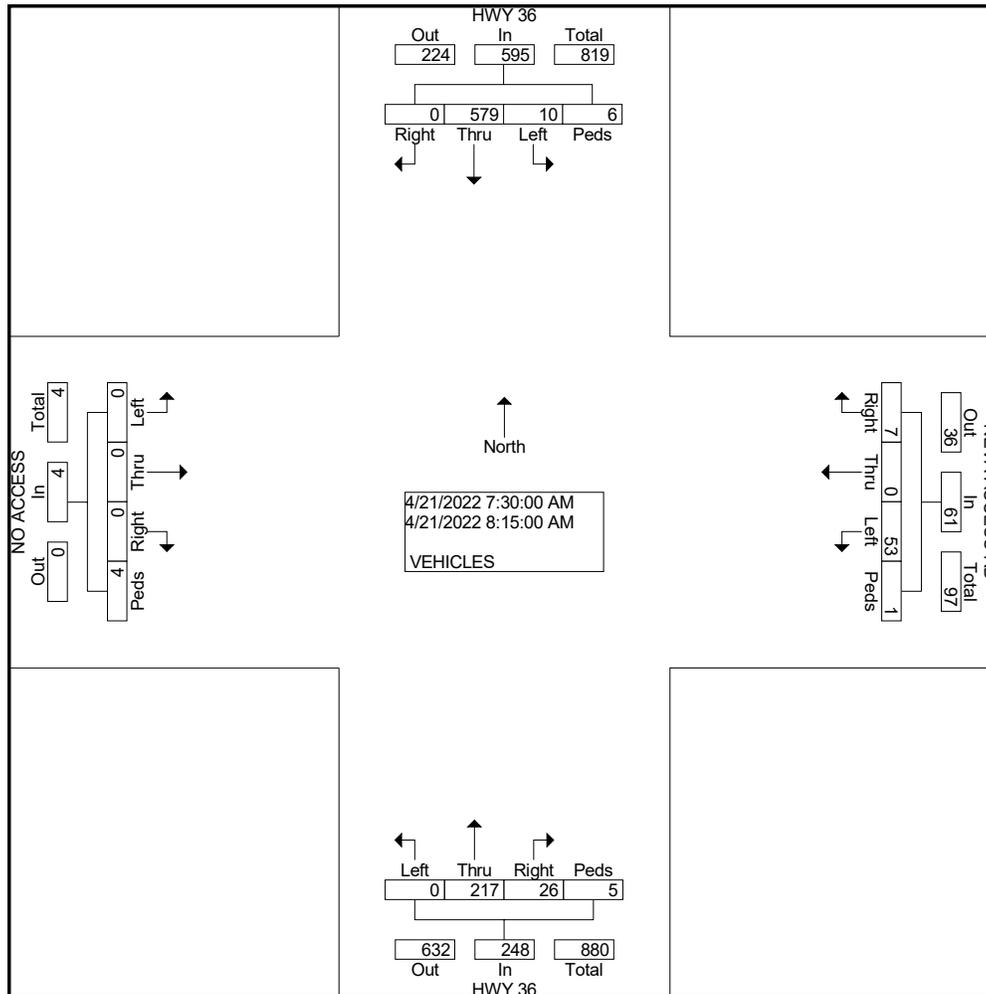
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDER

File Name : HWY36NEVA
Site Code : 0000022
Start Date : 4/21/2022
Page No : 2

Start Time	HWY 36 Southbound					NEVA ACCESS RD Westbound					HWY 36 Northbound					NO ACCESS Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersect on	07:30 AM																				
Volume	10	579	0	6	595	53	0	7	1	61	0	217	26	5	248	0	0	0	4	4	908
Percent	1.7	97.3	0.0	1.0		86.9	0.0	11.5	1.6		0.0	87.5	10.5	2.0		0.0	0.0	0.0	100.0		
08:15 Peak Factor																					
High Int. Volume	2	145	0	0	147	11	0	3	0	14	0	79	12	2	93	0	0	0	2	2	256
Peak Factor																					
High Int. Volume	07:45 AM					08:00 AM					08:15 AM					07:45 AM					
Peak Factor	3	148	0	4	155	14	0	2	1	17	0	79	12	2	93	0	0	0	2	2	2
Factor	0.96					0.89					0.66					0.50					0



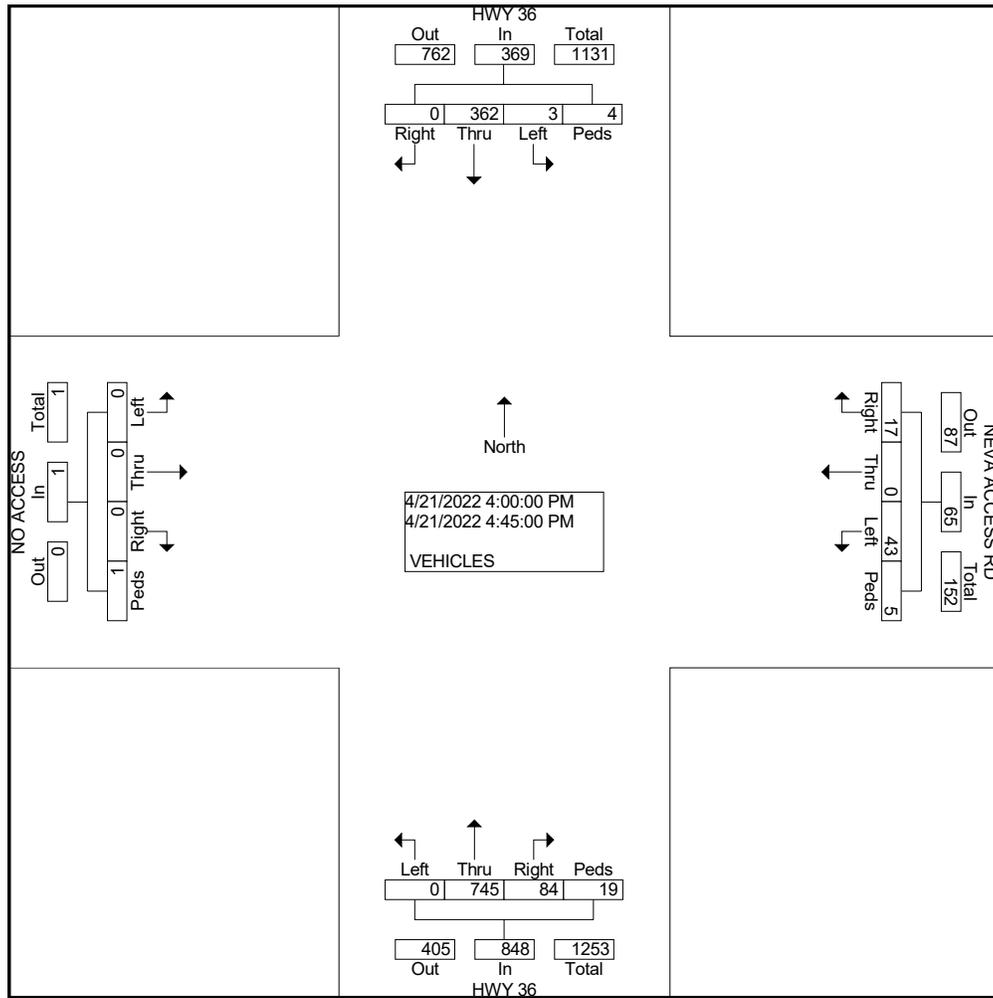
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 36 (N. FOOTHILLS HWY)
E/W STREET: NEVA ACCESS RD
CITY: BOULDER
COUNTY: BOULDER

File Name : HWY36NEVA
Site Code : 0000022
Start Date : 4/21/2022
Page No : 3

Start Time	HWY 36 Southbound					NEVA ACCESS RD Westbound					HWY 36 Northbound					NO ACCESS Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersect on	04:00 PM																				
Volume	3	362	0	4	369	43	0	17	5	65	0	745	84	19	848	0	0	0	1	1	1283
Percent	0.8	98.1	0.0	1.1		66.2	0.0	26.2	7.7		0.0	87.9	9.9	2.2		0.0	0.0	0.0	100.0		
04:15 Volume	1	104	0	2	107	9	0	4	2	15	0	210	24	7	241	0	0	0	1	1	364
Peak Factor																					
High Int.	04:15 PM																				
Volume	1	104	0	2	107	13	0	5	2	20	0	210	24	7	241	0	0	0	1	1	364
Peak Factor	0.86					0.81					0.88					0.25					0



COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDERFile Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	HWY 119 Southbound				NIWOT RD Westbound				HWY 119 Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds													
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
06:30 AM	8	486	1	0	13	25	2	4	7	85	3	0	2	11	14	0	661
06:45 AM	5	470	5	1	22	26	1	2	3	96	4	1	6	21	22	0	685
Total	13	956	6	1	35	51	3	6	10	181	7	1	8	32	36	0	1346
07:00 AM	6	450	6	3	12	34	3	4	11	125	7	0	6	22	21	0	710
07:15 AM	10	530	2	0	23	47	1	6	13	170	8	1	7	34	17	6	875
07:30 AM	8	648	2	1	22	74	5	4	12	179	4	0	7	26	22	0	1014
07:45 AM	10	519	9	0	36	63	8	10	17	183	12	1	12	48	16	2	946
Total	34	2147	19	4	93	218	17	24	53	657	31	2	32	130	76	8	3545
08:00 AM	11	514	9	2	33	80	4	6	12	143	7	1	9	29	23	8	891
08:15 AM	11	458	17	3	36	88	5	2	13	177	10	0	15	48	14	2	899
Total	22	972	26	5	69	168	9	8	25	320	17	1	24	77	37	10	1790
04:00 PM	15	165	5	1	11	55	9	1	19	459	33	0	12	57	8	0	850
04:15 PM	22	241	8	1	24	67	7	1	18	568	27	0	11	53	28	0	1076
04:30 PM	16	260	9	0	27	85	11	5	19	485	19	3	17	68	20	0	1044
04:45 PM	20	278	9	0	18	54	12	2	10	512	23	1	21	76	18	0	1054
Total	73	944	31	2	80	261	39	9	66	2024	102	4	61	254	74	0	4024
05:00 PM	22	300	15	0	32	91	17	5	18	479	24	0	18	62	24	2	1109
05:15 PM	14	267	11	1	24	46	5	0	10	540	26	1	16	56	30	4	1051
05:30 PM	23	294	11	0	16	67	17	0	7	516	17	1	16	66	14	6	1071
05:45 PM	16	258	14	1	13	58	10	5	18	532	50	0	12	50	14	2	1053
Total	75	1119	51	2	85	262	49	10	53	2067	117	2	62	234	82	14	4284
Grand Total	217	6138	133	14	362	960	117	57	207	5249	274	10	187	727	305	32	14989
Apprch %	3.3	94.4	2.0	0.2	24.2	64.2	7.8	3.8	3.6	91.4	4.8	0.2	14.9	58.1	24.4	2.6	
Total %	1.4	41.0	0.9	0.1	2.4	6.4	0.8	0.4	1.4	35.0	1.8	0.1	1.2	4.9	2.0	0.2	

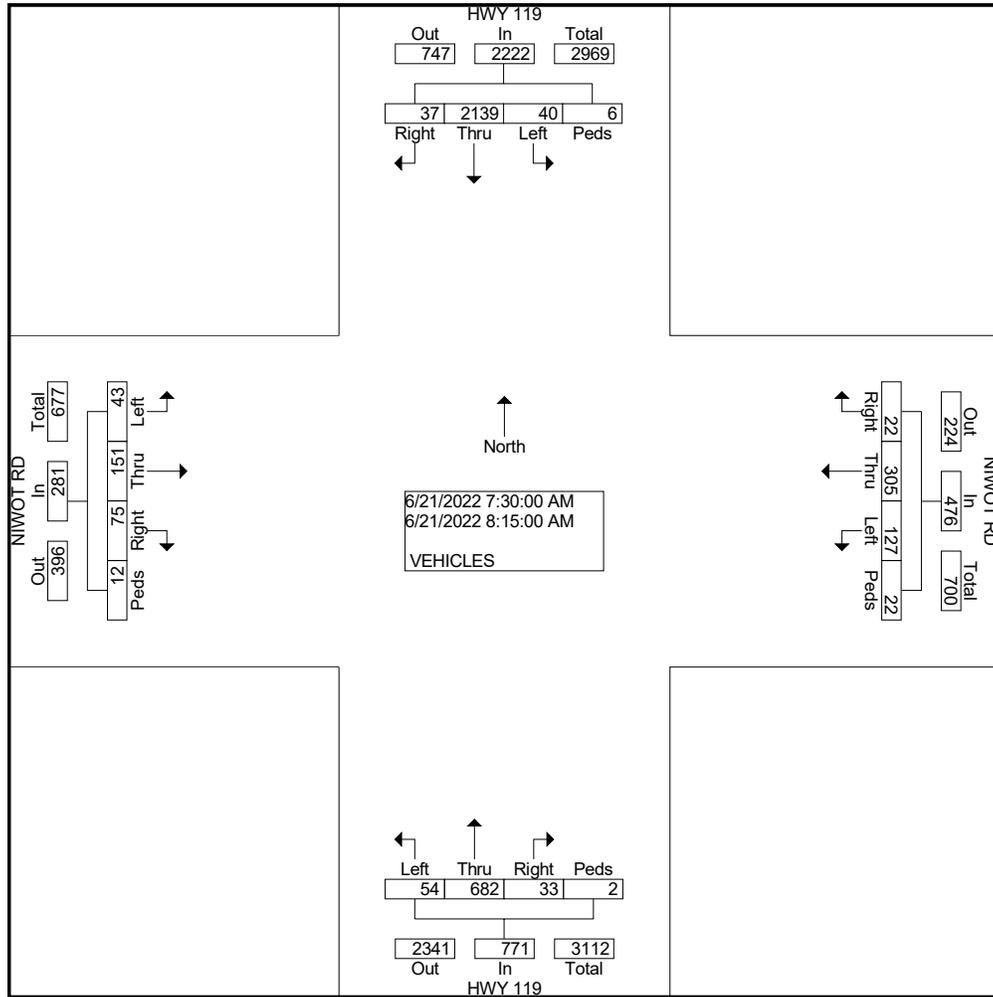
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 2

Start Time	HWY 119 Southbound					NIWOT RD Westbound					HWY 119 Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	40	2139	37	6	2222	127	305	22	22	476	54	682	33	2	771	43	151	75	12	281	3750
Percent	1.8	96.3	1.7	0.3		26.7	64.1	4.6	4.6		7.0	88.5	4.3	0.3		15.3	53.7	26.7	4.3		
07:30 Volume Peak Factor	8	648	2	1	659	22	74	5	4	105	12	179	4	0	195	7	26	22	0	55	1014
High Int. Peak Factor	07:30 AM					08:15 AM					07:45 AM					08:15 AM					0.925
Volume	8	648	2	1	659	36	88	5	2	131	17	183	12	1	213	15	48	14	2	79	
Peak Factor	0.843					0.908					0.905					0.889					



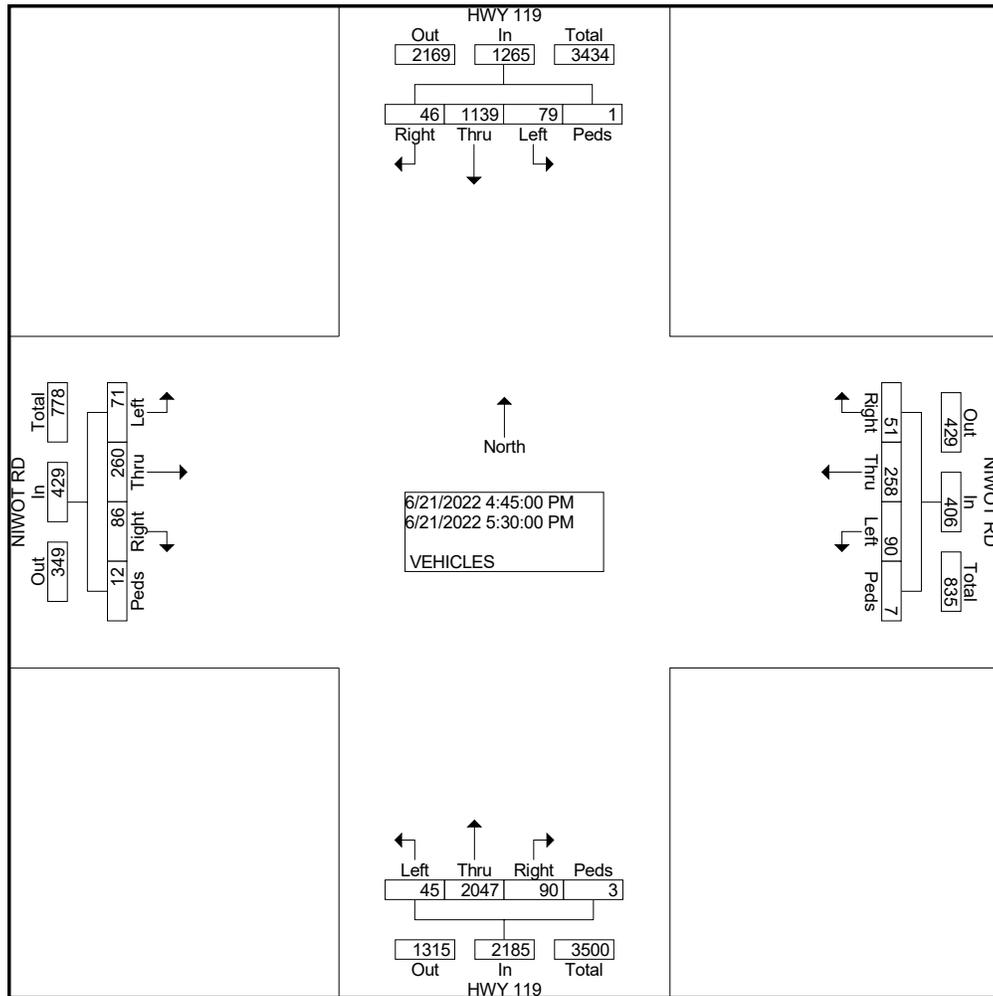
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: HWY 119 NB
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : HWY119NIWOT BOTH
Site Code : 00000017
Start Date : 6/21/2022
Page No : 3

Start Time	HWY 119 Southbound					NIWOT RD Westbound					HWY 119 Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersect on	04:45 PM																				
Volume	79	1139	46	1	1265	90	258	51	7	406	45	2047	90	3	2185	71	260	86	12	429	4285
Percent	6.2	90.0	3.6	0.1		22.2	63.5	12.6	1.7		2.1	93.7	4.1	0.1		16.6	60.6	20.0	2.8		
05:00 Volume	22	300	15	0	337	32	91	17	5	145	18	479	24	0	521	18	62	24	2	106	1109
Peak Factor	0.966																				
High Int. Volume	05:00 PM					05:00 PM					05:15 PM					04:45 PM					
Peak Factor	0.938					0.700					0.947					0.933					



COUNTER MEASURES INC.1889 YORK STREET
DENVER.COLORADO
303-333-7409N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDERFile Name : N49THNIWOT
Site Code : 00000020
Start Date : 6/22/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	N. 49TH ST Southbound				NIWOT RD Westbound				NO ACCESS Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
06:30 AM	0	0	0	0	0	5	1	0	0	0	0	0	0	8	0	4	18
06:45 AM	2	0	0	0	0	5	0	2	0	0	0	0	0	10	0	14	33
Total	2	0	0	0	0	10	1	2	0	0	0	0	0	18	0	18	51
07:00 AM	1	0	0	0	0	8	1	1	0	0	0	0	0	11	0	2	24
07:15 AM	2	0	0	0	0	8	4	2	0	0	0	0	0	13	0	1	30
07:30 AM	2	0	2	0	0	6	2	2	0	0	0	0	1	9	0	2	26
07:45 AM	1	0	1	0	0	9	1	1	0	0	0	0	0	16	0	0	29
Total	6	0	3	0	0	31	8	6	0	0	0	0	1	49	0	5	109
08:00 AM	3	0	0	0	0	14	0	4	0	0	0	0	0	18	0	2	41
08:15 AM	2	0	1	0	0	17	3	0	0	0	0	0	0	22	0	2	47
Total	5	0	1	0	0	31	3	4	0	0	0	0	0	40	0	4	88
04:00 PM	2	0	0	0	0	25	3	2	0	0	0	0	1	28	0	1	62
04:15 PM	4	0	0	0	0	23	0	1	0	0	0	0	0	30	0	3	61
04:30 PM	1	0	2	0	0	21	2	1	0	0	0	0	0	25	0	6	58
04:45 PM	1	0	2	0	0	20	2	2	0	0	0	0	0	18	0	4	49
Total	8	0	4	0	0	89	7	6	0	0	0	0	1	101	0	14	230
05:00 PM	1	0	0	0	0	22	2	1	0	0	0	0	0	26	0	0	52
05:15 PM	0	0	0	0	0	26	1	0	0	0	0	0	1	23	0	6	57
05:30 PM	0	0	0	0	0	19	9	0	0	0	0	0	0	19	0	0	47
05:45 PM	2	0	0	0	0	21	2	1	0	0	0	0	0	12	0	4	42
Total	3	0	0	0	0	88	14	2	0	0	0	0	1	80	0	10	198
Grand Total	24	0	8	0	0	249	33	20	0	0	0	0	3	288	0	51	676
Apprch %	75.0	0.0	25.0	0.0	0.0	82.5	10.9	6.6	0.0	0.0	0.0	0.0	0.9	84.2	0.0	14.9	
Total %	3.6	0.0	1.2	0.0	0.0	36.8	4.9	3.0	0.0	0.0	0.0	0.0	0.4	42.6	0.0	7.5	

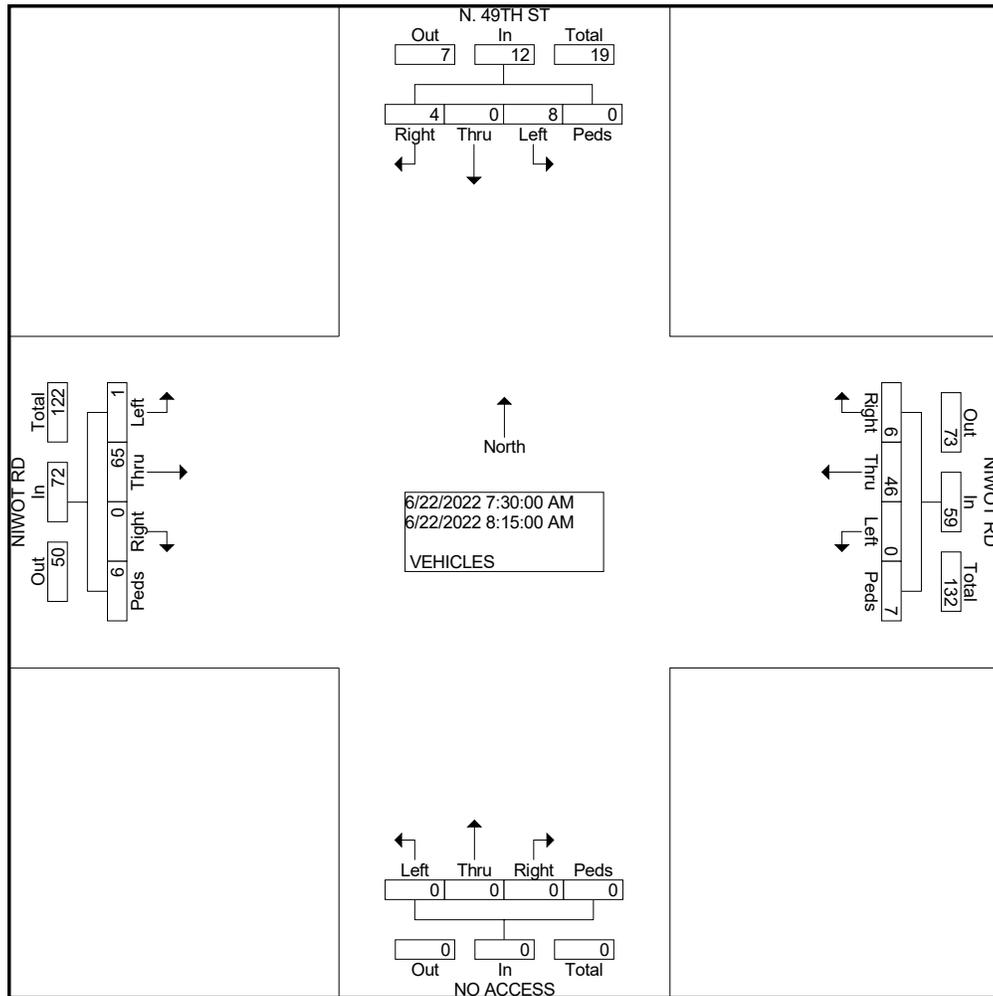
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : N49THNIWOT
Site Code : 0000020
Start Date : 6/22/2022
Page No : 2

Start Time	N. 49TH ST Southbound					NIWOT RD Westbound					NO ACCESS Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersect on 07:30 AM																					
Volume	8	0	4	0	12	0	46	6	7	59	0	0	0	0	0	1	65	0	6	72	143
Percent	66.7	0.0	33.3	0.0		0.0	78.0	10.2	11.9		0.0	0.0	0.0	0.0		1.4	90.3	0.0	8.3		
08:15																					
Volume	2	0	1	0	3	0	17	3	0	20	0	0	0	0	0	0	22	0	2	24	47
Peak Factor																					
High Int. 07:30 AM																					
Volume	2	0	2	0	4	0	17	3	0	20	0	0	0	0	0	0	22	0	2	24	0.761
Peak Factor	0.75					0.73										0.75					0



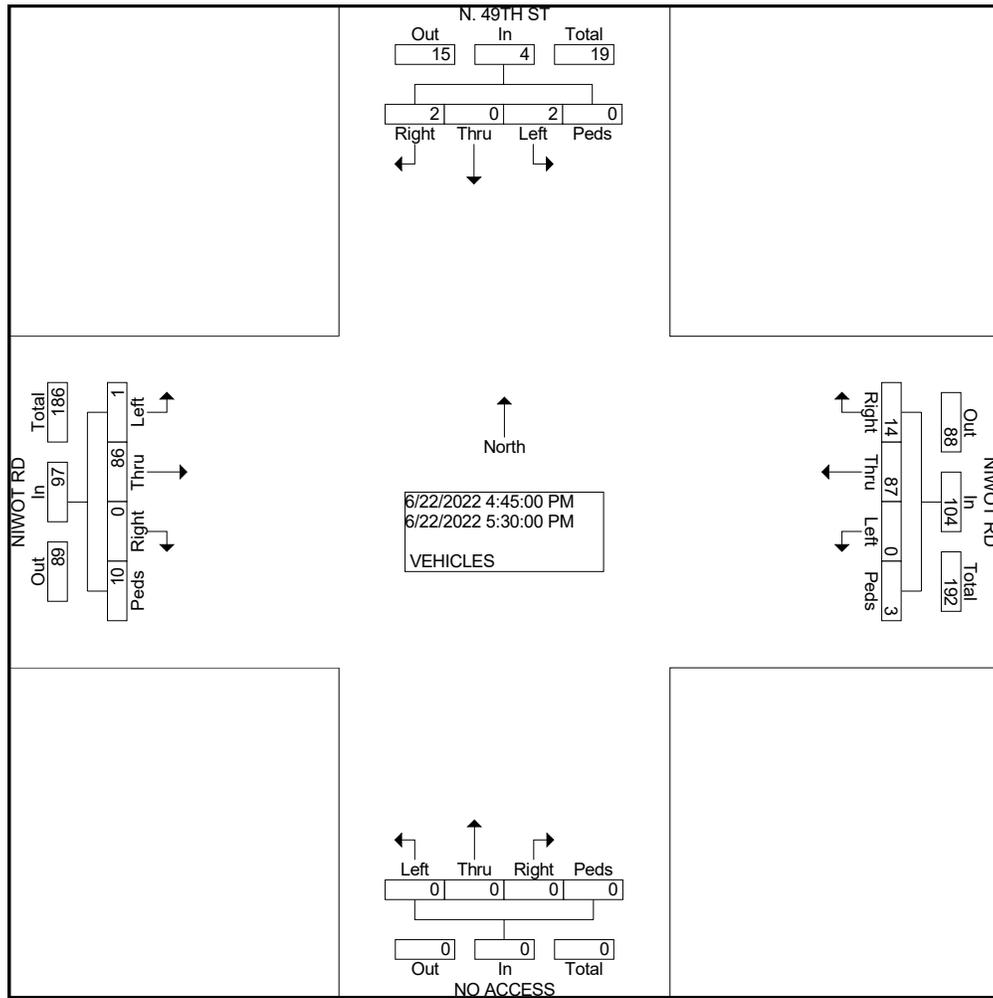
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 49TH ST
E/W STREET: NIWOT RD
CITY: NIWOT
COUNTY: BOULDER

File Name : N49THNIWOT
Site Code : 00000020
Start Date : 6/22/2022
Page No : 3

Start Time	N. 49TH ST Southbound					NIWOT RD Westbound					NO ACCESS Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:45 PM to 05:30 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	2	0	2	0	4	0	87	14	3	104	0	0	0	0	0	1	86	0	10	97	205
Percent	50.0	0.0	50.0	0.0		0.0	83.7	13.5	2.9		0.0	0.0	0.0	0.0		1.0	88.7	0.0	10.3		
05:15 Peak Factor																					
Volume	0	0	0	0	0	0	26	1	0	27	0	0	0	0	0	1	23	0	6	30	57
High Int. Volume	04:45 PM					05:30 PM					05:15 PM										
Peak Factor	0.33					0.92					0.80					0.899					
Volume	1	0	2	0	3	0	19	9	0	28	0	0	0	0	0	1	23	0	6	30	
Peak Factor	3					9					8										



COUNTER MEASURES INC.1889 YORK STREET
DENVER, COLORADO
303-333-7409N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDERFile Name : N63RDNIWOTRD
Site Code : 00000013
Start Date : 4/26/2022
Page No : 1

Groups Printed- VEHICLES

Start Time	N. 63RD ST Southbound				NIWOT RD Westbound				N. 63RD ST Northbound				NIWOT RD Eastbound				Int. Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
06:30 AM	0	37	0	0	9	1	0	0	0	2	0	0	0	1	3	0	53
06:45 AM	0	36	0	0	7	3	0	0	6	4	0	0	2	4	9	0	71
Total	0	73	0	0	16	4	0	0	6	6	0	0	2	5	12	0	124
07:00 AM	2	42	1	1	7	2	1	2	5	6	2	0	3	6	14	0	94
07:15 AM	3	41	4	1	19	4	3	0	3	6	0	0	7	11	11	0	113
07:30 AM	1	62	3	0	27	10	1	0	3	5	1	0	2	8	15	0	138
07:45 AM	1	90	6	0	32	12	5	0	6	18	1	0	3	7	19	0	200
Total	7	235	14	2	85	28	10	2	17	35	4	0	15	32	59	0	545
08:00 AM	1	56	2	0	25	9	1	0	9	11	0	0	3	21	11	0	149
08:15 AM	3	75	3	0	28	18	3	0	6	14	1	5	0	6	18	0	180
Total	4	131	5	0	53	27	4	0	15	25	1	5	3	27	29	0	329
04:00 PM	3	11	1	2	5	11	2	1	16	59	19	1	5	11	14	2	163
04:15 PM	2	17	2	2	1	9	3	0	12	73	11	1	5	14	10	3	165
04:30 PM	2	16	3	1	4	16	4	0	13	77	18	2	9	11	8	1	185
04:45 PM	3	25	4	1	4	12	2	0	12	78	12	1	8	12	13	0	187
Total	10	69	10	6	14	48	11	1	53	287	60	5	27	48	45	6	700
05:00 PM	5	12	2	2	3	18	1	0	15	75	22	2	1	17	11	0	186
05:15 PM	1	13	6	1	4	11	5	0	24	81	13	4	7	17	13	2	202
05:30 PM	0	10	0	0	1	5	1	0	11	84	12	2	4	12	13	0	155
05:45 PM	2	15	3	0	5	10	6	0	12	55	10	4	2	9	9	1	143
Total	8	50	11	3	13	44	13	0	62	295	57	12	14	55	46	3	686
Grand Total	29	558	40	11	181	151	38	3	153	648	122	22	61	167	191	9	2384
Apprch %	4.5	87.5	6.3	1.7	48.5	40.5	10.2	0.8	16.2	68.6	12.9	2.3	14.3	39.0	44.6	2.1	
Total %	1.2	23.4	1.7	0.5	7.6	6.3	1.6	0.1	6.4	27.2	5.1	0.9	2.6	7.0	8.0	0.4	

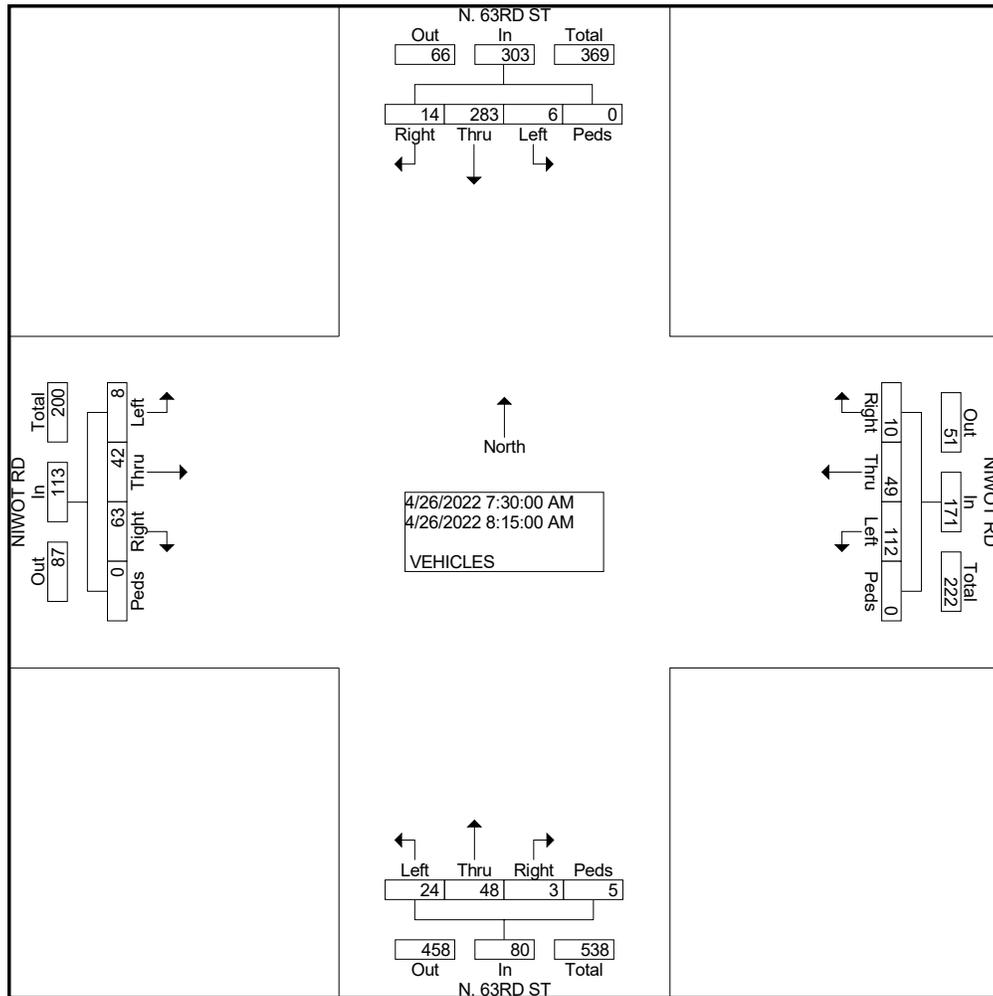
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : N63RDNIWOTRD
Site Code : 00000013
Start Date : 4/26/2022
Page No : 2

Start Time	N. 63RD ST Southbound					NIWOT RD Westbound					N. 63RD ST Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 07:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	6	283	14	0	303	112	49	10	0	171	24	48	3	5	80	8	42	63	0	113	667
Percent	2.0	93.4	4.6	0.0		65.5	28.7	5.8	0.0		30.0	60.0	3.8	6.3		7.1	37.2	55.8	0.0		
07:45 Volume	1	90	6	0	97	32	12	5	0	49	6	18	1	0	25	3	7	19	0	29	200
Peak Factor	0.834																				
High Int. Volume	07:45 AM																				
Peak Factor	0.78					0.87					0.76					0.80					
Factor	1					2					9					7					



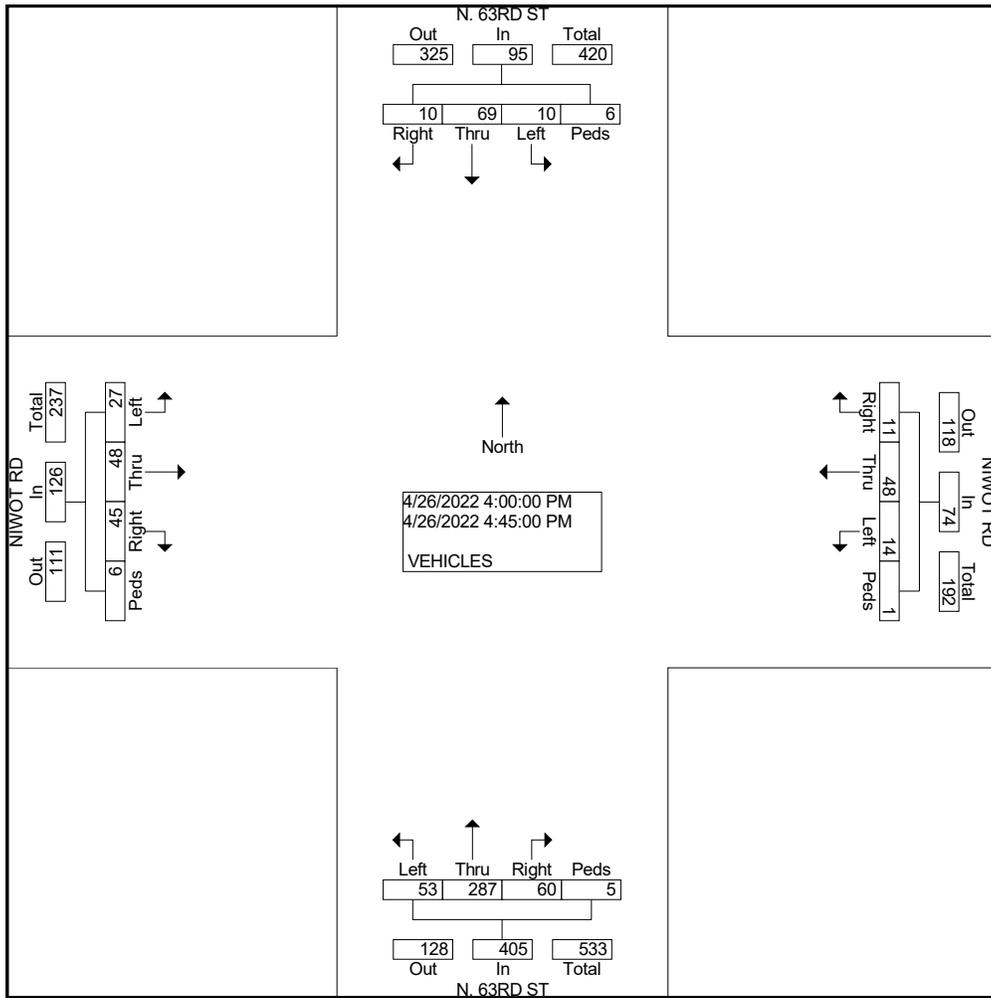
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO
303-333-7409

N/S STREET: N. 63RD ST
E/W STREET: NIWOT RD
CITY: BOULDER
COUNTY: BOULDER

File Name : N63RDNIWOTRD
Site Code : 0000013
Start Date : 4/26/2022
Page No : 3

Start Time	N. 63RD ST Southbound					NIWOT RD Westbound					N. 63RD ST Northbound					NIWOT RD Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersect on	04:00 PM																				
Volume	10	69	10	6	95	14	48	11	1	74	53	287	60	5	405	27	48	45	6	126	700
Percent	10.5	72.6	10.5	6.3		18.9	64.9	14.9	1.4		13.1	70.9	14.8	1.2		21.4	38.1	35.7	4.8		
04:45																					
Volume	3	25	4	1	33	4	12	2	0	18	12	78	12	1	103	8	12	13	0	33	187
Peak Factor																					
High Int.	0.936																				
Intersect on	04:45 PM					04:30 PM					04:30 PM					04:45 PM					
Volume	3	25	4	1	33	4	16	4	0	24	13	77	18	2	110	8	12	13	0	33	
Peak Factor	0.72					0.77					0.92					0.95					
	0					1					0					5					



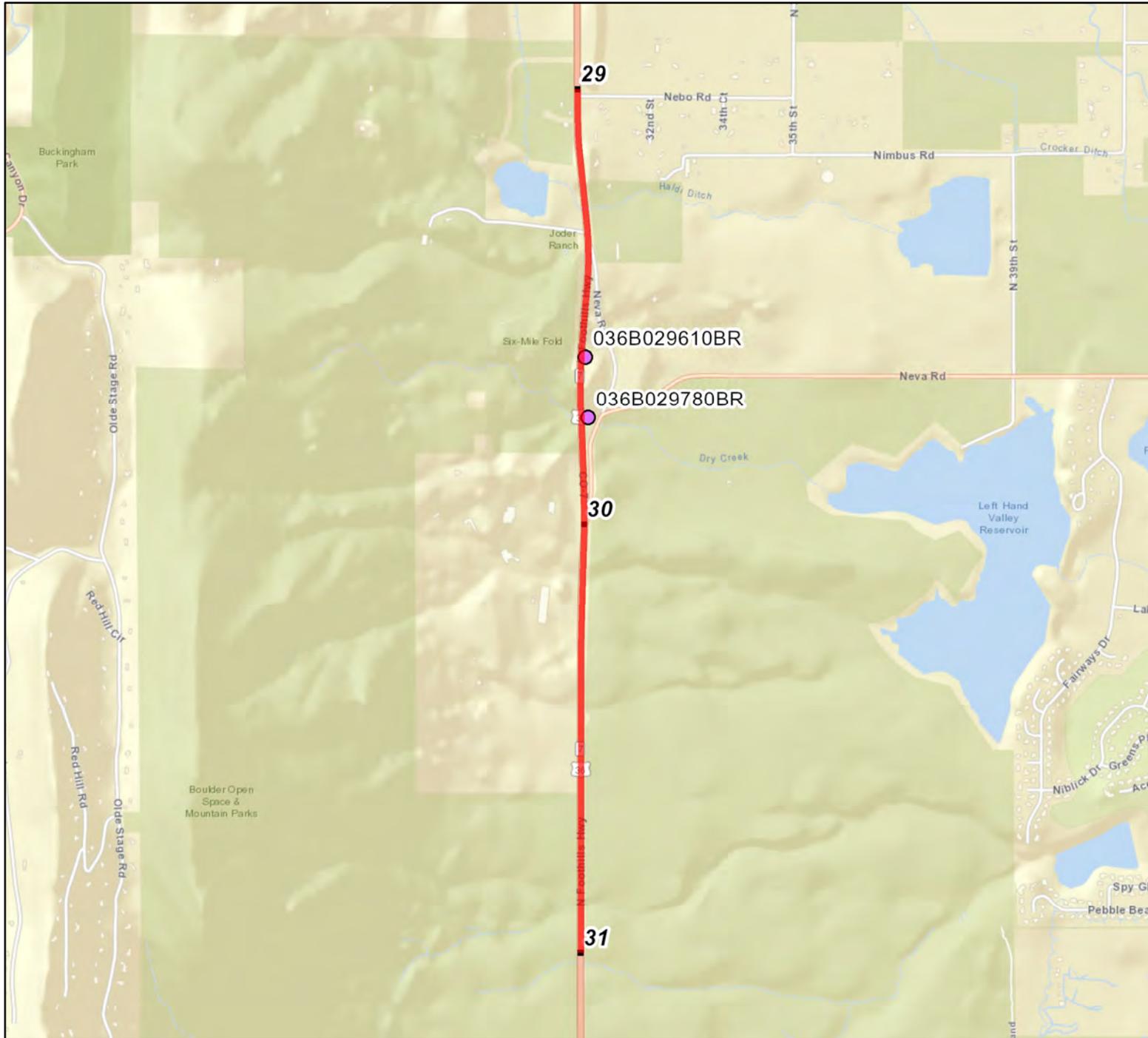
COUNTER MEASURES INC.
1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

Location: NIWOT RD E-O 55TH ST
 City: NIWOT
 County: BOULDER
 Direction: EAST/WEST

Site Code: 422190
 Station ID: 422190

Start Time	20-Apr-22 Wed	EAST	WEST							Total
12:00 AM		1	1							2
01:00		0	2							2
02:00		0	2							2
03:00		0	0							0
04:00		0	0							0
05:00		5	11							16
06:00		16	19							35
07:00		81	38							119
08:00		76	92							168
09:00		67	86							153
10:00		57	87							144
11:00		73	94							167
12:00 PM		70	99							169
01:00		57	98							155
02:00		65	76							141
03:00		96	137							233
04:00		102	189							291
05:00		86	106							192
06:00		44	82							126
07:00		40	55							95
08:00		26	42							68
09:00		6	6							12
10:00		6	5							11
11:00		2	11							13
Total		976	1338							2314
Percent		42.2%	57.8%							
AM Peak	-	07:00	11:00	-	-	-	-	-	-	08:00
Vol.	-	81	94	-	-	-	-	-	-	168
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	102	189	-	-	-	-	-	-	291
Grand Total		976	1338							2314
Percent		42.2%	57.8%							
ADT		ADT 2,280	AADT 2,280							

Route 036B From 29 to 31



Legend

- Route
- Milepoint
- Major Structure
- Minor Structure

Created:

Date: 4/30/2022

Time: 9:00:30 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".

Route 036B
From 29 To 31

- ◊ Ramps
- Overpass
- |- Underpass
- Structures



CLASSIFICATION

Access Control	R-A: Regional Highway	
----------------	-----------------------	--

SAFETY

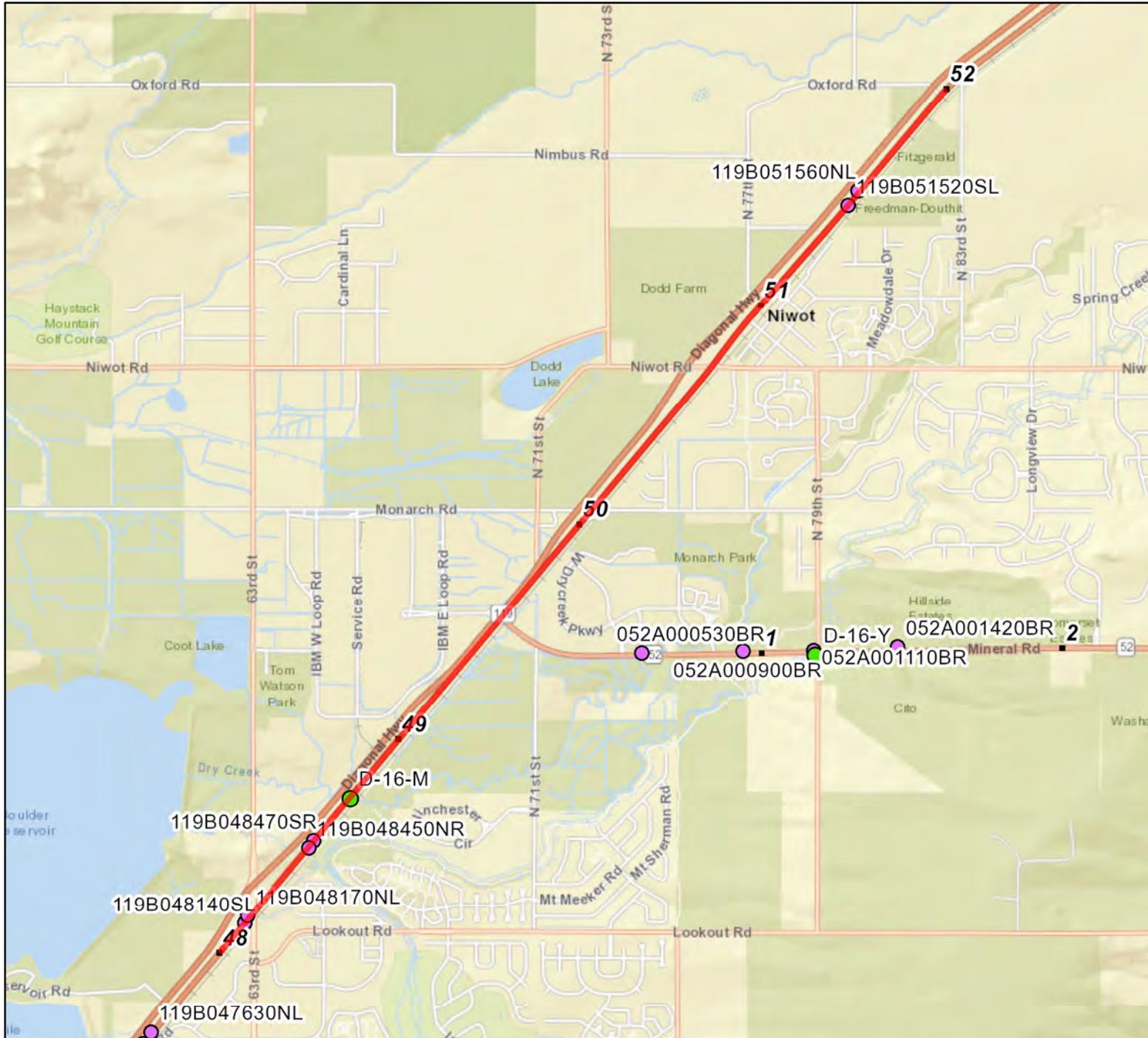
Primary Speed Limit	55	60
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TRAFFIC

AADT	11000	13000
DHV	11.5	
Off Peak Truck Percentage	2.10	2.30
Peak Truck Percentage	0.09	0.14
Route Capacity	3200	3100
V/C Ratio	0.45	0.55
V/C Ratio 20	0.52	0.67
VMT	24948	32591
Year 20 Factor	1.16	1.22

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.

Route 119B From 48 to 52

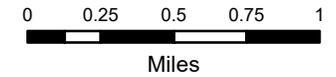


Legend

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

Created:

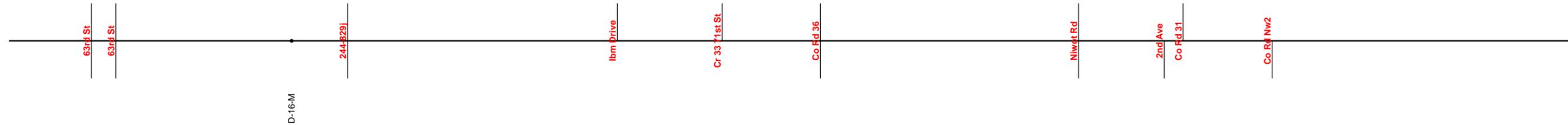
Date: 6/23/2022
Time: 10:32:42 AM



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".

Route 119B
From 48 To 52

-  Ramps
-  Overpass
-  Underpass
-  Structures



CLASSIFICATION

Access Control	E-X: Expressway, Major Bypass
----------------	-------------------------------

SAFETY

Primary Speed Limit	55	65
---------------------	----	----

TRAFFIC

AADT	44000	37000	33000
DHV	8.0		9.0
Off Peak Truck Percentage	3.30	3.50	3.40
Peak Truck Percentage			0.20
Route Capacity	6100	6050	6000
V/C Ratio	0.72	0.69	0.61
V/C Ratio 20	0.83	0.79	0.70
VMT	92004	50505	104610
Year 20 Factor	1.16		1.15

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page and re-submit the request.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	<u>Average Vehicle Delay</u> sec/vehicle	<u>Operational Characteristics</u>
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2016, 6th Edition

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 15 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>
D	25 to 35 seconds	<u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Existing
AM Peak

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	7	217	26	10	579
Future Vol, veh/h	53	7	217	26	10	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	8	236	28	11	629
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	901	250	0	0	264	0
Stage 1	250	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	309	789	-	-	1300	-
Stage 1	792	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	305	789	-	-	1300	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	18.6	0	0.1			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	329	1300	-	
HCM Lane V/C Ratio	-	-	0.198	0.008	-	
HCM Control Delay (s)	-	-	18.6	7.8	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0	-	

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Existing
AM Peak

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	1	65	46	6	8	4
Future Vol, veh/h	1	65	46	6	8	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	71	50	7	9	4

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	57	0	-	0	127
Stage 1	-	-	-	-	54
Stage 2	-	-	-	-	73
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1547	-	-	-	868
Stage 1	-	-	-	-	969
Stage 2	-	-	-	-	950
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1547	-	-	-	867
Mov Cap-2 Maneuver	-	-	-	-	867
Stage 1	-	-	-	-	968
Stage 2	-	-	-	-	950

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1547	-	-	-	911
HCM Lane V/C Ratio	0.001	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

Existing
AM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	75	1	1	50	1	1
Future Vol, veh/h	75	1	1	50	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	1	1	54	1	1

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	83	0	139
Stage 1	-	-	-	-	83
Stage 2	-	-	-	-	56
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1514	-	854
Stage 1	-	-	-	-	940
Stage 2	-	-	-	-	967
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1514	-	853
Mov Cap-2 Maneuver	-	-	-	-	853
Stage 1	-	-	-	-	940
Stage 2	-	-	-	-	966

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	910	-	-	1514	-
HCM Lane V/C Ratio	0.002	-	-	0.001	-
HCM Control Delay (s)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC

4: 55th Street & Niwot Road

Existing
AM Peak

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	80	5	7	58	2	4
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Future Vol, veh/h	80	5	7	58	2	4
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	87	5	8	63	2	4
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	92	0	169	90
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Stage 1	-	-	-	-	90	-
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Stage 2	-	-	-	-	79	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1503	-	821	968
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Stage 1	-	-	-	-	934	-
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Stage 2	-	-	-	-	944	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1503	-	816	968
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Mov Cap-2 Maneuver	-	-	-	-	816	-
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Stage 1	-	-	-	-	934	-
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Stage 2	-	-	-	-	938	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.8	9
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	911	-	-	1503	-
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HCM Lane V/C Ratio	0.007	-	-	0.005	-
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HCM Control Delay (s)	9	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Existing
AM Peak

Intersection

Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	42	63	112	49	10	24	48	3	6	283	14
Future Vol, veh/h	8	42	63	112	49	10	24	48	3	6	283	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	46	68	122	53	11	26	52	3	7	308	15
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

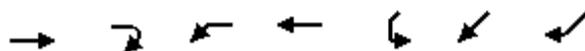
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	10.2	9	11.6
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	7%	65%	2%
Vol Thru, %	64%	37%	29%	93%
Vol Right, %	4%	56%	6%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	113	171	303
LT Vol	24	8	112	6
Through Vol	48	42	49	283
RT Vol	3	63	10	14
Lane Flow Rate	82	123	186	329
Geometry Grp	1	1	1	1
Degree of Util (X)	0.117	0.166	0.268	0.438
Departure Headway (Hd)	5.169	4.874	5.188	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	727	686	748
Service Time	3.261	2.964	3.27	2.855
HCM Lane V/C Ratio	0.12	0.169	0.271	0.44
HCM Control Delay	9	8.9	10.2	11.6
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.4	0.6	1.1	2.2

Timings

6: Diagonal Highway (SB) & Niwot Road

Existing
AM Peak

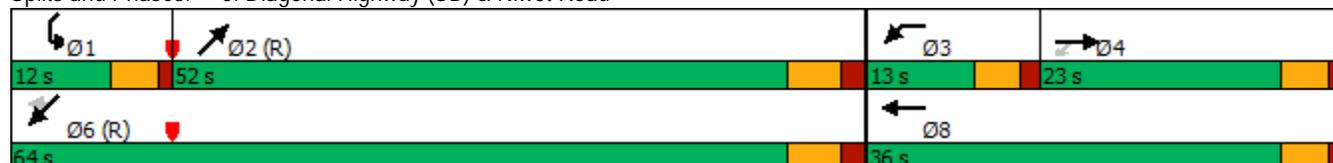


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	151	75	127	232	40	2139	37	
Future Volume (vph)	151	75	127	232	40	2139	37	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	23.0	23.0	13.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	23.0%	23.0%	13.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.8	15.8	9.8	28.5	10.3	65.5	65.5	
Actuated g/C Ratio	0.16	0.16	0.10	0.28	0.10	0.66	0.66	
v/c Ratio	0.56	0.23	0.41	0.47	0.24	1.00	0.04	
Control Delay	45.8	2.7	70.2	53.3	44.3	38.5	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	45.8	2.7	70.2	53.3	44.3	38.5	0.5	
LOS	D	A	E	D	D	D	A	
Approach Delay	31.4			59.3		37.9		
Approach LOS	C			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 40.1
 Intersection LOS: D
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

Existing
AM Peak

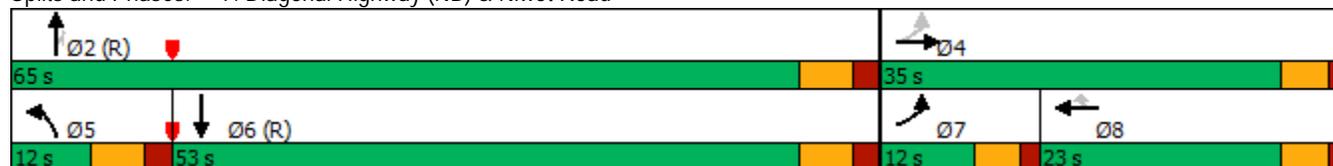


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↶	↷	↶	↶↶	↷	
Traffic Volume (vph)	43	150	305	22	54	682	33	
Future Volume (vph)	43	150	305	22	54	682	33	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	23.7	23.7	16.5	16.5	10.1	70.3	70.3	
Actuated g/C Ratio	0.24	0.24	0.16	0.16	0.10	0.70	0.70	
v/c Ratio	0.20	0.37	0.57	0.06	0.33	0.30	0.03	
Control Delay	58.6	62.9	42.2	0.3	47.3	7.0	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	62.9	42.2	0.3	47.3	7.0	0.3	
LOS	E	E	D	A	D	A	A	
Approach Delay		62.0	39.3			9.6		
Approach LOS		E	D			A		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 25.0
 Intersection LOS: C
 Intersection Capacity Utilization 41.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Existing
PM Peak

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	17	745	84	3	362
Future Vol, veh/h	43	17	745	84	3	362
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	18	810	91	3	393

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1255	856	0	0	901
Stage 1	856	-	-	-	-
Stage 2	399	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	189	357	-	-	754
Stage 1	416	-	-	-	-
Stage 2	678	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	188	357	-	-	754
Mov Cap-2 Maneuver	188	-	-	-	-
Stage 1	416	-	-	-	-
Stage 2	675	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.6	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	217	754
HCM Lane V/C Ratio	-	-	0.301	0.004
HCM Control Delay (s)	-	-	28.6	9.8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.2	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Existing
PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	86	87	14	2	2
Future Vol, veh/h	1	86	87	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	93	95	15	2	2
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	110	0	-	0	198	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1480	-	-	-	791	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1480	-	-	-	790	952
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	929	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.1	0	9.2			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1480	-	-	-	-	863
HCM Lane V/C Ratio	0.001	-	-	-	-	0.005
HCM Control Delay (s)	7.4	0	-	-	-	9.2
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

Existing
PM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	90	1	1	105	1	1
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Future Vol, veh/h	90	1	1	105	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	98	1	1	114	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	99	0	215	99
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Stage 1	-	-	-	-	99	-
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Stage 2	-	-	-	-	116	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1494	-	773	957
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Stage 1	-	-	-	-	925	-
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Stage 2	-	-	-	-	909	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1494	-	772	957
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Mov Cap-2 Maneuver	-	-	-	-	772	-
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Stage 1	-	-	-	-	925	-
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Stage 2	-	-	-	-	908	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.2
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	855	-	-	1494	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.2	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

Existing
PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	99	5	1	101	16	14
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Future Vol, veh/h	99	5	1	101	16	14
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	108	5	1	110	17	15
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	113	0	223	111
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Stage 1	-	-	-	-	111	-
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Stage 2	-	-	-	-	112	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1476	-	765	942
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Stage 1	-	-	-	-	914	-
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Stage 2	-	-	-	-	913	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1476	-	764	942
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Mov Cap-2 Maneuver	-	-	-	-	764	-
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Stage 1	-	-	-	-	914	-
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Stage 2	-	-	-	-	912	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.5
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	838	-	-	1476	-
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HCM Lane V/C Ratio	0.039	-	-	0.001	-
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HCM Control Delay (s)	9.5	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Existing
PM Peak

Intersection

Intersection Delay, s/veh	11.3
Intersection LOS	B

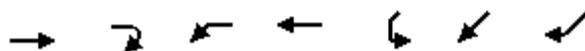
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	48	45	14	48	11	53	287	60	10	69	10
Future Vol, veh/h	27	48	45	14	48	11	53	287	60	10	69	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	52	49	15	52	12	58	312	65	11	75	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	9.3			9.1			12.9			8.8		
HCM LOS	A			A			B			A		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	23%	19%	11%
Vol Thru, %	72%	40%	66%	78%
Vol Right, %	15%	38%	15%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	400	120	73	89
LT Vol	53	27	14	10
Through Vol	287	48	48	69
RT Vol	60	45	11	10
Lane Flow Rate	435	130	79	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.546	0.185	0.117	0.132
Departure Headway (Hd)	4.525	5.099	5.302	4.929
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	698	670	721
Service Time	2.577	3.171	3.382	3.004
HCM Lane V/C Ratio	0.55	0.186	0.118	0.135
HCM Control Delay	12.9	9.3	9.1	8.8
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3.4	0.7	0.4	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

Existing
PM Peak

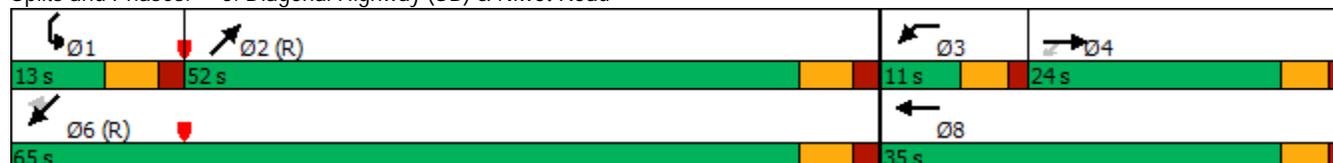


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	260	86	90	213	79	1139	46	
Future Volume (vph)	260	86	90	213	79	1139	46	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	11.0	35.0	13.0	65.0	65.0	52.0
Total Split (%)	24.0%	24.0%	11.0%	35.0%	13.0%	65.0%	65.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.7	19.7	8.0	28.5	10.1	65.5	65.5	
Actuated g/C Ratio	0.20	0.20	0.08	0.28	0.10	0.66	0.66	
v/c Ratio	0.77	0.21	0.36	0.44	0.48	0.53	0.05	
Control Delay	52.9	2.1	68.4	64.1	52.1	11.0	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	2.1	68.4	64.1	52.1	11.0	0.9	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.3			65.4		13.2		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 59.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

Existing
PM Peak

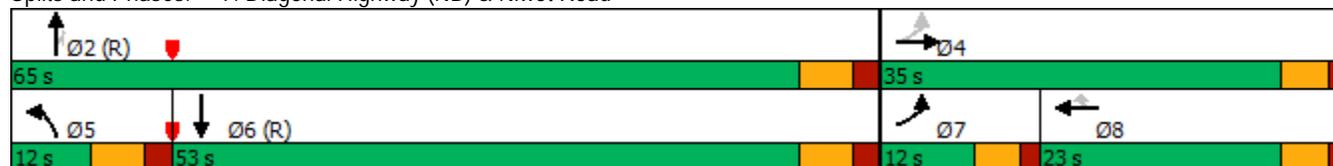


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↷	↷	↶	↷	↷	
Traffic Volume (vph)	71	268	258	51	45	2047	90	
Future Volume (vph)	71	268	258	51	45	2047	90	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	25.8	25.8	16.2	16.2	10.2	68.2	68.2	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.10	0.68	0.68	
v/c Ratio	0.29	0.61	0.49	0.14	0.27	0.92	0.09	
Control Delay	58.7	68.5	41.0	0.8	45.4	23.1	1.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	68.5	41.0	0.8	45.4	23.1	1.7	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.5	34.4			22.7		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 29.2
 Intersection LOS: C
 Intersection Capacity Utilization 77.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Background
AM Peak

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	7	220	27	10	590
Future Vol, veh/h	55	7	220	27	10	590
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	8	239	29	11	641

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	917	254	0	0	268
Stage 1	254	-	-	-	-
Stage 2	663	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	302	785	-	-	1296
Stage 1	788	-	-	-	-
Stage 2	512	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	298	785	-	-	1296
Mov Cap-2 Maneuver	298	-	-	-	-
Stage 1	788	-	-	-	-
Stage 2	505	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	320	1296
HCM Lane V/C Ratio	-	-	0.211	0.008
HCM Control Delay (s)	-	-	19.2	7.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.8	0

HCM 6th TWSC 2: Niwot Road & N. 49th Street

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.8

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	70	50	6	8	4
Future Vol, veh/h	1	70	50	6	8	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	76	54	7	9	4

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	61	0	0
Stage 1	-	-	58
Stage 2	-	-	78
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1542	-	857
Stage 1	-	-	965
Stage 2	-	-	945
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1542	-	856
Mov Cap-2 Maneuver	-	-	856
Stage 1	-	-	964
Stage 2	-	-	945

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1542	-	-	-	901
HCM Lane V/C Ratio	0.001	-	-	-	0.014
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	80	1	1	55	1	1
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Future Vol, veh/h	80	1	1	55	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	87	1	1	60	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	88	0	150	88
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Stage 1	-	-	-	-	88	-
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Stage 2	-	-	-	-	62	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1508	-	842	970
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Stage 1	-	-	-	-	935	-
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Stage 2	-	-	-	-	961	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1508	-	841	970
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Mov Cap-2 Maneuver	-	-	-	-	841	-
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Stage 1	-	-	-	-	935	-
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Stage 2	-	-	-	-	960	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	901	-	-	1508	-
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HCM Lane V/C Ratio	0.002	-	-	0.001	-
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HCM Control Delay (s)	9	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Background
AM Peak

Intersection

Int Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	85	5	7	60	2	4
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Future Vol, veh/h	85	5	7	60	2	4
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	92	5	8	65	2	4
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	97	0	176	95
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Stage 1	-	-	-	-	95	-
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Stage 2	-	-	-	-	81	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1496	-	814	962
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Stage 1	-	-	-	-	929	-
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Stage 2	-	-	-	-	942	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1496	-	809	962
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Mov Cap-2 Maneuver	-	-	-	-	809	-
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Stage 1	-	-	-	-	929	-
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Stage 2	-	-	-	-	936	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.8	9
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	905	-	-	1496	-
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HCM Lane V/C Ratio	0.007	-	-	0.005	-
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HCM Control Delay (s)	9	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2024 Background
AM Peak

Intersection

Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	44	65	116	51	10	25	50	3	6	295	15
Future Vol, veh/h	8	44	65	116	51	10	25	50	3	6	295	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	48	71	126	55	11	27	54	3	7	321	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

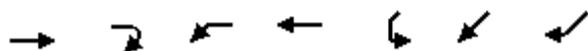
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	10.4	9.1	12
HCM LOS	A	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	32%	7%	66%	2%
Vol Thru, %	64%	38%	29%	93%
Vol Right, %	4%	56%	6%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	78	117	177	316
LT Vol	25	8	116	6
Through Vol	50	44	51	295
RT Vol	3	65	10	15
Lane Flow Rate	85	127	192	343
Geometry Grp	1	1	1	1
Degree of Util (X)	0.125	0.178	0.28	0.46
Departure Headway (Hd)	5.328	5.038	5.245	4.823
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	716	677	738
Service Time	3.336	3.038	3.343	2.908
HCM Lane V/C Ratio	0.126	0.177	0.284	0.465
HCM Control Delay	9.1	9.1	10.4	12
HCM Lane LOS	A	A	B	B
HCM 95th-tile Q	0.4	0.6	1.1	2.4

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Background
AM Peak

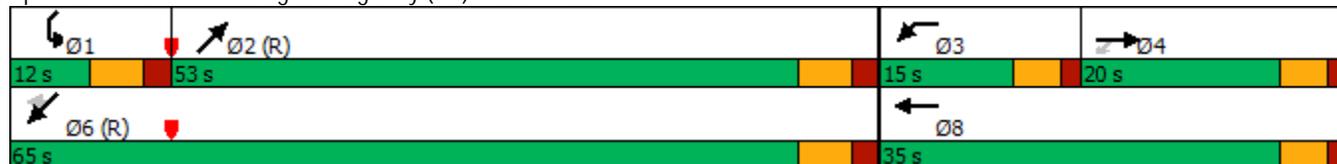


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	153	76	129	235	41	2170	38	
Future Volume (vph)	153	76	129	235	41	2170	38	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	20.0	20.0	15.0	35.0	12.0	65.0	65.0	53.0
Total Split (%)	20.0%	20.0%	15.0%	35.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	15.0	15.0	10.9	28.9	9.4	65.1	65.1	
Actuated g/C Ratio	0.15	0.15	0.11	0.29	0.09	0.65	0.65	
v/c Ratio	0.59	0.23	0.37	0.47	0.27	1.02	0.04	
Control Delay	48.5	1.4	68.8	54.3	46.8	44.6	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.5	1.4	68.8	54.3	46.8	44.6	0.6	
LOS	D	A	E	D	D	D	A	
Approach Delay	32.8			59.4		43.9		
Approach LOS	C			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 45.0
 Intersection LOS: D
 Intersection Capacity Utilization 82.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Background
AM Peak

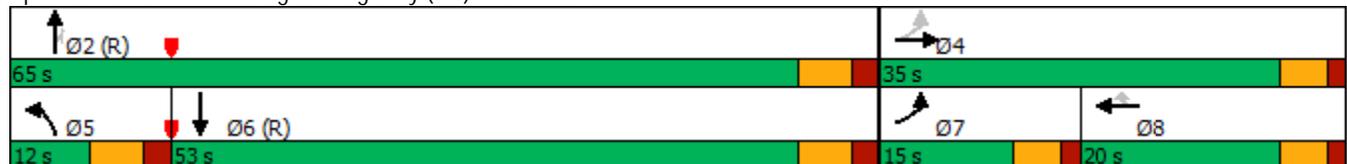


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗↗	↘	↘	↗↗	↘	
Traffic Volume (vph)	44	152	309	22	55	690	33	
Future Volume (vph)	44	152	309	22	55	690	33	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	19.0	29.0	29.0	24.0
Total Split (s)	15.0	35.0	20.0	20.0	12.0	65.0	65.0	53.0
Total Split (%)	15.0%	35.0%	20.0%	20.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.3	24.3	15.9	15.9	9.7	69.7	69.7	
Actuated g/C Ratio	0.24	0.24	0.16	0.16	0.10	0.70	0.70	
v/c Ratio	0.19	0.37	0.60	0.06	0.35	0.30	0.03	
Control Delay	63.1	66.7	43.5	0.3	48.5	7.3	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.1	66.7	43.5	0.3	48.5	7.3	0.3	
LOS	E	E	D	A	D	A	A	
Approach Delay		65.9	40.7			10.0		
Approach LOS		E	D			A		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 26.1
 Intersection LOS: C
 Intersection Capacity Utilization 41.8%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Background
PM Peak

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	18	760	87	3	370
Future Vol, veh/h	45	18	760	87	3	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	20	826	95	3	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1282	874	0	0	921
Stage 1	874	-	-	-	-
Stage 2	408	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	182	349	-	-	741
Stage 1	408	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	181	349	-	-	741
Mov Cap-2 Maneuver	181	-	-	-	-
Stage 1	408	-	-	-	-
Stage 2	668	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.2	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	210	741
HCM Lane V/C Ratio	-	-	0.326	0.004
HCM Control Delay (s)	-	-	30.2	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.3	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Background
PM Peak

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	90	95	14	2	2
Future Vol, veh/h	1	90	95	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	98	103	15	2	2

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	118	0	0	211	111
Stage 1	-	-	-	111	-
Stage 2	-	-	-	100	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1470	-	-	777	942
Stage 1	-	-	-	914	-
Stage 2	-	-	-	924	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1470	-	-	776	942
Mov Cap-2 Maneuver	-	-	-	776	-
Stage 1	-	-	-	913	-
Stage 2	-	-	-	924	-

Approach	EB	WB	SB
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HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	1470	-	-	-	851
HCM Lane V/C Ratio	0.001	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Background
PM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	95	1	1	110	1	1
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Future Vol, veh/h	95	1	1	110	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	103	1	1	120	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	104	0	226	104
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Stage 1	-	-	-	-	104	-
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Stage 2	-	-	-	-	122	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1488	-	762	951
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Stage 1	-	-	-	-	920	-
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Stage 2	-	-	-	-	903	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1488	-	761	951
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Mov Cap-2 Maneuver	-	-	-	-	761	-
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Stage 1	-	-	-	-	920	-
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Stage 2	-	-	-	-	902	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	845	-	-	1488	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.3	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Background
PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	105	5	1	105	17	15
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Future Vol, veh/h	105	5	1	105	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	114	5	1	114	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	119	0	233	117
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Stage 1	-	-	-	-	117	-
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Stage 2	-	-	-	-	116	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1469	-	755	935
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Stage 1	-	-	-	-	908	-
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Stage 2	-	-	-	-	909	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1469	-	754	935
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Mov Cap-2 Maneuver	-	-	-	-	754	-
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Stage 1	-	-	-	-	908	-
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Stage 2	-	-	-	-	908	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.5
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	829	-	-	1469	-
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HCM Lane V/C Ratio	0.042	-	-	0.001	-
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HCM Control Delay (s)	9.5	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2024 Background
PM Peak

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	28	50	47	15	50	11	55	300	62	10	72	10
Future Vol, veh/h	28	50	47	15	50	11	55	300	62	10	72	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	54	51	16	54	12	60	326	67	11	78	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

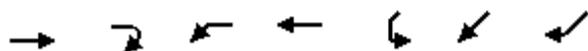
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	9.2	13.6	8.9
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	22%	20%	11%
Vol Thru, %	72%	40%	66%	78%
Vol Right, %	15%	38%	14%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	417	125	76	92
LT Vol	55	28	15	10
Through Vol	300	50	50	72
RT Vol	62	47	11	10
Lane Flow Rate	453	136	83	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.574	0.195	0.123	0.139
Departure Headway (Hd)	4.56	5.16	5.374	4.987
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	789	689	660	712
Service Time	2.616	3.244	3.467	3.068
HCM Lane V/C Ratio	0.574	0.197	0.126	0.14
HCM Control Delay	13.6	9.5	9.2	8.9
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	3.7	0.7	0.4	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Background
PM Peak

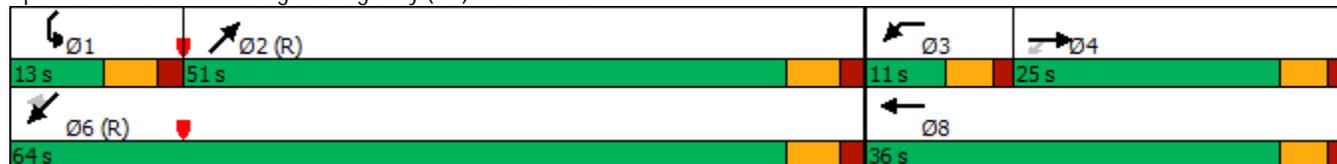


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↖ ↗	↑	↖	↑↑	↑	
Traffic Volume (vph)	264	87	91	215	80	1155	47	
Future Volume (vph)	264	87	91	215	80	1155	47	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	25.0	25.0	11.0	36.0	13.0	64.0	64.0	51.0
Total Split (%)	25.0%	25.0%	11.0%	36.0%	13.0%	64.0%	64.0%	51%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	20.3	20.3	8.0	29.1	10.2	64.9	64.9	
Actuated g/C Ratio	0.20	0.20	0.08	0.29	0.10	0.65	0.65	
v/c Ratio	0.76	0.21	0.36	0.43	0.48	0.55	0.05	
Control Delay	51.1	2.2	67.4	64.2	52.1	11.6	1.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	51.1	2.2	67.4	64.2	52.1	11.6	1.0	
LOS	D	A	E	E	D	B	A	
Approach Delay	38.9			65.1		13.7		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 60.0%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Background
PM Peak

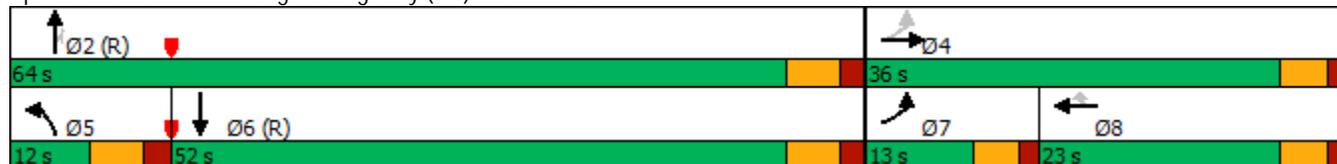


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗	↗	↘	↗	↗	
Traffic Volume (vph)	72	272	262	52	46	2075	91	
Future Volume (vph)	72	272	262	52	46	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	13.0	36.0	23.0	23.0	12.0	64.0	64.0	52.0
Total Split (%)	13.0%	36.0%	23.0%	23.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.7	26.7	16.3	16.3	10.2	67.3	67.3	
Actuated g/C Ratio	0.27	0.27	0.16	0.16	0.10	0.67	0.67	
v/c Ratio	0.28	0.60	0.49	0.15	0.28	0.95	0.09	
Control Delay	59.1	68.7	41.0	0.8	45.5	26.6	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.1	68.7	41.0	0.8	45.5	26.6	1.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.7	34.3			26.0		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 31.8
 Intersection LOS: C
 Intersection Capacity Utilization 78.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	18	760	97	5	370
Future Vol, veh/h	47	18	760	97	5	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	20	826	105	5	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1291	879	0	0	931
Stage 1	879	-	-	-	-
Stage 2	412	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	180	347	-	-	735
Stage 1	406	-	-	-	-
Stage 2	669	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	178	347	-	-	735
Mov Cap-2 Maneuver	178	-	-	-	-
Stage 1	406	-	-	-	-
Stage 2	663	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	31.3	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	206	735
HCM Lane V/C Ratio	-	-	0.343	0.007
HCM Control Delay (s)	-	-	31.3	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.4	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	1	102	97	14	2	2
Future Vol, veh/h	1	102	97	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	111	105	15	2	2
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	120	0	-	0	226	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1468	-	-	-	762	940
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1468	-	-	-	761	940
Mov Cap-2 Maneuver	-	-	-	-	761	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	912	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.1	0	9.3			
HCM LOS			A			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1468	-	-	-	-	841
HCM Lane V/C Ratio	0.001	-	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	-	9.3
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	95	13	39	110	3	9
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Future Vol, veh/h	95	13	39	110	3	9
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	103	14	42	120	3	10
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	117	0	314	110
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Stage 1	-	-	-	-	110	-
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Stage 2	-	-	-	-	204	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1471	-	679	943
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Stage 1	-	-	-	-	915	-
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Stage 2	-	-	-	-	830	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1471	-	658	943
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Mov Cap-2 Maneuver	-	-	-	-	658	-
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Stage 1	-	-	-	-	915	-
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Stage 2	-	-	-	-	804	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	2	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	851	-	-	1471	-
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HCM Lane V/C Ratio	0.015	-	-	0.029	-
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HCM Control Delay (s)	9.3	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0.1	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	113	5	1	143	17	15
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Future Vol, veh/h	113	5	1	143	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	123	5	1	155	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	128	0	283	126
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Stage 1	-	-	-	-	126	-
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Stage 2	-	-	-	-	157	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1458	-	707	924
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Stage 1	-	-	-	-	900	-
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Stage 2	-	-	-	-	871	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1458	-	706	924
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Mov Cap-2 Maneuver	-	-	-	-	706	-
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Stage 1	-	-	-	-	900	-
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Stage 2	-	-	-	-	870	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	794	-	-	1458	-
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HCM Lane V/C Ratio	0.044	-	-	0.001	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2024 Total
Event Arrival PM Peak

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	29	56	48	15	78	11	62	300	62	10	72	13
Future Vol, veh/h	29	56	48	15	78	11	62	300	62	10	72	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	61	52	16	85	12	67	326	67	11	78	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

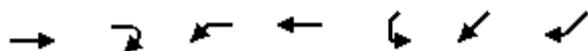
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	9.8	14.6	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	22%	14%	11%
Vol Thru, %	71%	42%	75%	76%
Vol Right, %	15%	36%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	424	133	104	95
LT Vol	62	29	15	10
Through Vol	300	56	78	72
RT Vol	62	48	11	13
Lane Flow Rate	461	145	113	103
Geometry Grp	1	1	1	1
Degree of Util (X)	0.599	0.216	0.175	0.15
Departure Headway (Hd)	4.679	5.373	5.564	5.218
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	760	671	648	689
Service Time	2.771	3.383	3.574	3.236
HCM Lane V/C Ratio	0.607	0.216	0.174	0.149
HCM Control Delay	14.6	9.9	9.8	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	4	0.8	0.6	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Total
Event Arrival PM Peak

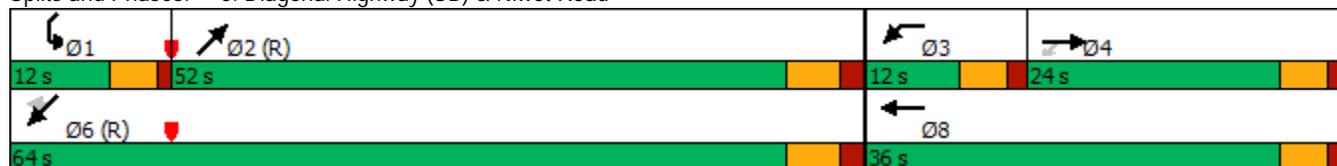


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	267	90	91	230	80	1155	60	
Future Volume (vph)	267	90	91	230	80	1155	60	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	24.0	24.0	12.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	24.0%	24.0%	12.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	19.9	19.9	8.8	29.5	10.4	64.5	64.5	
Actuated g/C Ratio	0.20	0.20	0.09	0.30	0.10	0.64	0.64	
v/c Ratio	0.78	0.23	0.33	0.46	0.47	0.55	0.06	
Control Delay	53.7	3.8	67.1	59.8	51.3	11.8	1.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	3.8	67.1	59.8	51.3	11.8	1.7	
LOS	D	A	E	E	D	B	A	
Approach Delay	41.1			61.9		13.7		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 26.5
 Intersection LOS: C
 Intersection Capacity Utilization 60.1%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Total
Event Arrival PM Peak

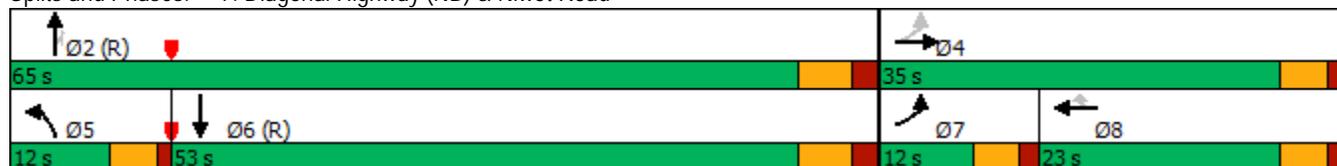


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↶↶	↷	↶	↷↷	↷	
Traffic Volume (vph)	75	272	264	52	59	2075	91	
Future Volume (vph)	75	272	264	52	59	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	9.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	26.0	26.0	16.4	16.4	11.0	68.0	62.0	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.11	0.68	0.62	
v/c Ratio	0.31	0.61	0.49	0.15	0.33	0.94	0.10	
Control Delay	59.9	69.2	40.9	0.9	45.6	24.9	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.9	69.2	40.9	0.9	45.6	24.9	2.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		67.2	34.3			24.5		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 30.7
 Intersection LOS: C
 Intersection Capacity Utilization 78.8%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2024 Total
Event Departure PM Peak

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	20	760	89	3	370
Future Vol, veh/h	55	20	760	89	3	370
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	22	826	97	3	402

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1283	875	0	0	923
Stage 1	875	-	-	-	-
Stage 2	408	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	182	349	-	-	740
Stage 1	408	-	-	-	-
Stage 2	671	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	181	349	-	-	740
Mov Cap-2 Maneuver	181	-	-	-	-
Stage 1	408	-	-	-	-
Stage 2	668	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	740
HCM Lane V/C Ratio	-	-	0.392	0.004
HCM Control Delay (s)	-	-	33	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.7	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	1	92	107	14	2	2
Future Vol, veh/h	1	92	107	14	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	100	116	15	2	2

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	131	0	0	226	124
Stage 1	-	-	-	124	-
Stage 2	-	-	-	102	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1454	-	-	762	927
Stage 1	-	-	-	902	-
Stage 2	-	-	-	922	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1454	-	-	761	927
Mov Cap-2 Maneuver	-	-	-	761	-
Stage 1	-	-	-	901	-
Stage 2	-	-	-	922	-

Approach	EB	WB	SB
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HCM Control Delay, s	0.1	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	1454	-	-	-	836
HCM Lane V/C Ratio	0.001	-	-	-	0.005
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	95	3	9	110	13	39
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Future Vol, veh/h	95	3	9	110	13	39
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	103	3	10	120	14	42
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	106	0	245	105
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Stage 1	-	-	-	-	105	-
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Stage 2	-	-	-	-	140	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1485	-	743	949
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Stage 1	-	-	-	-	919	-
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Stage 2	-	-	-	-	887	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1485	-	738	949
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Mov Cap-2 Maneuver	-	-	-	-	738	-
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Stage 1	-	-	-	-	919	-
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Stage 2	-	-	-	-	881	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.6	9.3
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	886	-	-	1485	-
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HCM Lane V/C Ratio	0.064	-	-	0.007	-
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HCM Control Delay (s)	9.3	-	-	7.4	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	143	5	1	113	17	15
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Future Vol, veh/h	143	5	1	113	17	15
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	155	5	1	123	18	16
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	160	0	283	158
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Stage 1	-	-	-	-	158	-
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Stage 2	-	-	-	-	125	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1419	-	707	887
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Stage 1	-	-	-	-	871	-
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Stage 2	-	-	-	-	901	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1419	-	706	887
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Mov Cap-2 Maneuver	-	-	-	-	706	-
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Stage 1	-	-	-	-	871	-
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Stage 2	-	-	-	-	900	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.8
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	781	-	-	1419	-
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HCM Lane V/C Ratio	0.045	-	-	0.001	-
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HCM Control Delay (s)	9.8	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.1	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2024 Total
Event Departure PM Peak

Intersection

Intersection Delay, s/veh	12.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	78	54	15	56	11	56	300	62	10	72	11
Future Vol, veh/h	31	78	54	15	56	11	56	300	62	10	72	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	85	59	16	61	12	61	326	67	11	78	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

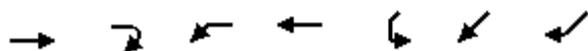
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.5	14.5	9.2
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	19%	18%	11%
Vol Thru, %	72%	48%	68%	77%
Vol Right, %	15%	33%	13%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	418	163	82	93
LT Vol	56	31	15	10
Through Vol	300	78	56	72
RT Vol	62	54	11	11
Lane Flow Rate	454	177	89	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.592	0.262	0.138	0.147
Departure Headway (Hd)	4.692	5.323	5.591	5.245
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	759	679	644	686
Service Time	2.784	3.331	3.603	3.26
HCM Lane V/C Ratio	0.598	0.261	0.138	0.147
HCM Control Delay	14.5	10.2	9.5	9.2
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	3.9	1	0.5	0.5

Timings

6: Diagonal Highway (SB) & Niwot Road

2024 Total
Event Departure PM Peak

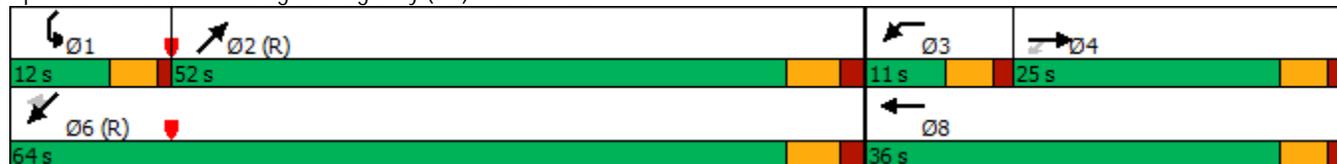


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	279	100	91	218	80	1155	50	
Future Volume (vph)	279	100	91	218	80	1155	50	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	25.0	25.0	11.0	36.0	12.0	64.0	64.0	52.0
Total Split (%)	25.0%	25.0%	11.0%	36.0%	12.0%	64.0%	64.0%	52%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	8.0	29.5	10.5	64.5	64.5	
Actuated g/C Ratio	0.21	0.21	0.08	0.30	0.10	0.64	0.64	
v/c Ratio	0.79	0.25	0.36	0.43	0.47	0.55	0.05	
Control Delay	52.9	4.8	68.2	58.9	51.1	11.7	1.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.9	4.8	68.2	58.9	51.1	11.7	1.1	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.2			61.7		13.8		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 26.4
 Intersection LOS: C
 Intersection Capacity Utilization 60.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2024 Total
Event Departure PM Peak

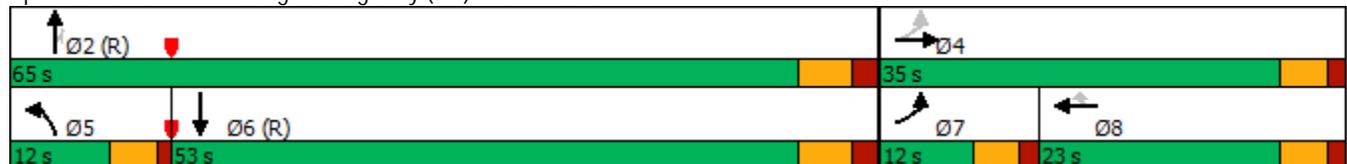


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↖	↑	↕	↗	↖	↕	↗	
Traffic Volume (vph)	85	274	262	52	49	2075	91	
Future Volume (vph)	85	274	262	52	49	2075	91	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	12.0	35.0	23.0	23.0	12.0	65.0	65.0	53.0
Total Split (%)	12.0%	35.0%	23.0%	23.0%	12.0%	65.0%	65.0%	53%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	9.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	26.0	26.0	16.4	16.4	10.7	68.0	62.0	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.11	0.68	0.62	
v/c Ratio	0.34	0.62	0.49	0.15	0.28	0.94	0.10	
Control Delay	59.5	68.0	40.9	0.9	44.8	24.8	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.5	68.0	40.9	0.9	44.8	24.8	2.8	
LOS	E	E	D	A	D	C	A	
Approach Delay		66.0	34.3			24.3		
Approach LOS		E	C			C		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 30.6
 Intersection LOS: C
 Intersection Capacity Utilization 79.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Background
AM Peak

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	10	265	40	15	700
Future Vol, veh/h	80	10	265	40	15	700
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	11	288	43	16	761

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1103	310	0	0	331
Stage 1	310	-	-	-	-
Stage 2	793	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	234	730	-	-	1228
Stage 1	744	-	-	-	-
Stage 2	446	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	229	730	-	-	1228
Mov Cap-2 Maneuver	229	-	-	-	-
Stage 1	744	-	-	-	-
Stage 2	436	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	28.7	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	248	1228
HCM Lane V/C Ratio	-	-	0.394	0.013
HCM Control Delay (s)	-	-	28.7	8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.8	0

HCM 6th TWSC 2: Niwot Road & N. 49th Street

2042 Background
AM Peak

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations		↕	↕		↕	
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Traffic Vol, veh/h	5	100	65	10	10	10
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Future Vol, veh/h	5	100	65	10	10	10
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	-	0	0	-	0	-
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Grade, %	-	0	0	-	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	5	109	71	11	11	11
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Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	82	0	0	196	77
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Stage 1	-	-	-	77	-
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Stage 2	-	-	-	119	-
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Critical Hdwy	4.12	-	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	5.42	-
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Follow-up Hdwy	2.218	-	-	3.518	3.318
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Pot Cap-1 Maneuver	1515	-	-	793	984
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Stage 1	-	-	-	946	-
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Stage 2	-	-	-	906	-
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Platoon blocked, %	-	-	-	-	-
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Mov Cap-1 Maneuver	1515	-	-	790	984
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Mov Cap-2 Maneuver	-	-	-	790	-
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Stage 1	-	-	-	942	-
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Stage 2	-	-	-	906	-
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Approach	EB	WB	SB
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HCM Control Delay, s	0.4	0	9.2
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HCM LOS			A
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Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	1515	-	-	-	876
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HCM Lane V/C Ratio	0.004	-	-	-	0.025
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HCM Control Delay (s)	7.4	0	-	-	9.2
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HCM Lane LOS	A	A	-	-	A
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HCM 95th %tile Q(veh)	0	-	-	-	0.1
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HCM 6th TWSC

3: Site Access & Niwot Road

2042 Background
AM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	110	1	1	75	1	1
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Future Vol, veh/h	110	1	1	75	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	120	1	1	82	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	121	0	205	121
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Stage 1	-	-	-	-	121	-
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Stage 2	-	-	-	-	84	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1467	-	783	930
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Stage 1	-	-	-	-	904	-
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Stage 2	-	-	-	-	939	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1467	-	782	930
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Mov Cap-2 Maneuver	-	-	-	-	782	-
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Stage 1	-	-	-	-	904	-
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Stage 2	-	-	-	-	938	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.1	9.2
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	850	-	-	1467	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.2	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2042 Background
AM Peak

Intersection

Int Delay, s/veh 0.9

Movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	120	10	10	85	5	10
Future Vol, veh/h	120	10	10	85	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	130	11	11	92	5	11

Major/Minor

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	141
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1442
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1442
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.3
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	844	-	-	1442	-
HCM Lane V/C Ratio	0.019	-	-	0.008	-
HCM Control Delay (s)	9.3	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC

5: N. 63rd Street & Niwot Road

2042 Background
AM Peak

Intersection	
Intersection Delay, s/veh	18.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	65	90	165	75	15	35	75	5	10	420	20
Future Vol, veh/h	15	65	90	165	75	15	35	75	5	10	420	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	71	98	179	82	16	38	82	5	11	457	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

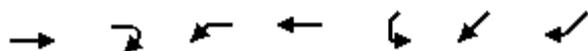
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.9	15	11.3	24
HCM LOS	B	B	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	9%	65%	2%
Vol Thru, %	65%	38%	29%	93%
Vol Right, %	4%	53%	6%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	170	255	450
LT Vol	35	15	165	10
Through Vol	75	65	75	420
RT Vol	5	90	15	20
Lane Flow Rate	125	185	277	489
Geometry Grp	1	1	1	1
Degree of Util (X)	0.222	0.313	0.483	0.755
Departure Headway (Hd)	6.394	6.094	6.274	5.662
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	563	591	579	641
Service Time	4.427	4.113	4.274	3.662
HCM Lane V/C Ratio	0.222	0.313	0.478	0.763
HCM Control Delay	11.3	11.9	15	24
HCM Lane LOS	B	B	B	C
HCM 95th-tile Q	0.8	1.3	2.6	6.8

Timings

6: Diagonal Highway (SB) & Niwot Road

2042 Background
AM Peak

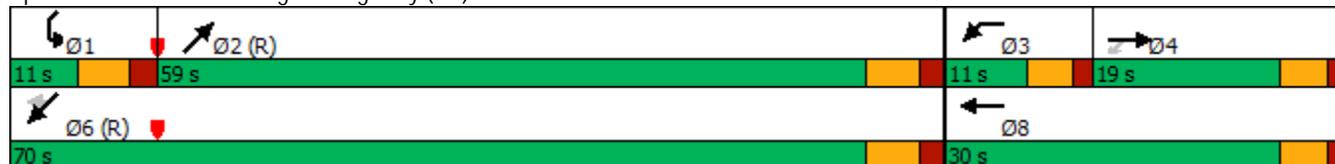


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	175	85	145	265	45	2450	45	
Future Volume (vph)	175	85	145	265	45	2450	45	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	19.0	19.0	11.0	30.0	11.0	70.0	70.0	59.0
Total Split (%)	19.0%	19.0%	11.0%	30.0%	11.0%	70.0%	70.0%	59%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	15.0	15.0	8.0	26.0	8.3	68.0	68.0	
Actuated g/C Ratio	0.15	0.15	0.08	0.26	0.08	0.68	0.68	
v/c Ratio	0.68	0.25	0.58	0.60	0.34	1.06	0.04	
Control Delay	53.1	2.6	76.2	68.4	50.2	54.9	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.1	2.6	76.2	68.4	50.2	54.9	0.7	
LOS	D	A	E	E	D	D	A	
Approach Delay	36.7			71.2		53.8		
Approach LOS	D			E		D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 54.6
 Intersection LOS: D
 Intersection Capacity Utilization 91.1%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Background
AM Peak

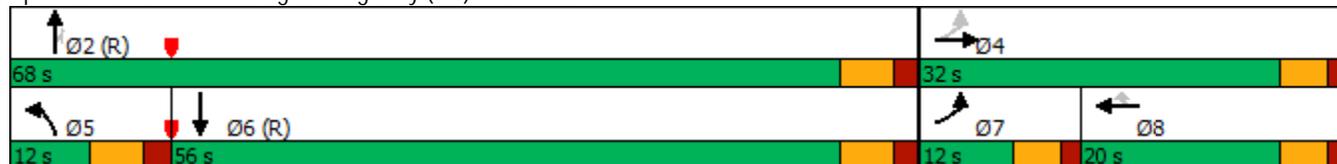


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations								
Traffic Volume (vph)	50	170	350	25	60	785	40	
Future Volume (vph)	50	170	350	25	60	785	40	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	25.8	25.8	16.2	16.2	9.1	68.2	68.2	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.23	0.39	0.66	0.07	0.41	0.35	0.04	
Control Delay	64.0	67.6	45.4	0.4	51.0	7.8	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	64.0	67.6	45.4	0.4	51.0	7.8	0.6	
LOS	E	E	D	A	D	A	A	
Approach Delay		66.8	42.4			10.4		
Approach LOS		E	D			B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 26.9
 Intersection Capacity Utilization 45.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

Background
PM Peak

Intersection						
Int Delay, s/veh	3.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	65	25	900	125	5	440
Future Vol, veh/h	65	25	900	125	5	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	27	978	136	5	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1534	1046	0	0	1114
Stage 1	1046	-	-	-	-
Stage 2	488	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	128	277	-	-	627
Stage 1	338	-	-	-	-
Stage 2	617	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	127	277	-	-	627
Mov Cap-2 Maneuver	127	-	-	-	-
Stage 1	338	-	-	-	-
Stage 2	610	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	66.4	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	149	627
HCM Lane V/C Ratio	-	-	0.657	0.009
HCM Control Delay (s)	-	-	66.4	10.8
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	3.7	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

Background
PM Peak

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations ↶ ↷ ↶ ↷

Traffic Vol, veh/h	5	125	135	20	5	5
Future Vol, veh/h	5	125	135	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	136	147	22	5	5

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	169	0	0	304	158
Stage 1	-	-	-	158	-
Stage 2	-	-	-	146	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1409	-	-	688	887
Stage 1	-	-	-	871	-
Stage 2	-	-	-	881	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1409	-	-	685	887
Mov Cap-2 Maneuver	-	-	-	685	-
Stage 1	-	-	-	868	-
Stage 2	-	-	-	881	-

Approach	EB	WB	SB
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HCM Control Delay, s	0.3	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	1409	-	-	-	773
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

Background
PM Peak

Intersection

Int Delay, s/veh 0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	135	1	1	155	1	1
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Future Vol, veh/h	135	1	1	155	1	1
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	147	1	1	168	1	1
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	148	0	318	148
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Stage 1	-	-	-	-	148	-
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Stage 2	-	-	-	-	170	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1434	-	675	899
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Stage 1	-	-	-	-	880	-
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Stage 2	-	-	-	-	860	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1434	-	674	899
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Mov Cap-2 Maneuver	-	-	-	-	674	-
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Stage 1	-	-	-	-	880	-
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Stage 2	-	-	-	-	859	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	770	-	-	1434	-
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HCM Lane V/C Ratio	0.003	-	-	0.001	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

Background
PM Peak

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	150	10	5	150	25	20
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Future Vol, veh/h	150	10	5	150	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	163	11	5	163	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	174	0	342	169
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Stage 1	-	-	-	-	169	-
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Stage 2	-	-	-	-	173	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1403	-	654	875
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Stage 1	-	-	-	-	861	-
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Stage 2	-	-	-	-	857	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1403	-	651	875
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Mov Cap-2 Maneuver	-	-	-	-	651	-
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Stage 1	-	-	-	-	861	-
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Stage 2	-	-	-	-	854	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.2
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	735	-	-	1403	-
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HCM Lane V/C Ratio	0.067	-	-	0.004	-
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HCM Control Delay (s)	10.2	-	-	7.6	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC

5: N. 63rd Street & Niwot Road

Background
PM Peak

Intersection	
Intersection Delay, s/veh	27.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	70	65	20	75	15	80	425	90	15	105	15
Future Vol, veh/h	40	70	65	20	75	15	80	425	90	15	105	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	76	71	22	82	16	87	462	98	16	114	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

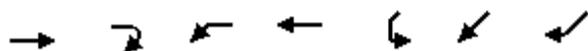
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.1	11.2	38.9	10.8
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	23%	18%	11%
Vol Thru, %	71%	40%	68%	78%
Vol Right, %	15%	37%	14%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	595	175	110	135
LT Vol	80	40	20	15
Through Vol	425	70	75	105
RT Vol	90	65	15	15
Lane Flow Rate	647	190	120	147
Geometry Grp	1	1	1	1
Degree of Util (X)	0.915	0.323	0.213	0.239
Departure Headway (Hd)	5.093	6.115	6.41	5.852
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	584	556	609
Service Time	3.144	4.194	4.499	3.929
HCM Lane V/C Ratio	0.91	0.325	0.216	0.241
HCM Control Delay	38.9	12.1	11.2	10.8
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	12.2	1.4	0.8	0.9

Timings

6: Diagonal Highway (SB) & Niwot Road

Background
PM Peak

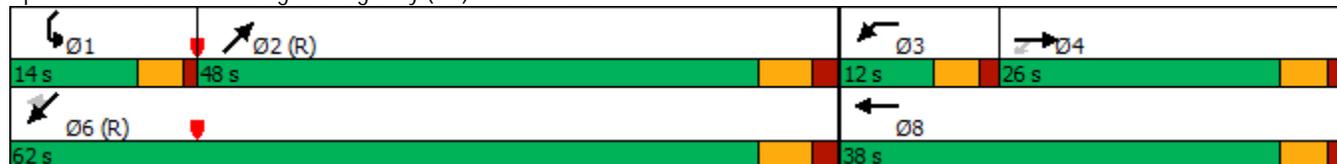


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	300	100	105	245	90	1310	55	
Future Volume (vph)	300	100	105	245	90	1310	55	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	26.0	26.0	12.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	26.0%	26.0%	12.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	21.8	21.8	8.9	33.6	11.9	60.4	60.4	
Actuated g/C Ratio	0.22	0.22	0.09	0.34	0.12	0.60	0.60	
v/c Ratio	0.80	0.24	0.38	0.42	0.47	0.67	0.06	
Control Delay	53.2	4.6	61.1	60.0	48.7	15.4	1.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.2	4.6	61.1	60.0	48.7	15.4	1.6	
LOS	D	A	E	E	D	B	A	
Approach Delay	41.0			60.3		16.9		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 28.2
 Intersection LOS: C
 Intersection Capacity Utilization 66.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings
7: Diagonal Highway (NB) & Niwot Road

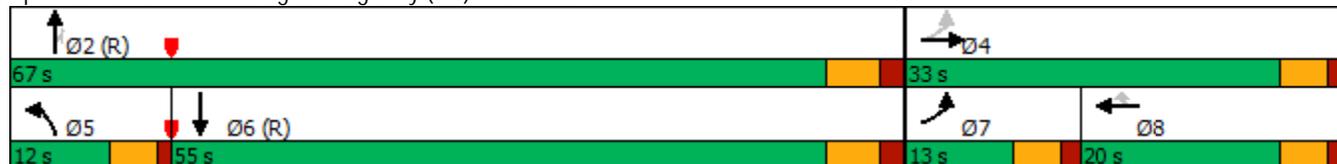


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↘	↑	↗	↗	↘	↗	↗	
Traffic Volume (vph)	80	305	295	60	50	2350	105	
Future Volume (vph)	80	305	295	60	50	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	9.5	24.0	24.0	24.0
Total Split (s)	13.0	33.0	20.0	20.0	12.0	67.0	67.0	55.0
Total Split (%)	13.0%	33.0%	20.0%	20.0%	12.0%	67.0%	67.0%	55%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	1.5	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.9	26.9	16.5	16.5	10.2	67.1	67.1	
Actuated g/C Ratio	0.27	0.27	0.16	0.16	0.10	0.67	0.67	
v/c Ratio	0.32	0.66	0.55	0.17	0.30	1.03	0.10	
Control Delay	46.6	55.0	42.3	1.0	46.1	45.9	1.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.6	55.0	42.3	1.0	46.1	45.9	1.6	
LOS	D	D	D	A	D	D	A	
Approach Delay		53.2	35.4			43.9		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 44.1
 Intersection LOS: D
 Intersection Capacity Utilization 87.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Total
Event Arrival PM Peak

Intersection						
Int Delay, s/veh	4.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	67	25	900	135	7	440
Future Vol, veh/h	67	25	900	135	7	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	73	27	978	147	8	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1546	1052	0	0	1125
Stage 1	1052	-	-	-	-
Stage 2	494	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	126	275	-	-	621
Stage 1	336	-	-	-	-
Stage 2	613	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	124	275	-	-	621
Mov Cap-2 Maneuver	124	-	-	-	-
Stage 1	336	-	-	-	-
Stage 2	602	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	71.1	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	146	621
HCM Lane V/C Ratio	-	-	0.685	0.012
HCM Control Delay (s)	-	-	71.1	10.9
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	3.9	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2042 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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Lane Configurations ↶ ↷ ↶ ↷

Traffic Vol, veh/h	5	137	137	20	5	5
Future Vol, veh/h	5	137	137	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	149	149	22	5	5

Major/Minor	Major1	Major2	Minor2
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Conflicting Flow All	171	0	0	319	160
Stage 1	-	-	-	160	-
Stage 2	-	-	-	159	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1406	-	-	674	885
Stage 1	-	-	-	869	-
Stage 2	-	-	-	870	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1406	-	-	671	885
Mov Cap-2 Maneuver	-	-	-	671	-
Stage 1	-	-	-	866	-
Stage 2	-	-	-	870	-

Approach	EB	WB	SB
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HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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Capacity (veh/h)	1406	-	-	-	763
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	110	13	39	155	3	9
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Future Vol, veh/h	110	13	39	155	3	9
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	120	14	42	168	3	10
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	134	0	379	127
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Stage 1	-	-	-	-	127	-
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Stage 2	-	-	-	-	252	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1451	-	623	923
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Stage 1	-	-	-	-	899	-
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Stage 2	-	-	-	-	790	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1451	-	603	923
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Mov Cap-2 Maneuver	-	-	-	-	603	-
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Stage 1	-	-	-	-	899	-
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Stage 2	-	-	-	-	765	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	1.5	9.5
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	815	-	-	1451	-
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HCM Lane V/C Ratio	0.016	-	-	0.029	-
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HCM Control Delay (s)	9.5	-	-	7.6	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0	-	-	0.1	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	158	10	5	188	25	20
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Future Vol, veh/h	158	10	5	188	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	172	11	5	204	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	183	0	392	178
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Stage 1	-	-	-	-	178	-
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Stage 2	-	-	-	-	214	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1392	-	612	865
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Stage 1	-	-	-	-	853	-
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Stage 2	-	-	-	-	822	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1392	-	610	865
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Mov Cap-2 Maneuver	-	-	-	-	610	-
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Stage 1	-	-	-	-	853	-
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Stage 2	-	-	-	-	819	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.5
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	702	-	-	1392	-
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HCM Lane V/C Ratio	0.07	-	-	0.004	-
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HCM Control Delay (s)	10.5	-	-	7.6	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2042 Total
Event Arrival PM Peak

Intersection	
Intersection Delay, s/veh	32.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	41	76	66	20	103	15	87	425	90	15	105	18
Future Vol, veh/h	41	76	66	20	103	15	87	425	90	15	105	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	83	72	22	112	16	95	462	98	16	114	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

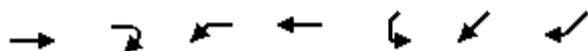
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.9	12.2	47.4	11.3
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	22%	14%	11%
Vol Thru, %	71%	42%	75%	76%
Vol Right, %	15%	36%	11%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	602	183	138	138
LT Vol	87	41	20	15
Through Vol	425	76	103	105
RT Vol	90	66	15	18
Lane Flow Rate	654	199	150	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.956	0.353	0.277	0.257
Departure Headway (Hd)	5.258	6.396	6.655	6.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	565	542	584
Service Time	3.349	4.409	4.67	4.193
HCM Lane V/C Ratio	0.96	0.352	0.277	0.257
HCM Control Delay	47.4	12.9	12.2	11.3
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	13.8	1.6	1.1	1

Timings

6: Diagonal Highway (SB) & Niwot Road

2042 Total
Event Arrival PM Peak

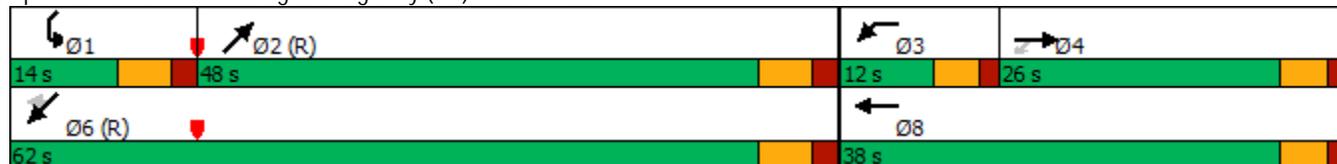


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↗	↖↗	↑	↖	↗↗	↗	
Traffic Volume (vph)	303	103	105	260	90	1310	68	
Future Volume (vph)	303	103	105	260	90	1310	68	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4						6
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	26.0	26.0	12.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	26.0%	26.0%	12.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	21.8	21.8	8.9	33.7	10.9	60.3	60.3	
Actuated g/C Ratio	0.22	0.22	0.09	0.34	0.11	0.60	0.60	
v/c Ratio	0.81	0.24	0.38	0.45	0.51	0.64	0.08	
Control Delay	53.6	3.4	60.4	61.6	51.9	14.9	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.6	3.4	60.4	61.6	51.9	14.9	2.2	
LOS	D	A	E	E	D	B	A	
Approach Delay	40.9			61.3		16.6		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 66.3%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Total
Event Arrival PM Peak

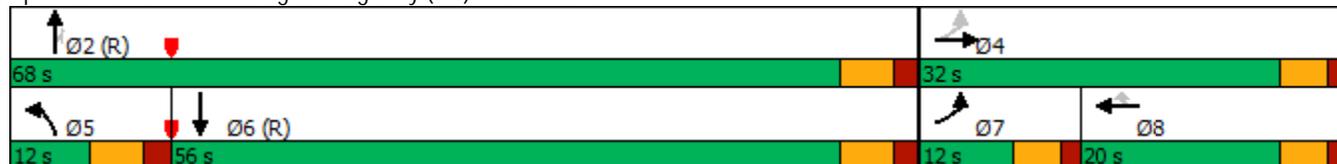


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↗	↑	↕	↗	↗	↕	↗	
Traffic Volume (vph)	83	305	297	60	63	2350	105	
Future Volume (vph)	83	305	297	60	63	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.1	26.1	16.5	16.5	9.4	67.9	67.9	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.35	0.68	0.55	0.17	0.41	1.03	0.10	
Control Delay	47.9	56.2	42.4	0.9	50.7	44.9	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.9	56.2	42.4	0.9	50.7	44.9	1.5	
LOS	D	E	D	A	D	D	A	
Approach Delay		54.4	35.4			43.2		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 43.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road



HCM 6th TWSC

1: E. Foothills Highway & Neva Access Road

2042 Total
Event Departure PM Peak

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	27	900	127	5	440
Future Vol, veh/h	75	27	900	127	5	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	82	29	978	138	5	478

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1535	1047	0	0	1116
Stage 1	1047	-	-	-	-
Stage 2	488	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	128	277	-	-	626
Stage 1	338	-	-	-	-
Stage 2	617	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	127	277	-	-	626
Mov Cap-2 Maneuver	127	-	-	-	-
Stage 1	338	-	-	-	-
Stage 2	610	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	79.6	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	148	626
HCM Lane V/C Ratio	-	-	0.749	0.009
HCM Control Delay (s)	-	-	79.6	10.8
HCM Lane LOS	-	-	F	B
HCM 95th %tile Q(veh)	-	-	4.5	0

HCM 6th TWSC

2: Niwot Road & N. 49th Street

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 0.4

Movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	127	147	20	5	5
Future Vol, veh/h	5	127	147	20	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	138	160	22	5	5

Major/Minor

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	182	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1393	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1393	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	759
HCM Lane V/C Ratio	0.004	-	-	-	0.014
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 6th TWSC

3: Site Access & Niwot Road

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	135	3	8	155	13	39
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Future Vol, veh/h	135	3	8	155	13	39
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	147	3	9	168	14	42
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	150	0	335	149
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Stage 1	-	-	-	-	149	-
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Stage 2	-	-	-	-	186	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1431	-	660	898
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Stage 1	-	-	-	-	879	-
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Stage 2	-	-	-	-	846	-
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Platoon blocked, %	-	-	-	-	-	-
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Mov Cap-1 Maneuver	-	-	1431	-	655	898
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Mov Cap-2 Maneuver	-	-	-	-	655	-
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Stage 1	-	-	-	-	879	-
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Stage 2	-	-	-	-	840	-
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Approach	EB	WB	NB
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HCM Control Delay, s	0	0.4	9.7
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HCM LOS			A
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	822	-	-	1431	-
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HCM Lane V/C Ratio	0.069	-	-	0.006	-
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HCM Control Delay (s)	9.7	-	-	7.5	0
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HCM Lane LOS	A	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th TWSC

4: 55th Street & Niwot Road

2042 Total
Event Departure PM Peak

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations						
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Traffic Vol, veh/h	188	10	5	158	25	20
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Future Vol, veh/h	188	10	5	158	25	20
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Conflicting Peds, #/hr	0	0	0	0	0	0
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Sign Control	Free	Free	Free	Free	Stop	Stop
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RT Channelized	-	None	-	None	-	None
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Storage Length	-	-	-	-	0	-
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Veh in Median Storage, #	0	-	-	0	0	-
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Grade, %	0	-	-	0	0	-
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Peak Hour Factor	92	92	92	92	92	92
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	204	11	5	172	27	22
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Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All	0	0	215	0	392	210
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Stage 1	-	-	-	-	210	-
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Stage 2	-	-	-	-	182	-
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Critical Hdwy	-	-	4.12	-	6.42	6.22
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Critical Hdwy Stg 1	-	-	-	-	5.42	-
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Critical Hdwy Stg 2	-	-	-	-	5.42	-
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Follow-up Hdwy	-	-	2.218	-	3.518	3.318
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Pot Cap-1 Maneuver	-	-	1355	-	612	830
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Stage 1	-	-	-	-	825	-
---------	---	---	---	---	-----	---

Stage 2	-	-	-	-	849	-
---------	---	---	---	---	-----	---

Platoon blocked, %	-	-	-	-	-	-
--------------------	---	---	---	---	---	---

Mov Cap-1 Maneuver	-	-	1355	-	610	830
--------------------	---	---	------	---	-----	-----

Mov Cap-2 Maneuver	-	-	-	-	610	-
--------------------	---	---	---	---	-----	---

Stage 1	-	-	-	-	825	-
---------	---	---	---	---	-----	---

Stage 2	-	-	-	-	846	-
---------	---	---	---	---	-----	---

Approach	EB	WB	NB
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HCM Control Delay, s	0	0.2	10.6
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HCM LOS			B
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Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h)	691	-	-	1355	-
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HCM Lane V/C Ratio	0.071	-	-	0.004	-
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HCM Control Delay (s)	10.6	-	-	7.7	0
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HCM Lane LOS	B	-	-	A	A
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HCM 95th %tile Q(veh)	0.2	-	-	0	-
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HCM 6th AWSC 5: N. 63rd Street & Niwot Road

2042 Total
Event Departure PM Peak

Intersection

Intersection Delay, s/veh	31.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	43	98	72	20	81	15	81	425	90	15	105	16
Future Vol, veh/h	43	98	72	20	81	15	81	425	90	15	105	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	107	78	22	88	16	88	462	98	16	114	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

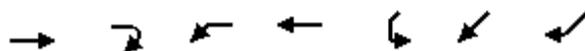
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.6	11.8	46.1	11.3
HCM LOS	B	B	E	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	20%	17%	11%
Vol Thru, %	71%	46%	70%	77%
Vol Right, %	15%	34%	13%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	596	213	116	136
LT Vol	81	43	20	15
Through Vol	425	98	81	105
RT Vol	90	72	15	16
Lane Flow Rate	648	232	126	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.949	0.407	0.235	0.254
Departure Headway (Hd)	5.275	6.333	6.71	6.194
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	572	537	581
Service Time	3.368	4.333	4.729	4.221
HCM Lane V/C Ratio	0.953	0.406	0.235	0.255
HCM Control Delay	46.1	13.6	11.8	11.3
HCM Lane LOS	E	B	B	B
HCM 95th-tile Q	13.5	2	0.9	1

Timings

6: Diagonal Highway (SB) & Niwot Road

2042 Total
Event Departure PM Peak

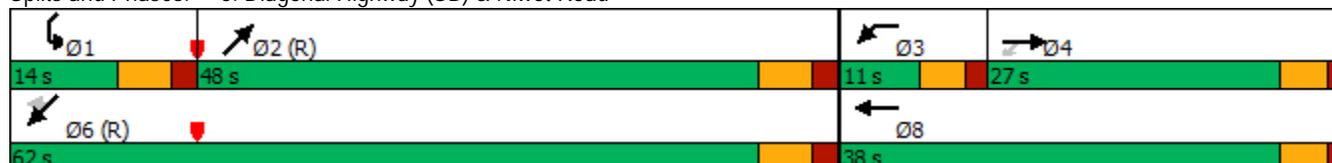


Lane Group	EBT	EBR	WBL	WBT	SWL	SWT	SWR	Ø2
Lane Configurations	↑	↑	↑↑	↑	↑	↑↑	↑	
Traffic Volume (vph)	315	113	105	248	90	1310	58	
Future Volume (vph)	315	113	105	248	90	1310	58	
Turn Type	NA	Perm	Prot	NA	Prot	NA	Perm	
Protected Phases	4		3	8	1	6		2
Permitted Phases		4					6	
Detector Phase	4	4	3	8	1	6	6	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	10.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	27.0	27.0	11.0	38.0	14.0	62.0	62.0	48.0
Total Split (%)	27.0%	27.0%	11.0%	38.0%	14.0%	62.0%	62.0%	48%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lag	Lag	Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effect Green (s)	22.6	22.6	8.0	33.6	11.0	60.4	60.4	
Actuated g/C Ratio	0.23	0.23	0.08	0.34	0.11	0.60	0.60	
v/c Ratio	0.81	0.26	0.42	0.43	0.51	0.67	0.06	
Control Delay	52.6	4.2	61.9	60.9	51.7	15.4	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.6	4.2	61.9	60.9	51.7	15.4	1.8	
LOS	D	A	E	E	D	B	A	
Approach Delay	39.8			61.2		17.1		
Approach LOS	D			E		B		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 28.4
 Intersection Capacity Utilization 67.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 6: Diagonal Highway (SB) & Niwot Road



Timings

7: Diagonal Highway (NB) & Niwot Road

2042 Total
Event Departure PM Peak

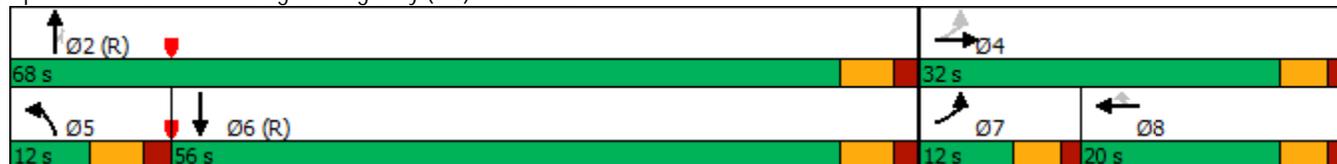


Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	Ø6
Lane Configurations	↶	↷	↷↷	↷	↶	↷↷	↷	
Traffic Volume (vph)	93	307	295	60	53	2350	105	
Future Volume (vph)	93	307	295	60	53	2350	105	
Turn Type	pm+pt	NA	NA	Perm	Prot	NA	Perm	
Protected Phases	7	4	8		5	2		6
Permitted Phases	4			8				2
Detector Phase	7	4	8	8	5	2	2	
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	11.0	24.0	24.0	24.0
Total Split (s)	12.0	32.0	20.0	20.0	12.0	68.0	68.0	56.0
Total Split (%)	12.0%	32.0%	20.0%	20.0%	12.0%	68.0%	68.0%	56%
Yellow Time (s)	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-3.0	-3.0	-3.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lead/Lag	Lead		Lag	Lag	Lead			Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	26.1	26.1	16.5	16.5	9.3	67.9	67.9	
Actuated g/C Ratio	0.26	0.26	0.16	0.16	0.09	0.68	0.68	
v/c Ratio	0.39	0.69	0.55	0.17	0.35	1.03	0.10	
Control Delay	47.1	54.4	42.3	0.9	49.1	44.9	1.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.1	54.4	42.3	0.9	49.1	44.9	1.5	
LOS	D	D	D	A	D	D	A	
Approach Delay		52.7	35.3			43.2		
Approach LOS		D	D			D		

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 43.5
 Intersection LOS: D
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Diagonal Highway (NB) & Niwot Road





Community Planning & Permitting

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September 8, 2022

TO: Pete L'Orange, Planner II; Community Planning & Permitting,
Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting,
Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0010: Prairie Orchard Reception Hall & Vacation Rental –
HOLD REQUEST #2

5114 Niwot Road

The Development Review Team – Access & Engineering staff reviewed the additional information provided in the attached 8/23/22 email from the applicant and has the following comments:

1. The subject property is accessed via Niwot Road, a paved Boulder County owned and maintained right-of-way (ROW) with a Functional Classification of Collector. Legal access has been demonstrated via adjacency to this public ROW.
2. All existing and proposed access to/ within the subject property must be designed/ improved to comply with the [Boulder County Multimodal Transportation Standards \(“the Standards”\)](#), including without limitation:
 - a. Table 5.5.1 – Parcel Access Design Standards
 - b. Standard Drawings 11 -13 – Private Access
 - c. Standard Drawing 14 – Access with Roadside Ditch
 - d. Standard Drawing 15 – Access Profiles Detail
 - e. Standard Drawing 16 – Access Grade & Clearance
 - f. Standard Drawing 18 – Access Turnaround
 - g. Standard Drawing 19 – Typical Turnaround & Pullout Locations

The access drive must be between 26 and 30 feet in width to ensure shuttles and event traffic can safely and efficiently access the subject property from Niwot Road.

The emergency access turnaround must be located a minimum of 50 feet from the front of the and no more than 150 feet from the rear of the structure it serves.

The internal access and parking areas must be surfaced with 4” ABC (Class 6) or other suitable material as approved by the County Engineer.

3. Based on the information provided in the application, the applicant is proposing multiple uses with each use generating a different trip generation rate. The most intensive use proposed, the wedding venue, will include large events (150-300 people) up to four times/ year. A Transportation System

Impact Study (TSIS) dated July 18, 2022 was included in the application materials. **The proposed use is a Reception Hall and Community Meeting Facility. This use may include up to 4 large events (150-300) per year on the weekend, 20 events per year with attendance cap of 150 and unlimited events with cap of 50 people.**

- a. The TSIS notes that shuttles will be used (but are not required) for events between 150-300 guests and that the shuttles will stage at the Church of Boulder property located at 2801 Jay Road to pick up/ drop off guests before and after events held at 5114 Niwot Road. A parking agreement for the Church lot was included in the application materials that states the lot will be unavailable between 8 am and noon on Sundays.
- b. Sunday events at 5114 Niwot Road that utilize shuttle services are not approved to begin before 1 pm on Sundays. There is expected to be adequate parking for event guests at the shuttle lot after Church Services end on Sundays.

Shuttles will be required for the large events and will take place on Saturdays or after 1 pm on Sundays so the shuttle lot is available.

4. The TSIS indicates that shuttles will be required for large events; however, the TSIS also states , there does not seem to be a requirement for shuttles for each event; instead, the applicant proposes to charge \$10 for event parking for individual automobiles “when a shuttle is necessary”. As proposed, there is no guarantee that most/-all of the event guests will utilize shuttle services. **TSIS will be clarified to state that shuttles are required for events over 150. Limited onsite parking will be provided for a fee of \$10. This limited on site parking will be contractually limited and by advanced predetermined invitation only. The onsite parking is limited by the number of on-site parking spaces.**
5. Organizers of events at Prairie Orchard should be made aware of special events on N. Foothills Highway (US Hwy 36) that will impact traffic at the Neva Road/ US Hwy 36 intersection. **Event organizers should contact the county’s Special Events Coordinator prior to events at Prairie Orchard to determine what impacts scheduled special events may have on the surrounding transportation network.**

A&E staff requests the docket remain ON HOLD for the following reasons:

6. The application narrative and the TSIS must be revised to address the following issues:
 - a. The TSIS Conclusions #3 (page 6) indicates that about **250 vehicle-trips will be generated during a large event (150-300 people)** on an average Saturday. The TSIS also notes that **during the weekday** or Saturday afternoon peak-hour, about 95 vehicles are expected to enter and about 14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour.
 - i. It is unclear if the applicant is proposing to host large events only on Saturdays since Conclusion #3 mentions weekday trip generation numbers. **Narrative and TSIS will be revised to clearly state that large events of 150-300 will only be on Saturdays or Sunday afternoons after 1 pm. The shuttle will be required for events with 150-300 in attendance.**
 - ii. It is unclear why an estimated 109 vehicles (95 + 14) are expected to enter/ exit the event site at 5114 Niwot Road during peak hours on days of large events if shuttles are to be used during all large events. If 109 vehicles are expected to enter/ exit the site during peak hours, what is the total number of vehicles expected to enter/ exit the site for the event, including

shuttles? **The 109 vehicles** are for up to 150 people who will be allowed to park on site. If we were to evaluate the 300-person scenario the only additional trips going from 150 to 300 people are the shuttle trips. As described in 6.b. below. The number of shuttles is likely to be 2. **Aren't there only 60-something parking spaces on site? This won't work**

- iii. The TSIS must be revised to clarify the total maximum number of vehicles will be expected to enter/ exit the venue site and how many will be expected to enter/ exit the shuttle staging area at 2801 Jay Road on days when large events are held (assuming maximum allowed attendance of 300 people). *Depending on the number of passenger vehicles expected to enter/ exit the shuttle staging lot at 2801 Jay Road on days when large events are held at the event venue (assuming maximum allowed attendance of 300 people), staff may require the TSIS to be updated to include trip generation analysis for the shuttle staging lot. We are assuming 150 people are allowed at the site for onsite parking and 150 show up at the shuttle lot so the volume of each should be similar.*
 - b. The applicant must provide details about shuttle services for large events (assuming maximum allowed attendance of 300 people), including how many passengers per shuttle, how many shuttles will be employed, where shuttles will stage to drop off/ pick up passengers on the venue site, and how shuttles will be timed (will all shuttles for a single event drop off/ pick up at the same time.. **The shuttles are available for 20-57 people in increments of 10. The shuttles will be arranged on based on number of people and each shuttle can hold 20-57 people depending on the size ordered. The shuttles will use the designated drop off circle, which is separate and unimpeded from onsite guest parking. This drop off circle is shown on the existing site plan . site plan must demonstrate the largest shuttle size will be able to safely navigate the drop off circle. If arrival/ departure will be staggered please make that clear.**
 - c. The TSIS states that “there are no existing...bike facilities along Niwot Road...and N. 63rd Street. However, the Boulder County Bike Map identifies bicycle facilities on these roads (see attached bike map excerpt) and these roads are often included in the routes used for organized bicycle rides/ races on weekends. The TSIS must address how the proposed event venue will impact high weekend bicycle traffic on Niwot Road and propose mitigation measures necessary to minimize conflicts between cyclists and vehicles arriving/ leaving the event venue. **Event day signage could be utilized. We would like feedback from the County regarding what they are looking for here. Please tell us what that signage would look like (cyclists- watch for turning traffic ahead, vehicles watch for cyclists...every event at least 1 hr before event starts, removed within an hour after ends- needs to be placed outside road shoulder)**
 - d. The TSIS must be stamped by the transportation professional who prepared the document. **Not an issue, will provide**
7. A Parking and Access Plan for the event venue must be submitted that addresses the following: **will request from architect**
- a. Internal vehicular circulation for the site and parking lot must be shown. Each parking space must be delineated with a parking bumper or other acceptable treatment.
 - b. A minimum of 6 bicycle parking spaces (one for every 10 automobile parking spaces) is required at the event venue per Article 5.6.5.3 of the Standards. The bicycle parking spaces shall be no more than 50 feet from the proposed entrance of the reception hall. The applicant should consult with Alexandra Phillips (aphillips@bouldercounty.org), the county's Bicycle Planner, on the appropriate location and rack style for this site.
 - c. ADA parking must be labeled- at least one designated ADA van-accessible parking space is required for each of the following structures: the existing farm house, existing studio, and

settler's cabin. A minimum of 2 ADA parking spaces are required for the reception hall; one of these must be van accessible. The ADA parking spaces must be provided ADA access directly from the parking space to the structure.

- d. Define dimensions of parking spaces adjacent to the turnaround.
 - e. No parking is allowed on Niwot Road during events/ uses approved through this proposal. The applicant must install temporary signs approved by the county and monitor parking on event days to ensure there is no parking along Niwot Road. The applicant must include the locations and details for 'No Parking' signs in the Parking Plan submitted for building permit.
8. A detailed Parking Plan for the shuttle staging lot at 2801 Jay Road must be provided that identifies the available number of vehicular parking spaces and ADA parking spaces (minimum 1 ADA van-accessible space is required). The applicant and the owner of 2801 Jay Road must coordinate to determine where the shuttles will line up to pick up/ drop off passengers at the shuttle staging lot; **shuttles must not queue on Jay Road** during pick up/ drop off operations.

Additional comments will be provided after the requested information has been reviewed by staff.



Community Planning & Permitting

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Building Safety & Inspection Services Team

MEMO

TO: Pete L'Orange, Planner II
 FROM: Michelle Huebner, Plans Examiner Supervisor
 DATE: August 16, 2022

RE: Referral Response, SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental. Special Use Review request for the establishment of a Reception Hall venue with a second primary use of a Vacation Rental, using existing structures on an approximately 3.65 acre parcel in the Agricultural zoning district.

Location: 5114 Niwot Road

Thank you for the referral. We have the following comments for the applicants:

1. **Building Permits.** Building permits, plan review, inspection approvals, and a Certificate of Occupancy ("C.O.") are required for the Reception hall. It appears that this building was constructed without the benefit of a building permit and is not legally existing. Separate building permits are required for each structure;
 - a. **Farmhouse** – it appears that work has been done to this building without the required building permits including but not limited to; a kitchen remodel, bathroom remodel, skylights and a mini split.
 - b. **Reception hall** – This building was constructed without a building permit and will be reviewed as a new building.
 - c. **Studio** – no Building permit on record. – it appears that work has been done to this building without the required building permits.
 - d. **Cottage** – it appears that work has been done to this building without the required building permits.
 - e. **Settlers cabin** - it appears that work has been done to this building without the required building permits.
 - f. **Lofting shed / covered roof 1900**– it is attached to the Reception hall and must be included with the Reception hall building permit and the code analysis.

For a complete list of when building permits are required, please refer to the county's adopted 2015 editions of the International Codes and code amendments, which can be found via the internet under the link:

2015 Building Code Adoption & Amendments, at the following URL:

<https://assets.bouldercounty.org/wp-content/uploads/2017/03/building-code-2015.pdf>

For legally existing structures the **International Existing Building Code (IEBC)** will guide the process for the building code analysis for the existing structures.

The Commercial Plan Submittal Checklist: <https://assets.bouldercounty.org/wp-content/uploads/2017/03/b70-commercial-plan-submittal-checklist.pdf>

2. **Minimum Plumbing Fixtures.** The plumbing fixtures count needs to meet or exceed the requirements of IBC Chapter 29, including the need for accessible restrooms and fixtures.
3. **Accessibility.** Chapter 11 of the IBC and referenced standard ICC A117.1-09 provide for accessibility for persons with disabilities. Any building permit submittals are to include any applicable accessibility requirements, including accessible parking, signage, accessible routes and accessible fixtures and features.
4. **Design Wind and Snow Loads.** The design wind and ground snow loads for the property are 160 mph (Vult) and 40 psf, respectively.
5. **Fire Department.** It appears that the site is served by Boulder Rural Fire Protection District. A separate referral response from the fire department should also be forthcoming. The fire department may have additional requirements in accordance with their International Fire Code (“IFC”) adoption. Also, the Fire Protection District must provide written documentation to Boulder County Building Safety and Inspection Services approving the building permit plans and specifications of projects before the building permit can be issued.
6. **Ignition-Resistant Construction and Defensible Space.** Please refer to Section R327 of the Boulder County Building Code for wildfire hazard mitigation requirements, including ignition-resistant construction and defensible space.
7. **Basic Safety Items - Farmhouse as a Vacation Rental.** The inspection process will be used to assure that all currently required safety features, such as smoke detectors, carbon monoxide (“CO”) detectors, Fire Extinguishers, stairs, stair handrails, guardrails, egress windows or doors, door hardware and locks as well as safe electrical, mechanical and plumbing installations; etc., are in place and code-conforming. This will be completed with the required inspections for the work that was done without a building permit.
8. **Plan Review.** The items listed above are a general summary of some of the county’s building code requirements. A much more detailed plan review will be performed at the time of building permit(s) application, when full details are available for review, to assure that all applicable minimum building codes requirements are to be met.

9. **Meeting.** When you are ready to review construction drawings with the plan review team. Please make an appointment with our Plans Examiner Supervisor Michelle Huebner. mhuebner@bouldercounty.org 720-564-2616.

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum building code requirements. Please call (720) 564-2640 or contact us via e-mail at building@bouldercounty.org



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August 18, 2022

TO: Pete L'Orange, Planner II; Community Planning & Permitting,
Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting,
Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0010: Prairie Meadows Reception Hall & Vacation Rental –
HOLD REQUEST

5114 Niwot Road

The Development Review Team – Engineering staff reviewed the above referenced docket and requests the docket be placed ON HOLD for the following reasons:

1. Based on the information provided in the application, the applicant is proposing multiple uses with each use generating a different trip generation rate. The most intensive use proposed, the wedding venue, will include events with up to 300 people. While shuttles are proposed, there does not seem to be a requirement for shuttles for each event; instead, the applicant proposes to charge \$10 for event parking for individual automobiles “when a shuttle is necessary”. As proposed, there is no insurance that most/ all of the event guests will utilize shuttle services.
2. The applicant must prepare a Transportation System Impact Study (TSIS) that clearly identifies each of the uses and the anticipated trips to be generated from each proposed use. For events where multiple concurrent uses are anticipated, the estimated trip numbers must be combined. Please see [Section 4.7](#) in the Boulder County Multimodal Transportation Standards for additional information about TSIS requirements.

Additional comments will be provided after the requested information has been reviewed by staff.



Community Planning & Permitting

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Address: P.O. Box 471 • Boulder, Colorado 80306 • www.BoulderCounty.org

September 8, 2022

TO: Pete L'Orange, Planner II; Community Planning & Permitting,
Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting,
Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0010: Prairie Orchard Reception Hall & Vacation Rental –
HOLD REQUEST #2

5114 Niwot Road

The Development Review Team – Access & Engineering staff reviewed the additional information provided in the attached 8/23/22 email from the applicant and has the following comments:

1. The subject property is accessed via Niwot Road, a paved Boulder County owned and maintained right-of-way (ROW) with a Functional Classification of Collector. Legal access has been demonstrated via adjacency to this public ROW.
2. All existing and proposed access to/ within the subject property must be designed/ improved to comply with the [Boulder County Multimodal Transportation Standards \(“the Standards”\)](#), including without limitation:
 - a. Table 5.5.1 – Parcel Access Design Standards
 - b. Standard Drawings 11 -13 – Private Access
 - c. Standard Drawing 14 – Access with Roadside Ditch
 - d. Standard Drawing 15 – Access Profiles Detail
 - e. Standard Drawing 16 – Access Grade & Clearance
 - f. Standard Drawing 18 – Access Turnaround
 - g. Standard Drawing 19 – Typical Turnaround & Pullout Locations

The access drive must be between 26 and 30 feet in width to ensure shuttles and event traffic can safely and efficiently access the subject property from Niwot Road.

The emergency access turnaround must be located a minimum of 50 feet from the front of the and no more than 150 feet from the rear of the structure it serves.

The internal access and parking areas must be surfaced with 4” ABC (Class 6) or other suitable material as approved by the County Engineer.

3. Based on the information provided in the application, the applicant is proposing multiple uses with each use generating a different trip generation rate. The most intensive use proposed, the wedding venue, will include large events (150-300 people) up to four times/ year. A Transportation System

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner

Impact Study (TSIS) dated July 18, 2022 was included in the application materials.

- a. The TSIS notes that shuttles will be used (but are not required) for events between 150-300 guests and that the shuttles will stage at the Church of Boulder property located at 2801 Jay Road to pick up/ drop off guests before and after events held at 5114 Niwot Road. A parking agreement for the Church lot was included in the application materials that states the lot will be unavailable between 8 am and noon on Sundays.
 - b. Sunday events at 5114 Niwot Road that utilize shuttle services are not approved to begin before 1 pm on Sundays. There is expected to be adequate parking for event guests at the shuttle lot after Church Services end on Sundays.
4. The TSIS indicates that shuttles will be required for large events; however, the TSIS also states , there does not seem to be a requirement for shuttles for each event; instead, the applicant proposes to charge \$10 for event parking for individual automobiles “when a shuttle is necessary”. As proposed, there is no guarantee that most/-all of the event guests will utilize shuttle services.
 5. Organizers of events at Prairie Orchard should be made aware of special events on N. Foothills Highway (US Hwy 36) that will impact traffic at the Neva Road/ US Hwy 36 intersection.

A&E staff requests the docket remain ON HOLD for the following reasons:

6. The application narrative and the TSIS must be revised to address the following issues:
 - a. The TSIS Conclusions #3 (page 6) indicates that about **250 vehicle-trips will be generated during a large event (150-300 people)** on an average Saturday. The TSIS also notes that **during the weekday** or Saturday afternoon peak-hour, about 95 vehicles are expected to enter and about 14 vehicles are expected to exit the site in the arrival peak-hour and about 14 vehicles are expected to enter and about 95 vehicles are expected to exit the site in the departure peak-hour.
 - i. It is unclear if the applicant is proposing to host large events only on Saturdays since Conclusion #3 mentions weekday trip generation numbers.
 - ii. It is unclear why an estimated 109 vehicles (95 + 14) are expected to enter/ exit the event site at 5114 Niwot Road during peak hours on days of large events if shuttles are to be used during all large events. If 109 vehicles are expected to enter/ exit the site during peak hours, what is the total number of vehicles expected to enter/ exit the site for the event, including shuttles?
 - iii. The TSIS must be revised to clarify the total maximum number of vehicles will be expected to enter/ exit the venue site and how many will be expected to enter/ exit the shuttle staging area at 2801 Jay Road on days when large events are held (assuming maximum allowed attendance of 300 people). *Depending on the number of passenger vehicles expected to enter/ exit the shuttle staging lot at 2801 Jay Road on days when large events are held at the event venue (assuming maximum allowed attendance of 300 people), staff may require the TSIS to be updated to include trip generation analysis for the shuttle staging lot.*
 - b. The applicant must provide details about shuttle services for large events (assuming maximum allowed attendance of 300 people), including how many passengers per shuttle, how many shuttles will be employed, where shuttles will stage to drop off/ pick up passengers on the venue site, and how shuttles will be timed (will all shuttles for a single event drop off/ pick up at the same time).

- c. The TSIS states that “there are no existing...bike facilities along Niwot Road...and N. 63rd Street. However, the Boulder County Bike Map identifies bicycle facilities on these roads (see attached bike map excerpt) and these roads are often included in the routes used for organized bicycle rides/ races on weekends. The TSIS must address how the proposed event venue will impact high weekend bicycle traffic on Niwot Road and propose mitigation measures necessary to minimize conflicts between cyclists and vehicles arriving/ leaving the event venue.
 - d. The TSIS must be stamped by the transportation professional who prepared the document.
7. A Parking and Access Plan for the event venue must be submitted that addresses the following:
 - a. Internal vehicular circulation for the site and parking lot must be shown. Each parking space must be delineated with a parking bumper or other acceptable treatment.
 - b. A minimum of 6 bicycle parking spaces (one for every 10 automobile parking spaces) is required at the event venue per Article 5.6.5.3 of the Standards. The bicycle parking spaces shall be no more than 50 feet from the proposed entrance of the reception hall. The applicant should consult with Alexandra Phillips (aphillips@bouldercounty.org), the county’s Bicycle Planner, on the appropriate location and rack style for this site.
 - c. ADA parking must be labeled- at least one designated ADA van-accessible parking space is required for each of the following structures: the existing farm house, existing studio, and settler’s cabin. A minimum of 2 ADA parking spaces are required for the reception hall; one of these must be van accessible. The ADA parking spaces must be provided ADA access directly from the parking space to the structure.
 - d. Define dimensions of parking spaces adjacent to the turnaround.
 - e. No parking is allowed on Niwot Road during events/ uses approved through this proposal. The applicant must install temporary signs approved by the county and monitor parking on event days to ensure there is no parking along Niwot Road. The applicant must include the locations and details for ‘No Parking’ signs in the Parking Plan submitted for building permit.
8. A detailed Parking Plan for the shuttle staging lot at 2801 Jay Road must be provided that identifies the available number of vehicular parking spaces and ADA parking spaces (minimum 1 ADA van-accessible space is required). The applicant and the owner of 2801 Jay Road must coordinate to determine where the shuttles will line up to pick up/ drop off passengers at the shuttle staging lot; **shuttles must not queue on Jay Road** during pick up/ drop off operations.

Additional comments will be provided after the requested information has been reviewed by staff.

Boulder County Multimodal Transportation Standards

Table 5.5.1 Parcel Access Design Standards

	One-Lane Access		Two-Lane Access	
	Plains	Mountains	Plains	Mountains
# of units	1 - 5		6 - 15	
Travelway Width (8' turnouts 8'x 55' incl. tapers - required every 400')	10'	12'	18'	18'
Surface Course	Per geotechnical report ¹		Per geotechnical report	
ROW/Easement Width (min.)	20' 28' w/turnouts		30'	
Centerline Radius (min.)	40'		40'	
Max. Grade (%)	12	12 or up to 14 for 200' max. ²	12	12 or up to 14 for 200' max.
Max. Grade through curve	6% ³		6%	
Clearance Vertical/ Horizontal	13'-6" / 14'	13'-6" / 16'	13'-6" / 22'	
Roadside Ditches	Designed and constructed to Standard Drawings. See BCSDCM and USDCM for permanent erosion control practices.		Designed and constructed to Standard Drawings. See BCSDCM and USDCM for permanent erosion control practices.	
Slope Stability	Per geotechnical recommendations to design stability and facilitate revegetation ⁴		Per geotechnical recommendations to design stability and facilitate revegetation ⁴	
Signs and Traffic Control Devices	Required signs and traffic control devices must conform with the MUTCD, latest edition		Required signs and traffic control devices must conform with the MUTCD, latest edition	
Culverts	Min. 18" or equiv. capacity RCP or CMP in public ROW per Standard Drawing Cross-culverts outside of ROW sized to maintain historic flow		Min. 18" or equiv. capacity RCP or CMP in public ROW per Standard Drawing Cross-culverts outside of ROW sized to maintain historic flow	
Sight Distances	per AASHTO recommendations		per AASHTO recommendations	
Approach to Highway	90° to centerline of highway with max. 30° variation		90° to centerline of highway with max. 30° variation	
Standard Drawings	11, 12, 13, 14, 15, 16, 17, 18, 19		11, 12, 13, 14, 15, 16, 17, 18, 19	
Overall Design Principles	See Section 5.1		See Section 5.1	

¹ Accesses serving one dwelling unit shall use 4" ABC (Class 6) or other suitable material as approved by the Transportation Department.

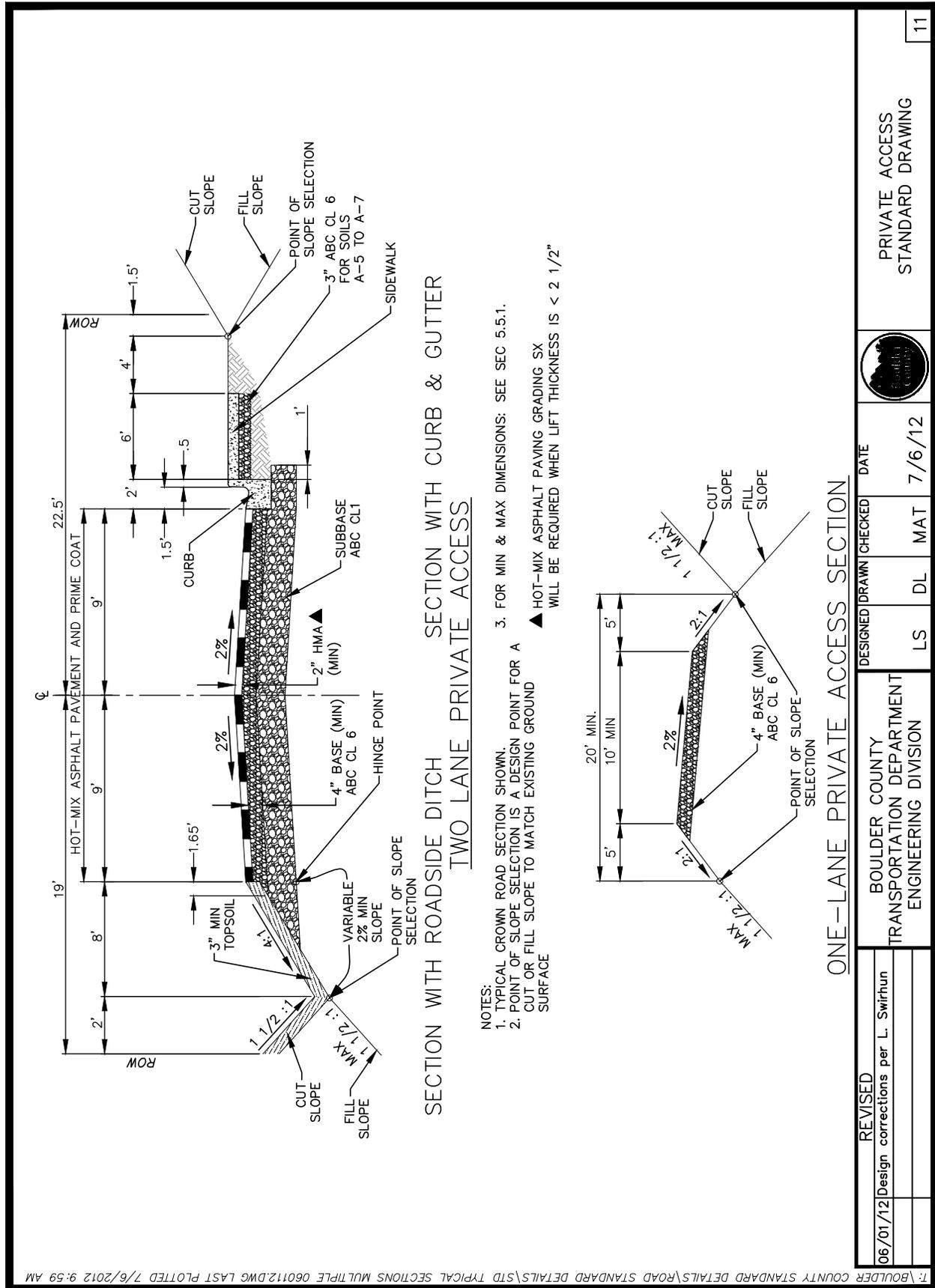
² Accesses serving one dwelling unit may use 16% for 200' max.

³ Accesses serving one dwelling unit may use up to 8% w/ 2' additional width.

⁴ Accesses serving one dwelling unit may use 1 ½ : 1 max. cut and fill slopes or per geotechnical recommendations to design stability and facilitate revegetation.

Boulder County Multimodal Transportation Standards

Standard Drawing 11



Boulder County Multimodal Transportation Standards

Standard Drawing 12

W - FOR MIN. AND MAX. WIDTHS SEE STANDARD DRAWING NO. 13 & 14.
S - MIN. SIDE YARD AS PER ZONING CLASS

D DISTANCE TABLE	
LOCAL ACCESS	50'
COLLECTORS	100'

* COMBINED ACCESS SHALL BE USED WHENEVER POSSIBLE

ACCESS ONTO LOCAL AND COLLECTOR STREETS

ACCESS ONTO ARTERIAL STREETS

REVISIED
08/31/10 Design corrections per L. Swithun

BOULDER COUNTY
TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED | DRAWN | CHECKED | DATE

LS | DL | MAT | 2/17/12

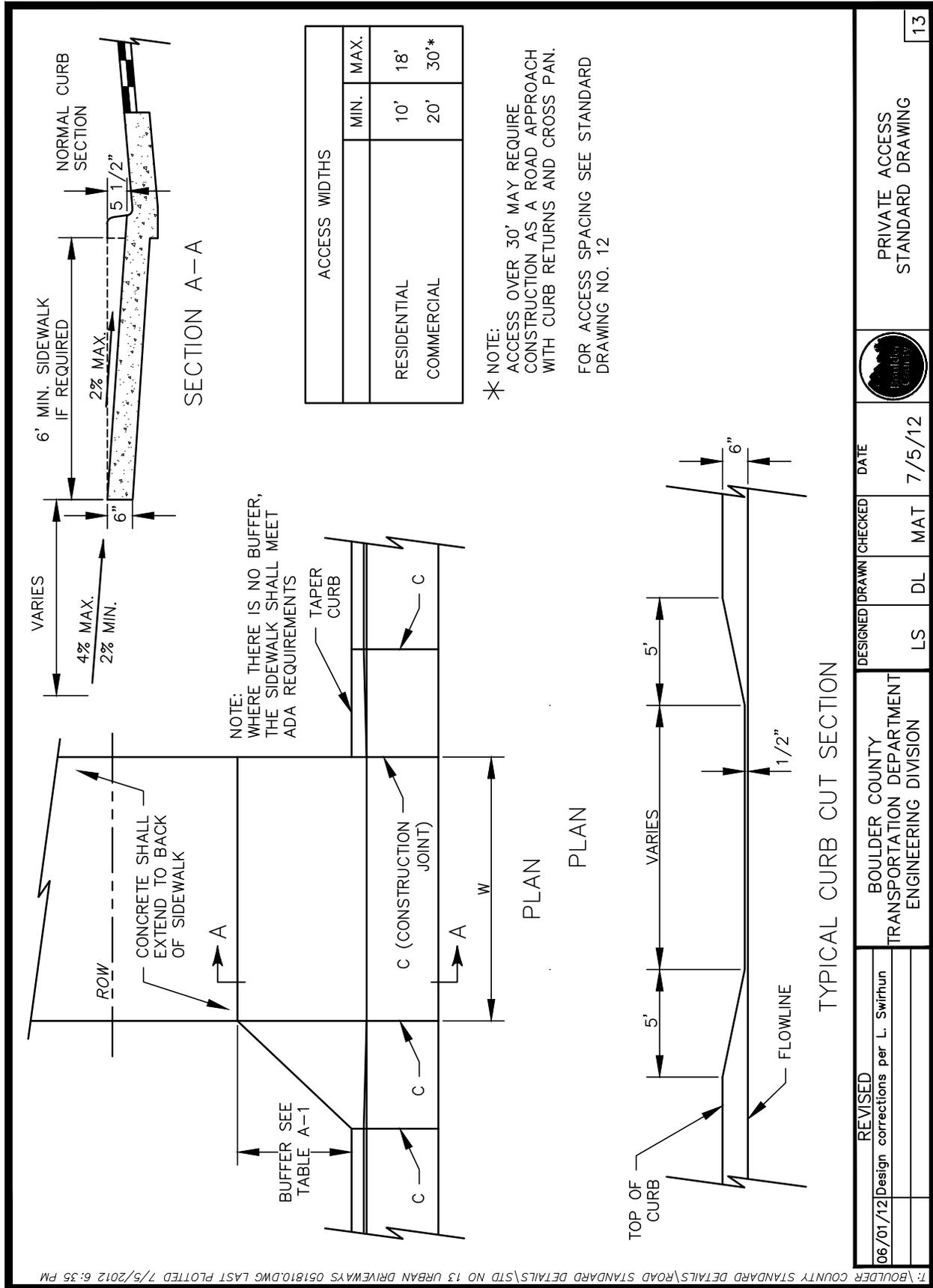
PRIVATE ACCESS
STANDARD DRAWING

12

I:\BOULDER COUNTY STANDARD DETAILS\ROAD STANDARD DETAILS\STD NO 12 DRIVEWAY LOCATION & SPACING 051810.DWG LAST PLOTTED 2/17/2012 2:18 PM

Boulder County Multimodal Transportation Standards

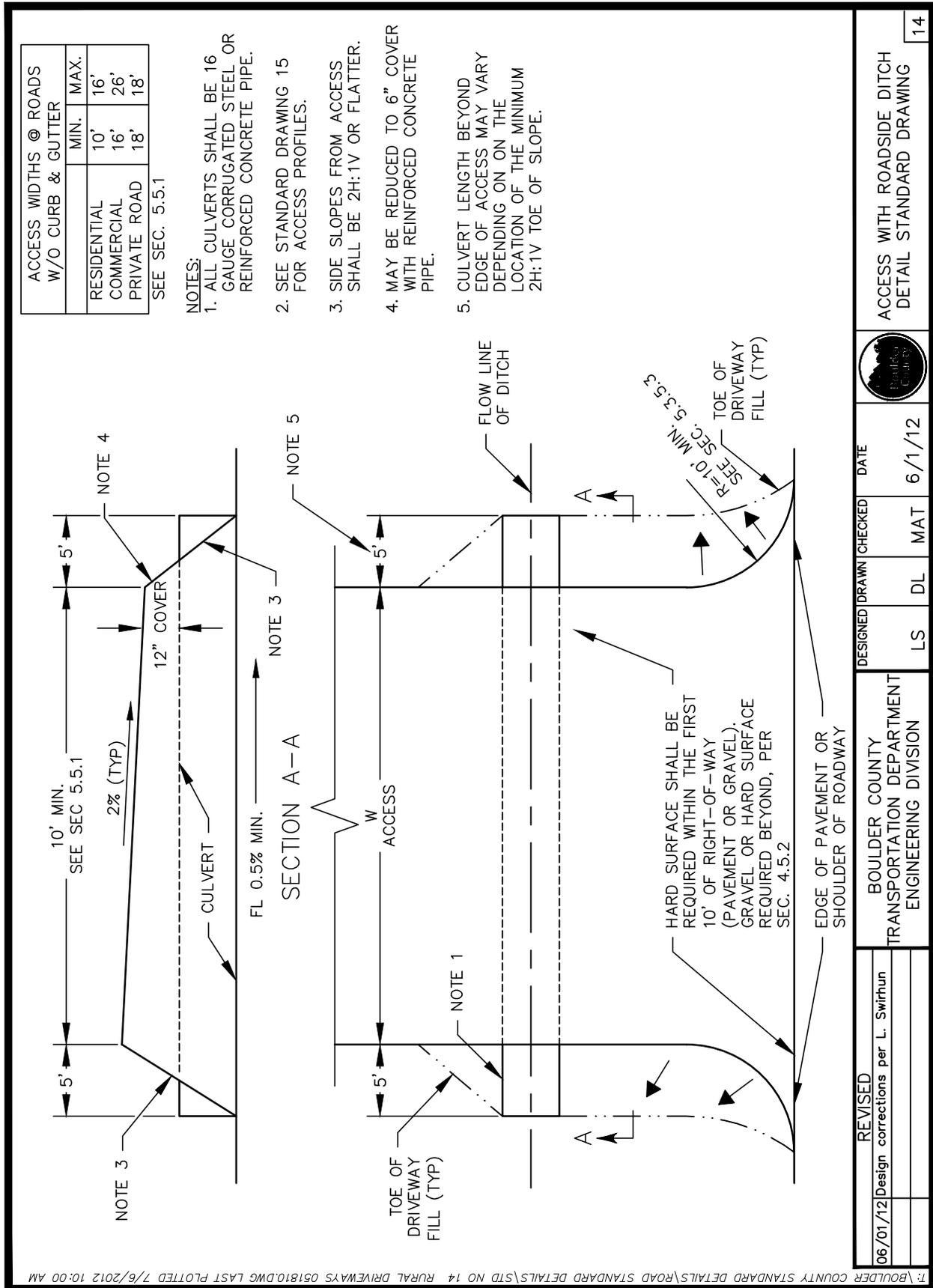
Standard Drawing 13



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Boulder County Multimodal Transportation Standards

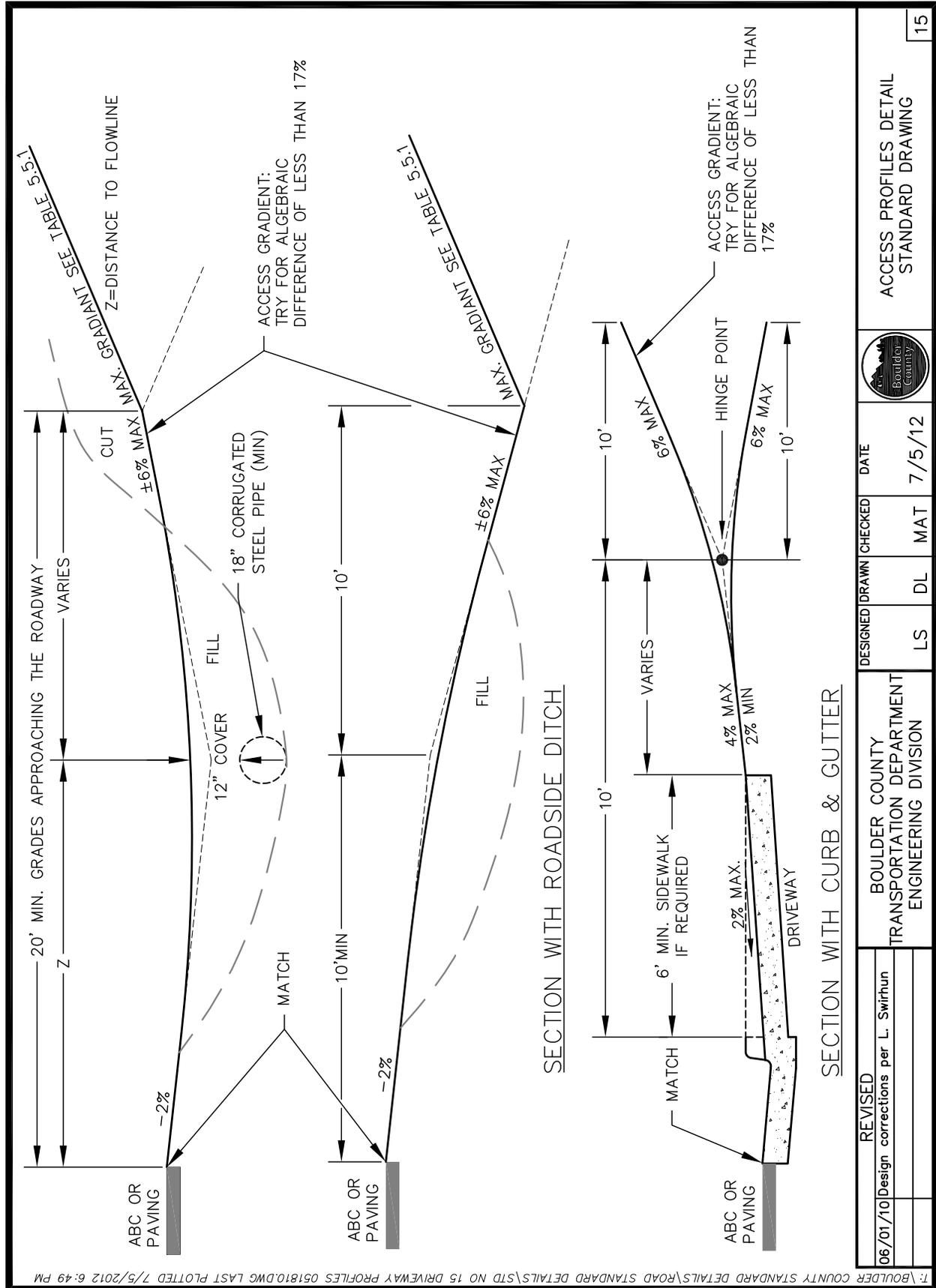
Standard Drawing 14



July 1, 2012

Boulder County Multimodal Transportation Standards

Standard Drawing 15

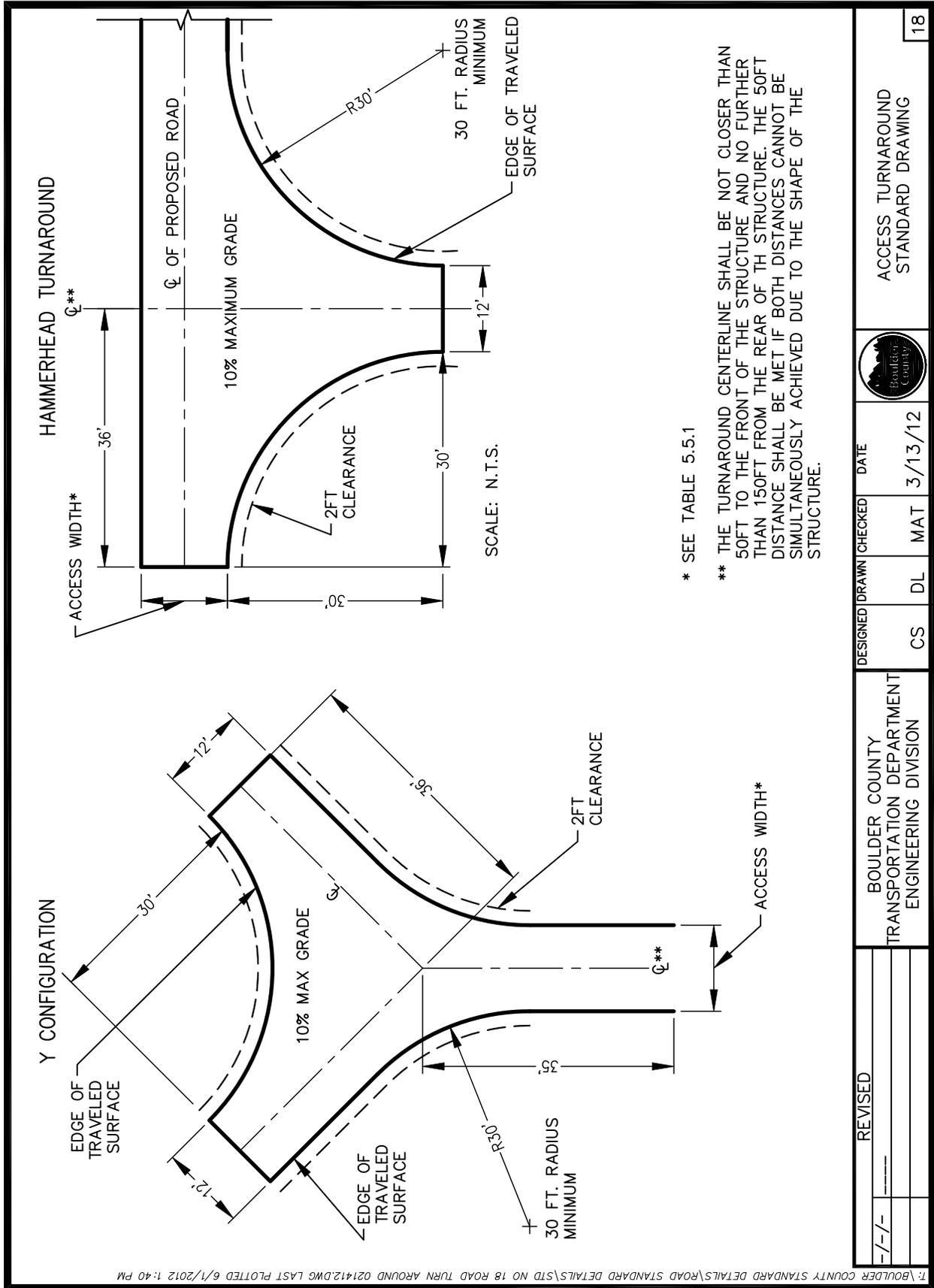


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06/01/10	Design corrections per L. Swirhun	DESIGNED	LS	DRAWN	DL	CHECKED	MAT	DATE	7/5/12		ACCESS PROFILES DETAIL STANDARD DRAWING	15

Boulder County Multimodal Transportation Standards

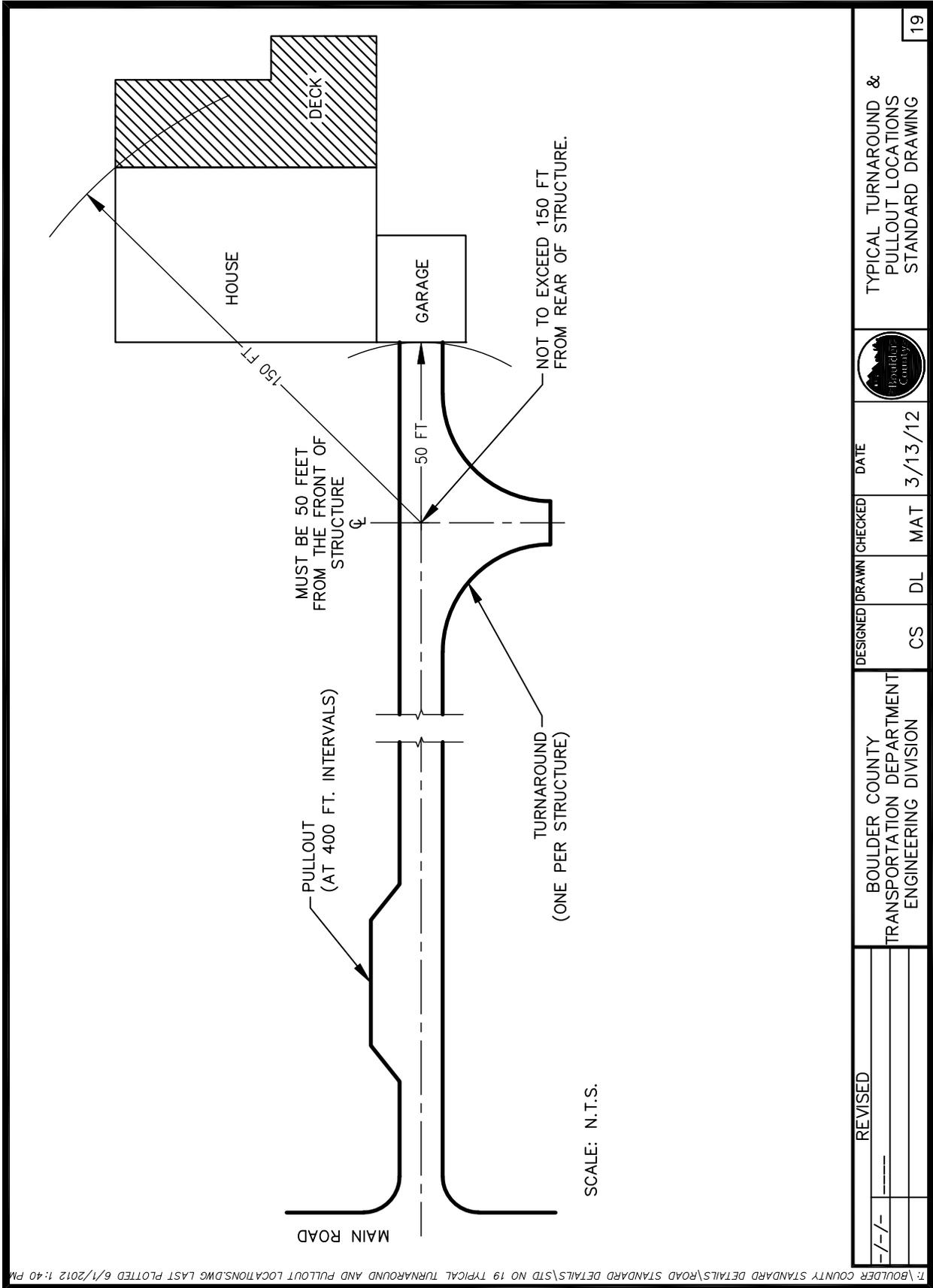
Standard Drawing 18



July 1, 2012

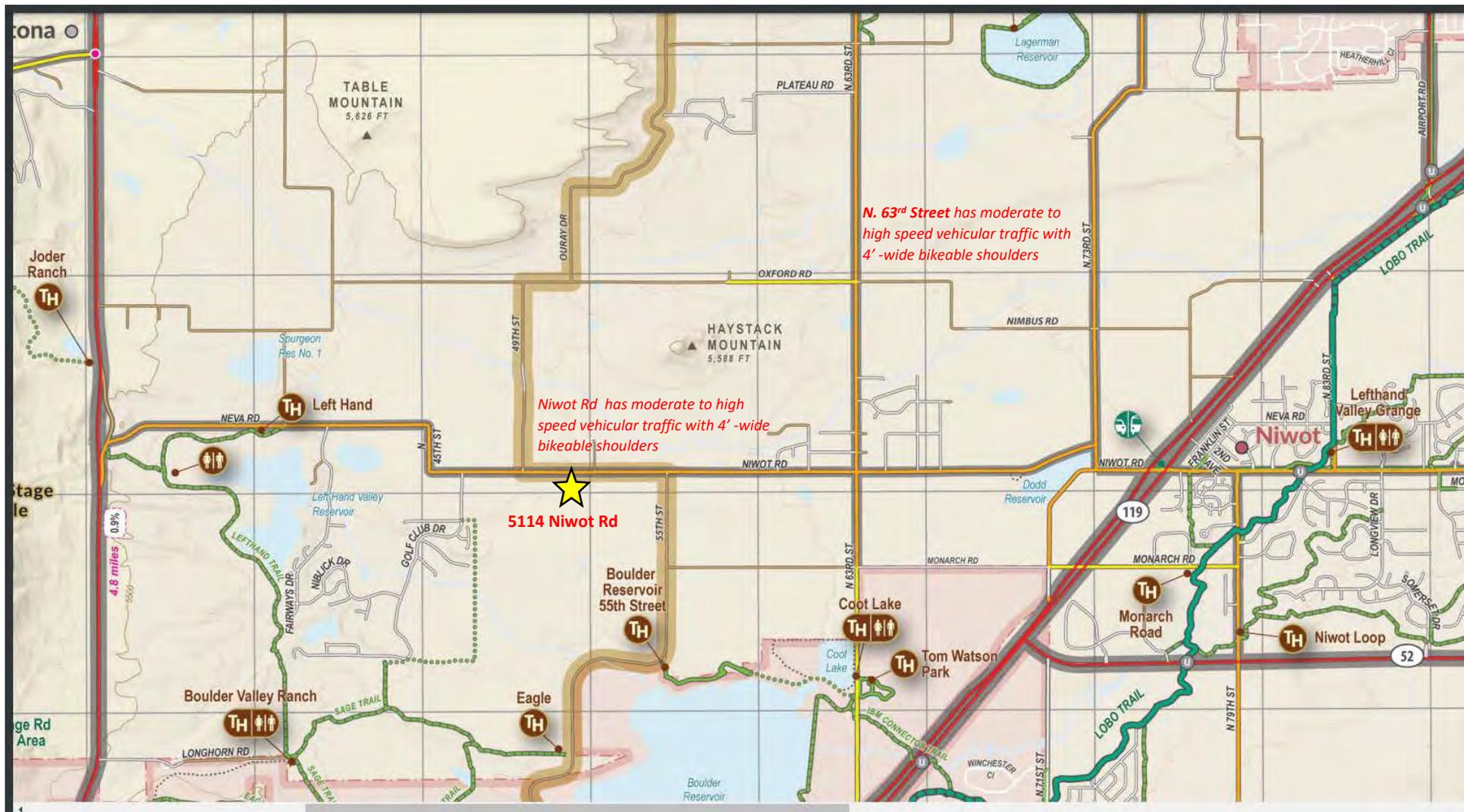
Boulder County Multimodal Transportation Standards

Standard Drawing 19



DESIGNED		DRAWN		CHECKED	DATE		TYPICAL TURNAROUND & PULLOUT LOCATIONS STANDARD DRAWING	19
CS	DL	MAT	3/13/12					
BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION								
REVISED								

I:\BOULDER COUNTY STANDARD DETAILS\ROAD STANDARD DETAILS\STD NO 19 TYPICAL TURNAROUND AND PULLOUT LOCATIONS.DWG LAST PLOTTED 6/1/2012 1:40 PM





Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 •

Tel: 303-441-3930 • www.BoulderCounty.gov

March 27, 2023

TO: Pete L'Orange, Planner II; Community Planning & Permitting, Development Review Team - Zoning

FROM: Anita Riley, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0010: Prairie Orchard Reception Hall & Vacation Rental 5114 Niwot Road

The Development Review Team – Access & Engineering staff has reviewed the additional materials provided for the above referenced docket. In addition to the comments previously submitted, staff has the following comments:

1. The Transportation System Impact Study (TSIS) does not reflect the change in maximum attendees stated in the revised narrative.
2. The TSIS also uses a carpool rate of 2.5 persons per car. This figure is at the upper range for carpool rates typically used for wedding venues. The traffic engineer must provide justification for use of the higher rate or provide a lower carpool rate of 2 persons per vehicle.

Use of the lower carpool rate will impact the maximum size of an event before a shuttle service is required. Any event with more than 100 guests, or 125 people in total, will require a shuttle service. No event parking will be allowed in the Niwot Road right-of-way.

3. The TSIS recommends the placement of signage on the right-of-way to warn cyclists of an event in progress. There is not a Manual of Uniform Traffic Control Devices (MUTCD) compliant sign that will accurately describe the condition of an event on an adjacent property. Instead, the applicant must provide signage, visible to motorists as they exit the site, warning them to watch for cyclists.
4. The parking area is in poor condition and will require grading to grub and level the surface. Additionally, a number of trees must be removed to create the number of parking bays indicated on the site plan.
5. All drive aisles at the parking area must be at least 24 feet wide.
6. The handicapped parking spaces and ADA loading/drop-off area must meet all relevant requirements in the 2010 ADA Standards for Accessible Design.
7. The circular portion of the driveway near the reception hall must be designed to accommodate a single-unit truck. This requires an outside turning radius 42 feet, plus an additional 2 feet to accommodate the front overhang of the vehicle.

At building permit, submit a fully dimensioned plan that demonstrates fully compliant parking and driveway areas.

8. The sight distance at the access for the subject property is in excess of 305 feet, the minimum stopping sight distance for a 40 MPH speed limit, in both directions.

This concludes our comments at this time.



Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
 303-678-6200 • POSinfo@bouldercounty.org
 www.BoulderCountyOpenSpace.org

TO: Pete L'Orange, Community Planning & Permitting Department
FROM: Ron West, Natural Resource Planner
DATE: March 24, 2023
SUBJECT: Docket SU-22-0010, Prairie Orchard, 5114 Niwot Road

Site Conditions

The 3.6-acre parcel is currently in small-acreage, agricultural uses, with gardens, existing buildings, and a variety of horticultural and native trees. Most species on-site are non-native, but this is normal for a plains site.

County Comprehensive Plan Designations

The parcels have the following designations in the Boulder County Comprehensive Plan, or from other resource inventories:

- Significant Agricultural Lands of Statewide Importance – all of parcel
- Environmental Conservation Area – Boulder Valley Ranch/Beech Open Space
- Riparian Area – along ditch
- Agricultural ditches – Star Ditch and Johnson lateral
- View Protection Corridor – associated with Niwot Road

Discussion

From a natural resource perspective, staff has few significant concerns, but many questions. The developed part of the site is an historic “farmyard,” with a long history of attendant human disturbances. Some riparian wildlife habitat exists, primarily along the mature vegetation of the Star Ditch. With a caveat noted below, this vegetation should be protected.

Whether or not the proposal would result in a significant loss of Agricultural Lands is difficult to answer. Of the total 3.6 acres, currently about 2.2 acres are “available” for agriculture. These are areas outside the farmyard, on either side of the Start Ditch, including the parking area that staff believes was not approved before it was constructed. Therefore about 60 percent of the parcel is currently available for agricultural production – with 40 percent (1.4 acres) unavailable.

Proposed improvements -- the parking area and septic system -- would result in about 0.7 acres of further loss. Total lands unavailable for agriculture would then be about 2.1 acres. This, however, is considered an underestimate since it is likely that an outdoor ceremony area, firepit, landscaping, recreation or play areas, or other such improvements would probably be added. Theoretically, the remaining area for agriculture would be about 1.5 acres, or about 42 percent of the parcel.

Staff has two safety concerns that are “resource-related.” Old-growth cottonwoods and crack willows are known for dropping large branches without warning. (The “crack” in crack willow comes from the ease with which the stems break.) A condition of approval should be considered to require an arborist to inspect and recommend safety pruning of trees, as well as having the actual work being completed before uses commence.

Secondly, the Star Ditch (and perhaps the Johnson lateral) is a potentially dangerous “attraction” for children. Children commonly attend weddings so this issue should be considered by the county and the applicant. Staff is not aware if the *rate* of flow of the Star Ditch at this location could be a problem, yet the water itself, no matter how deep, can be of concern. These two concerns could be considered under Criterion 12.

It is strongly recommended that any on-site Russian-olive trees -- a state-listed noxious weed -- be cut down and the stumps immediately treated with a systemic herbicide to prevent re-sprouting.

Staff has concerns with the “unlimited” number of events with less than 50 people, including the possibility of “...multiple events on the same day.” Operating year-round, with no cap in number of events, staff questions whether the proposal is compatible with the neighborhood or Comprehensive Plan. This constancy in operations seems more like a use that should be directed to incorporated portions of the county.

Staff also cannot recall an event center with such a potentially high amount of use on such a small parcel. Most or all event centers approved in the recent past are on larger parcels, which inherently offer more “mitigation” space. The two venues referenced on page 5 of the original narrative are 83 and 9 acres, respectively. A wedding venue approved in 2020 on Highway 287 is 36 acres. The long list of proposed types of events also seems extremely broad; are overnight and/or vacation rentals still part of the proposal?

The above two issues could be considered under Criteria 3 and 4.

Concerning wildlife, how would the “no pet” rule be enforced? An 8-foot privacy fence around the entire site would preclude its use for some wildlife species.

The state water well permit should be submitted for review; such “commercial” use may or may not be permitted.

Staff disagrees with the application’s statement that a “...movable artificial screen to reduce noise and light pollution...” would mitigate impacts to the osprey nest. However, since the new proposal is for all music is to be inside, and the nest is over ½-mile away, staff’s opinion is that no mitigation is necessary. “Educating guests of seasonal wildlife activity” is also not viable.

Recommendations

- All items above should be addressed, and questions resolved.



Public Health

Environmental Health Division

August 25, 2022

TO: Staff Planner, Land Use Department

FROM: Jessica Epstein, Environmental Health Specialist

SUBJECT: SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental

OWNER: PRAIRIE ORCHARD LLC

PROPERTY ADDRESS: 5114 Niwot Road

SEC-TOWN-RANGE: 33 -2N -70

The Boulder County Public Health (BCPH) – Environmental Health division has reviewed the submittals for the above referenced docket and has the following comments.

OWTS:

1. BCPH issued a new permit for the installation of an absorption bed system on 4/14/72. The permit was issued for an onsite wastewater treatment system (OWTS) adequate for a 2-bedroom house. BCPH approved the installation of the OWTS on 5/4/72.
2. BCPH received an application on 6/9/22 for an OWTS permit. The application is for a barn serving as a reception hall. The permit hasn't been issued to date.
3. The OWTS design and permit must take into account all of the proposed activities mentioned in this Special Use application and their associated generated wastewater.
4. The OWTS permit must be issued prior to installation and before a building permit can be obtained. The OWTS must be installed, inspected and approved before a Certificate of Occupancy or Final Building Inspection approval will be issued by Community Planning and Permitting (CP&P).
5. Setbacks between all buildings and the OWTS serving this property and OWTS serving neighboring properties, must be in accordance with the Boulder County OWTS Regulations, Table 7-1.

Avoid Damage to OWTS:

1. Heavy equipment should be restricted from the surface of the absorption field during construction to avoid soil compaction, which could cause premature absorption field malfunction. Caution should be used in conducting trenching and excavation activities so that sewer lines and other OWTS components are not damaged.

This concludes comments from the Public Health – Environmental Health division at this time. For additional information on the OWTS application process and regulations, refer to the following website: www.SepticSmart.org. If you have additional questions about OWTS, please do not hesitate to contact Jessica Epstein at (303) 441-1138.

Cc: OWTS file, owner, Land Use Department

From: [TD Stormwater Shared Mailbox](#)
To: [L'Orange, Pete](#)
Subject: FW: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road
Date: Thursday, September 8, 2022 3:35:15 PM
Attachments: [image001.png](#)
[su-22-0010-referral-packet-red.pdf](#)
[image002.png](#)

Hi Pete, can you please add a requirement that the applicant needs a SWQP? Or has someone else already noted that?

Alli Kelly, P.E
Stormwater Permitting Manager
Boulder County Public Works Department
Cell: 720-237-2384

From: Transportation Development Review <TransDevReview@bouldercounty.org>
Sent: Thursday, September 8, 2022 9:37 AM
To: TD Stormwater Shared Mailbox <tdstormwater@bouldercounty.org>
Cc: L'Orange, Pete <plorange@bouldercounty.org>
Subject: FW: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road

Hey Alli and Jenn- looks like this didn't get referred to you but based on the proposed parking area and improvements to the existing access, this might be > 1 acre of disturbance so I wanted you to be able to comment on SWQP reqmts.

Thanks!

Jennifer Severson, Principal Planner
Development Review Team – Access & Engineering
720-564-2663

From: Goldstein, Andrew <agoldstein@bouldercounty.org>
Sent: Wednesday, July 20, 2022 7:00 PM
To: Historic <historic@bouldercounty.org>; #WildfireMitigation <WildfireMitigation@bouldercounty.org>; Boulder County Short-Term Rental Licensing <STR Licensing@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; Steve Buckbee <sbuckbee@lefthandwater.org>; chrissmith@lefthandwater.org; morgan@pvrea.com; theboss@cushmancattle.com; Willhite, Amy <willhitea@bouldercolorado.gov>; Alexander, Robert <ralexander@bouldercounty.org>; ltheboss@cushmancattle.com; RanglosC@bouldercolorado.gov; bonnellj@bouldercolorado.gov; ashleym@bouldercolorado.gov; CollinsB@bouldercolorado.gov; Vanessa McCracken <bldrvalleyandlongmontcds@gmail.com>; drogers@brfr.org; Milner, Anna <amilner@bouldercounty.org>; Moline, Jeffrey <jmoline@bouldercounty.org>; Strenge, Ernst

<estrenge@bouldercounty.org>; Abner, Ethan <eabner@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; Vaughn, Andrea <avaughn@bouldercounty.org>; Cavaleri, Keli <kcavaleri@bouldercounty.org>; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>

Cc: L'Orange, Pete <plorange@bouldercounty.org>

Subject: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road

Please find attached the referral packet for *SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental* at *5114 Niwot Road*.

Please return responses and direct any questions to [Pete L'Orange](mailto:plorange@bouldercounty.org) by *August 25, 2022*. (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

All the best,
Andrew

**Andrew Goldstein (pronouns: he/him/his) | Administrative Technician
Planning Division | Boulder County Community Planning & Permitting**

[\(303\) 441-3930](tel:3034413930) (Main Office) | [\(720\) 564-2622](tel:7205642622) (Direct)

P.O. Box 471, Boulder, CO 80306 | Courthouse Annex Building—2045 13th St., Boulder, CO 80302
agoldstein@bouldercounty.org | www.boco.org/cpp

Department service hours are **8 a.m.-4:30 p.m.** Monday, Wednesday, Thursday, Friday, and **10 a.m.-4:30 p.m.** Tuesday.

The Community Planning & Permitting Department physical office in Boulder is now open Monday, Wednesday and Thursday from 9 a.m. to 2 p.m. On Tuesdays the department is open by appointment only from 12:30–4:30 p.m. Most services are available virtually in addition to in-person services. Staff is available at [303-441-3930](tel:3034413930), [online](#), or via [appointment](#).

Please note we are in response for the Marshall Fire and replies may be delayed. We appreciate your patience during this time. For Marshall Fire questions, contact MarshallRebuilding@bouldercounty.org. View our [Marshall Fire Recovery](#) webpage for current Marshall Fire information and resources. Sign up for Boulder County news at www.boco.org/e-news and for fire recovery info at www.boco.org/MarshallFireInfo.

New: Boulder County has a new website: BoulderCounty.gov! Bookmark it today. Email addresses will transition at a later date.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303-441-3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.BoulderCounty.org

Wildfire Mitigation Team

MEMO

TO: Pete L'Orange, Planner II
FROM: Abby Silver, Wildfire Mitigation Specialist
DATE: August 16, 2022
RE: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road

Thank you for the referral. We have the following comments for the applicants:

Decades of catastrophic wildfires, research, and case studies have shown that extreme wildfires are inevitable in Boulder County and across the Western US, but loss of life and homes does not have to be inevitable. The conditions that principally determine if a house ignites occur within 100 feet of the house, including the house itself. That is why Boulder County has such strong wildfire mitigation requirements in our Land Use and Building Code.

Site Location

Site location has been reviewed by a Boulder County Wildfire Mitigation Specialist as part of the Site Plan Review process and no conflicts have been identified.

Vacation Rental

At this time, there are no wildfire mitigation requirements associated with vacation rentals in the eastern part of Boulder County.

Reception Hall Venue

We have concerns about the emergency planning for large events with 150 people or more, which could take place up to 24 times per year and involve shuttling attendees to and from the site. Specifically, if an evacuation order is issued, how will all the attendees be evacuated if many of them have been shuttled to the site? Our team would appreciate more details.

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum land use and building code requirements. I can be reached at 720-564-2641 or via e-mail at asilver@bouldercounty.org



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306
303-441-3930 • www.BoulderCounty.gov

TO: Pete L'Orange, Planner II
FROM: Abby Silver, Wildfire Mitigation Specialist
DATE: March 6, 2023
RE: Re-Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road

Thank you for the referral. We have the following comments for the applicants:

Decades of catastrophic wildfires, research, and case studies have shown that extreme wildfires are inevitable in Boulder County and across the Western US, but loss of life and homes does not have to be inevitable. The conditions that principally determine if a house ignites occur within 100 feet of the house, including the house itself. That is why Boulder County has such strong wildfire mitigation requirements in our Land Use and Building Code.

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At this time, there are no wildfire mitigation requirements associated with vacation rentals in the eastern part of Boulder County.

Reception Hall Venue

Concerns from our wildfire mitigation referral of 8/16/2022 have been resolved.

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum land use and building code requirements. I can be reached at 720-564-2641 or via e-mail at asilver@bouldercounty.org

From: [Cavaleri, Keli](#)
To: [L'Orange, Pete](#)
Subject: RE: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road
Date: Monday, August 1, 2022 4:39:02 PM
Attachments: [image001.png](#)
[image002.png](#)

Hi Pete,

The Parks Dept does not have a comment on this docket at this time, as it should not affect any nearby county owned properties.

Thank you!

Keli Cavaleri
kcavaleri@bouldercounty.org

From: Goldstein, Andrew <agoldstein@bouldercounty.org>
Sent: Wednesday, July 20, 2022 7:00 PM
To: Historic <historic@bouldercounty.org>; #WildfireMitigation <WildfireMitigation@bouldercounty.org>; Boulder County Short-Term Rental Licensing <STRLicensing@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; Steve Buckbee <sbuckbee@lefthandwater.org>; chrissmith@lefthandwater.org; morgana@pvrea.com; theboss@cushmancattle.com; Willhite, Amy <willhitea@bouldercolorado.gov>; Alexander, Robert <ralexander@bouldercounty.org>; ltheboss@cushmancattle.com; RanglosC@bouldercolorado.gov; bonnellj@bouldercolorado.gov; ashleym@bouldercolorado.gov; CollinsB@bouldercolorado.gov; Vanessa McCracken <bldrvalleyandlongmontcads@gmail.com>; drogers@brfr.org; Milner, Anna <amilner@bouldercounty.org>; Moline, Jeffrey <jmoline@bouldercounty.org>; Strenge, Ernst <estrenge@bouldercounty.org>; Abner, Ethan <eabner@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; Vaughn, Andrea <avaughn@bouldercounty.org>; Cavaleri, Keli <kcavaleri@bouldercounty.org>; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>
Cc: L'Orange, Pete <plorange@bouldercounty.org>
Subject: Referral packet for SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road

Please find attached the referral packet for ***SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road.***

Please return responses and direct any questions to [Pete L'Orange](#) by **August 25, 2022**. (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

All the best,

Andrew

**Andrew Goldstein (pronouns: he/him/his) | Administrative Technician
Planning Division | Boulder County Community Planning & Permitting**

[\(303\) 441-3930](tel:3034413930) (Main Office) | [\(720\) 564-2622](tel:7205642622) (Direct)

P.O. Box 471, Boulder, CO 80306 | Courthouse Annex Building—2045 13th St., Boulder, CO 80302

agoldstein@bouldercounty.org | www.boco.org/cpp

Department service hours are **8 a.m.-4:30 p.m.** Monday, Wednesday, Thursday, Friday, and **10 a.m.-4:30 p.m.** Tuesday.

The Community Planning & Permitting Department physical office in Boulder is now open Monday, Wednesday and Thursday from 9 a.m. to 2 p.m. On Tuesdays the department is open by appointment only from 12:30–4:30 p.m. Most services are available virtually in addition to in-person services. Staff is available at [303-441-3930](tel:3034413930), [online](#), or via [appointment](#).

Please note we are in response for the Marshall Fire and replies may be delayed. We appreciate your patience during this time. For Marshall Fire questions, contact MarshallRebuilding@bouldercounty.org. View our [Marshall Fire Recovery](#) webpage for current Marshall Fire information and resources. Sign up for Boulder County news at www.boco.org/e-news and for fire recovery info at www.boco.org/MarshallFireInfo.

New: Boulder County has a new website: BoulderCounty.gov! Bookmark it today. Email addresses will transition at a later date.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEMO TO: Referral Agencies
 FROM: Pete L'Orange, Planner II
 DATE: July 21, 2022
 RE: Docket SU-22-0010

Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental

Request: Special Use Review request for the establishment of a Reception Hall venue with a second primary use of a Vacation Rental, using existing structures on an approximately 3.65 acre parcel in the Agricultural zoning district.

Location: 5114 Niwot Road, Parcel number 131733000002, located approximately 0.5 mile west of the intersection of Niwot Road and 55th Street, Section 33, T2N, R70W.

Zoning: Agricultural (A) Zoning District

Applicants/Owners: Prairie Orchard LLC

Agent: Kimberly Lord

Special Use Review / Site Specific Development Plan is required of uses which may have greater impacts on services, neighborhoods, or environment than those allowed with only Building Permit Review. This process will review compatibility, services, environmental impacts, and proposed site plan.

This process includes public hearings before the Boulder County Planning Commission and the Board of County Commissioners. Adjacent property owners and holders of liens, mortgages, easements or other rights in the subject property are notified of these hearings.

The Community Planning & Permitting staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter to the Community Planning & Permitting Department at P.O. Box 471, Boulder, Colorado 80306 or via email to planner@bouldercounty.org. All comments will be made part of the public record and given to the applicant. Only a portion of the submitted documents may have been enclosed; you are welcome to call the Community Planning & Permitting Department at 303-441-3930 or email planner@bouldercounty.org to request more information. If you have any questions regarding this application, please contact me at 720-564-2271 or ibrighton@bouldercounty.org.

Please return responses by **August 25, 2022**.

(Please note that due to circumstances surrounding COVID-19, application timelines and deadlines may need to be modified as explained in the CPP Notice of Emergency Actions issued March 23, 2020 (see <https://boco.org/covid-19-cpp-notice-20200323>).

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed

PRINTED

Jessica Fasick

Agency or Address CP&P Historic Review

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner

Please note that all Community Planning & Permitting Department property owner's mailing lists and parcel maps are generated from records maintained by the County Assessor and Treasurer Office. We are required to use this list to send notices to the "property owner" of land in Boulder County. If you feel you should not be considered a "property owner," or if the mailing address is incorrect, contact the County Assessor's Office at (303) 441-3530.

From: [Dean Rogers](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010
Date: Tuesday, August 30, 2022 9:54:44 AM

Pete,

Boulder Rural has the following recommendations regarding SU-22-0010, the Prairie Orchard Reception Hall. This will also include some of the items we spoke about during our phone conversation.

1. The structure will be classified as either an A-2 or an A-3. A conversation with the owner will help to discern which will be appropriate.
2. The structure occupancy is approximately 90 persons. This is based on the dimensions for the "main room" of 28.33 x 49 feet. The resulting number (90) is then divided by 15 (to account for moveable tables and chairs). Other factors will be taken into account, and I would like to see the building and take measurements myself before quoting a definitive number. The number given was per dimensions I received from the owner on a hand-drawn sketch.
3. The owner states she would like to have up to 300 people in attendance for some of the events. A separate (permitted) tent would be needed for this as the structure is not nearly large enough.
4. According to the 2015 version of the IFC, the structure will not require an alarm system or sprinklers. Smoke alarms in each room would help to promote a safe atmosphere.
5. A cistern will not be required a hydrant is within 500 feet of the structure.
6. An adequate entrance and turn-around will be needed for our fire engine.

If I missed anything, or if there are any questions, please let me know.

Thanks,

Dean Rogers, Engineer

Boulder Rural Fire Rescue
6230 Lookout Road, Boulder, CO 80301
Office: 303-530-9575 | Cell: 720-498-0019
drogers@brfr.org | www.brfr.org



From: [Dean Rogers](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] FW: SU-22-0010
Date: Thursday, March 23, 2023 10:51:03 AM

Pete,

Boulder Rural's recommendations haven't changed from the ones initially given. To add a clarification to the table given by Mrs. Duffy in "Attachment B": In the first column, 274 is if the floor area is used as a dance floor, 196 is if the floor area has moveable chairs and 91 is if the floor area has moveable tables and chairs. Also, Mrs. Duffy plans on adding sprinklers to the structure, which could only increase the safety for any gathering. If I missed anything, or if there are any questions, please let me know.

Thank you,

Dean Rogers, Engineer

Boulder Rural Fire Rescue
6230 Lookout Road, Boulder, CO 80301
Office: 303-530-9575 | Cell: 720-498-0019
drogers@brfr.org | www.brfr.org



From: Dean Rogers
Sent: Tuesday, August 30, 2022 9:55 AM
To: L'Orange, Peter <plorange@bouldercounty.org>
Subject: SU-22-0010

Pete,

Boulder Rural has the following recommendations regarding SU-22-0010, the Prairie Orchard Reception Hall. This will also include some of the items we spoke about during our phone conversation.

1. The structure will be classified as either an A-2 or an A-3. A conversation with the owner will help to discern which will be appropriate.
2. The structure occupancy is approximately 90 persons. This is based on the dimensions for the "main room" of 28.33 x 49 feet. The resulting number (90) is then divided by 15 (to account for moveable tables and chairs). Other factors will be taken into account, and I would like to see the building and take measurements myself before quoting a definitive number. The number given was per dimensions I received from the owner on a hand-drawn sketch.
3. The owner states she would like to have up to 300 people in attendance for some of the events. A separate (permitted) tent would be needed for this as the structure is not nearly

large enough.

4. According to the 2015 version of the IFC, the structure will not require an alarm system or sprinklers. Smoke alarms in each room would help to promote a safe atmosphere.
5. A cistern will not be required a hydrant is within 500 feet of the structure.
6. An adequate entrance and turn-around will be needed for our fire engine.

If I missed anything, or if there are any questions, please let me know.

Thanks,

Dean Rogers, Engineer

Boulder Rural Fire Rescue

6230 Lookout Road, Boulder, CO 80301

Office: 303-530-9575 | Cell: 720-498-0019

drogers@brfr.org | www.brfr.org





City of Boulder Open Space & Mountain Parks

2520 55th St. | Boulder, CO 80301; 303-441-3440

<http://www.osmp.org>

MEMORANDUM

To: Pete L'Orange, Planner II, Boulder County Community Planning and Permitting

From: Matt Ashley, Property Agent, City of Boulder Open Space and Mountain Parks

Date: August 25, 2022

Re: Docket SU-22-0010, Prairie Orchard Reception Hall and Vacation Rental
Special Use Review

Thank you for the opportunity to review the application referenced above. The subject property is in the vicinity of City of Boulder Open Space and Mountain Parks (OSMP) land. Please consider the following comments regarding this development application:

Viewshed

OSMP supports efforts by county staff to have the applicant maintain trees and vegetation that could help shield the proposed development from the public viewshed while considering the need for wildfire defensible space. OSMP also encourages the county to consider requiring Firewise landscaping plants as defined by the Colorado State Forest Service (CSFS). More information on Firewise plants can be found at the following link: <https://extension.colostate.edu/topic-areas/natural-resources/firewise-plant-materials-6-305/>

Native Plants

Use of native plant materials for revegetation and landscaping should be recommended. Non-native plant materials should not be planted, particularly Mediterranean sage, myrtle spurge, purple loosestrife, Russian olive, or any other State of Colorado listed noxious weed species.

The grading and landscape plans should include a section on weed management.

Following are some sources of information about the use of local native plants in landscaping: https://conps.org/wp-content/uploads/2015/05/Suggested-Native-Plants_0408.pdf

<https://conps.org/gardening-with-native-plants/>

<https://bouldercolorado.gov/services/gardening-native-plants>

Visual Impact

Exterior lighting should be directed downward to minimize glare and the illumination of nearby OSMP lands, conservation easements, or other undeveloped property. Exterior colors should be muted to blend into the natural surroundings, to reduce the visual impact to nearby OSMP lands.

Consideration of Prairie Dogs

The applicant can expect to experience conditions on the nearby open space consistent with prairie dog occupation. Prairie dogs are native wildlife, and OSMP is not responsible for their movements across land ownership boundaries.

Grassland Preserve:

The applicant should be informed that the open space land to the southwest includes a prairie dog colony and is designated as a Grassland Preserve. Grassland Preserves are locations on city open space where the conservation of prairie dogs and their associated species in large and ecologically diverse grassland habitat blocks are the management focus. Grassland Preserves may act as receiving sites for the relocation of prairie dogs.

Transition Area:

The applicant should also be informed that the prairie dog colony on the open space to the southeast is designated as a transition area. Transition Areas are areas where the presence of prairie dogs makes continued agricultural production difficult or impossible. These areas are designated as removal areas and OSMP will manage these to be prairie dog free when opportunities for relocation or natural population reduction lead to conditions where prairie dogs can be excluded. Prairie dog removal will be taking place in the fall of 2022. Prairie dogs will be removed by lethal control (carbon monoxide).

Osprey

The nearby Axelson property to the south is closed annually from March 15th through September 10th to protect nesting Osprey. Colorado Parks and Wildlife recommends limiting human encroachment within ¼ mi of active nests during the nesting season. The subject property is directly in view of an active Osprey nest approximately ½ mile to the south. The applicant should consider how construction and/or event noise and light trespass may affect the birds during the nesting season.

Ditch

The Star Ditch, which serves nearby OSMP lands in the ditch's service area, bisects the eastern half of the property and cannot be interrupted or interfered with. The applicant and County staff should consult with the ditch company as a referral agency (contact Rob Alexander, President, at (303) 678-6239 or ralexander@bouldercounty.org) regarding construction activities or land use within or near their easement and any anticipated crossing agreements.

Further, a ditch lateral which serves nearby OSMP lands in the ditch's service area and a private landowner, bisects the center of the property, running north to south, and cannot be interrupted or interfered with. OSMP and the private landowner hold an easement for this ditch lateral, which is a minimum of 15 feet on either side. No construction is allowed within 15-20 feet of the easement, no dumping in or tampering with the lateral is allowed. No crossing or modification of the lateral is allowed without the lateral user's permission. Anything planted or constructed near the lateral can be removed by the lateral users. OSMP also has the right to access, operate, monitor, and maintain the ditch. The property owner must continue to allow this access.

Agricultural Operation

The applicant should be informed that the nearby open space property is currently leased as an agricultural operation. The applicants should expect the operation of machinery, spreading of manure and other fertilizers, the feeding and pasturing of livestock and the application of herbicides, insecticides, or application of irrigation water.

Please feel free to contact me if you have any questions or comments about this response.

From: [Steve Buckbee](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010 Prairie Orchard
Date: Friday, July 22, 2022 2:49:02 PM

The existing use and ADU on the property requires a ¾" water meter where there is currently only a 5/8" water meter. Left Hand Water District Policy 25.2.I.B.3.c. states that:

Accessory Dwelling: In limited cases, and at the sole discretion of the District's Board, tap service may be provided to two separate dwellings on the same parcel of property through the upgrade of the existing single residential 5/8 inch tap to a residential 3/4 inch tap. In order to qualify for this upgrade, there may be no more than one additional dwelling and the secondary dwelling must be under the common ownership of the person holding the primary residential tap; AND the property on which the two dwellings lie cannot be divided nor the dwellings separately sold.

Please require the applicant to submit a residential Tap Availability Request with Left Hand Water District if the Special Use is not allowed and the property remains residential. To allow the Special Use, a commercial Tap Availability Request with Left Hand Water District will be required. We will review required backflow and meter sizing as part of that application.

Thanks,
Steve Buckbee, P.E.
District Engineer
Left Hand Water District
P.O. Box 210
Niwot, CO 80544-0210
Office: 303-530-4200
Direct: 720-405-7218
www.lefthandwater.org



Pete L'Orange

Boulder County Planning and Permitting

Re: Docket SU-22-010

Mr. L'Orange:

Thank you for allowing us the opportunity to comment on the Prairie Orchard Reception Hall and Vacation Rental. We will defer to the applicants that they have done their homework to determine the market for this kind of venue at this location to be successful. The site of this proposal (Prairie Orchard) has the feeling of trying to maximize uses and potential revenue in a relatively small area (3.65 acres).

Visual - The overstory and brush around the property perimeter is mostly deciduous. A different picture in the fall and winter seasons.

Star Ditch - The large trees and brush habitat along the Star Ditch on the east side of the property are within the prescriptive easement of the ditch company. Acknowledging this is a difficult section of ditch to keep clean, officials of the ditch company were in contact with the previous owners of the property and struck an agreement that if the property owners could not keep the ditch clean and free of obstructions to flowing irrigation water, the Star Ditch Company would exercise its easement and clean it themselves. A contractor for the ditch company did come in and do some spot cleaning at that time. The capacity of the ditch is 13 cfs and it flows regularly during the April through October irrigation season.

The concrete lined ditch through the center of the property is intended to carry water through the homestead to fields below without losses that would incur if it was just an open dirt ditch. The applicants should clarify if adjacent landowners are actively using that ditch before destroying or modifying it in any way as they develop their event site.

Visual/sound barrier along western border - The applicants have suggested they would place stacks of large hay bales along the western fence line to act as a visual and sound barrier for their site. Keep in mind the bales do deteriorate in time with the seasonal weather conditions and they will draw field mice from the surrounding pastures looking for homes. There is a residential property on N. 75th St. at the Walden Ponds entrance that used stucco-like material over their bales to give them more of a lasting quality.

Parking lot on-site - The lot does cover a significant part of the site to get to their target of 55-60 parking spaces. Additionally, grading and improving the lot with road base and crushed stone will provide a fertile place for invasive weed seeds to establish. The applicant should actively monitor for weeds and keep them under control.

Wildland Fire - This site is not too dissimilar to the ground conditions upwind that helped fuel the December 2021 Marshall fire. Grassland pastures do dry out by fall and the fire season is now year-round. In recent memory there have been wildland fires from the west that threatened Lake Valley Estates and actually jumped the road and burned a residence to the north of there on a llama farm at Neva & Niwot Roads. Planning for defensible space against offsite wildfires should be a consideration for this site.

Regards,

Vanessa McCracken

Vanessa McCracken

Boulder Valley & Longmont Conservation Districts

District Manager



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

April 6, 2023

Boulder County Community Planning and Permitting
PO Box 471
Boulder, CO 80306

Attn: Pete L'Orange

Re: Prairie Orchard Reception Hall and Vacation Rental, Case # SU-22-0010

Public Service Company of Colorado's Right of Way & Permits Referral Desk has reviewed the documentation for **Prairie Orchard Reception Hall and Vacation Rental** and has **no apparent conflict** with the special use request.

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

From: [LU Land Use Planner](#)
To: [L"Orange, Pete](#)
Subject: FW: [EXTERNAL] Prairie Orchard Reception Hall
Date: Tuesday, August 2, 2022 3:05:04 PM

-----Original Message-----

From: Mary Bonial <marybonial@gmail.com>
Sent: Tuesday, August 2, 2022 3:02 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] Prairie Orchard Reception Hall

Docket # SU-22-0010

My name is Mary Bonial. I have a conflict with the proposal of Prairie Orchard, 5114 Niwot Rd. becoming a Reception Hall or a vacation home. I live directly across the street from the property. I have lived here for 38 years and have enjoyed my peaceful and beautiful surroundings. It's a wonderful agricultural community of horse and cattle. I raise and board horses here on my property.

A Reception Hall will not fit into this community. We have already had loud music and 10-30 cars pull into the property, including large RV trailers with pull outs camping over the weekend. They have meetings in the "barn" which I believe was never a building permitted by the county. The noise and traffic is a problem. I believe several of my neighbors have filed complaints with the Boulder Co. Sheriff's office. I have not, but will if this continues. They should not be having events without proper approval from the county.

Stephanie Duffy has not been respectful of neighbors concerns. We sent a group letter to her with our concerns, but she has not responded. The acreage is too small and not remote enough for this type of venue and it doesn't fit into our community.

Please Disapprove this proposal.

Mary Bonial 5137 Niwot Rd Longmont, Co. 80503
303-902-6110

Sent from my iPad

From: [LU Land Use Planner](#)
To: [L'Orange, Pete](#)
Subject: FW: [EXTERNAL] #SU-22-0010 Prairie Orchard Reception Hall and Vacation Rental
Date: Tuesday, August 2, 2022 11:39:27 AM

@L'Orange, Pete

Fyi

bbg

-----Original Message-----

From: Marcia Purdy <marcialpurdy@gmail.com>

Sent: Tuesday, August 2, 2022 11:38 AM

To: LU Land Use Planner <planner@bouldercounty.org>

Subject: [EXTERNAL] #SU-22-0010 Prairie Orchard Reception Hall and Vacation Rental

I am Marcia Purdy and I live across the street from 5114 Niwot Rd. I am very concerned about the special use of this property. I have seen the application by Stephany Duffy and her plans. I have also spoken with her in person and by text. I told her of my concerns about noise and traffic. She did not ease my concerns. She has already used the property for events with a large amount of traffic including trailers and cars. In the traffic report it cited a large amount of traffic at these events. Every car that leaves at night will be shining headlights directly into my home. I know this by previous experience. The noise of music at night travels. The owner does not live at the property and I think it will not be supervised enough to keep the noise down. I have lived at my home for 39 years. I hope I can live here in peace in the future.. Please deny this special review. Marcia Purdy

From: [Wayne Wagner](#)
To: [Harden, Dyan](#)
Cc: [#CodeCompliance](#); [L"Orange, Pete](#)
Subject: Re: [EXTERNAL] Report a Land Use Code Violation - Web inquiry from Wayne Wagner
Date: Tuesday, August 2, 2022 5:33:37 PM

Thank you Dyan. This permit just seems pretty disrespectful of neighbors. I mean we don't live in a business district or public gathering areas.

Wayne

Sent from my iPhone

On Aug 2, 2022, at 4:31 PM, Harden, Dyan <dharden@bouldercounty.org> wrote:

Hi Wayne,

5114 Niwot has submitted for a Special Use Review process for a reception hall and other uses. Sharing you concerns with the planner assigned to this docket, SU-22-0010.

Thank you,

Dyan Harden /Code Compliance Specialist I
Boulder County Community Planning & Permitting
Service hours Mon, Wed, Thurs, Fri 8:00-4:30 and Tues 10:00-4:30
Mailing address: PO Box 471 | Boulder, CO 80306
Direct: 720-564-2635 | Main: 303-441-3930
[***dharden@bouldercounty.org***](mailto:dharden@bouldercounty.org)

New: Boulder County has a new website: [BoulderCounty.gov][BoulderCounty.gov](https://www.bouldercounty.gov)! Bookmark it today. Email addresses will transition at a later date.
Nuevo: ¡El condado de Boulder tiene un nuevo sitio web: [BoulderCounty.gov][BoulderCounty.gov](https://www.bouldercounty.gov)! Márcalo hoy. Los correos electrónicos harán la transición en una fecha posterior.

From: Boulder County Report a Land Use Code Violation <no-reply@wufoo.com>
Sent: Tuesday, August 2, 2022 4:05 PM
To: [#CodeCompliance](#) <codecompliance@bouldercounty.org>
Subject: [EXTERNAL] Report a Land Use Code Violation - Web inquiry from Wayne Wagner

Name: Wayne Wagner

Email Address: wrwagman@gmail.com

Phone Number: (303) 748-5835

Property address or location of suspected violation: 5114 Niwot Road

What Land Use Code violation are you reporting?: The property was recently sold and we are seeing parties and gathering there with no permits. This last weekend we were disturbed with loud music, fires into the night. I did not not know who to call since no one lives there. I am told that someone bought it and is planning it to be an event center which is not possible since this is a neighborhood.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Chris Rakhshan](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Fw: Docket #:SU-22-0010
Date: Friday, August 5, 2022 1:07:13 PM

Dear Mr. L'Orange,

I am writing in reference to docket # SU-22-0010 located at 5114 Niwot Road. I live at 4900 Niwot road and was fortunate enough to build a house here in 2019. During the construction, I worked in partnership with Boulder County to make sure we do our very best to preserve as much of this majestic natural gift as possible. I absolutely love this area and find it a privilege to live here.

This area is composed of residential homes and some light agricultural activities / cattle ranches. A huge part of the natural beauty here is the absence of business. I here by respectfully, and very strongly object to the above application due to the possibility of noise pollution, increased traffic and other nuisances that will accompany such proposed business. There is no shortage of venues for people to celebrate or congregate but increasingly, there is a shortage of unadulterated open spaces to leave for future generations and the wild life.

In closing, I humbly request that this application be denied.

Kind Regards,

Chris Rakhshan
4900 Niwot Road

August 9, 2022

I object to the proposed use for a full time event venue and vacation rental by the new owner of 5114 Niwot RD. This usage is not in keeping with the character of this enclave of agricultural homes. All of the homes surrounding the applicant property are just that: HOMES. Those of us who live and work here and use the land for agricultural purposes would be negatively impacted by a full-time reception hall and vacation rental.

1.) The **noise** and late-night activities at the proposed site would have a negative impact on the amenity of my property. Amplification equipment was already used at the site on July 31, 2022 during an event, prompting multiple neighbors to file complaints. The sound and vibrations were extremely loud and annoying.

2.) The **traffic** generated by the proposed use would impact the area in a negative way. 61 cars in the proposed parking lot and as-of-yet undisclosed number of shuttle buses entering and exiting the one-way driveway would add noise and traffic impacting our homes. Furthermore, citing the previous owner's use for counseling and group sessions is ludicrous given the fact that the previous owner never sought approval for special review. This increase in traffic through a small residential driveway also represents a danger to the many bikers and runners that use this stretch of Niwot RD on a daily basis.

3.) The proposed use is **unnecessary**. There are many reception halls, community gathering places and wedding venues available in the vicinity, two of which were cited in the application (Lone Hawk Farm located at 10790 N. 49th Street and Boulder Flower Farm located at 4114 Oxford Road) There are also **many** more venues that the application neglected to mention: Yellow Barn Farm, 9417 North Foothills Hwy, the ST. Vrain, 635 3rd Avenue, Crane Hollow Farm, 1443 Crane Hollow Rd, Jubilee Acres, 15293 N 107th St. Adding one here would not be compatible with the homes in the surrounding area. This particular property, at under 4 acres, is not the standard 35 acre agricultural property size and thus NOT suited for this type of venue.

4.) The sanitation and waste upgrades needed for a full time venue should be closely examined by the county, given the age and unfinished nature of the barn. The proximity to irrigation ditches poses a significant complication and possible hazard without the proper environmental impact analysis that a venue for 300 people would require.

5.) Lastly, the applicant's assertion that few concerns were raised by the neighbors is incorrect. A group of neighbors submitted a letter to Boulder County Planners (July 5, 2022) even before there was a docket number assigned to the application. (please see supporting documents including emails) In that letter, we stated our concern that a reception hall poses a risk to our safety due to the possibility of fire, trespass, & vandalism often associated with the consumption of alcohol at weddings and other parties.

Sincerely,
Alice Mead, OWNER
KASBAR LLC
5045 Niwot RD
Longmont, CO 80503



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder Colorado 80302 • Tel: 303.441.3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEMO TO: Referral Agencies
FROM: Pete L'Orange, Planner II
DATE: July 21, 2022
RE: Docket SU-22-0010

Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental

Request: Special Use Review request for the establishment of a Reception Hall venue with a second primary use of a Vacation Rental, using existing structures on an approximately 3.65 acre parcel in the Agricultural zoning district.

Location: 5114 Niwot Road, Parcel number 131733000002, located approximately 0.5 mile west of the intersection of Niwot Road and 55th Street, Section 33, T2N, R70W.

Zoning: Agricultural (A) Zoning District

Applicants/Owners: Prairie Orchard LLC

Agent: Kimberly Lord

Special Use Review / Site Specific Development Plan is required of uses which may have greater impacts on services, neighborhoods, or environment than those allowed with only Building Permit Review. This process will review compatibility, services, environmental impacts, and proposed site plan.

This process includes public hearings before the Boulder County Planning Commission and the Board of County Commissioners. Adjacent property owners and holders of liens, mortgages, easements or other rights in the subject property are notified of these hearings.

The Community Planning & Permitting staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter to the Community Planning & Permitting Department at P.O. Box 471, Boulder, Colorado 80306 or via email to planner@bouldercounty.org. All comments will be made part of the public record and given to the applicant. Only a portion of the submitted documents may have been enclosed; you are welcome to call the Community Planning & Permitting Department at 303-441-3930 or email planner@bouldercounty.org to request more information. If you have any questions regarding this application, please contact me at 720-564-2271 or ibrighton@bouldercounty.org.

Please return responses by **August 25, 2022**.

(Please note that due to circumstances surrounding COVID-19, application timelines and deadlines may need to be modified as explained in the CPP Notice of Emergency Actions issued March 23, 2020 (see <https://boco.org/covid-19-cpp-notice-20200323>).

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed

PRINTED Alice Mead

Agency or Address 5045 Niwot Road, Longmont CO 80503

Matt Jones County Commissioner Claire Levy County Commissioner Marta Loachamin County Commissioner

From: LU Land Use Planner planner@bouldercounty.org
Subject: RE: [EXTERNAL] 5114 Niwot RD
Date: July 6, 2022 at 11:11 AM
To: Ali Mead alioops@me.com, LU Land Use Planner planner@bouldercounty.org, #CodeCompliance codecompliance@bouldercounty.org

Hi Ali,

Thank you for sending your concerns about the potential plans at 5114 Niwot Rd along with the letter you received from the property owners. There is no application under review at this time – it sounds like the property owners are starting to contact neighbors in anticipation of making an application with us. I reviewed their letter and it sounds like they are interested in creating a facility that would be classified under Reception Halls and Community Meeting Facilities – see [Article 4-504.G](#) in the [Land Use Code](#). Before they can host these types of events, they need approval through [Special Use](#) review. This requires them to provide detailed plans (much more detailed than what was provided in the letter they sent to you). It also requires public hearings with the Planning Commission and Board of County Commissioners. We will send postcards to the mailing address of record for all properties within 1500 feet of the subject property once they submit an application and again in advance of the public hearings.

Because there is no application, there is nothing for us to do with your letter of opposition at this time. In the meantime, I would encourage you to reach out to the new owners and respectfully let them know about your concerns. It might be a fruitful way to influence the business plan before they make an application with Boulder County.

Abby Shannon

On Call Planner
Boulder County Community Planning & Permitting
Main: 303-441-3930
planner@bouldercounty.org

Due to COVID-19, all Boulder County Community Planning & Permitting Department services are available virtually. Our service hours are 8 a.m.-4:30 p.m. Monday, Wednesday, Thursday, and Friday, and 10 a.m.-4:30 p.m. Tuesday. We are NOW OPEN to walk-in customers (no appointment necessary) M, W, and Th from 9 am until 2 pm. Please visit us online at <https://www.boco.org/cpp> for more information.

From: Ali Mead <alioops@me.com>
Sent: Wednesday, July 6, 2022 10:18 AM
To: LU Land Use Planner <planner@bouldercounty.org>; #CodeCompliance <codecompliance@bouldercounty.org>
Subject: [EXTERNAL] 5114 Niwot RD

- Community Planning & Permitting
- Code Enforcement, Boulder County Land Use
- PO Box 471
- Boulder, CO 80306

As property owners in the small agricultural enclave of Niwot Road between 49th & 55th street, we are writing this letter to express our strong opposition to the proposed usage by the owners of 5114 Niwot RD.

It was quite a surprise to us to receive a letter from the new owners stating their intent to use the house and barn as a full-time vacation rental and community gathering venue for weddings and other functions. (see attached copy of letter received) The proposed wedding venue is directly across the street from the property to the north and roughly 500 - 1000 feet from neighbors to the east, west, northeast and northwest.

A primary concern is the **fire hazard** in an increasingly drought-prone county. Car parking on land with growth and dry weeds, a carelessly thrown cigarette, or a backyard campfire left unattended are all potential grass fires waiting to happen. This is of grave concern to those who live here and are using our agricultural properties for livestock and other agricultural uses as intended. All of us have had to evacuate livestock due to the proximity of grass fires. One started less than 1000 feet from our doors would potentially have catastrophic consequences.

Another issue is the **noise**. Our agricultural area is not ideal for a venue with performing bands and DJs with amplification equipment. The proximity to our houses and the location within a valley where noise travels freely would result in noise that would be unacceptable for this quiet, agricultural community.

The possibility of **trespass and vandalism**, often associated with alcohol use at venues for community gatherings, poses a threat to our safety, property and livestock. The potential lack of large group supervision and adequate parking and bathrooms is a **safety and environmental** issue. The lack of on-site owners, with the property being used for full time vacation rental and party venue, raises the risk of persons without knowledge of agricultural practices or water rights interfering with or damaging adjacent properties or ditch flow. Additionally, the increase in traffic and lack of parking is of major concern to all of us. Our road is shared with bikers and increased traffic and possible use of transport buses and shuttles entering and exiting the venue would pose a risk to bikers and increase noise levels.

Lastly, we all respect and understand that we have inherent property rights as landowners. We have all had to use the land use and permitting parameters for our own properties when seeking to build, remodel and improve. We ask that the new owners of 5114 Niwot RD be held to the same standards and enforced to follow Boulder County land use regulations and permitting processes.

5305 Niwot Road
Longmont, CO 80503
August 6, 2022

Boulder County Community Planning
and Permitting Department
PO Box 471, Boulder, CO 80306

Docket #: SU-22-0010: PRAIRIE ORCHARD Reception Hall
and Vacation Rental

We received your review request for the establishment of a "Reception Hall Venue with a second primary use of a Vacation Rental" at 5114 Niwot Road.

As residents of this quiet residential area, we STRONGLY OBJECT to this proposal!

The area is zoned "agricultural." It is no place for this proposed establishment.

Access to this "establishment" would be off Niwot Road. Traffic on Niwot Road is already extremely heavy!

A reception hall would cause more traffic and congestion.

There would be a lot of activity in addition to the loud music.

This is no place for a Reception Hall!

We do not want this establishment at 5114 Niwot to be built in this neighborhood.

Submitted by:

James P. Hindman and Nancy S. Hindman
5305 Niwot Road

From: [LU Land Use Planner](#)
To: [L"Orange, Pete](#)
Subject: FW: [EXTERNAL] Beth Potter following up on my phone call to Ian Brighton! (regarding SU-22-0010)
Date: Friday, August 12, 2022 1:29:38 PM

FYI Pete,

Best,
Ethan

From: Elizabeth Potter <dbpotter@aol.com>
Sent: Friday, August 12, 2022 1:23 PM
To: Brighton, Ian <ibrighton@bouldercounty.org>
Cc: LU Land Use Planner <planner@bouldercounty.org>; Dan Moorner <daniel.moorer@gmail.com>
Subject: [EXTERNAL] Beth Potter following up on my phone call to Ian Brighton! (regarding SU-22-0010)

Dear Ian,
I just called and left a message to see if there is a template/form online that I'm not seeing to submit my comment letter about SU-22-0010: Prairie Orchard Reception Hall and Vacation Rental. In the meantime, I'm submitting my letter (in this email) to you and to the Land Use Planner email address. Thank you so much!

Sincerely,
Beth Potter (and Dan Moorner)
5050 Niwot Road
Longmont, Colorado 80503
(970) 471-9973

08/11/22

Boulder County government
Community Planning and Permitting
ATTENTION: Ian Brighton
ATTENTION: Long-range land use planner
Courthouse Annex
2045 13th St.
Boulder, Colorado 80302

To whom it may concern:

In reference to Docket SU-22-0010: My name is Beth Potter and my husband Dan Moorner and I live at 5050 Niwot Road, the neighbors immediately to the west of the subject property at 5114 Niwot Road. We have lived here almost two years and have lived in the city and county more than 30 years. We're trying to bring our land back to health after it suffered decades of neglect from an absentee owner who lived outside the county and previously from oil drilling companies.

We knew the previous owners of the 5114 Niwot Road property, the Bacals, as small business owners who held an indoor men's group retreat once a week and lived onsite. We never saw more than a few cars parked on the site and never heard any noise. As a side note, we were told by other neighbors that the "barn" on the property was "illegal," as it was renovated without a permit and did not have indoor plumbing. We visited the property when it was up for sale a couple of months ago and saw no toilet facilities in or around the barn other than what appeared to be a composting toilet in another building.

Because of the apparent illegal building, and the lack of sewer/sanitation facilities, we were a bit surprised when the Duffys dropped off a letter to us suggesting that they wanted to host weddings on the site. They said they planned to hold small gatherings and talked about the beautiful location. They said they would not live at 5114 Niwot but would rent it out on AirBnB. When we visited the site with them, I asked about the lack of sewer/sanitation facilities, since I know how long it took to get a sanitation system approved for our own home, and the Duffys said they were working on getting toilet facilities in the barn. They showed us some piping on the east side of the barn. Imagine our continued surprise when we found out from the zoning application that they plan to have seven toilets and four sinks and up to 300 people per event. The zoning application also mentions a prohibitive amount of traffic/cars allowed on site. The Duffys told us they would host a shuttle and have cars park offsite.

We also were surprised and dismayed when on the weekend of July 8 to 10, the Duffys hosted a large gathering, which included an RV with a generator that ran 24 hours, another camping trailer, an estimated 25 cars and camping tents. We were busy that week and did not get a chance to talk to the Duffys. The gathering appeared to be held indoors.

We were further dismayed by a July 31 event with a DJ and loud music outdoors and an outdoor fire with estimated six-foot-high flames (in the early evening of a dry day that was above 90 degrees). The flames were so high that I saw them from about 300 yards away and thought they were out of control and called the sheriff's office.

We have wildlife around the property and to the south on Axelson Open Space, which is closed to humans. We understand that part of the Open Space and Mountain Parks plan is to protect the wildlife and raptors in and around the open space, which we believe are here in large part because of the lack of human interaction. We were told, specifically, by a Boulder Open Space and Mountain Parks employee that we were not to build within ¼ mile of a federally protected osprey nest directly south of us on the open space because of the federal requirements related to those birds. We have been quiet and respectful of the birds and other wildlife, we have not built any buildings or held any activity close to them, and we feel that the proposed outdoor parties and loud noise next door at 5114 Niwot Road would disturb them. We also see bald eagles, other hawks, falcons and owls, a seasonal deer herd, coyotes and foxes, and other small and large animals.

With all of this said:

We see that 12 gatherings per year are allowed in agriculturally zoned areas under the Boulder County land use code, without a special use review. But we **would request that the number of large gatherings be limited in the future to two per year at all properties with or without special use review/permit approval, including this one. To us, anything over 30 people is considered large.**

In addition, we would request that **no outdoor amplified sound be allowed within a one-mile radius of the federally protected bird nests related to any future allowed meeting or gatherings.** We request this related to the federal rules that already regulate what people can do near many of

the birds who live around this area.

We would request **that no outdoor fires be allowed in in reception hall and vacation rental venues during the dry fire season here, which we now know extends basically year-round** in Boulder County some years (witness the Marshall Fire in Superior at the end of December 2021.)

For these reasons – fire danger, noise nuisance, owner not onsite and possible damage to wildlife – among others, **we would request that this special use review/permit be denied.**

Sincerely,

Beth Potter
(970) 471-9973

Planner@bouldercounty.org

Pete L'Orange
Community Planning and Permitting
P.O. Box 471
Boulder, Colorado 80306

August 12, 2022

Re: SU-22-0010 Prairie Orchard Reception Hall and Vacation Rental

Dear Mr. L'Orange

My name is Bill Tointon and my wife and I reside at 5400 Niwot Road, Longmont CO 80503. Our property borders the east and south boundaries of the proposed Prairie Orchard Reception Hall and Vacation Rental. We have lived here since 1992.

The neighborhood that we live in is an agricultural community. All of the properties in the area are involved in some type of agricultural operation. Whether it is hay, cattle, horses, sheep, etc. you will see an agricultural use on the land.

The closest subdivisions are Lake Valley to the west and there are single family homes east of 55th street and north of Niwot Road to the east. The area along Niwot Road is either agricultural or residential.

We do not believe that the proposed use is compatible with the neighborhood for the following reasons.

1. It is a commercial operation. As proposed, Applicant would hold 4 events per year of up to 300 people; 20 events per year with up to 150 people; and an unlimited number of events with up to 50 people. In addition, the Vacation Rental would be rented out at least 60 nights per year. This is a quiet community surrounded by working agricultural farms, residential neighborhoods and open space owned by the City of Boulder. A high-intensity year-round commercial operation focused on bringing in large events is inconsistent with the use of adjacent properties and not a good fit in this area.
2. The site is too small for the proposed use. The property is only 3.65 acres in size. This is far too small to hold 150 person events, let alone 300 person events. While Applicant's proposal indicates it has room for 61 parking stalls, fewer than that are depicted on its site plan, and only for "compact cars." There is simply not enough room for 150-300 people plus vehicles, tents and other event-related items, even if Applicant is planning to use an off-site shuttle service for the larger events.
3. Traffic issues with such an intense use. The property is located off a two-lane road with the majority of the traffic coming from the east. There is no designated turn lane meaning that cars coming from the east will need to wait for gaps in traffic from cars coming from the

west prior to turning. This not only creates a significant risk of accidents but will also greatly increase traffic during events.

4. Noise disrupting the neighborhood and open space. Of all of these concerns the one that bothers me the most is the noise issue. We are 100% against any amplified sound being used on the property whether it is outdoors or indoors. On the weekend of July 30 – 31st the property was leased for an event. On the evening of the 31st amplified music was being played that I could hear from within my house. The base from this music also created vibrations that vibrated through our house. I walked across the pasture to our joint fence line and told them to shut down the music. I also called the owners and left them the same message. There were only 10 to 15 people at this event. I can't imagine how bad the sound will be from larger gatherings. (I did file a Land Use Code Violation with the County over this incident). When I went through a special use review with the County for my indoor arena, there were discussions with the staff over a commercial versus private facility and sound. Ultimately, we agreed that the facility would be private and the County imposed a term prohibiting amplified sound in the facility.

In addition to the above, the entirety of the subject property is designated as Agricultural Lands of Statewide Importance. Under the Comprehensive Plan, it is the policy of Boulder County to encourage the "preservation and utilization of those lands identified . . . as Agricultural Lands of Statewide importance . . . for *agricultural or rural uses*," and to "conserve and enhance agricultural lands of statewide importance." Comp Plan at AG 1.02.01 and OS-2. In stark contrast to these stated policies and goals of the County in the Comprehensive Plan, the application involves destruction of the vast majority of the agricultural lands on the property, and replacement with a crushed stone parking lot and tent space. Instead of conserving the land for agricultural uses, the property would be used exclusively for commercial purposes for things such as weddings, exhibitions and meeting space. This proposal is not consistent with the Comprehensive Plan.

The Vacation Rental is similarly not permitted. Applicant has stated in the Application narrative that one of the reasons the Vacation Rental is being sought is so that "a member of the wedding party could stay overnight on site to prepare for the event." However, under the Land Use Code, a Vacation Rental may not be used for weddings, receptions or similar private or public events. See Code at 4-507(E). Accordingly, the request for a second principal use must also be denied.

In summary, my wife and I are against this proposal and do not believe it is compatible with the agricultural nature of the neighborhood. Year-round gatherings of 50-300 people for commercial purposes is an over-intensive use of this small 3.65 acre parcel nestled between quiet agricultural and residential communities. There is also inadequate parking on-site which will invariably lead to traffic issues along Niwot Road, and amplified music and noise will disrupt adjacent properties as well as nearby open space parcels. Finally, if approved, the proposed use would result in the destruction of Agricultural Lands of Statewide Importance in clear violation of the Boulder County Comprehensive Plan.

Please include this letter as part of the formal record in this docket. Thank you for considering our concerns.

Sincerely

Bill and Janiejill Tointon
303 881 0388

{00578019 / 1 }

From: [LU Land Use Planner](#)
To: [L'Orange, Pete](#)
Subject: FW: Docket SU-22-0010
Date: Monday, August 22, 2022 7:12:28 AM

[@L'Orange, Pete](#)

Fyi
bbg

From: Dee Joy Coulter <dcoulter@ecentral.com>
Sent: Friday, August 19, 2022 7:00 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Cc: Dee Coulter <dcoulter@ecentral.com>
Subject: [EXTERNAL] Docket SU-22-0010

Attention: Pete L-Orange, staff planner

My two properties [4850 and 4860 Niwot Rd.] are on the diagonally opposite corner to this site. Originally I intended to only mention concern for two things: 1) outdoor lighting since we try hard to preserve the night sky views out here, and the huge array of nocturnal mammals wandering the fields and open space here depend on it. I would hope they had ground level lighting and not high poles, which spoil the skies for us all.

Concern 2) was for the volume of outdoor noise. I had figured that this would be a minor problem since they wanted a reception hall, which implied indoor music etc. THAT WAS UNTIL TODAY, when they had a highly amped Friday afternoon concert outdoors with very loud MC announcer volume as well. Just as I tried to catch a sample of the volume which blared loudly enough to hit a listener at my front door clearly, they toned it down. I suspect that was in response to someone calling in a noise complaint.

Now I am doubly concerned about the noise levels that might be involved. If they chose to have this very loud activity while awaiting special use review approval, what would they do once they had it? Is it possible to restrict amped music to indoor spaces only — like their huge barn — and measure the ambient noise level in the area to see that it is workable? By the way, the sheriff must have left because the volume is back up again.

Please let me know what else I need to do to make my lack of approval known, and my request for limiting their use of the outdoor spaces.

Dee Coulter,
Ph/text:720-331-1700
email:dcoulter@ecentral.com

Boulder County Planning & Permitting Dept.
Docket #SU-22-0010
Prairie Orchard Reception Hall and Vacation Rental

We are Dave and Lynn Hindman and live at 6060 Niwot Road. While not within the 1500' referral area, we strongly object to this proposed Reception Hall and Vacation Rental application! Niwot Road, from 73rd Street, west to Lake Valley, continues to see more and more traffic every year. Not only is the traffic on this corridor getting heavier but the driving speeds continue to increase. There are very few drivers that pay attention to the posted speed limits of between 35 mph and 40 mph. It is not uncommon see cars doing 60 to 70 mph along this stretch!

While we realize that traffic is getting worse everywhere in Boulder County, approving this application will exacerbate the traffic problems for those of us who live out here! This area is zoned Agricultural – keep it that way!

Dave and Lynn Hindman
303 818-1847

From: [LU Land Use Planner](#)
To: [L'Orange, Pete](#)
Subject: FW: [EXTERNAL] Ask a Planner - Sabrina Gerringer - FU-22-0010 - 5114 Niwot Road
Date: Tuesday, August 23, 2022 5:12:05 PM

@L'Orange, Pete

Fyi
bbg

-----Original Message-----

From: Ask A Planner <no-reply@wufoo.com>
Sent: Tuesday, August 23, 2022 4:35 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] Ask a Planner - Sabrina Gerringer - FU-22-0010 - 5114 Niwot Road

Boulder County Property Address : 5114 Niwot Road If your comments are regarding a specific Docket, please enter the Docket number: FU-22-0010

Name: Sabrina Gerringer

Email Address: dreamspinnersabrina@gmail.com Phone Number: (970) 379-6172

Please enter your question or comment: I am not in favor of having an events center and reception hall/vacation rentals in my neighborhood. Enough neighbors have ruined the neighborhood by renting their farms for weddings! The amplified music carries for over a mile. I never knew how much I hated ABBA until last summer when I subjected to hear it every single weekend coming from my neighbor's property who now does wedding rentals. Are you aware that the barn (where the parties will occur) was constructed illegally? There is a bathroom as well as a kitchen in there. There are 3 sets of French doors that open up and the last owners hosted ayahuasca ceremonies there. At least they were quiet. You are allowing people to ruin the peaceful country by allowing parties like this! We didn't move out here to farm to have our weekends ruined with amplified music. On Saturday night there were 3 parties of over 50 people.. 2 had live bands, one had a DJ. Its not fair I am forced inside my house and have to close all windows and I can still hear and feel the bass! Turning the farmland into Party land is not right!

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

Boulder County Planning & Permitting Dept.
Docket #SU-22-0010
Prairie Orchard Reception Hall and Vacation Rental Application

Dear Planning and Permitting Department,

I am writing in opposition to the application for special use permit #SU-22-0010. I live at 5253 Niwot Road which is across the street from 5114 Niwot Road and have lived there for 30 years. My home was right next door to Haystack Mountain Goat Dairy. Even though that was an agricultural use, which our area is zoned, I still had several disruptions which I believe will also happen with the special events at 5114 Niwot Road.

The increase in traffic on an already very busy road will make it very difficult to get in and out of our driveway safely. Compound that with participants most likely having consumed alcohol, this is a recipe for disaster. If their solution is to provide transportation for attendees, the area is not designed for large capacity tour buses nor passenger vans to access the property easily or safely.

Second, there is not enough parking for up to 300 participants and the overflow will most likely spill out to Niwot Road and also onto our private drive; which used to occur weekly with the goat dairy. These vehicles made it impossible to access my home and on several occasions, garbage trucks, delivery trucks and hay equipment were unable to pass down our drive, causing these contractors to pass our stop. With regards to the hay equipment, I had the added expense to reimburse the farmer for an extra trip as it cost him time and fuel to come to bale our field. I realize I have the option to tow any vehicle from our private drive but that incurs costs to me, which seems unfair.

Additionally, the increase in people to the Goat Dairy was an over burden on the septic system on numerous occasions; which I expect to happen at the Event center with large number of people attending events. This caused sewage to bubble up to the service, which attracted A LOT of flies as well as the strong odor of sewage. The solution was the addition of a porta-potty which was not something us neighbors liked to look at and smell on a permanent basis. Would any of you like to look at a porta-potty on a permanent basis outside your personal residence?

Lastly, with large, special events come curiosity of people. We used to have News channels broadcasting from the Goat Dairy on a weekly basis, which attracted even more people. I believe this too will be the case once the public is aware there is an Event center here on Niwot Road; potentially people not invited to the event, which will cause the number to go over the 300 person limit.

The amplified music and accompanying noise is not consistent with the characteristics of the neighborhood. We moved to this area to live in a rural, non-high density populated, agricultural setting; not a business nor commercial event zoned area.

I believe people should be able to enjoy their property as they wish but not at the expense of their neighbors. The neighborhood is occupied by people who moved to the country for a quiet, rural lifestyle and their properties are used as agricultural; either for personal gardens, horses, livestock or to grow hay. All purposes consistent with the zoning the county designated the area to be. If the application

were to be approved in any capacity, it would allow 5114 Niwot owners to enjoy their property as an Event center/VRBO, not as their personal residence but the rest of us property owners neighboring 5114 Niwot Road will not be able to enjoy our properties as our personal residences.

Thank you for your consideration,

Susan Hicks
5253 Niwot Road
Longmont CO 80503
303-548-1484

From: [Terri Benjamin](#)
To: [LU Land Use Planner](#)
Cc: [L"Orange. Pete](#)
Subject: [EXTERNAL] SU-22-0010: Prairie Orchard application - Opposition Letter
Date: Tuesday, August 23, 2022 9:25:30 PM
Attachments: [Letter in Opposition to Prairie Orchard Reception Hall.pages](#)

August 23, 2022

Boulder County Planning and Permitting Dept
Docket #SU-22-0010
Opposition Letter re: Prairie Orchard Reception Hall and Vacation Rental Application

Dear Sir or Madam,

My name is Terri Benjamin and I own the property at 7070 N49th St, Longmont CO. I have been a resident of Boulder County since the 1980's. My property sits on the NE corner of Niwot Road and 49th Street, diagonally across from 5114 Niwot Road and the proposed Prairie Orchard Reception Hall & Vacation Rental.

I purchased my 49th St property in March, 2020, to raise livestock and grow hay, a use consistent with this quiet, agricultural & residential community. I am vehemently opposed to the proposed application for a reception hall & vacation rental for the following reasons:

- * The proposed reception hall venue and vacation rental is inconsistent and incompatible with the surrounding quiet, agricultural community.
- * The applicants wish to hold an unlimited number of events from 50 to up to 300 persons on a 3.65 acre site on which they do not reside. The negative impact to their neighbors would be enormous, ultimately leading to the loss of enjoyment for the owners of these neighboring properties.
- * The proposed Prairie Orchard Reception Hall & Vacation Rental is located on a quiet, 2 lane road surrounded by agricultural & residential properties. The negative impact of the increased traffic (cars, buses, vans, RV's, trailers) is too great for a road of this small size and for the area. The increased use and increased traffic (especially at night and with drugs and alcohol) would be dangerous, lead to accidents and become a considerable inconvenience to residents.
- * The site is too small to accommodate parking for the proposed number of people attending the events. This leads to potential parking on the shoulders of Niwot Road or crowding of the site.
- * As Boulder County residents, we are acutely aware of the danger and destruction of wildfires. The proposed reception hall & vacation rental is located squarely in an area of dry hay fields, dry grass pastures, dry grassy open space, livestock, and wood structures. This is an area ripe for fire. On the weekend of July 31, applicants held an un-permitted, unauthorized and potentially unsupervised sizable, noisy event with a very substantial bonfire that I could see from Niwot Road. I witnessed large flames and visible sparks. I was so alarmed that I alerted my neighbor, Alice Meade, who filed a formal complaint. Bonfires, open burning, cigarettes, sparklers, and other fire hazards typical of large outdoor events such as the ones proposed pose a genuine and substantial threat to this agricultural community.
- * This agricultural community is in a peaceful, quiet area of Boulder County. The loud sounds and amplified music that come from large events are a major disruption to our tranquil and bucolic surroundings. An event center of this type with ongoing large events with amplified music is out of

place and incongruous to this calm and peaceful area. It just does not fit.

This is an agricultural area zoned for farming, livestock and residences. It is more than a community - it is also a lifestyle. There is relatively low traffic and low crime. The roads are filled with bicyclists and runners. What you see at night are the stars. What you hear are horses nickering, cows mooing, and the occasional sounds of the resident coyotes. An event center and vacation rental with owners off-site and with unlimited, large, loud gatherings simply does not fit with the character and quality of this community. Furthermore, it is incompatible with the infrastructure of the roads, volunteer fire stations and lack of fire hydrants. This application is entirely contrary and unsuitable for this agricultural community.

Thank you for your attention,

Respectfully,
Terri A Benjamin

From: [LU Land Use Planner](#)
To: [L"Orange, Pete](#)
Subject: FW: [EXTERNAL] Docket SU-22-0010 - Prairie Orchard Reception Hall and Vacation Rental
Date: Thursday, August 25, 2022 8:37:08 AM

From: Andrew Wilson <acw137@gmail.com>
Sent: Thursday, August 25, 2022 7:39 AM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] Docket SU-22-0010 - Prairie Orchard Reception Hall and Vacation Rental

Dear Boulder Community Planning & Permitting Staff,

I am writing to respond to the proposed Prairie Orchard Reception Hall and Vacation Rental (Docket SU-22-0010).

You will no doubt be hearing concerns about impacts from the immediate neighbors across Niwot Rd from the proposed facility. I sympathize with them because their concerns are probably enormous and valid. My family and neighbors in our nearby residential community on Niwot Rd are only a mile from the site, and we also fear that a facility of this nature will significantly affect our quality of life. The frequent noise and increased traffic are big concerns. Also a busy facility, with frequent and/or large scale events, could alter the character of our community and decrease the rural atmosphere of the entire area.

The noise of outdoor and/or larger events will easily travel the distance to our neighborhood. Our ability to have open windows or spend time in the yard suffered for years due to similar activities at the Haystack Golf Course on Niwot Rd, and there was enormous collective relief when this finally stopped. A new substantial noise nuisance from music and groups of people laughing, speaking loudly or even yelling outdoors, in an otherwise quiet area, will be difficult to mitigate and control. Even indoor music loud enough for occasions such as wedding receptions can travel. This and the traffic concerns (see below) could negatively affect property values as well.

Niwot Rd traffic has increased dramatically in recent years, and a large percentage of drivers now well exceed the speed limit. There has been a substantial increase in road noise. Unsafe passing is common. The described Prairie Orchard business will significantly increase traffic many days and nights of the year. These things are not just an annoyance. Many of the proposed events will involve alcohol consumption and the risks of impaired drivers as well. They are serious safety concerns, both for other drivers and the large number of cyclists and runners who frequent the road.

Another safety issue is the risk of fires. Outdoor fire pits, candles and cigarette smoking, in the context of crowded celebratory events and possible intoxication, risk starting small fires that in our current windy drought conditions could start a wildfire. In addition to people and homes nearby there are property owners with horses and cattle that would be hard to move quickly.

The proposed uses for Prairie Orchard, and thus the impacts above, will be year round. My final

concern is that the substantial new activities are very different from adjacent agricultural uses, as well as from rural residential use a mile away. Allowing an exception to the zoning for the area could set a precedent for future businesses seeking exceptions, leading to the loss of rural areas around Boulder and Longmont.

Regards, Andrew Wilson.

6015 Niwot Road
Longmont, CO 80503

From: [Paula Shuler](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Questions about Prairie Orchard SU-221-0010
Date: Thursday, August 25, 2022 2:57:16 AM

Hi Pete,

Thanks for calling me back the other day, it was nice to speak with you. After reading the Prairie Orchard SU-221-0010 Narrative, I do have some questions...and you said I could email them to you:

1. Most important question - is there a deadline to submit my official comments? You had mentioned that you did not think Prairie Orchard would be going to the Planning Board in September, is there a rush for me to submit in the next few days or can I get it to you next week? This is very important to me and I like to put thought into my letter. I know I am late to the game but I had to go out of town in mid July and did not return until August 10. Please let me know.
2. On page 3, the Prairie Orchard narrative says "All events shall take place between 09:00 am and 11:00 pm and in accordance with the Boulder County Noise Ordinance 92-28 and **no outdoor amplified music shall be allowed after 07:00pm.**" Can you confirm for me that no outdoor music will be allowed after 7:00pm?
3. I really don't understand how 5114 Niwot Road is considered agricultural. Can you explain that to me? There is nothing agricultural about it, nothing is being produced. The property is in an agricultural area but that property is not agricultural. Shouldn't it be rural residential?
4. 60 possible rentals of the farmhouse per year? Is that allowed? That seems like a whole lot of transient rentals. That alone will negatively affect the neighborhood. I could not find a zoning or Land Use Code for that, could you tell me where to reference that?

Between the four 300 person events plus twenty 150 person events plus the 50 person *unlimited* number of events and 60 transient rentals that Prairie Orchard is asking for PLUS all the other many triathlons, cycling and running special events that challenge our neighborhood roads on weekend days throughout the spring, summer and fall - that just seems like a complete degradation of the neighborhood. A triathlon by day and a loud wedding by night. I can hear the event music from Boulder Flower Farm on Oxford Road and that is a mile away. I know the Prairie Orchard music, a half mile away, will be even louder on a nice summer evening. I think I told you, there were two events last Saturday night on Oxford Road and I could clearly hear the music from both. I was so bothered, I got in the truck at 9:00pm and drove to see what was going on. Now there will be three competing music events and a whole lot more traffic. It will no longer be great to live in rural Boulder County. I've lived here over 30 years and I used to love where I lived but wow, this application puts me over the top. The Prairie Orchard proposal will negatively impact and harm every single neighbor, it only benefits the applicant. Please think about that. The County needs to seriously consider the negative effect on the neighbors who have already invested in this area. Our well being will be permanently altered. These applicants are not farmers trying to supplement their income and have nothing to do with agriculture. This entire application, this business, has no regard for the neighbors or the true character of the neighborhood.

5. The septic seems to be only specified for 50 people per day, see page 2 of All Service Septic Report. Am I reading that wrong? What happens when there is an event with more than 50 people? Why do they need 7 toilets if the septic is only specified for 50 people?

6. On page 4, Prairie Orchard states in #2: " The use will be compatible with the surrounding area." Is this statement something the County is supporting or did the applicant just make that statement? I am quite taken back by that statement. I truly do not understand how can they even make that statement, it is absolutely, positively false. It tells me they know nothing about this neighborhood. The Prairie Orchard proposal is completely incompatible with the surrounding area and the character of our neighborhood. We live in a quiet rural neighborhood and we, and all of our neighbors, like it that way. My husband and I are farmers, we grow hay on 200 acres, and we are typically outside 6++ hours a day. We stop working when it's dark and we like to relax by sitting on our patio, listening to the crickets and looking at the stars. That's the sound of summer to me, the stillness and the crickets, not some event music and bass wafting through the air every weekend. The noise is disturbing. There is beauty in stillness and nature. That's why we live here. My family's simple pleasures, welfare and prosperity will be ruined if there is a reception hall with amplified music allowed down the street. That is something these applicants obviously do not understand.

7. I read in the narrative that they will only be using the shuttle service for events over 150 people. That seems extremely unrealistic. The parking area at 5114 Niwot cannot handle 61 cars, even though they say it can. With catering trucks, employee vehicles and other vendor trucks, shuttle buses or vans, they will be lucky to fit 20 cars in their parking area. Please investigate this further because it is just not correct. I don't believe this facility can handle 300 people and I'm not sure it can handle 150 people. It's only 3 acres and already has several structures. The drawings don't appear to be correct or to scale to me. The applicant has very much underestimated and is very unrealistic about the number of deliveries and cars that will come and go from the property. They say they have a 6ft privacy fence that shields everything but Niwot Road is higher than this property and you can see everything; the fence doesn't shield anything. I was very aware of what the last owner was doing and that he had an illegal structure. There were multiple cars there on many occasions and the parking area was full, but never 60 cars, that's just completely unrealistic for the space. Does the County check all of these statements, drawings and figures out to make sure they are true and accurate? Additionally, how does the County feel about the carbon footprint for this shuttle service? If a couple wants to leave at 8:00 pm for an event that may not end until 10:00pm, the shuttle will have to make a round trip journey for that one couple which is twice the carbon footprint. That will be happening all night, all event long, because people want to leave when people want to leave. An idling van or bus is also a "puffer" and a big negative in Boulder County, what agency will be monitoring that?

8. Who do I write/speak to about changing the 1500 ft mailing protocol when amplified music is involved? I believe the County really needs to revisit that. I can easily hear music from a mile away, even tell you what song is playing. I feel that 1500 ft with regard to amplified music doesn't begin to touch those that will be/are affected.

All for now, it's very late but this was a lot of information to read and digest. If you have a minute and can answer my questions, especially the first one, it would be much appreciated. I have more to read before I submit my official comments to you and the planning board. Thanks for your time.

Best Regards,
Paula Shuler

September 10, 2022

Boulder County Community Planning & Permitting Department
PO Box 471
Boulder, Colorado 80306

SUBJECT: SU-22-0010. Special Use Review request for the establishment of a Reception Hall venue with a second primary use of a Vacation Rental; 5114 Niwot Road, Longmont Colorado.

Review Committee,

My wife, Beth Potter, and I live at 5050 Niwot Road, Longmont, Colorado, next door to the property for which the Special Use Review has been requested. Thank you for the opportunity to provide written comment.

We understand that the new owners of 5114 Niwot Road intend to host a great number of community-oriented events such as weddings, wedding receptions, and other gatherings of 50 to 300 individuals. We are concerned that the number and size of the planned gatherings effectively create a commercial “party house” or recreation center.

Therefore, we oppose the approval of SU-22-0010.

In support of that opposition, here are some comments for your consideration.

- 1) Boulder County policy states that the proposed events are supposed to occur in a way “that is low impact on . . . neighboring property owners”.

Comment: Noise. Buildings at 5114 Niwot Road are approximately 150 yards from our home. During a recent 31 July event at the subject property, music and a DJ’s voice could be heard inside our home. This negatively affected our enjoyment of our home. My wife reported the noise to the neighbor and the noise level was reduced. Our concern is that future events will necessitate ongoing complaints to the owners.

Comment: Negative effects on wildlife. The Boulder County Comprehensive Plan emphasizes -- at many points -- a concern for the well-being of wildlife. Axelson Open Space, about 200 yards from the subject property, is a wildlife corridor for raptors, deer, coyotes, foxes, and prairie dogs. Of special concern are a rare Osprey nesting pair about ¼ mile from the proposed activity. Moreover, eagles often rest in the trees on the subject property.

The surrounding neighbors understand and respect the quiet that is necessary for existing alongside wildlife. Our own experience is that wildlife concerns from Boulder County Land Use delayed work on our own

home for almost a year. We understood the intent of the concerns and adjusted our activities accordingly.

Although I am not a wildlife expert, I would suspect that large and repetitive increases in music, crowds, voices, and vehicle noise will shock the local wildlife and will cause them to move out of our area. This upsets an already very delicate balance between humans and animals present on all of the neighbors' lands and on and around Axelson Open Space. We would propose that the planned activities would violate the intent of the Boulder County Comprehensive Plan.

Comment: Fire. At the 31 July event mentioned above, the participants constructed a very large, fire-pit-contained fire. We were concerned about the possibility of wind-driven ashes, just as we saw during several major fires over the past few years. Given the excitement that is always part of any celebratory event, we worry that actions like this will endanger the surrounding properties.

Comment: Negative effect on privacy. Tens or hundreds of people gathered in full view of the back of our home reduces privacy. Admittedly, the distance is about 150 yards. But, the negative effect is the same and violates the privacy that is normally associated with a rural setting.

- 2) Boulder County policy states that "Vehicles should be accommodated on-site." It further states that "This use must occur on a parcel large enough to accommodate the use, parking, and sanitary facilities in a manner that does not negatively impact the neighboring parcels and traffic and the Principal Use of the parcel itself".

Comment: All attendee vehicles cannot be accommodated on site. The proposal states that, for at least 24 events annually, it is impossible to accommodate all vehicles on-site. Despite the proposed use of a shuttle, this is a violation of Boulder County policy.

Comment: Backup of traffic along Niwot Road. The traffic study attached to the proposal shows an alarming number of vehicles entering and departing 5114 Niwot Road during an event. In addition to the vehicles of attendees, an "event day" may also include the vehicles of vendors, photographers, and the like who will also need to enter and depart the property at various times.

All of us have experienced the frustration of delay when arriving at an event (church, fairgrounds, popular restaurant) where many drivers are attempting to park in a relatively tight parking area. In this case, the proposal states that, prior to an event, drivers for 61 parking spaces and vendors and delivery persons and a shuttle bus will be entering the

property through a single-lane driveway into a 100' x 120' area – very tight quarters indeed.

We think you will agree that traffic will inevitably be delayed and backed up along Niwot Road for the many vehicles attempting to turn, enter, and find parking at the start of an event. Additionally, traffic along Niwot Road is negatively affected at an event's conclusion when all of those vehicles are attempting to re-enter the high-speed traffic along Niwot Road.

That is the Niwot-Road traffic challenge for a single event.

*However, the proposal requests approval for an “unlimited” number of events of up to 50 attendees. And, the proposal also states that there may sometimes be **two** events scheduled on a given day.*

Summary: The increase of traffic and traffic backup throughout the week and on the weekends will deeply disturb the neighbors who, literally, may not be able to enter or leave their property. It will also interrupt farm-vehicle traffic and construction-vehicle traffic that is common on Niwot Road. If we believe the numbers of events and vehicles requested in the proposal, the surrounding neighbors will be very negatively impacted with traffic backed up in front of their homes, sometimes on a daily basis.

Comment: Vehicle speed along Niwot Road causes safety issues. The vehicle speed limit in the area in question is 40 mph. Unfortunately, vehicle speed along Niwot Road in this area commonly exceeds this speed limit, many times dangerously so. This has created dangerous situations for my wife and I when entering and leaving our property next door.

As described above, the proposal states that large numbers of vehicles will be entering and departing at varying times. This will inevitably increase the possibility for vehicle collision.

3) Two Final Notes:

Comment: The subject property is not owner-occupied. We somewhat understand the passion the new owners of 5114 Niwot Road may have for their planned activities and for the financial return they hope to gain from those activities.

However, the property has been purchased as a money-making activity, *not as a home*. The planned money-making activities will take place at the expense of the surrounding neighbors, *not at the expense of the owners*.

That is, my wife and I and the other surrounding neighbors will bear the burdens associated with frequent and continuing celebratory gatherings. After the conduct of unlimited major events of up to 50 people (and 24 events of 150 to 300 people), the owners go home to a different house. The surrounding neighbors are left behind with all of the detritus associated with a large celebratory event: disturbance of the quiet rural environment, frightened or missing wildlife, noise pollution, loss of privacy, and crowds of vehicles on Niwot Road.

Unfortunately, in our opinion, it may be difficult for the new owners to have a vested interest in these negative consequences *because they do not live here*.

Comment: The total number of potential events is staggering. Quoting from the proposal, “4 events per year with an attendance cap of 300 people, 20 events per year with an attendance cap of 150 people, and **unlimited events** per year with an attendance cap of 50 people.” This incredible number, with all of the associated negative consequences for each event, can only be adequately considered from a common-sense perspective.

That is, which one of us reading our comments here would like to have that many celebratory events (“parties”) occurring at the house next door? **Indeed, the proposed number of events puts to shame ANY fraternity, sorority, or “party house” on “the Hill” near the CU Boulder campus**. Setting aside, for the moment, the negative impact of so many events; the proposal is simply not rational when considering the nature of the rural community into which all of these events are to be injected.

Conclusion: Although I cannot speak for all of the neighbors, I can say that my wife and I purchased, at great expense, a plot of land that allows us peace, privacy, views, the presence of wildlife, fields of natural grasses, and quiet and respectful neighbors – in essence, all of the qualities that Boulder County hoped to maintain through the implementation of its Comprehensive Plan.

In conjunction with the City, County, and NRCS, we work hard every day (and expend significant funds) to rejuvenate the land and its grasses. Along with the other neighbors, we maintain a respectful, quiet existence. Indeed, we sometimes worry that our trashcans make too much noise when we roll them down the dirt driveway to the street and back!

Overall, then, we have a great concern that the “rural nature” of the area is violated by the proposed activities. Noise pollution is NOT part of the Comprehensive Plan. Neither are super-frequent party activities and heavy traffic that are inappropriate to the rural setting. Neither is the inevitable damage to the wildlife ecosystem.

My wife and I have met and spoken with the new owners of 5114 Niwot Road. They have an excellent property, complete with many fruit trees and irrigation water flowing across their land. We just feel strongly that the proposal, as it stands now, does not meet the requirements of the Boulder County Land Use Code, does not meet the intent of the Boulder County Comprehensive Plan, and violates the desires of many neighbors. We invite the new owners to enjoy their property in the way that the Comprehensive Plan intended and to scale back planned activities to a level appropriate to the rural nature of the neighborhood.

Dan Moorer and Beth Potter
5050 Niwot Road, Longmont

September 22, 2022

Pete L'Orange
Boulder County Planning & Permitting
P.O. Box 471
Boulder, CO 80306
Via email: plorange@bouldercounty.org

Dear Pete,

My name is Paula Shuler and my husband and I have lived on Niwot Road for over 30 years. I am writing to express my complete opposition to both the Special Use Application for a Reception Hall as well as the Short-Term Rental Application being considered for 5114 Niwot Road. Boulder County has a very important decision to make; they have the power to grant a Special Use Permit for this parcel but in doing so, that will completely disrupt the quiet rural agricultural community and neighborhood that has always existed and it will also negatively impact the lives of the many people that live in this area.

Per the Boulder County Zoning document 4-600, a special use review must “assure the use is **located, designed, and operated in harmony with neighboring development and the surrounding area and does not adversely affect the public health, safety, and welfare.** The purpose of the review process is to **determine the compatibility of the use with the site and surrounding land and uses** and the adequacy of services.” A special events venue for this parcel is absolutely not compatible with the site or the neighborhood nor will it be able to operate in harmony with the area. The increased traffic, heavy use, loud and disruptive commercial business that is being proposed will unquestionably adversely affect the health, well-being and welfare of our rural community.

This area is agricultural and for the most part, working agricultural. My husband and I farm grass alfalfa hay on over 200 acres in the immediate area. We work outdoors many hours for many days of the year. Most of the people in this area are agriculturally focused and raise or pasture cattle, sheep, goats, chickens or horses. The residents of this area truly embrace the land and appreciate its significant agricultural value. Many neighbors have a working ranch or a farm with crops. It is a quiet neighborhood with respectful residents. I personally know many of my neighbors.

The applicants at 5114 Niwot Road have requested a Special Use Permit for a Reception Hall, but in reality, what they are requesting is a permit for a Large Special Events Venue at a property where they will not reside. I believe the applicants do not understand the true character of this neighborhood and the request is very unrealistic. What they are proposing goes against the quiet rural complexion of this area and a Special Event Venue will completely change the flavor of our neighborhood and make it miserable to live here. The Boulder County Comprehensive Plan states: Plains Planning Area Policy PPA 1.01: “**Land uses within the Plains Planning Area should continue to be related to agricultural activities, environmental resource protection, low- density residential development and other activities consistent with the rural character of the county.**” A “Reception Hall” aka Special Events Venue certainly does not meet those criteria.

More importantly, what the applicants are asking to be permitted is undeniably a commercial operation and has nothing to do with agriculture or agricultural zoning. There are no agricultural activities taking place on this parcel and absolutely nothing agricultural about what they are asking for with a special use permit. It appears this parcel was purchased for the sole intent of creating a commercial enterprise to rent out the structure and the house to host special events and make money. The applicants are not looking for supplemental income for an existing Boulder County farm and they do not have farm products to showcase. They will not be living onsite so they will not be disrupted by the increased traffic or the noise, and they will not be an integral part of the neighborhood. The applicants are buying this parcel to gain a permit and create a business that will negatively affect and completely change the wonderful character and dynamic of this area forever.

The Prairie Orchard property at 5114 Niwot Road, a 3.6-acre parcel, is the smallest parcel in the area and it is sandwiched between several larger parcels. The negative impact this very small parcel will create on the surrounding properties and much larger area will be ENORMOUS. We all have invested large amounts of time and money into our properties. An Event Center will be detrimental to the rural lifestyle that we have chosen and created in Boulder County and an Event Center has the potential to destroy our property values as well.

I believe the applicants are also unrealistic because this parcel, especially with the house and other smaller structures, does not have the proper space to host the events they have proposed. The applicants state that deliveries will be very limited. To host a 300, 150 or even 50 person events there will be a large amount of in and out deliveries and in and out equipment retrievals. Tents, tables, chairs, stage, linen, floral, décor, lighting, sound and AV deliveries, band, remote kitchen setup, catering and serving supplies, food, etc. to name a few. In, out, In, out, In, out. Most of these items will be delivered by box truck, not by Tesla. The catering employees alone for 150/300-person event is a large number. The 50 person events could potentially have 50 cars. In and out. The parking area is very small and insufficient and will not hold the 60 cars as presented, let alone a catering truck or two. Even with the proposed "shuttle" plan for the larger events, the increase in traffic will be felt by everyone. Will the shuttles be moving the working staff to and from north Boulder? Will the shuttle drive a couple back to North Boulder before the end of an event because they need to leave? It seems there will be twice the carbon footprint with this shuttle plan. Additionally, I am very alarmed because they are proposing 7 bathrooms, plus the existing not legit bathroom, potentially makes 8 bathrooms in the outbuilding. Eight bathrooms is not a "reception hall" sized facility, this is a full out LARGE Event Center. An additional bathroom is planned for the cottage making that potentially an additional livable dwelling. Yet the proposed specs for septic system is 50 people per day. How will the septic handle anything above 50 people? None of this makes sense. The negative impact of this proposed large event venue is far too great - for our roads, for our health & well-being, for our property values, for our lifestyle. An event venue will destroy the spirit of our neighborhood.

The applicants state that there are old growth trees which provide a natural barrier and screen, as well as a six-foot privacy fence. The six-foot fence doesn't block anything, Niwot Road is higher than the fence and one can see almost everything, especially on the north end of the property.

The old trees do nothing to block noise. There are open pastures to the south, east and west of this parcel that will carry noise *thousands* of feet far and wide - in all directions. The noise will certainly be heard by all the surrounding property owners and well into the North Rim/Lake Valley development. The first event held at Prairie Orchard in July was a testament to that, many neighbors were very upset and complained about the level of amplified music as well as the large bonfire burning at the Prairie Orchard property. Was this a precursor of things to come? Boulder County's Noise Ordinance penalties are merely a slap on the hand with no real consequences. How does a \$30 fine equate to an adequate penalty, especially when an entire neighborhood's piece of mind, well-being and livelihoods are at risk?

I can hear music from events being held on Oxford Road, which is over a mile away, and sometimes I can even identify what song is playing. Boulder County should not underestimate how noise travels across pastures. The Prairie Orchard property is much closer to our property. Is noise and amplified music a new dimension of rural living? I absolutely hope not.

Noise is one of my biggest objections. Amplified music does not belong in a rural setting. It is completely contrary to the character of our neighborhood. As I said before, we work long hours outside on our farm. When the sun goes down, we are finished for the day. One of my small pleasures is to be able to sit outside on our deck and eat dinner. I think we should all be able to sit on our decks and enjoy the peaceful sounds of summer - the stillness of the night and the crickets chirping - not to someone else's amplified music. Isn't that MY right? Article 4 of the Boulder Zoning Code states: "A zoning ordinance imposes such reasonable limitations upon the right of a property owner to use his property as he pleases, as may be determined by considerations of public health, safety, and welfare. **But he may not use his property as he pleases without regard for his neighbors, or the effect of his actions upon the welfare and prosperity of the whole community of which he is a part.**"

Amplified music is very disruptive and disturbing to me but also to my horses. As an example, a couple weeks ago there were three events in our area on two consecutive nights, all with amplified music. My horses ran from 5pm to 9 pm Friday night and again from 7pm – 10pm on Saturday night. When I say they ran, they were lathered up, running back and forth in the pasture. For two days after that, they remained completely on edge. My TB's flight response, basically a fear response to the unknown, is especially strong and any disruption to the norm has the potential set him off. If one horse runs, the other feels his energy and thinks there must be a problem, so he runs too. Amplified music, which they completely do not understand, is one of those things. Fireworks or a cow bell ringing and someone screaming at the top of their lungs next to our property during a triathlon or a marathon is another. In any case, all of this puts me on edge, leads to sleepless nights and my stomach in knots because I don't know if I will need to call the vet in the middle of the night. Should I get rid of my horses so that the applicants can have unlimited events? I can deal with private individuals having a private party once in a while at their homes but to create an event center down the street with not only large but unlimited events is unacceptable. This is really an unsettling prospect.

Our neighborhood is already inundated with cycling and running special events and triathlons events almost every other weekend day in the summer. In addition, hundreds of cyclists and

runners use Niwot Road every day and more on weekends. In fact, the Boulderthon is happening next weekend. I know there will be cowbells and screams of encouragement lining the course. I invite you to come out and see the impact to our neighborhood but you should arrive early because it appears Niwot Road will be closed all morning for the event. Adding more traffic and noise with additional events at 5114 Niwot Road, both night and day, seems beyond excessive and will definitely influence the neighborhood in a negative way.

There are several reception halls and community meeting centers already in the larger area. The applicant mentioned a few but there are several others. Most of these are working farms that host events and showcase their farms and products. There are also two Granges, Altona and Left Hand Grange, which the applicant did not mention, that have extensive availability very nearby. There are ample event venues in Boulder County and we do not need a special event venue in our neighborhood. The only people that will benefit, i.e., not be negatively impacted by an Events Center at 5114 Niwot Road are the applicants, who do not reside there.

Regarding any short-term rental, I would like to ask that not be approved. Per Boulder County, "Secondary Dwelling Short-Term Rental may not be marketed or used for weddings, receptions, or similar private or public events, with the exception of those by-right events hosted by one or more of the individuals who reside on the property." The land owners will not reside on the property and this is clearly against County guidance.

Lastly, the Boulder County Comprehensive plan addresses sustainability. Section XIII Sustainability Element, Goal Number 5 states: "The preservation of the built and contextual character of Boulder County's diverse rural landscapes, neighborhoods and communities should be **fostered and promoted through encouraging participation by the residents and property owners in those areas to identify the characteristics that are of importance to them and assist in development of land use strategies and tools for maintaining those characteristics.**" The residents of this community are telling you that they do not want a Reception Hall/Event Center and Short-Term Rental in the area. The negative impacts of noise, traffic and congestion it will bring to our area are elements that absolutely do not fit with the character of our rural area and will adversely affect the quiet agricultural area that we all know and love. Granting a special use permit will for events of any size or any number at 5114 Niwot Road will forever negatively impact the complexion of this area, our well-being and our property values. Please listen to this community and deny the special use permit and short-term rental permit for 5114 Niwot Road.

I know this is a very long letter but I find the potential of this permit quite disturbing. Thank you for your time.

Respectfully Submitted,
Paula Shuler
4560 Niwot Rd

October 5, 2022

Pete L'Orange
Boulder County Planning & Permitting
Email: plorange@bouldercounty.org

Dear Mr. L'Orange,

I want to express my opposition to the Prairie Orchard Reception Hall & Vacation Rental Special Use Permit application at 5114 Niwot Road, SU-22-0010.

The Prairie Orchard applicants have requested to hold events at their property 365 days a year - potentially multiple events per day with even larger events on weekends - and this request has absolutely nothing to do with agriculture. This is a commercial endeavor. The owners will not be residing on the property, no one will be living there; make no mistake, it is a commercial business with extensive impact. Boulder County claims to be so concerned about the character of a neighborhood that they limit the size of structures, tell property owners exactly where structures need to be placed and even what color the structures need to be. This proposed commercial business would negatively affect and completely change the character of our neighborhood more than any ten thousand square foot house ever could. This application is pretending to follow the code by asking for a "Reception Hall" but in reality this is an "Event Center" and the equivalent to someone applying to put in a 7-Eleven so that they can sell their vegetables from their garden.

Our area already has running and bike events on many weekends and several true agricultural venues for special events. We experience road congestion from the athletic endeavors on Niwot Road in the day and hear the amplified music in the evening from the farm event venues - which are over a mile away. Our community does not need or want additional noise, traffic or congestion. Every time Boulder County allows more commercialization they are chipping away at the true rural character of this area.

The Prairie Orchard application is clearly a commercial business that has nothing to do with agriculture. An event center will forever negatively impact the character of this rural neighborhood. Please deny the Special Use Permit and allow our area to remain a bucolic community.

Best Regards,
Joel Schaap
4560 Niwot Road

From: [Bill Tointon](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010
Date: Thursday, February 23, 2023 12:26:22 PM

Pete L'Orange

My name is Bill Tointon and my wife and I reside at 5400 Niwot Road, just east of the Prairie Orchard proposal.

Based upon my review of the Re-Referral Application Materials Dated February 17, 2023, I have the following questions. All of these questions relate to how the county plans to interpret Ordinance NO. 92-28 regarding noise on public and private property.

1. Will the project be defined as residential or commercial under the ordinance?
2. Will the sound level be measured from a distance of 10 feet from the property line as outlined in the ordinance?
3. Will section 1.01.050 Prohibited Noise Levels, as per paragraph C, apply to all activities at the Prairie Orchard location?
4. Will Prairie Orchard be able to apply section 1.01.060 Exemptions paragraph C of the Ordinance to evade any noise ordinances while they are hosting events?

I feel section 1.01.090 Violations and Penalties is too lenient for this type of a business operation. The penalties/fines are too small to create any deterrent to a noise violation. These costs are easily absorbed into the cost to host any of these events.

Our noise complaint from last summer, where our house vibrated from the sound, occurred with a group of 10 to 15 people. The sound system was inside the barn with the doors and windows of the barn wide open.

Sound carries easily in this agricultural area. We can hear conversations of joggers and bicyclists on Niwot Road as they go past. We already listen to every event that is held at the Boulder Reservoir.

As proposed, large events of at least 150 people will occur on 46% of the weekends in a year. When you take out the cold months when weather would interfere with big outdoor events, that means that you could have a large event of at least 150 people almost every weekend.

Based upon our experience, we don't believe that the noise and sound can be mitigated on this project.

Sincerely,

Bill Tointon

Sent from my iPad

From: [Susan I Hicks](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] SU-22-0010
Date: Tuesday, February 28, 2023 3:59:50 PM
Attachments: [5114 Niwot Road Permit Appl.docx](#)

Boulder County Planning & Permitting Dept.
Docket #SU-22-0010
Prairie Orchard Reception Hall and Vacation Rental Application

Dear Planning and Permitting Department,

This is a follow up email to my first email to the Planning and Permitting Department regarding the application for the Prairie Orchard Reception Hall and Vacation Rental. The process seems to be continuing but with new conditions.

In reviewing the new conditions, I was reminded of my own experience with Boulder County when I remodeled my house at 5253 Niwot Road.

One condition that I had to comply with was “to paint my galvanized metal roof as it was not consistent with the characteristics of the neighborhood and it was too shiny.” Boulder County felt “it would disturb the nesting bald eagles that live @100 yards to the north of my property.”

However, the roof material was the same that was already on my existing barn, as well as my neighbor’s barn and it was going to rust the same and lose its “shine” once weathered. Obviously, this roofing material didn’t disturb the nesting bald eagles as they return season after season to their nest to have their eaglets.

My question today is how can the attendance of 4 - 300 person events, 20 - 150 person events with the associated traffic, noise, alcohol and bonfires not disturb the nesting bald eagles Boulder County was so concerned about 19 years ago?

Also, multiple vacation rentals bring visitors to the area but we all know those guests never treat the home and surrounding area with the same respect and consideration as they do their own home. How will this added noise not disrupt the nesting bald eagles?

As I and several other neighbors have previously mentioned, what is planned for 5114 Niwot Road is not consistent with the characteristics of the neighborhood nor is it consistent with agricultural zoning. Boulder County maintains its strong commitment to agriculture as it has been part of the County’s history for a long time.

“Boulder County has a rich agricultural heritage. **From its beginnings in the 1860s providing** food supplies for the mining camps to the large wheat farms and beet fields of the early twentieth century, Boulder County agriculture is noted for its diverse history.”
[source : Boulder County’s Agricultural Heritage website.]

Why is an obvious commercial use permit being considered in an agricultural zoned area? This doesn't make sense nor is it "consistent with the characteristics of the neighborhood." Please consider all of the Boulder County residents who will be negatively impacted by this Special Use Permit request. How many of you on the committee would want this in your quiet, rural, agricultural neighborhood?

Thank you. Sincerely,

Susan I Hicks
303-548-1484 cell

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Chris Rakhshan - SU-22-0010 - 5114 Niwot Road
Date: Wednesday, March 1, 2023 1:09:56 PM

Boulder County Property Address : 5114 Niwot Road

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Chris Rakhshan

Email Address: crakhshan@yahoo.com

Phone Number: (501) 276-9882

Please enter your question or comment: Dear Mr. L'Orange

I live at 4900 Niwot Road, I am writing in reference to the proposed land use at 5114 Niwot Road, Docket #SU-22-0010. I would like to express my strongest objection to this proposed application. This area is generally an agricultural and residential area with heavy bicycle and runners traffic. The idea of a reception hall with the car traffic, noise pollution as well as other problems it will bring, is simply not acceptable to the residents here. The negative environmental impact of this proposal will adversely effect property values. In closing, I most respectfully ask you and the board to reject this application.

Regards,

Chris Rakhshan

4900 Niwot Road

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

Community Planning & Permitting

Pete L'Orange

Referring to Docket # SU-22-0010: Prairie Orchard Reception Hall and Vacation Rental

My name is Mary Bonial and I live at 5137 Niwot Rd. Longmont, Co. I am directly across the street from the proposed venue. This venue will completely disrupt and destroy the peace and natural state of this area.

1. This has historically been a quiet rural agricultural area. That is why we all bought homes and property in this area. That's what makes it a desirable place to live. Having a commercial venue in this area will greatly increase the noise and traffic. Being directly north of the venue I will have a traffic jam in front of my house which will certainly block my driveway access. There is no way getting 60 cars and several busses in and out of the property without causing traffic stoppage. This is proposed to happen every weekend for 6 months out of the year. Then it is also proposed to have UNLIMITED EVENTS any day, maybe several times a day throughout the rest of the year. This is a major privacy concern and inconvenience directly impacting me.
2. It was said that the fence and trees would stop the sound. That is not true. That fence has been here for many years and has never stopped the noise. I can clearly hear what's going on over there. Sound travels quite far here. I can often not only hear conversations, but understate what is being said.
3. There is no actual resident on the property. It would be difficult to tell who is lawfully supposed to be there and who is not. Is it a "Home Event" if no one lives in the home?
4. If there are 150-300 people at a wedding there will be noise, partying and intoxicated people there. I think there is a possibility that some may wander onto my property or into the road. The house and barn is close to the road.
5. In the past there was a goat farm on the property to the north of me. They had several "Open Houses" a year and every time I would get lost cars and even busses drive in and circle my barns and sometimes unload busses of people in front of my house. This is a major intrusion. I think this will happen again.
6. I have a horse barn very close to the same size as the "Event Barn". There is no way you could get 150-300 people safely in the barn. It would be irresponsible.
7. We have owls, hawks and eagles living in the trees surrounding my house and theirs. Parties, noise and traffic will drive them away. I enjoy having them here. I want to keep them around. There are also deer and elk that pass through. The eagles fly directly over my property and theirs to go to the reservoir. It's a direct flight path.
8. It was stated that the previous owner held "events". He did, but none were approved. The house was a residence for him. Some of these events were questionable. A teepee was set up and at night they beat a drum late into the night. In the morning I could see people running circles around the house and throwing up. I'm unclear what that "spiritual event" was. The new owner said she attended events there. These events are a bit alarming and I don't want them to continue.
9. It was also stated in the referral that I have a business sign on my fence out front. It is a farm sign. I do boarding for a few horses, but I have maybe 5-6 cars a week coming in

and out of my barns. Nothing like what she is proposing for Prairie Orchard. It is a quiet activity and is agricultural.

Please do not approve this property use. It is **TOTALLY INCOMPATIBLE** and a disruption to our community.

Thank you for considering my views.
Mary Bonial

From: [Elizabeth Potter](#)
To: [L"Orange, Pete](#)
Cc: [Dan Moorer](#)
Subject: [EXTERNAL] Comment on 5114 Niwot Road re-submittal
Date: Sunday, March 5, 2023 4:32:12 PM

Hi, Peter!

I left you a phone message the other day. This is my email followup. I remain adamantly opposed to the re-submitted proposal for a special use review for 5114 Niwot Road. (I also will submit this to the comments tab sent to us - thank you so much for the opportunity to comment!)

1. Based on the county assessor's website (<https://maps.boco.solutions/propertysearch/>), almost all of the structures on the 3.6-acre site at 5114 Niwot Road **were built illegally. We don't understand how any other use could be discussed for the property - including this special use review proposal - until these illegal structures are addressed and their illegality is resolved.**

The "barn"; the "cottage" with a composting pit toilet; and the "office" all were built without permits, based on the information on the county assessor's website. The "historical building/pump house" remains on the site as well, meaning there are five actual buildings (more than 4,500 square feet, according to the assessor's website) and another open building (one wall and a roof and open on the other three sides) on a 3.6-acre parcel.

2. The idea of a commercial wedding venue/ reception hall venue does not fit in with any of the expected accessory uses in an agricultural area under 4-516 of the code, whether "home events" or "farm events" because 1. No homeowner lives there; and 2. No farming/agricultural activities are taking place.

The county code says that "home events" on agricultural land are meant to support various agricultural activities (the re-submittal says **no agricultural activities can happen on the land** because of the irrigation ditches that cross it). The code also says such "home events" are hosted by residents who live on the property.

I highlight the idea of "home events," because property owner Stephanie Duffy told me she is allowed to hold 12 "home events" per year; she's just going through the special use review process to be allowed more people/cars.

This also seems to be illegal. No homeowners live on the property, so it seems like no "home events" would be allowed (under Article 4, 4-516 of

the code, “Additional provisions” (No. 5 “hosted by one or more individuals who reside on the property”).

--[if !supportLists]--> The code does not talk about virtually any commercial activities for agricultural areas, and none that I can find if a property owner does not live onsite. Why would a property owner be allowed to submit a special use review if the code does not indicate such illegal activity is allowed now?

3. Finally – on this related note - the code references various aspects of helping homeowners/farmers in rural, residential, agricultural areas to make income from their properties where they live. The Duffys have stated very clearly numerous times that they do not want to live on site, **making this proposal about a commercial venue in a residential area. The re-submittal calls for a hired person to handle events, highlighting that this proposal is for a commercial operation.**

Thanks very much for the opportunity to submit my comment.

Sincerely,

Beth Potter (5050 Niwot Road, Longmont, Colorado 80503, 970-471-9973)

From: [Miche Bacher](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] re: 5114 Niwot Road Special Use Permit
Date: Sunday, March 5, 2023 10:01:54 AM

To Whom It May Concern,

I am writing as a concerned resident of Lake Valley/North Rim. My home is directly adjacent to open space. I love living here and chose to specifically because I knew we would be surrounded by open space and agricultural land. I love the creatures - from the coyotes and bobcats to the hawks, osprey, and eagles, to the prairie dogs and rabbits and that is only scratching the surface. I love that I can see for miles and miles during the day and that all is quiet and naturally lit at night. I love that my neighborhood is quiet and the trails are easy to access. I love that the cattle graze by my fence.

I am deeply concerned that a special use permit issued for 5114 Niwot Road will change all of what I love. I was an event planner for many years. I know what events for 150 and 300 people entail. I know what they sound like, I know what they look like, and I also know that no matter what the rules say, people will take advantage. I fear that the sound and lights from such events will permanently change not only how I feel about my home, but they will impact the wildlife. I know that already most weekends in summer bring marathons, bike races, triathalons, and the accompanying traffic. Those are welcome even when I must plan my entrances and exits to and from my home. Those occur during the day and do not negatively affect the wildlife. If our homes are our sanctuaries and the environment is the sanctuary for nature and its creatures, this proposed use will permanently alter all of this in a negative way. I urge you to not approve this special use.

Thank you,

Miche Bacher
6714 Snead Court
Longmont, CO 80503
516.658.6237

miche bacher
chef/creative director
alittlethinkish
m: 516.658.6237
e: michebacher@gmail.com

From: [Marcia Purdy](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Docket # SU-22-0010 Prairie Orchard
Date: Sunday, March 5, 2023 2:35:22 PM

My name is Marcia Purdy . I live across Niwot Rd from the proposed development of the reception hall at 5114 Niwot Rd. I am very much against this development. This would increase noise, traffic and fire danger to the area. The owners have already caused neighbors to complain about both noise and the fire danger. The owners do not live there so there is no one there to control the gatherings. Because I live directly across the street ,the cars coming out of that property shine their lights into my home at night. If the number of people leaving there would cause a very irritating situation. Please consider how you would feel if it was your home . It's is an agricultural area and not suitable for this kind of business. I also fear that there is not enough parking for the events. People may start to park along the road! The increase in traffic could cause danger to runners and cyclists . There are no bike lanes. I have lived here for almost 40 years! Please allow me to continue my happy and peaceful life here. Thank you, Marcia Purdy.

To Pete L-Orange, Staff Planner with Boulder Community Planning and Permitting
Re: SU-22-0010, Prairie Orchard at 5114 Niwot Road, Longmont, CO 80503

From: Doris (Dee) Coulter, owner of two relevant parcels:

4860 Niwot Road with 1.1 acres, and

4850 Niwot Road with 31 acres that are in a conservation easement with City of Boulder Open Space

I am 83 and for 40 years I've had the privilege of owning and caring for one of the larger parcels of land along Niwot Road. It is quite near the small 3.75 acre parcel that is now asking to radically alter lives in this incredible Arapahoe land we occupy and steward together.

I came here before Niwot Road was paved, before Lake Valley and North Rim were built, before we became one of the few remaining country roads for joggers, bikers and marathoners to cherish. When I had the opportunity to purchase the 23 acre parcel to my west, I did so and soon discovered that it was one of the last migration corridors for foxes, pheasant, coyotes, and others to travel from the Axelson open space land south of us to the mesa to our north. So I relinquished its building site to create a conservation easement with the City of Boulder open space to protect the wildlife out here.

Over time I began to notice more and more of the layers of life that share this precious land.

*The raptors were the most obvious – bald and golden eagles, great horned owls and so many varieties of hawk occupy the tops of the countless cottonwoods in the area.

*Then their prey became more visible – not just the prairie dogs, but the voles, rabbits, mice and snakes they hunted.

*The birds revealed their world too the longer you watched. The grey heron and kingfisher had favorite perches to fish the farmer's ditch for minnows. The water fowl nested along its banks.

*Staggering varieties of smaller birds nested in the trees or on the pastures, traveling about in flocks, competing for bugs and seeds.

*It's a birdwatcher's heaven out here.

Migratory predators came into awareness

* bobcats, sometimes creating homes here for a season,

*occasional mountain lions who thankfully moved on,

*bears in desperate search for food before hibernating in the fall,

*and of course our resident coyotes – several have lived in a huge thicket on my back pasture for decades, making their west to east treks each day in search of food.

They travel the backs of all the properties along the south side of Niwot Road, returning each evening.

At night, the wildlife changes.

*With our dark night skies, the raccoons, owls, skunks, and others come out to hunt.

*They search for the rabbits, the various rodents and the poorly hidden birds and squirrels.

*Then there are the larger prey animals

– the white tail deer visit all winter if the trees bore fruit that year, and even a few elk pass by.

All of them will leave if this application is approved.

All our years of living in balance with nature will end.

* First, the parked cars and people will drive out the burrowers and nesters on that small parcel.

* Then the nocturnal rhythm will be disturbed for a much larger circle near the property as night lighting goes in. The nocturnal wildlife can no longer hunt or hide then.

***But the most egregious impact will be the noise**

– large gatherings means music and music travels MUCH farther.

--All the prey who can leave our area will do so. The noise is just too scary for them.

--Even the bees I've always housed here will struggle to hear their own communications against all the drumming and electronic sounds.

****But the ones who will suffer the most will be the horses.***

*They are prey animals and are hard wired to startle at sounds like that.

*They instinctively want to flee with all the others, but they can't.

*They are trapped in our yards, pastures and corrals and will no longer thrive in our care.

I've had horses for over 35 years now and I know them well.

*This will be no place to raise or board such sensitive creatures
if we allow the area to become an outdoor venue.*

Special note to the application reviewers:

It takes time to see the complexity of life out here, and to understand why the City of Boulder was so willing to create a conservation easement for my land, preserving it's vital role in wildlife preservation.

On first glance this application request may seem OK – there's a big fence so it won't be much of an eyesore. And maybe you like music a lot and wouldn't mind having it intrude on your daily life.

But folks out here aren't just residents who may or may not like music, we are STEWARDS of the land, the wildlife and the plants. And we owe a lot to the lineage that precedes us--to the Arapahoe who lived here and loved and cared for this land for so long. It's tragic to think that this tiny 3.75 acre parcel might be granted the power to unravel all of that.

Please don't let it happen.

Sincerely,



Dee Joy Coulter
4850 Niwot Rd., Longmont, CO 80503
dcoulter@ecentral.com
720-331-1700 – phone and text

From: [Paula Shuler](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Re: 5114 Niwot Rd postcard mailing
Date: Monday, March 6, 2023 9:38:59 AM

Boulder County,

I never received an acknowledgment of the email below which I sent in September...or any type of response. I'm curious if anyone read it? Was there any conversation about it? Did it get sent to the trash?

I was made aware that there was another mailing recently sent out on the property near my home that is requesting special events and amplified music on a potentially unlimited basis - yet the mailing radius remained 1500 feet so I did not receive the information. Obviously no one considered my request. It is clear to me that Boulder County does not understand how far amplified noise travels. We can hear the loud speaker at the Boulder Reservoir when there are events and that is two miles away. We can hear music and identify songs from events on Oxford Road and that is a mile away. The property requesting special events is just down the street, a half mile away and across open pastures. I know that our well being will be negatively affected if this is approved. The noise, increased traffic, congestion and fugitive light will be life altering to the neighborhood, even beyond 1500 feet. I would have appreciated receiving the mailings and the updates.

The mailing notification radius needs to dramatically increase especially when amplified noise is part of an application and it would be judicious of the County to make that change.

Paula Shuler

On Sep 7, 2022, at 2:17 PM, Paula Shuler <pshuler@mac.com> wrote:

Boulder County,

I'm writing with regard to the postcard mailing radius when a change in property use, special use application, involves the potential for amplified music. The notification distance requirements of 1500ft when amplified music is involved is not realistic, the notification distance needs to be changed and made much broader for this type of use.

I live at 4560 Niwot Road and I can hear and identify songs coming from the farm on Oxford Road which holds "home events". The Oxford Road facility is OVER a mile away from my property. The proposed Special Use of 5114 Niwot Rd is less than a half mile from our property and I guarantee that I will be able to clearly hear the music and my horses and my well being will be affected by amplified music from this property because there are open pastures to the south. Yet, I did not receive a notification postcard.

The County's current mailing radius protocol is not sufficient and needs to be dramatically increased, especially when there is the potential for amplified music. I should have received notice and many more neighbors should have been given notice considering what is being proposed at 5114 Niwot Road. Please let me know what I can do to get Boulder County's notification distance requirement increased when the potential for amplified music is part of an application. I look forward to continuing this conversation.

Thank You,
Paula Shuler
4560 Niwot Road

Sent from my iPad

From: [Barbara Zable](#)
To: [L"Orange, Pete](#)
Cc: [Barbara Zable; jack](#)
Subject: [EXTERNAL] Paririe Orchard, SU-22-0010
Date: Wednesday, March 8, 2023 3:45:59 PM

I live on Snead Ct. in the Lake Valley/North Rim community. My house faces east and both our living area (kitchen, family room, master bedroom) and our backyard border the City of Boulder Open Space.

My husband and I chose to live here for several reasons: peace and quiet, nature (birds, cows, foxes, coyotes etc.) and little to no traffic on Neva and Niwot Roads. We have lived here for 28 years and loved every minute of it.

I **very strongly object** to having an event center. Here are some of the reasons why:

- It will destroy the peace and quiet of the area as sound carries across open areas
- It will adversely affect wildlife here
- There will be heavy traffic on our roads
- It will destroy the " bucolic country setting" of the area
- High traffic will be dangerous to the bikers. runners and walkers who use our roads to ride, race and train.
- Since our bedroom, kitchen and family room face the open space, noise will be very disturbing to our activities and sleep.
- Renters could hold loud parties late into the night which would also be very bothersome
- Loud noise can be especially troubling for babies and young children in the area
- Pets can be affected by loud noise created by the events

I cannot understand why this building was built for an event center/rental property without prior approval. I will do anything in my power to **stop** these events and rentals from happening.

Please keep me updated on the status of this Special Use Permit.application. Thank you.

Sincerely,
Barbara Zable
6798 Snead Ct.
Longmont, CO 80503
303-442-3077

From: [Jack Louis Zable](#)
To: [L"Orange, Pete](#)
Cc: [Jack Louis Zable](#); [Barbara Zable](#); richardposnick@gmail.com
Subject: [EXTERNAL] Prairie Orchard SU-22-0010
Date: Wednesday, March 8, 2023 11:37:05 AM

I live within a mile of the proposed 'Community Reception Hall' at 5114 Niwot Rd. - Prairie Orchard, SU-22-0010

I am totally AGAINST giving any sort of permit for this use. Here are the reasons;

- This will tremendously increase the traffic and noise in my neighborhood. I can see the facility for the 'community reception hall' from my kitchen window.
- The nature of the open space would be totally changed.
- A large commercial enterprise in our neighborhood is totally incompatible with the neighborhood.
- This is just a money grab by the owners of the 5114 Niwot Rd. property and shows no consideration whatsoever to their neighbors.
- Building the big structure (facility for 'community reception hall') located at 5114 Niwot Rd. before getting a permit is very arrogant and again shows a lack of consideration and planning. This is a real indication of how the 'community reception hall' be used. In other words - a complete DISASTER.
- I hope that no deal has been made a priori for this permit.

Regards, Jack Zable, 6798 Snead Ct, Longmont 80503

Jack Zable
Professor Emeritus of Mechanical Engineering
University of Colorado
303-492-3410

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - david getsie - su-22-0010 - 6434 eagle court
Date: Friday, March 10, 2023 12:49:08 PM

Boulder County Property Address : 6434 eagle court

If your comments are regarding a specific Docket, please enter the Docket number: su-22-0010

Name: david getsie

Email Address: dgetsie@comcast.net

Phone Number: (720) 217-7279

Please enter your question or comment: The new proposed use of the property is not consistent with properties surrounding it. There will be a large increase in traffic and noise given the number and scale of events that will be held there. Also, the fact that the owners are not going to be resident, is a concern. I sincerely hope the County will reject the nature of the proposed use being requested as it will be deleterious to the neighbors in the immediate vicinity. Thank you.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Erik Park - SU-22-0010 - 5114 Niwot Road
Date: Friday, March 10, 2023 9:35:52 AM

Boulder County Property Address : 5114 Niwot Road

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Erik Park

Email Address: eriktpark@yahoo.com

Phone Number: (303) 589-4733

Please enter your question or comment: I am most concerned about the impact of noise and traffic congestion less than a mile from our Lake Valley Estates neighborhood. This Niwot property is small, only 3.65 acres and hosting up to 300 people for a concert or wedding? It will have a huge impact on our quality of life with the noise and traffic. The 300 person cap is only for the weekends (i.e.: big wedding...) of course in the Summer, we have bike and running races almost every weekend going down Niwot road. We live here so we know how to handle the increase in runners or bicyclists on the weekends. If we have 100-200 extra cars, possibly from out of state making Niwot road heavily congested, is an invitation for disaster.

It's too small of a property, in the wrong spot, and should not be allowed. This is zoned Agricultural, not as a business.

My other concern is the impact on the wildlife that have enjoyed safe passage on the 380 acres of Open Space, with a loud venue, with a concentration of cars and noise will have a negative impact on the wildlife.

Again, too small of a property, in the wrong area, and numerous negative impacts.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - John Canfield - SU-22-0010 - 4228 Niblick Drive,Longmont, CO 80503
Date: Friday, March 10, 2023 11:25:45 AM

Boulder County Property Address : 4228 Niblick Drive,Longmont, CO 80503

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: John Canfield

Email Address: john.f.canfield@gmail.com

Phone Number: (303) 444-7278

Please enter your question or comment: My gosh Boulder County! Is nothing sacred anymore? To me, it is appalling to continue to allow the (ab)use of remaining beautiful open areas such as is proposed for this event venue for nothing but profit for the developer. Being in such a beautiful open area, the surrounding areas will be so negatively affected by all the expected noise, day and night as well as ruining our night sky.

Living in the Lake Valley Estates area, because it is so quiet and peaceful, and dark at night, we all know how easily sounds, even small ones from blocks away, travel and disturb us. Same with light. Because it is so dark in our neighborhood and surrounding areas, ANY light source is so incredibly visible.

My hope is that the county will take into consideration how so many areas are being eroded due to many money thirsty developers. The county has the opportunity (and responsibility) to protect what remains of the beauty we all love.

Thank you.

John Canfield

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Judith Shinn - SU-22-0010 - 5114 NIWOT ROAD
Date: Friday, March 10, 2023 9:41:42 AM

Boulder County Property Address : 5114 NIWOT ROAD

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Judith Shinn

Email Address: jamoca_toby2@yahoo.com

Phone Number: (720) 379-7220

Please enter your question or comment: I live in Lake Valley Estates, a short distance away from the location. Niwot Road has MANY bicycle riders and runners in addition to the substantial regular vehicle traffic. Increased traffic associated with this business is a serious safety concern. Noise and light pollution from this proposed business will significantly affect residents who live in LVE and all along Niwot Road. Almost 20% of LVE houses will be DIRECTLY exposed to noise and nighttime lighting, with the rest having sound and nighttime lighting mitigated only by other houses and associated landscaping. The wildlife in the area will be affected. The peace and quiet of the rural area will be affected. I am not in favor of approval of this application. It is dangerous, disruptive and an affront to the peaceful nature of rural living.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Laura Murphy - - 5114 Niwot Road
Date: Friday, March 10, 2023 11:01:17 AM

Boulder County Property Address : 5114 Niwot Road

Name: Laura Murphy

Email Address: lauramurph@comcast.net

Phone Number: (303) 503-7655

Please enter your question or comment: Hi- I am expressing concerns for the wedding and event venue proposed for 5114 Niwot Rd. My biggest concern is parking/traffic. That stretch of Niwot Rd (and Neva Road) has many many cyclist and runners. If cars are parked in the street and increased traffic will push those cyclists and runners out further into traffic.

Weddings will be held on weekends. Races, triatholons,Iron Man are always on weekends on the same stretch of road as the proposed event center. I think it will affect safety in this area. If alcohol is permitted at the events then 100+ event guests are driving the same roads with cyclists, runners, pedestrians, wildlife. Thank you for your time!

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [DEBBIE & LARRY ROYDS](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard SU -22/001-
Date: Sunday, March 12, 2023 2:35:02 PM

Dear Pete

My name is Deborah Royds. My husband and I live in the North Rim subdivision - we have lived here for the last 20 plus years, having moved from New York. One of the reasons we love this area is the natural, quiet and peaceful land surrounding us. We love the views of the mountains and the plains, the abundant wildlife like the bobcats, coyotes, foxes, owls, eagles- and hawks. We love the bunnies and the prairie dogs as well. We love being able to sit outside in the stillness of early evening, listening to the sounds of the night and gaze up at the stars in the sky.

This is why the Prairie Orchard Proposal SU-22-0010 is so disturbing. The area that surrounds us is mostly rural and agricultural and this proposal clearly is a commercial endeavor that will have lasting and negative impacts on the land, people and animals who have resided here for years. Here is why we vehemently oppose this project:

- Increased noise and fugitive light: Large gathering means music and sound travels **much** further over open land. This will be disruptive to us but more importantly, to all of the wildlife who reside in the area as well as to horses and cattle. The lights from the area will be disruptive to the wildlife who are nocturnal and drive them away or they could be hit by cars, with the increased traffic. While I have no objection to a neighbor having a gathering, this proposal may allow events every single weekend! We value the tranquility of our neighborhood and resent being subjected to the noise and obtrusiveness this project will force us to have to live with.
- Increased traffic: Niwot Road is already a heavily trafficked road and we, who are living in the area, have to content with the numerous bike and running events every single year. Add into that mix, traffic in and out of this property and the possibility of people consuming too much alcohol is most troubling not to add the increased noise and exhaust from cars and delivery vans and trucks.
- Fire risk: I am concerned about an increase fire risk. There may be no smoking in the venue, but what if someone goes outside to have a smoke and tosses and lit cigarette butt out into the dry grass?

Additionally, the owners of the property will not be residing at the address - they would like to use the property as a vacation rental" Regarding any short-term rental, I would like to ask that not be approved. Per Boulder County, "Secondary Dwelling Short-Term Rental may not be marketed or used for weddings, receptions, or similar private or public events, with the exception of those by-right events hosted by one or more of the individuals who reside on the property." The land owners will not reside on the property and this is clearly against County guidance.

Lastly, the Boulder County Comprehensive plan addresses sustainability. Section XIII Sustainability Element, Goal Number 5 states: "The preservation of the built and contextual character of Boulder County's diverse rural landscapes, neighborhoods and communities should be **fostered and promoted through encouraging participation by the residents and property owners in those areas to identify the characteristics that are of importance to them and assist in development of land use strategies and tools for maintaining those characteristics.**" The residents of this community are telling you that they do not want a Reception Hall/Event Center and Short-Term Rental in the area. The negative impacts of noise, traffic and congestion it will bring to our area are elements that absolutely do not fit with the character of our rural area and will adversely affect the quiet agricultural area that we all know and love. Granting a special use permit will for events of any size or any number at 5114 Niwot Road will forever negatively impact the complexion of this area, our well-being and our property values.

The Boulder County Comprehensive Plan states: Plains Planning Area Policy PPA 1.01: "*Land uses within the Plains Planning Area should continue to be related to agricultural activities, environmental resource protection, low-density residential development and other activities consistent with the rural character of the county.*" A "Reception Hall" aka Special Events Venue certainly does not meet those criteria. And we strongly urge you to listen to this community and deny the special use permit and short-term rental permit for 5114 Niwot Road.

Respectfully,

Deborah & Larry Royds
6781 Golf Club Drive
Longmont, Colorado 80503

303-443-1652

From: [Lori Neff](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Reference: SU-22-0010, Prairie Orchard
Date: Sunday, March 12, 2023 4:18:39 PM

I am a Lake Valley homeowner who opposes the special use permit for a community reception hall. This area is surrounded by open space, horse properties, and quiet neighborhoods. The noise, traffic, congestion, lights and potential fire hazard all will have a NEGATIVE impact on this area. In particular, I'm very concerned about the effects of noise and lights on the horses and wildlife.

Please vote NO on this commercial endeavor!

Thank you,

Lori L. Neff

From: [Troy Ivan](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard SU-22-0010
Date: Sunday, March 12, 2023 3:45:57 PM

To Whom It May Concern,

The Special Use Permit for Prairie Orchard SU-22-0010 is ABSOLUTELY UNACCEPTABLE!

There is no need for such a placement of such a facility in the neighborhood and surrounding area that has no other similar zoning. Silly personal cash grabs like this is what is tearing apart the fabric of our family centered communities. This should absolutely not be awarded for one owner to capitalize on the tranquil surroundings brought by the efforts of the community. It should not be awarded to benefit one person at the expense of so many others, especially children and families. Please do not allow such a terrible zoning permit to be awarded. Protect the quiet, law abiding, tax paying, voting families of the area. Thank you for your consideration.

Troy Ivan
6473 Ace Ct, Longmont, CO 80503
(720) 491-0960

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Andrea Foote - SU-22-0010 - 4084 niblick dr longmont
Date: Sunday, March 12, 2023 9:16:16 PM

Boulder County Property Address : 4084 niblick dr longmont

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Andrea Foote

Email Address: footelings@gmail.com

Phone Number: (720) 937-6433

Please enter your question or comment: I am concerned about environmental impact of an event space. I'm also concerned about noise and light pollution.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Benjamin Nolan - SU-22-0010 - 6651 Snead Ct.
Date: Monday, March 13, 2023 1:11:48 PM

Boulder County Property Address : 6651 Snead Ct.

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Benjamin Nolan

Email Address: benjnolan@yahoo.com

Phone Number: (508) 736-8989

Please enter your question or comment: I am writing regarding the proposal for SU-22-0010. My family is strongly opposed to the the special use permit to use the property as a "Community Reception Hall. We live in fairly close proximity to this property, and fear the events would have an adverse effect on our community in terms of noise and traffic. There would also be a significant negative effect on the wildlife in our area. We moved here ~10 years ago in part because it was a quiet area surrounded by natural open space, and our neighborhood is a great place to raise a family. We do not want large events to disrupt the great community we have helped to develop.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Beth Wicht](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] reference Prairie Orchard SU-22-0010
Date: Monday, March 13, 2023 11:11:42 AM

hello

I own a home in Lake Valley and am against this proposed event center in our neighborhood. A commercial event center is not compatible with our rural zoning. Niwot and Neva are heavily used by cyclists and runners and the traffic already has to be very careful around these shared resources. The heavy traffic that will support events with 150-300 people are wildly out of the ordinary and not safe with expectations of current residents and recreators. even with proposed shuttle buses there will be those who dont want to do this and i will bet there will be parking down niwot road. horrible and definitely not safe.

we have a lot of wildlife in this area that will be impacted by the noise and commotion and lights - including farms that surround the proposed space.

and finally and most important to me is the pollution from noise (but also light and congestion). even the gun range in boulder many miles away can be heard and it would just be horrible to have noise and lights and such every night. we moved out here to seek the quiet rural setting - this could impact property values for those close to the center that that is simply unfair.

Is there anyone besides the land owner who is for this? i am guessing no. please do not allow this to move forward.

thank you
beth wicht 6629 putter ct

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Mark Schufman - SU-22-0010 - 5114 Niwot Rd
Date: Monday, March 13, 2023 2:14:46 PM

Boulder County Property Address : 5114 Niwot Rd

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Mark Schufman

Email Address: schufbros@gmail.com

Phone Number: (303) 956-6949

Please enter your question or comment: There are numerous good reasons why the plan for this property is inappropriate at best and totally a misadventure at worst. As a founding member of the Lake Valley Estates Wildlife Group, I would like to focus on this. In our area and around the site of the proposed activity there is a diverse and plentiful amount of wildlife. (There are nesting sites for eagles and other raptors constructed within site-line of 5415 Niwot Rd.) Needless to say, we are running out of peaceful rural areas that wildlife seeks to survive in. This is one left and it is a good one. The activities proposed at 5114 Niwot Rd. would, day & night, totally disrupt the wildlife in a wide swath. It would be a tragedy both for wildlife and the neighbors in the surrounding areas that appreciate and have learned to live with this wildlife were this proposal is approved

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Paul Landers - SU-22-0010 - 4101 Niblick Drive
Date: Friday, March 10, 2023 5:05:22 PM

Boulder County Property Address : 4101 Niblick Drive

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Paul Landers

Email Address: Kathpaul6063@gmail.com

Phone Number: (607) 372-2577

Please enter your question or comment: As a resident living in Lake Valley Estates, I oppose this project. The scope of the project as a commercial only business clearly exceeds the lot size, and is not conducive for motor, pedestrian and cycling traffic along Niwot Rd. Large public gatherings in this location is not beneficial to the stable environment we enjoy living in; quiet and safe neighborhoods, sustainable open space and wild life. This commercial enterprise may jeopardize the safety of local citizens with the influx of large groups of people from outside the area. Introducing transient populations to a stable and predictable neighborhood, risks personal/property safety and negatively impacts home values.

Please deny this project request.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Richard Caffrey - SU22-0010 - 5114 Niwot Rd
Date: Saturday, March 11, 2023 4:00:09 PM

Boulder County Property Address : 5114 Niwot Rd

If your comments are regarding a specific Docket, please enter the Docket number: SU22-0010

Name: Richard Caffrey

Email Address: ddcaff@comcast.net

Please enter your question or comment: I live in Lake Valley Estates. Please deny the request for a zoning/land use change for 5114 Niwot Rd. It would have a significant negative impact on the entire area and is inappropriate for the area. We are already trapped in our subdivision almost every weekend throughout the summer by various recreational activities (marathons, bicycle races, triathlons, etc) and do not need to add to the load carried by an already busy Niwot Road. In addition, the noise, lighting, porta-potties and crowd control needs would have a direct negative impact on my property since I live fairly close to the proposed site of the commercial Events Center.

Thank you!

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Matthew Chrabot - SU-22-0010 - 6713 Golf Club Drive
Date: Tuesday, March 14, 2023 11:52:58 AM

Boulder County Property Address : 6713 Golf Club Drive

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Matthew Chrabot

Email Address: matt_chrbt@yahoo.com

Phone Number: (303) 931-6877

Please enter your question or comment: I believe the proposed event center on Niwot Rd should have very little effects on the residents of LVE. The closest home is approximately 2,800ft away from the proposed venue. That's over a half mile. I'm sure there are other valid concerns over the venue, but we, the residents of Lake Valley Estates shouldn't be impacted by this.

There is also a farm on 49th street that hosts events frequently throughout the summer time approximately the same distance from LVE. I don't see any evidence of the LVE residents negatively commenting about this place.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: djohnson96@aol.com
To: [LU Land Use Planner](#)
Cc: rojorgensen@mac.com; BillTointon@msn.com; dcoulter@ecentral.com; tombugnitz@gmail.com; Terriabenjamin@gmail.com; saehicks@msn.com; t1956bird@comcast.net; jphindman@msn.com; nfknutson@gmail.com; marcialpurdy@gmail.com; marybonial@gmail.com; jmscottdc1@yahoo.com; dreamspinnnersabrina@gmail.com; dbpotter@aol.com; daniel.moorer@gmail.com; JJTointon@msn.com; djhindman1229@q.com; crahkshan@yahoo.com; alioops@me.com; mary@lefthandwool.com; edbyrne@smartlanduse.com; janyates222@gmail.com; delar83@comcast.net; ohsharky16@gmail.com; wrwagman@gmail.com; pshuler@mac.com; djohnson96@aol.com; bcarlton96@aol.com
Subject: [EXTERNAL] Prairie Orchard Event Center
Date: Wednesday, March 15, 2023 3:51:45 PM

March 15, 2023

RE: Special Use Application Prairie Hall Community Events Center & Vacation Rental

Docket No. SU-22-0010

Dear Mr. L'Orange

Most of us that live along Niwot Road in the vicinity of the proposed events center and vacation rental have chosen this pastoral area for residence because we do not like urban environments. Living in a rural environment is a quality of life issue for the residents along Niwot Road. Our neighborhood is characterized by large lots with single family residences and there is a preponderance of large land tracts with agricultural land uses focusing on horses, goats, ponies and cattle.

We have reviewed the development plan for the events center and believe that it is not compatible with our neighborhood for the following reasons:

Safety: Niwot Road has a high volume of automobile traffic and speeds beyond the posted 40 miles per hour are common. What is most important is that automobile traffic on Niwot Road is mixed with a steady stream of runners, bikers, hikers and the occasional horseback riders.

There are numerous parking lots in our area which are used by urbanites who drive to these lots, park and then run, walk and bike along Niwot Road. This scenarios is especially noticeable on weekends. Parking lots adding runners and bikers to the mix include the Lefthand Trailhead on Niwot Road just west of 39th Street, the Boulder Reservoir East and West Trailheads on 55th Street and of course the parking lot at the Reservoir. The Reservoir host numerous events, such as triathlon and biathlons and the bike and running courses often use Niwot Road. These events result in hundreds of athlete on Niwot Road and create safety issues with automobiles. Running groups often include 50 or more people and biking groups are large too. Niwot Road typically sees 500-1000 bikers and runners each day and during the Reservoir hosted events the number of bikers and runners exceeds 1,000.

The huge volume of traffic created by weddings and other activities at the events center would only exacerbate the existing mix of automobiles, runners, hikes and bikers along Niwot Road. Alcoholic use at the events center has the potential to create safety issues with the mixed traffic on Niwot Road. It should be the goal of Boulder County to create traffic conditions that are safe for residents and all those that utilize Niwot Road.

Noise: Noise generating elements in our neighborhood include automobile traffic, bicycles in large groups that converse loudly, runner in large groups that converse loudly, and events at Boulder Reservoir that blast our neighborhood with loud music and talk from their loud speakers. Activities at the proposed events center including music and a partying outdoor crowd would add to the existing noise condition. Alcoholic use at the events center combined with outdoor activities would only enhance the noise element. Such noise would be most intolerable for adjacent residents but would impact the Niwot neighborhood in general.

The noise generated by the events center would also affect livestock use on adjacent properties. For example, when horses hear a loud noise they react with fear.

Wildlife and Riparian Habitat: The Star Ditch which traverses the events center site is characterized by a mature riparian forest. Riparian forests, are a sensitive environmental area that provides habitat for a large diversity of wildlife and are a movement corridor for numerous wildlife species. Riparian habitat is important to birds and especially raptors

Carbon Footprint: It should be the goal of Boulder County to reduce the carbon footprint of new developments. Having an events center in a rural environment which lacks public transportation would only increase automobile traffic and the carbon footprint. It would not minimize energy consumption , but would be an inefficient use of energy.

Conclusion: The proposed events center does not comply with the Review Criteria for Uses Permitted by Special Review & Limited Impact Special Review. Specifically,

.The nature and intensity of the proposed events center land uses would not be compatible with the surrounding single family and agricultural land uses of the area and it would impact the quality of life of our neighborhood. It would not be in harmony with our rural neighborhood and it would have more than a minimal impact to our rural neighborhood.

.It would generate a significant noise and light pollution.

.It would be detrimental to the safety of travelers on Niwot Road including automobiles, bikers, runners and potentially result in traffic hazards.

. It would result in an inefficient use of energy and create a large carbon footprint.

. It would impact sensitive riparian habit and its wildlife.

We sincerely request that you not permit this project and determine that this project could not operate in harmony with our neighborhood.

David Johnson and William Carlton

5415 Niwot Road

Longmont, Colorado 80503

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Jim Bowen - SU-22-0010 - 5114 Niwot Rd.
Date: Tuesday, March 14, 2023 7:48:54 PM

Boulder County Property Address : 5114 Niwot Rd.

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Jim Bowen

Email Address: jimbowen@mac.com

Phone Number: (303) 534-8717

Please enter your question or comment:

Boulder County:

We live nearby and are extremely concerned about this special use permit is a commercial endeavor, which is not allowed in agricultural zoning. Please respect the zoning as it exists. Not an appropriate use for this property. They have purchased this parcel to create a “community reception hall” but in reality it is a special events center asking for unlimited 50 person events, plus up to hundreds of people four times a year. They also have a big fire pit which is a terrible idea with the increased fire danger from global warming. There is nothing agricultural about their ask and it is a big ask, especially how noise travels. The noise, traffic, congestion, and additional light in a dark sky area all have the potential to have incredible negative impacts to all the residents of this quiet, peaceful neighborhood.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Sophie P](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Docket Issue SU-22-0010
Date: Wednesday, March 15, 2023 9:42:47 PM

To whom it may concern,

I am writing to express my opposition to the Boulder County Community Planning & Permitting consideration of property **5114 Niwot Road**, docket issue SU-22-0010.

I live in the area and share concerns over; the ecological impacts and safety issues with the land use in the area as proposed by the petitioners. This area is a rich riparian habitat zone, with seasonal ditches and ponds creating habitats for scores of migratory birds and amphibians. Including raptors, owls, and ground-nesting birds, like the killdeer. This area is an agricultural zone for a good reason, the impact of human activity greatly impacts the ecology of the land and the environment.

The safety concerns stem largely from the increased traffic on Niwot Road. Niwot Road cannot accommodate safe, off-road/shoulder parking. There is no margin that ensures safe travel for bikers, ranchers, and walkers due to ditches and important native vegetation. Any increase in traffic forces bikers and pedestrians onto the roadway, which is unacceptable in this rural residential/agricultural community. Additionally, as the dry season combined with high winds has dramatically increased the risk of fires, the petitioner's plan to dampen sound with hay bails presents immense fire safety concerns.

In conclusion, I'd like to reference a Denver Post article by John Meyer on 9/22/22 quoting Kyle Horton, an Associate Professor at CSU within the Department of Fish, Wildlife, and Conservation Biology;

"If we talk about land conversions or climate change, if we change those things today, they might take decades to react"

This area needs to be protected and the Planning Committee has a responsibility to ensure the preservation of the native biodiversity, which can only be achieved by voting no on this proposition.

Thank you,
Kathryn Kowalczyk

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - David Ray - SU-22-0010 - 6787 Snead Court, Niwot, CO 80503
Date: Friday, March 17, 2023 10:16:00 AM

Boulder County Property Address : 6787 Snead Court, Niwot, CO 80503

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: David Ray

Email Address: davidray1001@gmail.com

Phone Number: (831) 236-3519

Please enter your question or comment: This events center would unquestionably impact the local ecosystem, disrupt the peaceful nature of the community, and be an unreasonably impactful nuisance on the community. Please do not allow it.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Marion Worrell](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] NO to Fairways Drive, Niwot, CO. Regarding SU-22-0019
Date: Friday, March 17, 2023 10:19:55 AM

From: Marion Worrell <marionworrell@yahoo.com>
Date: March 15, 2023 at 6:54:17 AM MDT
To: slorange@bouldercounty.org
Subject: **NO to Fairways Drive, Niwot, CO. Regarding SU-22-0019**

To Whom it May Concern:

This email is to express our [strong opposition](#) to the “Event Center” proposed for 5114 Niwot Road.

Niwot Road is currently a peaceful county road alongside residential houses, pastures and natural surroundings, and is a favorite road for both cyclists and joggers. The presence of an event center will draw hundreds of cars, with many of the drivers consuming alcohol and / or other intoxicants. This is dangerous and unwelcome on many levels.

The increased traffic will also lead to increased air, noise, and light pollution and will, therefore, have a negative impact on existing neighborhoods and wildlife. A commercial Special Events Center is a major disturbance to an otherwise peaceful area. It is therefore incompatible with the general safety and serenity that the residents of this area treasure and want to preserve.

Boulder County must take a firm stance against over-development in the name of “progress”. Once this type of venue is approved, it opens the door to more of the same.

We must “just say no” to these types of applications or the county will soon resemble urban sprawl complete with the inherent problems mentioned above.

Jim and Marion Worrell
6414 Fairways Drive
Niwot, CO. 80503

From: ronblechman@comcast.net on behalf of ron@blechmans.com
To: [L\"Orange.Pete](mailto:L\)
Cc: trish@blechmans.com
Subject: [EXTERNAL] Prairie Orchard Docket SU-22-0010. We are OPPOSED to this proposal.
Date: Friday, March 17, 2023 10:33:13 AM

Boulder County:

Regarding **Prairie Orchard SU-22-0010:**

We are both **OPPOSED** to the proposal presented in [docket=SU-22-0010](#) and the impact that it will have on our neighborhood and Niwot Road.

Ron & Trish Blechman
3947 Pebble Beach Drive
Longmont, CO 80503
(303) 440-3609

From: [Anne Dixon](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard, SU-22-0010
Date: Sunday, March 19, 2023 6:22:44 PM

Dear Pete,

My husband and I have lived at 7440 North 49th St for 10 years and one of the most precious qualities of our home is the peace and quiet. So we were alarmed to learn that a large events center may move in just around the corner. Amplified music, bright lights and increased traffic would drastically disrupt our peaceful way of life in this neighborhood. To us, an events center is not at all suited to a rural-residential area. It belongs in a commercial area where the noise and lights wouldn't negatively affect so many people. We urge you to deny this special use permit so that we and our neighbors can preserve our cherished way of life.

Sincerely,

Anne Dixon and Wolf Becker

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Barbara Fusco - SU-22-0010 - 5114 NIWOT ROAD
Date: Sunday, March 19, 2023 9:47:18 AM

Boulder County Property Address : 5114 NIWOT ROAD

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Barbara Fusco

Email Address: barbaralusco@gmail.com

Phone Number: (303) 815-5373

Please enter your question or comment: We live in Lake Valley Estates, a short distance away from the location of the proposed events center. We are strongly opposed to the proposal for a number of reasons as described below.

Commercial property in rural, agricultural residential zone:

At the most basic level, this 100% commercial use (the applicants indicate they will not live at the property) is outside the established zoning and character of this area. Fully commercial enterprises are best kept to more commercial zones.

Noise:

Because of the open land between the proposed events center and neighboring homes, including the Lake Valley Estates neighborhood, noise from the event center will travel far and be disruptive. Lake Valley neighbors have reported hearing noise from the previous owners' events over a mile away. With the proposed events center intending to host weddings and other celebrations, there will surely be loud music, loud voices, and other fugitive sound impacting neighbors during what should be tranquil hours.

Artificial light:

The increased use of artificial light in hosting evening events would be disruptive to human and animal well-being alike. All of us, humans, wildlife and nearby farm animals such as cows, are negatively impacted on a physiologic basis by excessive artificial light in the darkness. We should not increase this harmful exposure in this rural, residential and agricultural zone.

Traffic:

The proposed events center would bring much more traffic to Niwot Rd/Neva Rd, increasing noise, wear-and-tear, pollution from vehicles (emissions), and risks to wildlife. Risks of harm to the many cyclists, runners and walkers that recreate on Niwot/Neva Rd would increase as well. Further, events where alcohol is consumed will increase the risk of dangerous impaired driving on our neighborhood roads.

Impact on wildlife and farm animals:

The open spaces and ranch lands near the proposed events center are important habitats for many species of wildlife and farm animals. All of these animals will be negatively impacted by the disruptions brought by the proposed events center, including vehicle danger (traffic), artificial light, and increased noise.

Fire danger:

It is likely some attendees at weddings and other events may step outside to smoke and toss their cigarette butts on our tinder-dry ground, especially out of town guests who do not know better.

Submitted by:

Barbara Fusco and Douglas Wendel
4181 Niblick Dr, Longmont CO 80503

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Brian Stern](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental
Date: Saturday, March 18, 2023 7:51:41 AM
Attachments: [Docket No. SU-22-0010 Prairie Orchard.docx](#)

Please see the letter both in the body of the email and attached.

From: Brian Stern, 6735 Snead Ct. Longmont, CO 80503
Re: Special Use Permit, Prairie Orchard, SU-22-0010
To: Boulder County Planning Commission

We strongly oppose the approval of the Special Use Permit for 5114 Niwot Rd, Prairie Orchard, SU-22-0010.

We live in the Lake Valley / North Rim subdivision and have been here for over 25 years. What makes this area so wonderful is the beautiful views and the peace and quiet.

When there are events at the Boulder Reservoir, which only occur during the day and is much further away from us than 5114 Niwot Rd, we can hear the noise and music. Having this venue less than a mile away from us is problematic for noise, traffic, alcohol consumption, and drunk driving.

We kindly request that you not approve this Special Use Permit.

Brian Stern | brianstern555@gmail.com | m: 303-517-5611

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Rick Heidebrecht - SU-22-0010 - 5114 Niwot Road
Date: Sunday, March 19, 2023 11:53:01 AM

Boulder County Property Address : 5114 Niwot Road

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Rick Heidebrecht

Email Address: rick.heidebrecht@gmail.com

Phone Number: (303) 956-6611

Please enter your question or comment: I am against approving the commercial events center - the Prairie Orchard Reception Hall.

Our Lake Valley Estates HOA has recently surveyed homeowners and the neighborhood values are:

- Protect the environment, natural beauty
- Provide a sense of community
- (Tied) Quiet Retreat and Protect Home Values

Allowing the commercial events center is not compatible with the values residents seek when moving to and living in the area.

Noise: The quiet rural setting is one of the primary reasons my wife and I moved to the area in the first place, away from ever increasing traffic noise in the "rural " area near 76th and S. Boulder Road.

In the past few years there has been a continual increase in the activity/event noise in our Lake Valley Estates area with approval of the expanded gun range south of the neighborhood, as well as the number and type of events at the Boulder Reservoir (sport events, weddings, etc). Each of the facilities are further away from the neighbor than the proposed commercial events center and they directly create a noisy environment and detract from the value of our homes and quality of life.

Traffic: I am also concerned about the impact of noise and traffic congestion less than a mile from our Lake Valley Estates neighborhood. This Niwot property is small, only 3.65 acres and hosting up to 300 people for a concert or wedding?

Fire risk: I am concerned about an increased fire risk. There may be no smoking in the venue, but what if someone goes outside to have a smoke and tosses a lit cigarette butt out into the dry grass?

Wildlife impact: Another concern is the impact on the wildlife that have enjoyed safe passage on the 380 acres of Open Space, with a loud venue, with a concentration of cars and noise will have a negative impact on the wildlife.

In conclusion, it's too small of a property, in the wrong spot, and should not be allowed because of the numerous negative impacts.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Katherine Schneider](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Prairie Orchard Event Center
Date: Monday, March 20, 2023 9:42:18 AM

March 20, 2023

RE: Special Use Application Prairie Hall Community Events Center & Vacation Rental

Docket No. SU-22-0010

Dear Mr. L'Orange:

We live on Niwot Road, and have been informed that there is an application for an events center on Niwot less than a mile from us.

We, like our neighbors in this area, have chosen to live in this bucolic area of Boulder County for its tranquility and peaceful way of life. We live in harmony with the farm and ranch animals, as well as the myriad wild animals who call this riparian environment home.

Light and noise pollution is minimal here, which as we know is unlike more densely developed areas. This is precious and valuable not only to the residents of our community, but to the livestock and critters who inhabit the open space and traverse through our fields. Sound particularly travels very far here - we can hear the conversations of the bikers traveling Niwot, a dog barking warning 2 miles away on 63rd, even the announcements broadcast during the events held at the Boulder Reservoir. None of these is bothersome to us. But 4 " large" events of approximately 275 people, 20 of 150 (which, if you've ever attended a wedding of 150, IS a large event), and unlimited number of events of up to 50 people yearly, would FAR exceed any reasonable amount of noise, with music and voice amplification. Lighting as well would need to be significantly amplified to accommodate outdoor events. All of this would negatively impact our lives, but more importantly, would significantly stress the horses and livestock, and drive the wildlife away.

In our opinion, the proposed events center simply does not meet the criteria of being "in harmony with neighboring development" and "compatibility with the site and surrounding land and uses," nor can it "operate in a sustainable way with minimal danger or impact to the users, or the natural environment, or the developed environment" as per Article 4-600 Land Uses Permitted by Special Review and Limited Impact Review.

Additionally, if this permit is granted, it opens the door to other commercial developments in an area that is agricultural. Neighbors here have recognized the City of Boulder's and Boulder County's remarkable determination to keep land open and natural, and have donated property for conservation of easement. Such commercial ventures as the events center would erode the intent and purpose of open land preservation.

For all these reasons, we urge you to deny this application.

Sincerely,

Kathy and Tom Schneider
6900 Golf Club Drive
Longmont, 80503
ohsharky16@gmail.com
513-310-6747

Boulder County Commissioners etal 3-20-2023

My name is John Fedorschak and I reside at 4096 Niblick Drive. I am writing to strongly request rejection of SU-22-0010 Prairie Orchard for a commercial special events center at 5114 Niwot Road. My wife and I moved to Lake Valley about 7 years ago for the oasis of quiet and I have recently retired after 40 years of working and living in Boulder County. My first home was on South Boulder Road in Lafayette was a dirt road and the 287 bypass was not built and was the pow wow grounds. We moved to Lake Valley to escape the noise and pollution and enjoy the open space in this area. It is great out here (with the exception of rifle range shooting occasionally) The special use permit for 5114 Niwot Road does not fit with this area. There are constant bikers and runners on both sides of Niwot road. There are numerous bike races (strongman ect) during the summer with people parked along the road and encouraging participants. My fear is with SU-22-0010 more cars and people and someone may get injured. I already dodge runners and bikers as it is on Niwot Road. There are also no street lights and any event at night would be confusing to find and leave the event location. There is no infrastructure out here to get people to and from the venue. Where will people using this venue stay. There will be delivery trucks and employees coming in and out in Niwot road. Already the Coot Lake parking area on 63rd is full on most weekends. We also have the Lefthand open space and Boulder Valley Ranch open space which are all connected and will party noise from this venue affect people enjoying the open space. We also have great wildlife and this area has encouraged birds of prey. Also Neva road to 36 is already dangerous with traffic going from Boulder to Rocky Park/Lyons.

In conclusion this proposed venue at 5114 Niwot Road SU-22-0010 does not fit this area. When I had my wedding reception it was at the Clarion Harvest House in Boulder which has the infrastructure to support special events of 274 or 150 or 50 people. I have also been to the Dove House and the Boulder Dairy for events which are in developed areas which makes sense. In case of emergency the Boulder Sheriff and rural fire district would need to respond which does not seem to make sense to me.

Thanks for your time and please let me know if I can help further.

John Fedorschak 4096 Niblick Drive 303-845-2484 303-466-9371

Docket: SU-22-0010
(Prairie Orchard event Center)

3-14-23

Pete L'Orange,

My wife and I have lived for thirty years on 7313 North 49th St. We moved here so we could live on farmland and be in nature, enjoying the quiet and the solitude. We have a soulful connection to the land around us and take pride in protecting it. Over the years, we have had to make our peace with changes that a rise in population has brought to the area: bikers and runners and dog walkers chatting loudly at 6 A.M. as they pass our bedroom windows most mornings, for example. The entire community has borne the brunt of major athletic events staged nearby that upset the many horses and other animals that live on this land.

Now, however, we are being asked to condone a for-profit scheme that would turn an ordinary house in our neighborhood into a space where parties and music events would take place. This is farmland here - most of us own 20-50 acres. This event house is on 3 1/2 acres with an absentee owner. We are hard-working people here who rely on each other to work the land and protect the nature around us. This is not a street for commercial entertainment. It would be like putting a sports arena in the middle of an ancient cathedral.

This idea is not a community project, as it's been called. It's an idea that is in conflict with the character of this community. It's a selfish idea that puts one person's profits above a cherished land and a way of life. Please, let's change the zoning laws to reflect the true nature of this land around us and the people who work it.

Sincerely, Ophelia & Debra Scott

From: [Ti Na](#)
To: [L'Orange, Pete](#); hoa@lakevalley.org
Subject: [EXTERNAL] Oppose - Prairie Orchard Reception Hall and Vacation Rental Application, Docket SU-22-0010.
Date: Tuesday, March 21, 2023 11:14:27 AM
Attachments: [image.png](#)
[image.png](#)

TO: Pete L'Orange, Boulder County Community Planning, and the Lake Valley Homeowners Association
FROM: Rick and Tina Fredo, 4075 Niblick Dr., Longmont, CO 80503
DATE: March 21, 2023
RE: Prairie Orchard Reception Hall and Vacation Rental Application, Docket SU-22-0010

As a homeowner and resident of the Lake Valley neighborhood, this correspondence is to express our **strong opposition** to the [Prairie Orchard Reception Hall and Vacation Rental Application, Docket SU-22-0010](#).

Parking will impact the traffic on Niwot Road and is a huge concern. The size of "Large Events" is also a concern. The number of attendees needs to be greatly reduced.

The proposed parking of 61 cars is unrealistic, too many, and will inevitably cause parking and traffic issues, endangering motorists and athletes who utilize this portion of Niwot Road. Having 61 cars try to pass in/out of a single 13.7' wide driveway to the property will cause traffic congestion on Niwot Road. Parking will inevitably overflow onto the streets and interrupt traffic. Our safety will be negatively impacted. Additionally, the Site Plan seems to indicate that all large, old growth trees will be removed to make way for the parking.

The "Special Use Narrative" (page 15 of this docket) states that "a row of large growth trees lines the north property line of Prairie Orchard creating a privacy screen along with the existing 6ft wooden privacy fence that spans the north property line". That is completely contradictory to the site plan (page 26 - prepared by Sawhorse 6 Architecture Design) that shows parking spots adjacent to the existing 6ft wooden fence. So, there will be no privacy screen provided by trees. (See diagrams below.)

The extensive traffic study that was submitted with Docket SU-22-0010 was conducted by observing existing WEEKDAY average traffic patterns by motor vehicles. The traffic study does not seem to take into account the amount of automobiles **and athletes** that use Niwot Road, especially **on weekends**. Page 16 of this Docket, which is the 3rd page of the Special Narrative section, large events are stated to occur on weekends. These large events at the proposed Prairie Orchard will cause cars to park on the side of the roads, and athletes will be forced to use the center of the road where cars are trying to pass. This is hazardous to athletes, attendees and motorists!

Parking at the City Church Boulder at 2801 Jay Road is 7 miles away via Highway 36 and approximately 6.9 miles away via the Diagonal Highway. The church is quite a distance from the property located at 5114 Niwot Road, so people will not want to choose this option if they can park closer.

All of these parking and traffic concerns can be avoided by reducing the size of "Large Events". The proposed 300 and 150 people "Large Events" is excessive and dangerous.

A few questions that I would like to have answered:

1. **Can the number of "Large Events" be capped at 100 people?**
2. Who will enforce the number and size of these large events?
3. Can street parking be unavailable and enforced by police for safety reasons?
- 4.

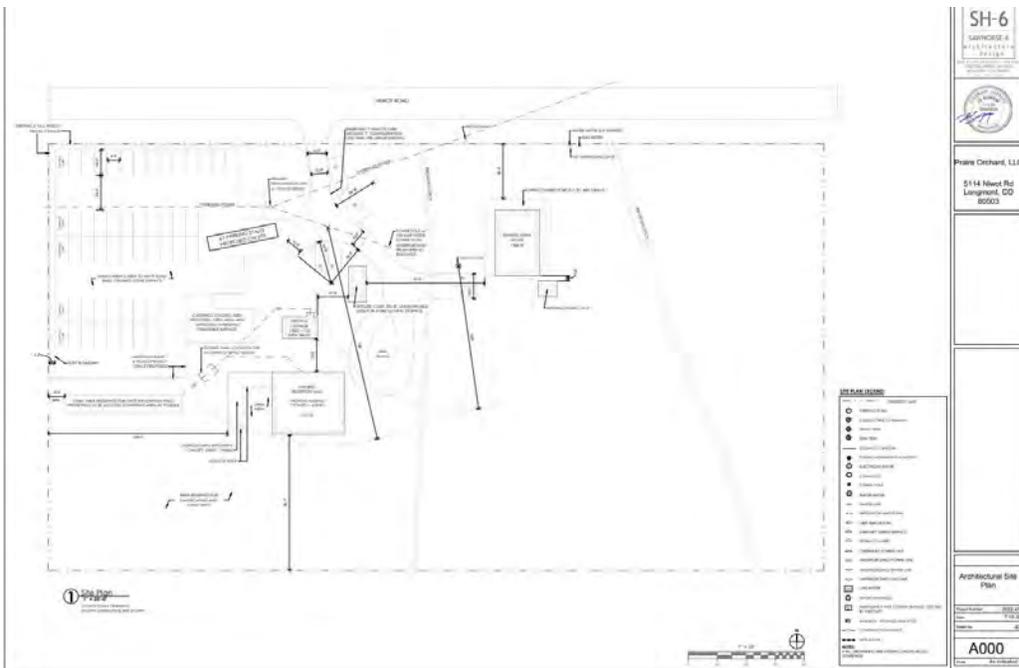
Where is the accessible parking for disabled individuals?

- 5. How can a 40' x 48' barn legally hold 300 people? Is this a fire code concern?

Traffic and congestion pose a safety hazard to the rural, residential area along Niwot Road. The size of "Large Events" needs to be reduced. As a concerned homeowner, we strongly oppose [Prairie Orchard Reception Hall and Vacation Rental Application, Docket SU-22-0010](#).



Aerial view shows trees in the northwest quadrant of the property.



Site Plan (from page 26 of Docket SU-22-0010), shows where parking will be provided.

-----Original Message-----

From: Rick Weidenbach

To: Boulder County Planning and Permitting

Sent: Tue, Mar 21, 2023 9:56 am

Subject: Fwd: One LVE Homeowner's view on the data for #SU-22-0010 Event center variance petition - 3114 Niwot Road

I have made my way through the lengthy property zoning variance request (#SU-22-0010) for the property located at 3114 Niwot road as posted on the Boulder County Planning and Permitting web site and as such I have summarized what I think are the hard data points:

1) A true detailed Demand analysis for the event services offerings being considered for this property has, in my opinion, not been provided by the new owners to show the true possible volume of people and associated essential support services to management things like Traffic, Food offerings, Beverage offerings, Waste disposal, Noise mitigation, Light pollution mitigation, etc.

- Hence using the numbers as provided in the variance request you could project the following:

Large events = (Maximum of 274 people x current suggested limits of 4 total large event per year = 1,096) + (Maximum of 150 people x current suggested limit of 20 events per year = 3,000) = 4,096 possible people per year

Small events = (Maximum of 50 people x unlimited events in a year (using 365 days) = 18,250 possible people per year.

Key point = This only assumes one event of 50 per day where the variance request indicates that a small event, like a yoga class, might only last 90 minutes. So the potential size of total people for small events could multiply rapidly if you stage multiple single small events in the same day.

But the simple math still adds up as follows: 4,096 possible max event people + 18,250 possible small event people = 22,346 possible people per year using this piece of property.

- NOTE #1: - Now one could say what's realistic??... and that's a fair point to consider... BUT..... the fact of the matter is the way the variance request is written it would still allow this property to be used to the maximum possible or beyond if multiple small events per the same day. Additionally I have not read any information that indicates this type of variance approval has to go through any kind of periodic reviews for compliance while also wondering if this variance approval is for this owner only or for all future owners of the property.

2) Schedule compression - Potential New Event Services only at this property:

- If we use some assumptions like what time of the year is most popular for weddings, or large outdoor activities like the bike races, or charity rides, etc. A person can do a quick Internet search and then could

argue that most of this demand will come inside of the May to October time frame...hence a 6 month window.

So using the simple math in bullet #1 - we are now talking about a lot of people.... particularly for the large events....schedule wise, into a six month window which will increase the frequency of the large events into a compressed portion of the year thereby putting a good amount of strain, noise/waste/traffic/etc., on the surrounding community including our LVE development.

3) Schedule compression - competing/complimentary events:

- As a lot people who live in Lake Valley Estates (LVE) and the surrounding area know - this area has become a magnet for bike/running races, (professional, amateur, and charity), let alone recreational riders/runners that live in and outside of Boulder County. The number of these events are now almost to the point of becoming a bit of an aggravation to the surrounding community when we are under some sort of traffic/people/noise constraints during most weekends during the summer.

- Again a quick search of the Internet already shows several major annual bike races already lining up for weekends inside that May - October time frame within the same general Boulder County area, (Examples = Boulder Peak, B-Strong Ride, Boulder Roubaix, Venus de Miles, etc.), let alone spontaneous club rides/runs and or professional teams making practices rides/runs.

- Now if we really wanted to describe a horrendous weekend of congestion for our LVE community you could easily see a weekend where we could have a series of large events held at the 3114 Niwot Road property and a large bike race/triathlon all within the span of a three day weekend.

Example: 1 large event of 150 people on Friday at the 3114 Niwot Property + 1 large event of 274 people on Saturday at the same property + a large bike event typically on a Saturday or a Sunday in the very same area & another large event of 150 people also on Sunday at the 3114 Niwot Property.

This possible example scenario = 574 people at the 3114 Niwot Road event center during a single weekend on top of the potential for several thousands of people in and around the area supporting and or directly participating in one of the main bike/running events.

- The example above doesn't consider other existing Event Center businesses that are already established in the nearby area which could also be hosting a large event during the same weekend.

4) Noise and proposed Noise abatement:

- The variance request certainly recognizes Noise as one of several factors that new owners need to mitigate. The variance request cites that it will comply with the current prevailing noise ordinances.

- The variance also indicates that it will do that by extending the 6' - 8' foot fence on it's western border to the full length of the western boundary of the property and will also augment that fence with hay bails as a way of dampening the noise. They will also only allow for amplified music to be played inside the event hall facilities up until 9:00pm

- Additional the variance request indicates that it will offer onsite parking at a \$10 fee to try and motivate people to use a shuttle bus service during active events. In my opinion \$10 is not nearly enough of an incentive to use a shuttle service to a church parking lot that is roughly 10 miles away.

- NOTE #2: - I am choosing not to raise any addition issues with all of the traffic from the parking onsite let alone constant shuttle bus services as I think this issue has been covered by multiple feedback notes already

- A current amendment to the original variance request also indicates the possible use of “movable plant screens” to help absorb the noise. Again not enough details in the current/amended variance request to really understand how this might work but I doubt that they would use it to screen off the view to the South and West of the property...i.e.. the Flat Irons view which is the same direction where the LVE community is located at.

- What the variance request also doesn't say is whether or not the new owners will provided significant additional interior building noise dampening along with requiring all of the doors and windows in the reception hall or other buildings to be shut during the entire day of the reception or large event...i.e.. even on warm summer afternoons/evenings.

- Unfortunately the science on how noise travels tells us that noise travels in all directions at all heights as it vibrates off of air, water, solid molecules.

- Hence the outside wooden fence might absorb a small bit of noise but more likely will simply redirect some of the noise, at its lowest levels, as it travels through the air.

- The hay bails might also absorb some of the sound.....BUT....I suspect the new property owners won't stack the hay bails to high as I think one of the selling points of their proposed services will be the magnificent views of the Flat Irons and surrounding mountains that are directly South and West of the property.....AND.... As mentioned earlier, that 's just where our LVE community lies on a very short diagonal line from the back of their property ...AND WITHOUT ANY NATURAL BARRIER ACROSS AN OPEN SPACE to redirect or absorb the noise.

5) Existing Noise Saturation in the Community:

- The LVE community is already surrounded by entities which generate noise.

Example = Gun Range to the South, Boulder Reservoir to the Southeast, Trains/Auto traffic along the 119 corridor running Southwest to Northeast, and H36 traffic to the West.....add in the air traffic from the small municipal airports in Longmont and Boulder and you get plenty of noise creation potential on any given day let alone on the weekends. All of which we can hear at various points within the LVE community.

6) Sale of large amounts food and beverages primarily alcohol with in a community currently zoned as rural/agricultural:

- Certainly the ability to provide/sell alcohol at a large Corporate gathering/Team building events/Wedding receptions, etc. is a very important selling attraction and profit generator for the new property owners.

- However I believe the surrounding community made their strong intentions on not allowing this type of commercial offering when it spoke as one, via petitions and other direct responses, to the proposed new restaurant at the Boulder Reservoir by indicating this type of business, including selling alcohol to the general public, was not in the best interest of the surrounding community and it's strong desire to stay as it was original envisioned, as a safe, quiet, peaceful, rural neighborhood.

- I don't even want to think about the potential waste and fire pit issues. Particularly if the strong winds we get periodically in this area are blowing in the wrong direction.

- NOTE #3: - Also it should be noted that the new property owner is organized as an LLC. Hence by definition they are trying to have a fire wall, liability wise, between themselves and their property service offerings from possible problems with their service offerings including issues or problems attributable to sale of alcohol and wedding participants who might overindulge.

7) Existing Competitive Services analysis:

- This type of detailed analysis isn't in the variance request however the new owners indicate that they feel that the community needs this type of offerings and location combination given the recent sale and transition of the Haystack Golf course into a high end/large lot size housing community.

- However after a quick Internet search you can readily see multiple Wedding/Large Event Service offerings, including rural locations throughout Boulder County. Hence there is plenty of options for these types of services already in place.

- Additionally the other small events like Yoga retreats, Photography classes, Corporate/Sport team events, etc., have numerous venues for these types of services within Boulder County as well... Boulder, Niwot, Lyons and Longmont certainly have their fair share of all of these services offering on existing "approved" facilities to support the same offerings as the new owners seem to imply that our community is underserved for these types of offerings... (i.e. That's what these other existing locations are zoned for)

- There is also a couple of nearby competing locations identified in the waiver request itself which leads me to another issue for consideration...(i.e. Will all of the similar business in the immediate area try to update/file variance amendment requests to their currently allowed services to match what the new owners of the property at 5114 Niwot Road are looking to do??

8) Probable impact on nearby housing values and existing property tax base:

- The LVE community represents roughly 300 houses. If we assume the average annual property tax per house = \$7500

We get a total of 300 houses x \$7500 average annual property tax per house = \$2,250,000 in total annual tax revenues. Much of which goes directly to Boulder County for services provided.

- If I read the property tax records right - The property at 3114 Niwot Road paid \$5,829 in annual property tax last year.

- Clearly the annual total of property tax coming from LVE vastly outnumbers what the single property at 3114 Niwot road is paying in annual property tax and the revenue from the proposed event center will not flow directly to Boulder County.

- Even if we were to factor down the LVE numbers to accommodate those in the LVE community that might support the waiver request for this property by say 20% - 40% you would still have a very large tax base stating this variance request/type of business this close to our community is not a good idea let alone supported by the tax paying/vote casting LVE households.

- Most importantly multiple multi-year published real estate studies have concluded that allowance of a commercial business creating higher volumes/ density of items like, (Noise, Traffic, Waste, etc.), directly next to or nearby residential areas will suppress the value of the individual residential homes which means a bad situation of lower values for the home owners and the ripple effect for less taxes paid to the county.

- NOTE #4: - I am no legal expert but I suspect this above condition of the potential of lowering home values if this variance request is approved could spawn a law suit or two by any individual home owner or group of home owners that believes they have been adversely impacted by this variance request approval.

Summary:

The above statements along with the recent two new large contemporary homes built nearby this property on Niwot road plus the aforementioned conversion of the Haystack Golf Property into large estate homes would suggest to me that the best current use and future enhanced value potential for property in this part of Boulder County is for either continued Ranch/Agriculture properties and or single residential homes on large lots in a rural community with low noise, traffic, waste, generation which is exactly what the LVE community was envisioned when it was first developed back in the 1990's and what most if not all of the subsequent and current owners within LVE bought into over the many years since LVE first started. Hence I do not support the approval of the variance request for the property at 3114 Niwot Road.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Alyson Lumley - SU-22-0010 - 5114 NIWOT ROAD
Date: Tuesday, March 21, 2023 8:25:26 PM

Boulder County Property Address : 5114 NIWOT ROAD

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Alyson Lumley

Email Address: alysonlumley@gmail.com

Phone Number: (408) 669-7205

Please enter your question or comment: I am writing to express our opposition to the application SU-22-0010 PRAIRIE ORCHARD Reception Hall and Vacation Rental at 5114 Niwot Road. We live in Lake Valley with clear line of sight from our property across the open space to the site. Our concerns for the proposal are:

- increased wildfire risk from the events and large numbers of visitors to the site (the adjacent open space is a large area of dry grassland directly behind our property)
- noise disruption significantly impacting our quality of life
- adverse wildlife impacts, especially for the adjacent open space which is a designated osprey breeding ground among benefits for many other species
- traffic along Niwot Road not only for us as neighbors accessing our property but for the runners and cyclists who frequent the road
- light pollution at night affecting neighbors as well as wildlife.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Barbara Lewellen - SU-22-0010 - 6485 Ace Court
Date: Wednesday, March 22, 2023 1:55:12 PM

Boulder County Property Address : 6485 Ace Court

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Barbara Lewellen

Email Address: bjlewellen@comcast.net

Please enter your question or comment: COMMENT:

The Wedding Events center is not a good idea.

Niwot Road is one of Boulder's primary recreational roads for bicyclists and runners in Boulder County. I don't believe the parking lot at this residence will accommodate 75 cars, and that guests will park on Niwot Road, blocking the bike & runners' lane, putting all at risk.

Moreover, the establishment of a commercial venue, in our quiet, idyllic, rural neighborhood, will destroy the values we so highly treasure and paid for so dearly when we bought our house.

There are many wedding venues and lodging in the hotels in southwest Longmont, Gunbarrel, and Boulder, which have plenty of parking, street lighting, etc. (And all have a view of the Boulder Flatirons)

Barbara Lewellen

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Dan](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010, Prairie Orchard
Date: Wednesday, March 22, 2023 8:57:41 AM

Re: SU-22-0010, Prairie Orchard, 5114 Niwot Road

Boulder County,

My family has owned our 160 acre parcel on Niwot Rd since the 1800s. I have lived here my entire life, 72 years.

We strongly oppose the application for a Special Use Permit for a “Reception Hall” at 5114 Niwot Road for the following reasons:

+The use is a commercial business and does not fit into agricultural zoning. No one will live on this parcel and it was purchased solely for the purpose of creating a commercial event venue and vacation rental, providing an income stream and profit for the owners. Prairie Orchard will not be a farm and it will not be a residence. The proposed use is *not* compatible with our area. This is a commercial event business that should not be allowed in an established rural neighborhood.

+The 3.6 acre parcel is nonconforming and does not meet the minimum requirement of 35 acres.

+A special event center will not operate in harmony with the neighboring community. This area is made up of working farms and homes. It is the wrong place for an event center.

+An event center will cause significant noise pollution, light pollution and substantial increases to the traffic system on an already congested road. Niwot Road is very busy with motor traffic as well as cyclists and runners. The amount of additional traffic this event center will add is significant. One hundred plus additional car trips and shuttle buses going back and forth on any given day but especially on a quiet evening is very disruptive. We do not need more distracted or intoxicated drivers missing the curve at Niwot Rd and 45th Street and taking out our pasture fence.

+There is significant wildlife in our area - hawks, eagles, osprey, owls, coyotes, bobcats, raccoons, skunks, prairie dogs, rabbits, elk, deer, bear, moose, etc. The animals were here long before this area was developed and they have already lost much of their habitat. The chronic noise and light from an event center as well as the increased traffic on Niwot Road will be detrimental to the remaining wildlife populations in this area.

We ask Boulder County to deny the Special Use Permit for a Reception Hall at 5114 Niwot Road.

Dan & Tami Fentress

4488 Niwot Road

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From: [Kristin Lhatso](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Re: SU-22-0010, Prairie Orchard at 5114 Niwot Road, Longmont, CO 80503
Date: Tuesday, March 21, 2023 6:25:25 PM

To: Pete L-Orange, Staff Planner with Boulder Community Planning and Permitting

Re: SU-22-0010, Prairie Orchard at 5114 Niwot Road, Longmont, CO 80503

From: Kristin Lhatso, owner of 7284 Cardinal Lane Longmont CO 80503

I strongly object to the proposed development of 5114 Niwot Road as an event venue and vacation rental. I live exactly one mile, much less as the crow flies, from this property.

My main concerns are as follow:

1. Traffic and Traffic Safety

A commercial event venue will greatly increase traffic in this rural and residential area. With increased traffic come many hazards for the residents of our neighborhood, especially given that this will be a wedding venue, presumably with alcohol served. I am personally extremely concerned with the likelihood of drunk driving occurring with a music and wedding venue. Also, there are well documented and significant traffic hazards already associated with roads that cross the Diagonal Highway and Highway 36. It seems likely that a commercial venue will only increase these traffic hazards.

2. Impact on Wildlife

This area is a quiet place, and hence, home to abundant wildlife. I am extremely concerned about the impact the noise, light and traffic will have on the wildlife in this area, including the adjacent horse properties. Additionally, I am greatly concerned that my neighbors and my quality of life will be significantly impacted by a commercial operation such as the one proposed. It is entirely out of character with the quiet rural setting we live in.

3. Fire and Evacuation Dangers

It seems that a significant fire hazard could be posed by large events crowded with people who are not familiar with the fire safety precautions necessary in grassland habitats. One flicked cigarette, as we in Boulder County well know, can cause massive destruction. Additionally, with the shuttling system proposed, I wonder how people could be safely moved in the event of a rapid evacuation situation.

Please, with all of my heart, I ask you to not allow this sort of development to proceed. So much harm will be caused to our beautiful neighborhood, cherished by so many people and animals.

If you have any further questions about my concerns or the concerns of my neighbors, please do not hesitate to contact me.

Sincerely,

Kristin Lhatso

7284 Cardinal Lane
Longmont, CO 80503
720.346.3986
kristintintin108@gmail.com

From: [Richard Jorgensen](#)
To: [L"Orange, Pete](#)
Cc: [Ali Mead](#)
Subject: [EXTERNAL] 5114 Niwot Road
Date: Wednesday, March 22, 2023 11:37:22 AM

Pete

My wife and I live at 4500 Neva Rd. I am writing you this to go on the record that we strongly oppose the Wedding and Event Center at 5114 Niwot RD. We agree with all of the many letters you have received opposing this application. This is a totally inappropriate use in our neighborhood and is contrary to numerous County Regulations. Please Deny.

Charlotte &

Richard O. Jorgensen 4500 Neva Road Longmont, CO 80503 303-444-1782 Office 303-888-8813 Cell 303-447-3667 Office Fax

From: [Gina Crago](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010, Vote NO
Date: Thursday, March 23, 2023 5:32:48 PM

To Whom It May Concern,

I am writing in regards to the Special Use Permit being considered on Niwot Road. In particular, Prairie Orchard SU-22-0010.

I am highly opposed to this. I am a resident of this area, specifically the North Rim neighborhood. To have a Commercial Special Events Center located in this area will quite adversely impact wildlife, the dynamic of an agricultural neighborhood, and increase traffic congestion in a way that is not supportable.

Please vote 'NO' on this special use permit, Prairie Orchard SU-22-0010.

Best regards,
Gina Crago

3989 Pebble Beach Dr.
Longmont, CO 80503
303-964-9636

From: [Hunter Smith](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard
Date: Thursday, March 23, 2023 8:56:43 AM

Re: SU-22-0010, Prairie Orchard, 5114 Niwot Road.

To: plorange@bouldercounty.org

Dear Mr. L'Orange

This letter is in strong opposition to the Prairie Orchard special use application. Our home is ½ mile north of “Prairie Orchard” on Niwot Road. In my opinion this area is the nicest rural part of Boulder County. It is generally peaceful and quiet, with limited traffic. With the exception of the nearby Lake Valley development, these rural homes and properties are on small acreages or larger agricultural parcels. The latter are dedicated to ranching, equestrian activities, and hay operations. There are no business activities in the area that do not pertain to agriculture. Prairie Orchard, if approved, would violate the rural nature of this part of Boulder County by creating a business venue in violation of Boulder County codes. It would impact the area significantly by bringing noise and traffic to this rural area of Boulder County. It would also disrupt wildlife activity and migration patterns through this area.

Regarding noise, sound travels far in our area. With events at the Reservoir we can hear the distant loudspeakers during major events from over two miles away. With occasional parties with bands or loud music from rural neighbors, Lake Valley or from nearby agricultural wedding venues we easily hear the festivities until they end. The Prairie Orchard venue business would potentially be heard on a daily basis at some level and loudly with anticipated larger events. This would negatively impact our life and the lives of our neighbors in this relatively quiet rural area of Boulder County. Their application should be denied for this reason alone. However, there are several other reasons for denial.

Niwot Road is a main corridor from Boulder and beyond for cyclists and runners. Literally thousands of cyclists and hundreds of runners use Niwot Road on a weekly basis. Cyclists include both road cyclists and gravel riders. Gravel riding has been the fastest growing cycling activity in the last decade and large pelotons, smaller group of riders and individuals come up Niwot Road, go past the entrance to Prairie Orchard, and turn on 49th Street to access the gravel roads north of Boulder. Many go past Prairie Orchard again on return. Runners in groups or solo use these same roadways. To add a business venue on Niwot Road which would bring cars, buses and service vehicles turning in and out would pose a major danger to cyclists and runners. This is without considering alcohol. With the serving of alcohol at Prairie Orchard events and drivers leaving “under the influence”, the risk to athletes on Niwot Road, 36, the Reservoir road, and 63ed will be much greater, with fatalities a very real possibility. The Prairie Orchard application should be denied for this reason as well.

There are other reasons for denial. These include non-compliance with Boulder County regulations, non-resident living status, non-agricultural property designation, and negative impacts on wildlife. Furthermore, there are no neighbors in this rural area of Boulder County who want to see this business permitted as it would change the character of their community. Keep rural Boulder County rural, keep it "country".

Thank You,

Hunter Smith MD
4510 Niwot Road
303 817-4267

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Janet Cutts - SU-22-0010 - 5114 Niwot Rd
Date: Thursday, March 23, 2023 3:14:30 PM

Boulder County Property Address : 5114 Niwot Rd

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Janet Cutts

Email Address: jlynn.cutts@icloud.com

Phone Number: (303) 886-2659

Please enter your question or comment: I strongly oppose the proposal for an event space at 5114 Niwot Rd. Here's why:

* The amount of waste generated by 50 to 250 people at the event space will be more than the sewage disposal facilities can handle. If it is on the sewer system, Fairways Metropolitan District is nearly at capacity already, and could be overwhelmed by the additional volume of waste. If it uses a septic tank, the tank cannot handle that amount of waste. I do not want a large number of portable toilets near our subdivision on a semi-permanent basis.

* Niwot Road is already quite busy, and that number of people coming and going from the property will significantly add to the congestion. Not only will there be the 50 to 250 participants of the event, but the event planners, caterers, servers etc, must also be considered.

* The additional traffic will increase the danger for the numerous runners and cyclists who run/cycle along Niwot Road. And during the summer, there are numerous races that use Niwot Rd as part of the route. These races already disrupt the people who live in the area. The additional traffic will only compound the problem.

* Will there be sufficient parking on the property, and off Niwot Rd, to handle all the cars? Even 1 car parked on the side of the road forces cyclists and runners to veer into traffic.

* The properties around the proposed event space are primarily residential and agricultural, with the exceptions being 1 golf course, and some open space. We are a safe and quiet neighborhood, with a very low crime rate. The influx of numerous other people, especially if alcohol is permitted, will have a negative impact on the area.

In conclusion, an event space is inappropriate at this site.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Jeff Lowell](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard, SU-22-0010
Date: Thursday, March 23, 2023 9:13:39 AM

Mr L'Orange,

It has come to my attention that you are the staff planner assigned to Prairie Orchard's application for a Reception Hall/Event Center as well as vacation rental at 5114 Niwot Rd (SU-22-0010). I am a resident of Lake Valley Estates and reside at 6782 Golf Club Dr, Longmont, CO 80503. I am writing to you today to express my opposition to this application. I have reviewed the associated documents on the County website and have concerns.

The addition of an event center with potential for unlimited events during the year will drastically impact my neighborhood and the surround community. The applicant makes mention of many mitigations such as shuttles, composting, community events, etc. However, the basic premise of this application is a commercial event center 52 weeks a year, in the heart of agricultural, open space, and rural residential areas.

I moved to Lake Valley 5.5 years ago from the City of Boulder to get more quiet, more nature and more space. My young family and I enjoy being outside all year long, spotting wildlife, hiking, and listening to the coyotes and owls in our neighborhood. I use the roads to ride bikes with my kids and walk with my dog.

The approval of this permit will change the nature of the neighborhood. Dozens and sometimes hundreds of people and cars will travel to my neighborhood every weekend, noise will travel across the open prairie from the event center to my backyard, lights from evening events will reflect into my night sky.

The applicant is not a neighbor asking for a special use permit for an occasional farm to table event. She will not be living in my neighborhood, but rather taking commercial advantage of the same beauty we all moved here to enjoy, while diminishing it for the rest of us.

Thank you for your time and consideration in this manner. Please forward my comments to any appropriate personnel involved in this decision or include in relevant dockets.

Do not hesitate to reach out with further questions.

Jeff Lowell
6782 Golf Club Dr
(303) 552-6860

From: [Jan Yates](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010 Prairie Orchard 5114 Niwot Rd.
Date: Thursday, March 23, 2023 9:41:05 AM

To whom this may concern I , Jan Yates, home owner at 4510 Niwot Road strongly oppose the proposal and permit application of any so called event center at 5114 Niwot road. There are many reasons due to the large groups of bikers and runners on Niwot road daily along with special events such as the Ironman. We support this type of traffic on our road. I moved to 4510 Niwot Road to feel safe and because of the amazing rural community around me and for the love of this unique area between Boulder and many other smaller cities. The neighbors help each other out on a daily basis supporting livestock , growing hay, dealing with floods and wind events. Repairing our barns together, plowing our driveways, recently I called a neighbor to come and help me with a horse that was cast under a fence. This is what you do in the country. You support your neighbors with kindness, you give them a dozen eggs or a jar of honey or plum preserves. You don't buy a place to only benefit yourself and break the law. Not to mention the abundance of wildlife that are on Niwot road. We see eagles, Blue Heron, Fox, I have bear scat on my driveway, racoon, Bobcat and deer all seen crossing a block west of this proposed Reception hall. We live on the curve of Niwot Rd. that goes into 45th street and connects to Neva Rd. and there have been many accidents with cars and cyclists on the curve. One winter we had 4 accidents all ending up in our yard and one was a Sheriff's vehicle. I'm concerned about more delivery vehicles , party buses and people who have been consuming alcohol driving down Niwot Rd. The list to oppose this application can go on such as noise and disturbing the peace. Sincerely, Jan Yates 4510 Niwot Rd. Longmont Co. 80503 P.303-817-4400

Juliana Massaro
Partner

Email: jmhm@bhgrlaw.com

March 23, 2023

VIA EMAIL

March 23, 2023

Boulder County Planning & Permitting
Attn: Community Planning & Permitting Department
P.O. Box 471
Boulder, CO 80306
planner@bouldercounty.org

Concurrent Copy to:

Boulder County Planning & Permitting
Attn: Pete L'Orange, Planner II
plorange@bouldercounty.org

**RE: Letter in Opposition to Applicant's Request for Special Use Permit
Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation
Rental (the "Application")**

Greetings,

Berg, Hill, Greenleaf & Ruscitti LLP has been retained to represent the interests of Terri Benjamin and 7070 Buffalo Properties, Ltd. ("**Terri**") in relation to the above-referenced Application submitted by Prairie Orchard LLC ("**Applicant**"). The Application seeks approval of a Special Use Permit for a new Reception Hall and Community Meeting Facility (the "**Proposed Use**") to be located at 5114 Niwot Road, Parcel No. 131733000002 (the "**Property**"). Terri is the owner of 7070 N 49th Street, Parcel No. 131728000015 ("**Terri's Property**"), located .3 miles west of the Property.

For the reasons described in this correspondence, Terri strongly **opposes** the Application and requests that Boulder County Planning & Permitting (the "**County**") **deny** the Application for the following reasons: (i) the Proposed Used does not comply with the Boulder County Land Use Code, the "**Code**"), (ii) the Proposed Used does not align with the Boulder County Comprehensive Plan (the "**Comprehensive Plan**"), and (iii) the Proposed Used will cause materially adverse impacts to the health, safety, and welfare of Boulder County residents, including Terri and her neighbors.

1. The Proposed Use is Incompatible With Surrounding Areas

According to the Application, Applicant seeks permission to use an existing barn (the “*Barn*”) as a Reception Hall and Community Meeting Facility (as defined in the Code), for the purpose of hosting various events. Despite the list of possible events supplied by Applicant¹, the Application focuses primarily on the use of the Property as a **commercial wedding venue** (weddings are referenced several times in the Application, Applicant agrees that large events would “primarily consist of weddings,” Applicant compares the Proposed Use to other “commercial wedding venues,” and the event timeline example in the Application describes a wedding event). Applicant also describes the Proposed Use as an event center providing activities, events, services, and music on a *daily basis*.

Applicant argues that its Proposed Use is compatible with the surrounding areas as there are “at least two other commercial wedding venues in the general area...” including Lone Hawk Farm located at 10790 N. 49th Street and Boulder Flower Farm located at 4114 Oxford Road. Such references do not satisfy the criteria as the Code requires that special uses are “in harmony with *neighboring* development.” Code, §4-600 (emphasis added). The venues noted by Applicant are not within the neighboring development of the Property rather, the actual neighboring development is strictly rural, agricultural, and residential. Terri’s property houses a handful of horses and is otherwise strictly residential. Other properties within a one mile radius are likewise restricted to agricultural and residential use – not a commercial event center with 50 to 274 customers *per day* as proposed by Applicant. A commercial wedding venue and event center with large events every weekend of the summer and multiple small events on a daily basis year round would be a dramatic departure from the nearby land uses and wholly incompatible with the neighboring development.

Applicant’s reference to these other venues only proves that the area is already served by this particular use. In fact, there are at least **4** other commercial wedding venues in the area, adding to Applicant’s list, Ogallala Farm at 4039 Ogallala Rd and Crane Hollow Farm at 11443 Crane Hollow Rd. Each of these locations is not only much larger than the Property, but accommodates less guests while maintaining the agricultural character of the applicable properties:

- Lone Hawk Farm is an 83 acre “working organic farm²” around 8 miles from the Property. Guests are limited to **150** per event and no more than 2,500 total guests per year³.
- Boulder Flower Farm is an 8.97 acre “flower farm” located 2.2 miles from the Property accommodating up to **100** guests per event.⁴

¹ Applicant lists the following events in the Application: “weddings, photography sessions, meetings for both corporate and local event organizers, art exhibitions, small intimate music events, and a space for ceremonies, therapy and counseling, yoga and fitness, and sports teams’ meetings”

² See, <https://www.lonehawkfarms.com/>

³ See, RESOLUTION 2006-135, recorded January 22, 2007, under Reception No. 2831165.

⁴ See, <https://www.boulderflowerfarm.com/coloradooutdoorweddingvenue>

- Ogallala Farm is a 30 acre farm located 3.3 miles from the Property accommodating up to **100** guests per event, with prior limitations of up to 12 events per year.⁵
- Crane Hollow Farm is a nearly 10 acre farm around 9 miles from the Property accommodating up to **100** people per event.⁶

Notably, these venues have more land than the Property, accommodate fewer guests, and maintain an agricultural use of the applicable land. The County previously limited the number of guests at one of these venues (Lone Hawk) to no more than **2,500** per year. Meanwhile, Applicant proposes more than **23,000** guests annually with 4 events of up to 274 people, 20 events of up to 150, *unlimited* events for as many as 50 people multiple times per day, and no designated agricultural element for the land. In addition to its incompatibility with its own neighborhood, the Proposed Use is clearly dissimilar from the other farm-wedding venues in the wider area and therefore fails to harmonize with the neighborhood and other surrounding uses.

2. The Proposed Use Does Not Comply with the Comprehensive Plan

Applicant's Property is located in unincorporated Boulder County in the Plains Planning Area. As an initial matter, the Guiding Principles of the Comprehensive Plan include the following, among others:

Encourage and support a dynamic, stable, and flexible local economy that **distinguishes between urban and rural economies** and directs uses to appropriate locations, Guiding Principle No. 4; and

Maintain the rural character and function of the unincorporated area of Boulder County by protecting environmental resources, agricultural uses, open spaces, vistas, and the distinction between urban and rural areas of the county, Guiding Principle No. 5.

(emphasis added). Furthermore, "...[I]and uses within the Plains Planning Area should continue to be related to agricultural activities, environmental resource protection, low density residential development and other activities consistent with the rural character of the county." Applicant's Property is located in a rural, unincorporated, area of the County, and pursuant to the County's guiding principles and the requirements for the Plains Planning Area, the Proposed Use should be directed to an appropriate urban location in order to protect the distinction between urban and rural areas of the County and to preserve this agricultural land.

⁵ See, <https://www.ogallalafarm.com/weddings>; see also, RESOLUTION 2016.73 attached to Docket LU-15-0008 limiting the prior owner's "Farm Events" to 12 annually. This property was formerly operated as Pastures of Plenty.

⁶ See, <https://cranehollowfarm.com/venue/>

The Comprehensive Plan also notes that the Property is located within an area classified as “Significant Agricultural Lands – Lands of Statewide Importance.” According to the Comprehensive Plan, “[i]t is the policy of Boulder County to encourage the preservation and utilization of those lands identified in the Agricultural Element as Agricultural Lands of National, Statewide, or Local Importance and other agricultural lands **for agricultural or rural uses**....” Comprehensive Plan, Policy AG 1.03. Moreover, in setting the policies related to the Comprehensive Plan’s Agricultural Element, the County states that “[i]t is the policy of Boulder County to promote and **support the preservation of agricultural lands and activities** within the unincorporated areas of the county, and to make that position known to all citizens currently living in or intending to move into this area.” Comprehensive Plan, Policy AG 1.01 (emphasis added).

Applicant does not propose to utilize its significant agricultural land for *any* agricultural purposes. Applicant instead argues that the land is incompatible with heavy farm equipment as a ditch bisects the Property, presumably as an excuse to not use this agricultural land for any agricultural use. However, neighbors like Terri have the same issue (Terri’s land is also bisected by a ditch running right through the middle of her land) and yet Terri has successfully maintained the agricultural use of her land. By contrast, Applicant seeks only to use the Property as a commercial wedding venue and event center – a use which is entirely unrelated to agricultural activities or environmental resource protection. Moreover, nothing about a commercial event center serving tens of thousands of people annually is consistent with the rural character of this neighborhood.

Lastly, the Comprehensive Plan requires the County to consider *cumulative impacts*.

Boulder County shall evaluate land use proposals and other planned activities considering their cumulative impacts on public and environmental health. Sufficient mitigation and minimization of any impacts shall be required for the proposal or activity to be approved. These proposals and activities shall at a minimum comply with air, soil, and water quality standards, as well as noise level and lighting standards, established by county and state agencies or the Boulder County Land Use Code.

Comprehensive Plan, Policy ER 2.02. As detailed above, there are already much smaller wedding and event centers operating nearby in this rural agricultural community. Even if this application were approved with limitations regarding the number of events and number of guests allowed, the County must consider the cumulative impacts. The more event centers that the County approves, the more likely that there will be events every night causing noise, light, and traffic problems, and significantly impacting the neighbors’ ability to enjoy their rural, agricultural properties. By all accounts, the Proposed Use clearly fails to comply with the Comprehensive Plan and should be denied.

3. The Proposed Use Will Cause Significant Noise Pollution

As previously noted, Applicant primarily seeks approval to use the Barn and Property as a commercial wedding venue. A hallmark of American weddings is the inclusion of amplified music and dancing. Weddings today are virtually indistinguishable from dance clubs (other than the formal attire). In other words, weddings are loud (and fun), but mostly **loud**. And Applicant's plan could conceivably result in a different wedding for nearly *every weekend* of the summer in addition to events using amplified music *every weekday* as shown in a sample calendar of events for the summer of 2023 attached hereto as Figure 1. This type of business presents a very real threat of consistent and significant noise pollution, which is not only a violation of the criteria for this use, but invariably takes away the rights of neighboring landowners to enjoy their respective outdoor spaces.

Applicant claims that weddings held in the Barn will not violate Boulder County's Noise Ordinance (92-28) (the "**Noise Ordinance**") but has provided **no evidence** of this claim. The Noise Ordinance provides in relevant part as follows:

It is hereby declared to be the policy of the County of Boulder that the peace, health, safety and welfare of its citizens require protection from excessive, unnecessary and unreasonable noise. It is the intention of this ordinance to control such noise.

Noise Ordinance, §1.01.010. Moreover,

Sound from a non-vehicular source located in a residential area, shall not exceed the following limits:

7:00 a.m.-7 p.m. of the same day: 55 dB(A)

7:00 p.m.-7 a.m. of the following day: 50 dB(A)

Noise Ordinance, §1.01.050.C. Sounds from non-vehicular sources are measured at a distance of 10 feet from the property line of the property where the sound is radiating. *See*, Noise Ordinance, § 1.01.040.

While Applicant has agreed to keep the sound system inside and mentions the existence of trees along certain property lines as potential noise buffers, Applicant has provided **no report** demonstrating that amplified music radiating from inside the Barn (for a typical wedding event) will comply with the decibel limits using the measurement criteria set forth in the Noise Ordinance.

However, even if the amplified music could be constrained, the introduction of this type of noise on any level violates the Countywide Goals of the Comprehensive Plan: "... Pollution of air, water, and soil, and **pollution caused by noise or light, shall be eliminated or minimized to the**

greatest extent possible in order to prevent potential harm to life, health and property, and to reduce incremental degradation of the environment.” Comprehensive Plan, III.C.Environmental Resources.5 (emphasis added). Similarly, “[a]ir, water and **noise pollution** and overall environmental degradation **should be reduced as much as possible or eliminated** in order to prevent potential harm to life, health and property.” Comprehensive Plan, III.C.Natural Hazards.1 (emphasis added). Boulder County’s policy to minimize noise pollution is repeated throughout the Comprehensive Plan. *See also*, Comprehensive Plan, V.B.5; and Comprehensive Plan, Policy ER 2.01. The Comprehensive Plan’s clear directives for noise pollution would be violated by allowing amplified music in an uninsulated Barn located in an area that is ostensibly open space with few noise buffering features.

Notwithstanding the foregoing, concerns about noise pollution do not start and stop with amplified music. As we all know, Colorado is an incredible place to enjoy the outdoors and soak in the beautiful vistas Boulder County has to offer, especially in the summer. Terri frequently enjoys sitting on her deck (which directly faces the Applicant’s Property) to enjoy the peaceful sounds of this quiet, rural neighborhood. Her neighbors also value and enjoy the tranquility this area offers. However, in contrast to the respectful behaviors of Terri and her neighbors, Applicant now seeks to permanently disrupt their serenity by imposing the noise of dozens of customers attending concerts, classes, and corporate events on a daily basis, and hundreds of people attending large weddings and dance parties more than half of the weekends of the year. Applicant is also not shy about its intent to conduct these activities outdoors within thinly-walled tents. In doing so, Applicant unquestionably seeks to monopolize the outdoors solely for its personal, economic gain, and at great personal loss to every other person in this neighborhood. Terri and her neighbors should not be forced to endure the daily noises of hundreds of customers coming in and out of the neighborhood and milling around the small land area of the Property, nor should Terri’s and her neighbors’ use and enjoyment of their outdoor spaces be all but destroyed for Applicant’s solitary gain. For this, and many other reasons, the Application should be denied.

4. The Property Lacks Sufficient Parking Which Will Result in Negative Impacts to Transportation and Traffic Hazards

Applicant’s plan for parking fails to comply with applicable law. According to the Application, the Property will have 64 parking stalls on-site with 4 of those stalls being handicap-accessible in accordance with the Americans With Disabilities Act (“*ADA*”). However, upon review of the revised Architectural Site Plan (the “*Site Plan*”), only 52 parking stalls are depicted and none of those stalls are ADA accessible spaces. *See*, Figure 2, attached.

While Applicant has agreed to add 4 ADA van accessible spaces, according to ADA guidelines, van accessible stalls must be at least 11’ wide with an adjacent 5’ accessible aisle. All parking stalls depicted in the Site Plan are only 9’ wide. As such, a revised Site Plan with an

accurate depiction of the on-site parking stalls will inevitably have even less than 52 stalls available.

According to the Code, the Proposed Use requires a minimum of “one space per 30 square feet of floor area.” Code, §4-504. The Site Plan depicts a total floor area of 4,223SF within the following structures:

Existing Farm House	1388SF
Settlers Cabin	296SF
Cottage	366SF
Reception Hall (Barn)	2173SF

In order to comply with the Code, Applicant would need to demonstrate a minimum of **141** parking stalls on-site. However, even if the parking stall requirements are limited to the Barn, Applicant would still need **73** on-site parking stalls (or 74 using the assessor’s floor area for the Barn). No matter the calculation used, Applicant lacks sufficient parking stalls to comply with the Code, and on that basis alone the Application should be denied.

Notwithstanding Applicant’s inability to satisfy the parking requirements of the Code, the overall parking plan is also insufficient for the Proposed Use and will result in overcrowding of the roads, illegal parking, and unsafe conditions for neighbors and wedding guests. According to the Application, Applicant would limit events of 151-274 people to 4 times per year (“**Large Events**”) and events of up to 150 people to 20 times per year (“**Medium Events**”). For Large Events, Applicant claims to have secured the right to use a parking lot 7 miles away with 81 available stalls (the “**Shuttle Lot**”). However, the “agreement” for use of this Shuttle Lot fails to confer long-term rights upon Applicant as the arrangement was not made by the fee owner of the land, has no stated duration or binding terms, and can therefore be terminated at any time either by the church or its successor in interest. Such a tenuous “agreement” should not be the basis for approving the Proposed Use where the Property itself does not even contain the requisite number of parking stalls required by the Code.

Furthermore, the parking plan for Medium Events fails to even provide the Shuttle Lot as an *option*. The parking plan instead relies on carpooling and a *di minimis* \$10 fee for 150-person events to avoid overflowing the very limited on-site parking on the Property. Such a plan is aspirational at best as it substantively fails to consider actual human behaviors. Failure to provide overflow parking for Medium Events will doubtless result in wedding guests parking along Niwot Road (which has no shoulder) and adjacent dirt roads (also without shoulders), as well as guests walking to and from the Property either in the road or within the adjacent ditches (as there are no sidewalks in the area). This will not only create unsafe crowding of the applicable roads but will create extremely dangerous conditions when guests are forced to walk in the road when leaving

the event site after a night of partying. This result is highly undesirable and constitutes sufficient case to deny the Application.

5. The Property Lacks Sufficient Facilities (OWTS)

Applicant fails to provide a complete plan for sufficient restroom facilities at the Property for the Proposed Use. According to the design specifications for the on-site water treatment system (OWTS), the system is only designed to accommodate 50 people per day, though Applicant proposes to use the same system for groups as large as 274, and potentially multiple 50-person events daily. Failure to provide adequate facilities to patrons can result in overflowing septic systems, contamination of the Property and nearby land, and significant odor pollution emanating from the Property. The Proposed Use should be denied as a result of the Property's OWTS limitations.

As detailed herein, the Proposed Use fails to comply with County regulations, does not align with the Comprehensive Plan, and will undoubtedly result in materially adverse impacts on the surrounding areas and neighbors. For these reasons, Terri asks that the Application be **denied**.

Thank you for your time and consideration of my client's concerns in this regard. Should you have any questions regarding the matters discussed herein, I can be reached at (303) 345-2654 or via email at jmhm@bhgrlaw.com.

Sincerely,



Juliana Massaro

cc: Client
Enclosure (Figures 1, 2)

Figure 1

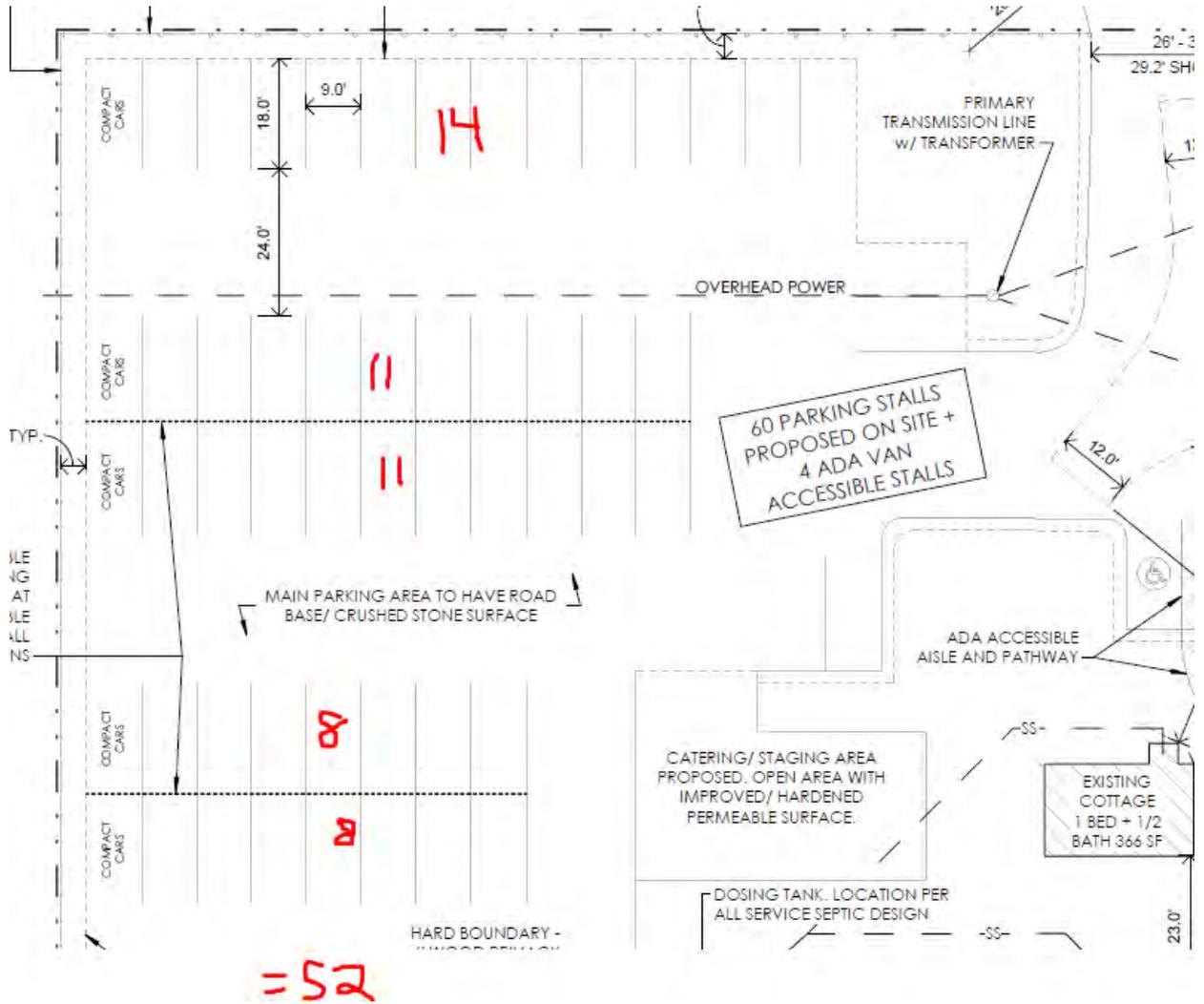
	50 people
	Up to 150 people
	150-274 people

WinCalendar June 2023						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

WinCalendar July 2023						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

WinCalendar August 2023						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Figure 2



From: coralfool@aol.com
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Praire Orchard, SU-22-0010
Date: Friday, March 24, 2023 1:01:59 PM

Good Day,

We are writing to you with a strong opposition to the special use permit for 5114 Niwot Rd, the Praire Orchard, SU-22-0010.

We have lived in the area around 5114 Niwot Rd for approximately 30 years now. We have found the area to be wonderfully quiet and a very pleasant place to live. I would like to think that a special use permit review would include a "benefit" assessment for the neighborhood community. You may not be aware that there are already at least 4 such 'community reception halls' available to the public within an approximate 5 mile radius of 5114 Niwot Rd. They are Lake Valley Golf Club, Boulder reservoir, The Greenbrier and the Altona Grange Hall Community Center. We do not see any benefit to the community from this project given the existing resources that are proximally located, only a large amount of detriments.

Speaking of detriments, We'd like to list just a few of the important ones.

Sound waves have a unique travel effect in our neighborhood. On many days, the gun range to the south sounds like it is next door (a war zone) but it is a number of miles away and is bunkered with high mounds of dirt. Can you imagine the noise pollution (loud music etc) coming from this project that is less than a hundred yards from some houses? And there are hundreds of houses within an approximate mile radius. A 9 foot (or 30 foot for that matter) noise barrier is not going to work. The noise pollution alone should be enough to scuttle this special use application.

As the landscaping in our area has matured over the years, many different animals have moved into our neighborhood. We now have deer, bobcats, a neighborhood bear among our residents. The Left Hand Creek riparian corridor is less than 0.5 mile away. I have personally witnessed nesting owls, osprey and redtail hawks in our area. Bald eagles are frequently seen as well. I can't imagine a positive effect on the nesting of raptors and the well being of our other animal residents as a result of the light and noise pollution of this project particularly at night.

Niwot/Neva Rd between 63rd St and US 36 is a haven for bicyclists. Possibly, part of the most popular route in Boulder County. The Ironman is conducted in this neighborhood as well as what seems like weekly summertime bike race events. The increased traffic and parking issues of the SU project can't possibly mesh well with the existing outdoor usage of this area.

We are reminded of Mr Spock's immortal words in "Wrath of Khan", "Logic clearly dictates that **the needs of the many** outweigh the needs of the few." Ruining the enjoyment of hundreds of peoples properties so one property can pull off a cash grab is just wrong. There is no community benefit from this project. Just misery.

Thank You and Kind Regards,
Brad DeHoff
6679 Snead Ct

3/24/23

RE: Prairie Orchard Project Opposition Letter

Dear Mr. Pete L'Orange,

I am writing you to respectfully request that the Prairie Orchard project be declined.

My family have lived here since 1962. My parents purchased this property to move to the country to enjoy the solitude, peacefulness, and to work the land. We have raised horses, goats, chickens, and various other animals over the years. Now our home is a place to retire and seek serenity on the land we share with the wildlife here. Our wildlife inhabitants include the Eagles, hawks, and other birds. Prairie dogs, racoons, skunks, deer, elk, bear, mountain lions, bobcats, and coyotes.

Today the peace is disrupted on nearly a daily basis by the many cyclists and runners who travel in groups and screaming to communicate with one another. While many are respectful just as many are not. They block the road not allowing cars to pass, stop to urinate on our property, and litter. We have had special events block us from our homes stating we are not able to travel down our own road and this is after receiving a notice promising minimal disruption to families that live on the athletic event route.

While I understand growth is inevitable, I am requesting that we keep the zoning of this land to agricultural and not commercial. The increased traffic and noise this proposed event center will cause will be disruptive to our way of life and the many animals that make this area their home.

Thank you for your time and consideration,

Christl Reinig-Everett
7220 N 49th Street
Longmont, CO 80503
970.290.2266

From: [LU Land Use Planner](#)
To: [L"Orange, Pete](#)
Cc: [Frederick, Summer](#)
Subject: FW: [EXTERNAL] Ask a Planner - Deborah Schram - SU-22-0010 - 4278 Niblick Drive
Date: Friday, March 24, 2023 3:29:39 PM

Original in oncall APO comments folder

-----Original Message-----

From: Ask A Planner <no-reply@wufoo.com>
Sent: Friday, March 24, 2023 3:21 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] Ask a Planner - Deborah Schram - SU-22-0010 - 4278 Niblick Drive

Boulder County Property Address : 4278 Niblick Drive If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Deborah Schram

Email Address: schramdw@gmail.com

Phone Number: (303) 449-6897

Please enter your question or comment: We live in Lake Valley. We strongly oppose the approval of the application for the PRAIRIE ORCHARD Reception Hall and Vacation Rental. The venue and vacation rental will disrupt the "out in the country" feeling that our area currently provides. Also, it will create additional noise, lighting and traffic in the surrounding area. Many of the properties surrounding the proposed venue were purchased by their current owners because they wanted the feel of a rural area. It is not fair of Boulder County to allow one property to ruin the quiet and solitude of our area. In addition, we believe the venue will decrease the value of many of the properties in the surrounding area. Finally, the additional traffic will create a safety hazard for homeowners, cars, runners and bikers on Niwot Road.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Jan Fincher - SU-22-0010 - 4089Spy Glass Lane
Date: Friday, March 24, 2023 12:10:06 PM

Boulder County Property Address : 4089Spy Glass Lane

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Jan Fincher

Email Address: janfincher@comcast.net

Phone Number: (303) 880-0123

Please enter your question or comment: We oppose the use of 5114 Niwot Road for large events (150+). Between our community and 5114 Niwot Road is Open Space, designed for the protection of wildlife and their habitat. This Open Space is directly adjacent to 5114 Niwot Road. There is no buffer. Noise, bright lights, loud music (almost any music would be loud in this peaceful open space) are not compatible with designated Open Space. We can only foresee a major negative impact on the raptors - and other wildlife - we moved here to enjoy.

And music carries. There is nothing but open space between our quiet community and this property. We oppose large celebratory events (150+) with music for that reason.

Traffic is also a concern for larger events. Niwot Road is already impacted by bike races and triathlons that close off or limit access/egress to our homes. Enough, please.

We are not opposed to smaller events, like business meetings, small conferences, classes.

Thank you.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: mrsjag2000@aol.com
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard, SU-22-0010
Date: Friday, March 24, 2023 3:41:25 PM

This email is to address the Special Use Permit submitted for the property at 5114 Niwott Rd. & the secondary use permit for vacation rental of the house located on the property.

We are opposed to the approval of this Special Use Permit Prairie Orchard, SU-22-0010. We request that you do not approve for so many reasons.

Limited roads to handle congestion to & from event site. Niwott Rd is a 2 lane road that only has street lights at the main intersections & is heavily used by cyclists, runners, & walkers.

This is an area of Cattle ranches, horse ranches, goats, etc mixed among homes, housing communities, & open space. Much of the land is flat open space which would carry event noise throughout the area. Concerns for ambient light, traffic congestion, car exhaust and so much more makes this Proposal for a Commercial Special Events Center an unwelcome business in this proposed area.

Thank you for the review of our concerns for approving this Proposal.

Jackie & Jim Goers
4124 Pebble Beach Dr.
Niwot, CO 80503

215-801-9562

Response to the Prairie Orchard SU-22-0010
@ 5114 Niwot Road, Longmont CO

We are residents of the North Rim section of Lake Valley Estates, from Snead Ct. Most of our street faces the Prairie Orchard Farm.

The property abuts two neighbors that are not in favor of their proposal and I am also pretty sure there is a conservation easement behind their property. The disturbance to both farm animals and the wild animals in the area seems too great to approve this project.

We believe that this project will create an environment that is too loud and too bright. Rural Boulder County is supposed to be dark sky compliant, people moved out to this area to be away from events like these.

There are already so many other intrusions to our lives living near Niwot Road. The inconvenience of the regularly scheduled races, marathons and sporting events already affect and impacts too much of our lives with delays, road closures and the inability to move about the county roads already.

Events of these sizes will bring too many vehicles to Niwot Road. It will create unsafe conditions for recreational bikers (there are soooo many), for the other cars turning into and out of their limited sight driveway and if there are cars parking ON Niwot Road, that is completely unacceptable. I know that there are other rural venues that have parking restrictions, but even bus loading could be an issue.

Most of the residents near and on Niwot Road moved here for privacy, and to escape the noise and traffic of Boulder. I believe this will impact the serenity of the area and is terrible for neighbors.

Should this be approved, who will be in charge of enforcement? The rules that are put forth about the limit of cars? Limits on sound and timing? Limits on how many events and # of people at each event? What happens when the revelers come out of these events and drive on our roads under the influence? There have already been several events there with issues of people vomiting over the fence lines. Who gets the call when rules are broken? When a biker is killed or there are accidents on Niwot Road? It's really not an IF, but a WHEN situation.

If the area is zoned residential/rural/agricultural, will they be taxed as a business? Pay higher real estate taxes? Be treated as a Commercial entity and not a home as it was intended to be?

We think that all of these details should have been spelled out and settled when the property changed hands, not after the fact. There was a school proposed at one time at 63rd and Niwot Road that was also not approved due to the impacts on the roads and intrusions to the neighbors and this project should also not be approved for the same reasons. It's an inappropriate place for the proposed events. The beauty of the spot is a draw, I agree, but the

impact to the environment, the neighbors, the wildlife, the farm animals and God forbid, the fire danger they could potential cause would be devastating.

We are NOT in favor of allowing this special use permit to move forward or be approved. A commercial project is inappropriate for this small property in a residential, agricultural setting. The purchaser of this property had no intention of living on site and that creates even more animosity for the neighbors.

Respectfully submitted by,
Lisa and Jeff Hainline
6723 Snead Ct
Longmont, CO 80503

From: [Linda Harrison](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] SU-22-0010
Date: Friday, March 24, 2023 7:13:15 PM

To whom it may concern:

I am against the reception hall venue, at 5114 Niwot RD. I live in the neighborhood and that many events, traffic, noise, etc is not conducive to the neighborhood. Also the wild life in the area will also be affected by the excess noise, etc.

Please do not approve the application.

Sincerely,
Linda Harrison

Sent from my iPhone

From: [Linda Li](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard SU-22-0010
Date: Friday, March 24, 2023 11:11:19 AM

To whom it may concern,

We are writing to let you know that we totally oppose the request to allow an event venue at 5114 Niwot Rd.

The subsequent increased noise, traffic, lights, etc., would severely and negatively impact the wildlife in the area along with the peace and serenity of the entire surrounding neighborhood. There is a designated wildlife conservation area for birds, etc. at the lake in Lake Valley Estates.

A public event center in this area would also lead to decreased valuation of our homes and properties. The traffic on Niwot Rd. is already quite busy with bicycles, runners, sporting events/races, along with residents trying to get to their homes.

Having an event center in our agricultural area is contrary to the entire purpose of having quiet and serene surroundings in which to raise horses, cattle, llamas, etc. We chose to buy a home in this area because of the connection to nature. The event center is contradictory to all that is represented by this area.

We are also opposing their request to have their home be available to renters.

Sincerely,
Linda Li and Ilene Meyers
3931 Pebble Beach Dr.
Lake Valley Estates
Longmont

Sent from my iPhone

From: [Michael Bissonnette](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard SU-22-0010
Date: Friday, March 24, 2023 4:06:27 PM

To Whom It May Concern,

I am writing in regards to the Special Use Permit being considered on Niwot Road. In particular, Prairie Orchard SU-22-0010.

I am highly opposed to this. I am a resident of this area, specifically the North Rim neighborhood. To have a Commercial Special Events Center located in this area will quite adversely impact wildlife, the dynamic of an agricultural neighborhood, and increase traffic congestion in a way that is not supportable.

Please vote 'NO' on this special use permit, Prairie Orchard SU-22-0010.

Best regards,
Michael Bissonnette

Senior Advisor
ROM Technologies
Rehab2Fit Technologies Inc.

michael.bissonnette@romtech.com

mb@r2f.com

Mobile: 303.579.6955

Office: 303.449.0239

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From: [Mary Hiegel](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Prairie Orchard, SU-22-0010
Date: Friday, March 24, 2023 7:58:15 AM

To whom it may concern:

What has been proposed for the Prairie Orchard property is not compatible with the current uses in the area, with respect to noise, traffic, and given the large number of animals on the surrounding properties. The area surrounding Prairie Orchard is dominated by farms, typically in excess of 30 acres. To have large, medium, and small events at any time and throughout the year on a small 3.6 acre property would be a constant disruption to the peace and tranquility of the area. Also, this would be a significant disturbance to the wildlife residing in the area.

In their permit application Prairie Orchard offered the Lone Hawk Farm and The Boulder Flower Farm as examples of area enterprises offering similar event venues. It is disingenuous to compare the Prairie Orchard property to Lone Hawk Farm and The Boulder Flower Farm as both properties are over twice as large.

The Flower Farm allows only 100 people for a large event and those are primarily for outdoor events on 10 acres.

The Lone Hawk (according to their website) allows 150 guests for large events. They have a 5,740 sq. ft. barn on 120 acres.

The Prairie Orchard is only 3.6 acres with a reception hall/event center of 1,920 sq. ft. for 4 events of 274 people; 20 events with 150 people; unlimited events of 50 people. There is not enough parking on the property for the large events. Events are planned throughout the year, while the offered comparable properties have only spring, summer and fall events.

In summation, Prairie Orchard is asking for: more frequent events, events scheduled throughout the year, with more people, on a smaller piece of property. The impact will be significant no matter what they claim.

Sincerely,
Mary & Richard Hiegel
4472 Hogan Court
Lake Valley

From: [Dee Joy Coulter](#)
To: [L"Orange, Pete](#)
Cc: [Dee Coulter](#); [Ali Mead](#); [Wayne Wagner](#)
Subject: [EXTERNAL] Docket #SU-22-0010: Prairie Orchard
Date: Friday, March 24, 2023 4:05:42 PM
Attachments: [PRAIRIE ORCHARD PROTEST.pptx](#)

Please incorporate the attached PowerPoint into the records for this application.

Thank You.

Dee Coulter, owner of 4850 Niwot Rd and 4860 Niwot Rd.



**PRAIRIE ORCHARD APPLICATION
PROTEST**

OUR WILDLIFE SPEAK UP

All photos are of our fields and fences, trees, ditches and yards,

and taken by caring and concerned residents.



The Raptors



THE OWLS



THE BOBCATS!



OUR
MOST
CHALLENGING
VISITORS!





OUR VISITING HERDS— WHITE TAILS, ELK, AND EVEN MOOSE



THE RABBITS



A BIRDWATCHER'S PARADISE



AND OUR
CONSTANT
RESIDENT

ROAMING HIS
TERRITORY

Prairie Orchard Application
ANIMAL protest

PLEASE DON'T LET US DOWN!

From: [Ali Mead](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Fwd: Petition Against Prairie Orchard SU-22-0010
Date: Friday, March 24, 2023 4:42:53 PM
Attachments: [Petition Against Prairie Orchard SU-22-0010 - Mar 24, 2023 - 12-38 PM.pdf](#)
[Prairie Orchard Opposition Map.pdf](#)

See below

Begin forwarded message:

From: Ali Mead <alioops@me.com>
Subject: **Petition Against Prairie Orchard SU-22-0010**
Date: March 24, 2023 at 3:43:50 PM MDT
To: LU Land Use Planner <planner@bouldercounty.org>

Attn: Pete L'Orange, Staff Planner
Docket Number:SU-22-0010

Good afternoon,

I am attaching a .pdf document of a signed petition by residents of the Niwot Road neighborhoods in opposition to the Prairie Orchard Special Use application.

I have also submitted a corresponding map of the property owners/residents who signed the petition.

Respectfully,
Alice Mead
5045 Niwot RD
Longmont, CO 80503

305-205-0022

The undersigned live on Niwot Road agricultural properties, in Brigadoon Glen, or in the Lake Valley, North Rim and Haystack Mountain area. We are neighbors united in opposition to the proposed Prairie Orchard special use application for a Reception Hall and Vacation Rental located at 5114 Niwot Rd. (Boulder County Docket SU-22-0010) because the proposed uses fail to meet the following Review Criteria:

The lot fails to meet minimum zoning requirements (the 3.65-acre parcel has been "nonconforming" in the Agriculture zone district since October 11, 1965), the use is not compatible with the surrounding area due to the nature and intensity of the proposed activities, extent of site disturbance, removal of vegetation, the effect on significant natural areas and environmental resources, disturbance of plant and animal habitat (including a wildlife migration corridor), significant negative impacts on the transportation system and creation of traffic hazards, plus the uses will create significant visual impacts and light, air, water and noise pollution, without adequate buffering or screening.

NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Alice Mead	5045 Niwot RD Longmont	305 205 0022		3/17/23	alioops@me.com
Michael Leibold	5045 Niwot Rd Longmont	443 632 7211		3/17/23	Lcldrf@gmail.com
MARCIA Purdy	5075 Niwot Rd. Longmont	303-818-0151		3/17/23	marcialpurdy@gmail.com
Mary Bonial	5137 Niwot Rd. Longmont	303-902-6110		3-17-23	marybonial@gmail.com
Wayne Wagner	5225 Niwot Road Longmont	303-748-5835		3-17-23	WRWagman@gmail.com
Susan Hicks	5253 Niwot Road Longmont Co	303-518-1484		3/17/2023	SAEHICKS@MSN.COM
Nancy Knutson	5225 Niwot Rd 80503	303-748-2459		3/17/2023	ntknutson@gmail.com
Beth Potter	5050 Niwot Road 80503	970-477-7973		3/17/2023	elpotter43@colorado.edu bpotter@colorado.edu
DAN MOORE	5050 Niwot Road 80503	720-253-6257		3/17/23	daniel.moore@gmail.com
Joseph Rosen	5075 Niwot Rd 80503	303-828-7711		3/18/23	joe.rosen11@gmail.com
Janie Jill Tointon	5400 Niwot Road 80503	303-915-6444		3/18/23	JJ Tointon msn.com
Bill Tointon	5400 Niwot Road 80503	303 915 0288		3/18/23	bill.tointon@msn.com
Bill Tointon	6871 N 56th St 40503	303 981 0388		3/18/23	bill.tointon@msn.com

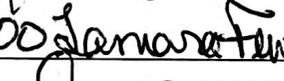
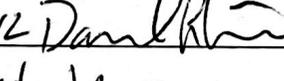
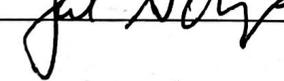
The undersigned live on Niwot Road agricultural properties, in Brigadoon Glen, or in the Lake Valley, North Rim and Haystack Mountain area. We are neighbors united in opposition to the proposed Prairie Orchard special use application for a Reception Hall and Vacation Rental located at 5114 Niwot Rd. (Boulder County Docket SU-22-0010) because the proposed uses fail to meet the following Review Criteria:

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Sabrina Gerringer	4512 Oxford Rd	9703796172		3/20/23	dreamspinner sabrina@gmail.com
Robert W O'Donnell	7634 N 41st Street	3035512790		3/20/23	odbrfd@gmail.com
Lynn O'Donnell	7634 N. 41st St. Lgnt	303-241-2948		3/20/23	the4odse@gmail.com
Sharon Getman	4353 Oxford Rd Lgnt	303-443-0257		3/20/23	Sigetman@aol.com
ZICK HANEY	4370 OXFORD RD	3034899540		3/20/23	BEFGBM@gmail
DIXON GREENE	4341 OXFORD RD	303 489 0118		3/21/23	GREENE4347@ROK
DOUG FARRAR	4601 OXFORD RD	303 591-2686		3/21/23	
William Stonehocker	4326 Oxford Rd	303 877 3267		3/21/23	bstoney@me.com
Terri Stonehocker	4326 Oxford Rd	303-877-3247		3/21/23	tpd78@icloud.com
KEITH MOSELEY	7031 CARDINAL LN	720-890-0501		3/22/23	kmose@mac.com
KRISTIN MOSELEY	7031 Cardinal Ln.	720 890 0501		3/22/23	kristinmoseley@mac.com
BETTY ERICKSON	7600 N. 19th St.	303-142-1013		3/22/23	bettyerick@aol.com

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Hunter Smith	4510 Niwot Rd.	303 817 4267		3/19/23	hunter.smith@att.net
Jan Yates	4510 Niwot Rd.	303 817 4400		3/19/23	Jan.yates22@gmail.com
Forest Smith	6921 Harvest Rd.	303 817 5382		3/19/23	forestsmith4@gmail.com
Linnea Chesman	6921 Harvest Rd.	845 825 6907		3/19/23	linnea.chesman@gmail.com
Bishop Hennigh	4510 Niwot Rd	767-230-3561		3/19/23	doginawindow@gmail.com
PAULA SHULER	4560 NIWOT RD	303.324.9888		3/19/23	pshuler@mac.com
TAMARA FEUTRESS	4488 NIWOT RD	303-957-8800		3/19/23	tamilyn321@yahoo.com
DANIEL C. FEUTRESS	4488 NIWOT RD.	303-437-7847		3-19-23	dfeutress@juno.com
DAN VARRINA	7202 N 45 th	303-475-9642		3/19/23	
Mary Varrina	7202 N 45 th St	303-726-9694		3/19/23	maryvar24@gmail.com
John Scott	7313 N. 49 th St.	303-918-6666		3/19/23	jmscottci@yahoo.com
DEBRA SCOTT	7313 N. 49 th St.	303-875-0417		3/19/23	niwotskincare@yahoo.com
Joel Schaap	4560 Niwot Road	303-517-6392		3/21/23	jmschaap@comcast.net

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Janie Jill Tointon	6871 N. 55th Street	303-915-6444	Janie Jill Tointon	3/18/23	JJTointon@msn.com
TERRI A. BENJAMIN	11070 N 49th St	303-589-4543	Terri Benjamin	3/18/23	terriabenzamin@gmail.com
Doris Coulter	4850 NIWOT RD 4860 NIWOT RD	720-331-1700	Doris Coulter	3/18/23	dcoulter@escentral.com
Amy Sanchez	4928 Niwot Rd	720-352-2442	Amy Sanchez	3/18/23	amysanchez18@gmail.com
Chris Rakhsan	4900 Niwot Rd	501.276.9482	Chris Rakhsan	3/18/23	crakhsan@yahoo.com
Wolf V. Becker	7440 N. 49th Street	303-725-9179	Wolf V. Becker	3/18/23	wolfvbecker@me.com
Susan Carlson	5469 Niwot Rd	303-956-1609	Susan Carlson	3/19/23	carlson624@gmail.com
RICHARD CARLSON	5371 Niwot Rd	303-956-1610	Richard Carlson	3/19/23	T1956BIRD@comcast.net
David Johnson	5415 Niwot Rd	303-803-3470	David Johnson	3/19/23	DJohnson96@att.net
Bill Carlton	5415 Niwot Rd	303-875-5769	Bill Carlton	3/19/23	bcarlton96@gmail.com
RICHARD JORGENSEN	4500 NEVA RD	303-868-8813	Richard Jorgensen	3/20/23	rjorgensen@mac.com
CHARLOTTE JORGENSEN	4500 NEVA RD	" "	Charlotte Jorgensen	3/20/23	" "

The undersigned live on Niwot Road agricultural properties, in Brigadoon Glen, or in the Lake Valley, North Rim and Haystack Mountain area. **We are neighbors united in opposition to the proposed Prairie Orchard special use application for a Reception Hall and Vacation Rental** located at 5114 Niwot Rd. (Boulder County Docket SU-22-0010) because the proposed uses fail to meet the following Review Criteria:

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NAME (Please Print) (Dotted)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Nancy S. Hindman	5305 Niwot Road	303-530-7521	Nancy Hindman	3-20-23	jphindman@comcast.com
James P. Hindman	5305 Niwot Rd	"	James P. Hindman	3-20-23	"
David Hindman	6040 Niwot Rd	303-818-1847	David Hindman	3/20/23	djhindman1229@gmail.com
Lynn Hindman	6040 Niwot Rd	720-590-0783	Lynn Hindman	3-20-23	lynn@hindsfarm.com
Kathy Schneider	6900 Golf Club Dr.	513-310-6747	Kathy Schneider	3/20/23	chsharky16@gmail.com
TOM SCHNEIDER	6900 GOLF CLUB DR	513-310-6707	Tom Schneider	3/20/23	trschneider45@gmail.com
CHRISTINA EURETT	7200 N 49th St	970-290-2266	Christina Euret	3/23/23	preimig12@gmail.com
John Birks	7107 N 49th St	303-273-0559	John Birks	3/22/23	johnbirks@hotmail.com
Laura Kuek	7107 N 49th St	720-352-0380	Laura Kuek	3/22/23	laurakuek@hotmail.com
Kathy Rowlen	7107 N 49th St	720-289-7470	Kathy Rowlen	3/22/23	Rowlen@inter.com
Carolyn Bloemker	5769 Niwot Rd.	720-284-8126	Carolyn Bloemker	3/23/23	Carbloemker@gmail.com
Denys L. Bloemker	5769 Niwot Rd.	720-560-4076	Denys L. Bloemker	3/23/23	dlbloemker@aol.com

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Jack Zable	6798 Sneed Ct		Jack Zable	3/23	
BARBARA ZABLE	6798 SNEAD CT		Barbara Zable	3/23	
Jeff Hainline	6723 Sneed Ct		Jeff Hainline	3/23	
Lisa Hainline	6723 Sneed Ct		Lisa Hainline	3/23	
Zachary Hainline	6723 Sneed Ct		Zachary Hainline	3/23	
Tracy Kij	6711 Sneed Ct		Tracy Kij	3/23	
KEVIN BRUNO	6726 SNEAD CT		Kevin Bruno	3/22	
Marae Levine	6735 Sneed Ct		Marae Levine	3/23	
Gayle Rudewicz	4662 Sneed Ct.		Gayle Rudewicz	3/23	
Mary R Hiegel	4472 Hogan Ct		Mary R. Hiegel	3/23	
Colleen Huddle	6679 Sneed Ct		Colleen Huddle	3/23	
Ryan Jones	6747 Sneed Ct		Ryan Jones	3/23	
JOHN BUTLER	4638 Nicklaus Ct		John Butler	3/23	

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Deborah Royds	Longmont 6781 Golf Club Dr.	720-272-1511	Deborah Royds	3/22	deblar83@comcast.net
Larry Royds	" " "	303-443-1652	Larry Royds	3/22	" " "
Emily Hadlett	6749 Golf Club Dr	303 328 5170	Emily Hadlett	3/22	
Jason Fowler	6737 Golf Club Dr.	847-915-2225	Jason Fowler	3/22	jsinfowler@gmail.com
Leann Bryant	6701 Golf Club Dr.		Leann Bryant	3/22	leannbryant@gmail.com
Jeff Lowell	6782 Golf Club Dr	303 552 6860	Jeff Lowell	3/22	jeffdbowell@gmail.com
Ben Nam	6651 Snead Ct.	508 736-8989	Ben Nam	3/23	benjamin@jsh.us.com
Eric Harris	6765 Snead Court	720-938-4337	Eric Harris	3/22	famharris@comcast.net
Peg Pasnick	6786 Snead Ct	303.579.1548	Margaret Pasnick	3/22	
Lisa Williams	6774 Snead Ct	975 981 1779	Lisa Williams	3/22	LISAWILLIAMS@comcast.net
Tristan Williams	6774 Snead Ct	310 543 3749	Tristan Williams	3/22	TWWilliams@comcast.net
Ted Rusboldt	6762 Snead Ct.	206.930.1458	Ted Rusboldt	3/22	tedrusboldt@yahoo.com
Ashley Lowell	6782 Golf Club Dr	303-587-0147	Ashley Lowell	3/22	aforbes05@gmail.com
Richard Hiegel	4472 Hogan Ct	303-587-3469	Richard Hiegel	3/23	Richhiegel@comcast.net

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Patricia Testarmata	7211 ORIOLE LANE Longmont	303.530.4229	Pat Testarmata	3/21/23	pattet@comcast.net
Jessica Iler	7218 Cardinal Ln.	303-604-6603	J. Iler	3/21/23	jiler2000@comcast.net
Denis Iler	7218 Cardinal Ln	303-604-6603	D. Iler	3/21/23	dilertup@gmail.com
MARGARET RAINFORD	7244 ORIOLE LANE LONGMONT	303-530-0956	Margaret Rainford	3/21/23	JOMAR28@COMCAST.COM
IAN RAINFORD	7241 ORIOLE LANE LONGMONT	303-530-0956	I. Rainford	3/21/23	JOMAR28@COMCAST.NET
Karen Irving	7101 Oriole Ln Longmont	303-530-1149	Karen Irving	3-22-23	normirving@yahoo.com
NORM IRVING	7101 ORIOLE LN LONGMONT	3035301149	N. Irving	3-22-23	normirving@yahoo.com
KAREN DELPHIN	6374 Niwot Rd Longmont	3038819926	Karen Delphin	3/23/23	Kdelphin333@gmail.com
Marte Alsbaugh	7180 cardinal Ln, Longmont	303-530-1533	M. Alsbaugh	3/23/23	RockyGirls@msn.com
Rolin Gerovsin	7214 Cardinal Ln Longmont	720-238-1325	R. Gerovsin	3/23/23	rgerovsin@gmail.com
Amanda Richmond	7180 Oriole Ln Longmont	720-621-4437	A. Richmond	3/23/23	aa-richmond@hotmail.com
Barry Schwartz	7215 Cardinal Ln Longmont	303-449-5359	B. Schwartz	3/24/23	barrys7215@gmail.com

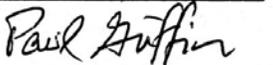
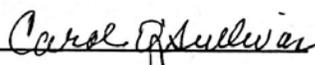
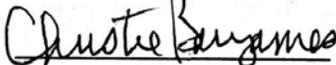
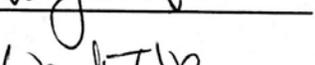
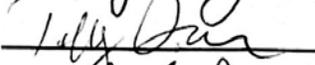
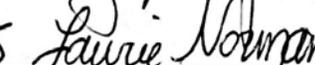
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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Richard Bell	6348 Bluebird Ave	303-457-2652	Richard Bell	3/21/23	NA
Brenda Bell	6348 Bluebird Ave	303 457 2652	Brenda Bell	3/21/23	NA
Louisa McGarty	6362 Bluebird Ct.	303-817-9257	Louisa McGarty	3/21/23	mcgarty.louisa@gmail.com
TED FRAZIER	6317 Bluebird Ave	720-383-0536	Ted Frazier	3/21/23	NA
Madeleine Wikin	6015 Niwot Rd	720-568-0919	Madeleine Wikin	3/21/23	NA
Brynn Schmidt	6523 Bluebird Ave	720-308-4194	Brynn Schmidt	3/21	NA
Eric Schmidt	6523 Bluebird Ave	720-811-0489	Eric Schmidt	3/21/23	NA
Bryan Jackson	6362 Bluebird Ct.	303-819-4969	Bryan Jackson	3/21/23	brynjackson@gmail.com
Aimie Campanaro	7224 N. 63rd St.	(626) 483-0080	A. Campanaro	3/23/23	N/A
Richard Campanaro	7224 N. 63rd St	(626) 483-0010	Rich Cam	3/23/23	N/A
Shirley Delaplaine	6376 Bluebird Ct.	(303) 530-1834	S. Delaplaine	3/24/23	N/A
Kristin Savory	6474 Redwing Pl.	303-517-7651	Kristin Savory	3.24.23	N/A

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
KRISTIN LHATSO	7284 cardinal, 80503	720.346.3986		3/21/23	Kristintintin108@gmail.com
PAUL GRIFFIN	7284 Cardinal, Longmont CO 80503	720.273.4277		3/21/23	catbirdhuman@gmail.com
CAROL OSULLIVAN	7264 CARDINAL LA 80503	303 530 4485		3/21/23	melcorno@comcast.net
Christie Banyames	7234 Cardinal Lane 80503	303 817 4330		3-21-23	christiebanyames@gmail.com
Robyn Morgan	6623 Redwing Pl 80503	303-588-7804		3/21/23	robym22me@yahoo.ca
Mike Johnston	6623 Redwing Pl 80503	303-530-5301		3/21/23	N/A
WENDY VOLAN	7245 CARDINAL LN 80503	720-774-6025		3/21/23	
Carl Lathan	6655 Bluebird Ave 80503	3-324-3534		3/21/23	
Kathy Johnson	6655 Bluebird Ave 80503	303-588-8396		3/21/23	Kathyjohnson2@gmail.com
Tolley Sink	7290 Oriole Ln	31775-1456		3/21/23	tollaysink@gmail.com
Tim Newberger	6555 Bluebird ave	831 359-0125		3/21/23	bluebirdbees@gmail.com
Laurie Normandeau	6555 Bluebird Ave	303-917-6095		3/21/23	laurienormandeau@mac.com
Kunzang Lhatso - Suppan	7284 CARDINAL	720-900-9158		3/23/23	KlhatsoSuppan@gmail.com

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Kirsten Boyer	4675 Bluebird Ave	720-341-4772	Kir-Boyer	3/23/23	kirsten.boyer@netcomcast.net
Christine Green	7131 Oriole Lane		Christine Green	3/23/23	seagreen101@gmail.com
Saloni Doshi	7141 Oriole Lane	732 895 2360	SD	3/23/23	saloni@ecoenclose.com
Kyle Wente	7141 Oriole Lane	217 821 4165	KW	3/23/23	kylewente@gmail.com
Leanne Buchler	7260 Oriole Lane	719-684-5684	Leanne Buch	3/24/23	leanne-buchler@yahoo.com

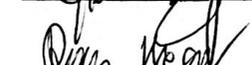
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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
<u>BERNADINE KORTHAUSE</u>	<u>6507 ROBIN DR LONGMOUNTAIN</u>	<u>303-581-9246</u>	<u>Bernadine Korthause</u>	<u>3/22/23</u>	<u>NIWOTMOUNTAIN@AOL.COM</u>
<u>Sybil Jacobson</u>	<u>6397 Robin Dr.</u>	<u>303-530-1098</u>	<u>Sybil Jacobson</u>	<u>Mar 22, 2022</u>	<u>SYBIL.JACOBSON@COMCAST.NET</u>
<u>Jerome Korthause</u>	<u>6507 Robin Dr.</u>	<u>303-581-9246</u>	<u>Jerome Korthause</u>	<u>3/22/23</u>	<u>JKORTHAUSE@AOL.COM</u>
<u>JIM FAY</u>	<u>6472 ROBIN DR.</u>	<u>303 414 7859</u>	<u>JIM FAY</u>	<u>3/22/23</u>	<u>janestfay@comcast</u>
<u>Jan Nowicki</u>	<u>6438 Robin Drive</u>	<u>303-530-2161</u>	<u>Janice Nowicki</u>	<u>3/23/23</u>	<u>jannowicki@comcast.net</u>
<u>LAURA DICKSON</u>	<u>6536 ROBIN DR</u>	<u>303 818 3374</u>	<u>Laura Dickson</u>	<u>3/23/23</u>	<u>dc.laura13@nme.com</u>
<u>CORY DICKSON</u>	<u>6536 ROBIN DR</u>	<u>303-818-3484</u>	<u>Cory Dickson</u>	<u>3/23/23</u>	<u>CFD1818@msk.com</u>

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NAME (Please Print)	ADDRESS	PHONE NUMBER	SIGNATURE	DATE	E-MAIL ADDRESS
Kurrin Barrett	6279 Brigadoon Ct	303-907-9735		3/23/23	kurrinbarrett@comcast.net
Gisela Barrett	6279 Brigadoon Ct.	303.907.0183		3/24/23	gbarrett@comcast.net
Ryan Mead	5045 Niwot Rd	305 582 4919		3/24/23	Ryandmead19@gmail.com
Sophia Leidesdorff	5045 Niwot Rd	720-636-1703		3/24/23	sophialeidesdorff@gmail.com

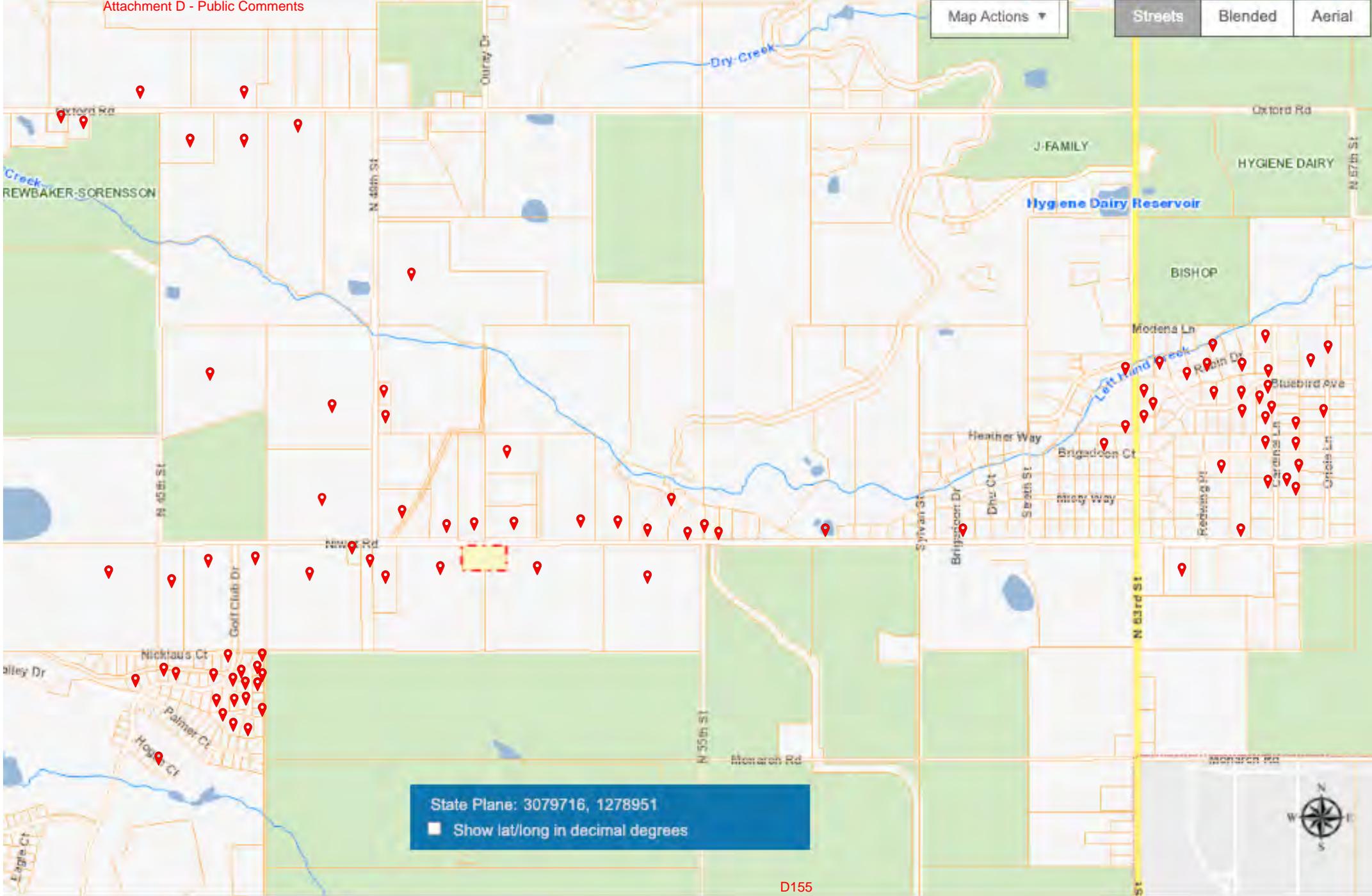
Map Actions

Streets

Blended

Aerial

Docket#: SU-22-0010
Prairie Orchard
5114 Niwot Rd,
Parcel 13173300002



Map Legend

-  Prairie Orchard Property
-  Opposition Petition Signatures
([94 addresses](#))

From: [LU Land Use Planner](#)
To: [L"Orange, Pete](#)
Cc: [Frederick, Summer](#)
Subject: FW: [EXTERNAL] Ask a Planner - Robert Adam Engle - SU-22-0010 - 4252 Pebble Beach Drive Longmont 80503
Date: Friday, March 24, 2023 1:51:59 PM

Original in Planner email APO comments

-----Original Message-----

From: Ask A Planner <no-reply@wufoo.com>
Sent: Friday, March 24, 2023 1:42 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] Ask a Planner - Robert Adam Engle - SU-22-0010 - 4252 Pebble Beach Drive Longmont 80503

Boulder County Property Address : 4252 Pebble Beach Drive Longmont 80503 If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Robert Adam Engle

Email Address: adam@engle.com

Phone Number: (303) 886-1700

Please enter your question or comment: Please do not permit the use of an event center or vacation rental at this location on Niwot Road. The traffic and noise would irreparably impact this agricultural and residential community.. it would also adversely impact the safety of the bikers who ride along Niwot rd in great numbers.

Thank you for your consideration. Robert Adam Engle Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Ron Kertzner](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Niwot Event Center - SU-22-0010
Date: Friday, March 24, 2023 2:22:43 PM

Good afternoon:

As residents of Lake Valley Estates, we are writing to register our disapproval of the event center proposed for Niwot Road, SU-22-0010.

First, many of us who chose to live in Lake Valley did so because of its quiet surrounds and our connection with nature. The event center would impact both. Increased traffic on Niwot Road will impact those who travel frequently and the bikers and runners who utilize it, especially on weekends. Also, I am concerned with the center's impact on the wildlife that is so common in our neighborhood.

Sound also travels quite far out here, and I am concerned, particularly for our Lake Valley residents living north and east of our HOA. The noise from the event center will likely impact residents' quality of life.

Given the County Commissioners' previously stated concerns for the quality of life in rural Boulder County, project SU-22-0010 would be a mistake.

We urge you to reject that proposal.

Sincerely,
Ron and Sue Kertzner
Lake Valley

From: [Lynn O'Donnell](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Please Deny Application for Prairie Orchard Guest Center
Date: Friday, March 24, 2023 2:49:25 PM

Hi Pete,

We live at 7634 N 41st St, Longmont and have for 20 years.

We are contacting you to express concern over the Prairie Orchard Guest Center and Vacation Rental. We already have several "venues" in the neighborhood, The Fresh Herb Company and Ogallala Farm (was Pastures of Plenty) . No matter where we sit outside in the summer months, we are inundated with music from all directions. We also are impacted by the increase in traffic. We have had numerous incidents with people drinking and driving. We, as homeowners, have the right to "quiet enjoyment", just like a renter has in their rental property.

It seems very unfair that the County is now allowing properties surrounding us to engage in business ventures. This property is zoned AG. AG property should not have commercial usage.

These businesses are not in harmony with the land. We invested in a property here because we did not want to live in a city. We wanted to raise our children, our dogs, and our horses in a quiet country setting.

Why do people assume that they can purchase property and then change the usage? These are residential properties. Some owners farm, some owners have livestock. If I wanted to live next to an event venue, I would have moved to 13th and Spruce. None of us appreciate that these owners are profiting by running businesses which disrupt their neighbors.

Respectfully,

Robert & Lynn O'Donnell

7634 N. 41st St.
Longmont, CO
303-241-2948

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Sabrina Gerringe - SU-22-0010 - 5114 Niwot Rd
Date: Friday, March 24, 2023 11:50:17 AM

Boulder County Property Address : 5114 Niwot Rd

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Sabrina Gerringe

Email Address: dreamspinningsabrina@gmail.com

Please enter your question or comment: My name is Sabrina Gerringe. I live less than 3/4 of a mile as the crow flies from the proposed Prairie Orchard reception hall and vacation rental. I am OPPOSED of having a commercial event center and vacation rental in the neighborhood. Prairie Orchard would create noise pollution, light pollution, traffic problems, a negative impact on the environment, and fugitive dust. I moved to the neighborhood 19 years ago to enjoy my equestrian lifestyle and to farm the land and grow hay.

I can attest firsthand how living a few farms away from a wedding venue can negatively impact your way of life. Boulder Flower Farm was established two years ago. They host weddings with amplified music which makes it very difficult to enjoy the normal peace and quiet we are accustomed to. The amplified music carries on the wind far and wide. I can hear people speaking into the microphone; I hear the vows, I hear the DJ, I hear the speeches.. I've grown to hate ABBA because I hear it blasting every weekend. I deal with speeding cars that are late for the wedding in the afternoon, speeding drunk drivers at the end of the evening. The consistent activity of amplified music and crowd noise can make my horses agitated and nervous. I cannot enjoy being outside when Boulder Flower Farm hosts a wedding; it has had a major impact on my life. There is nothing I can do about it and it's quite frustrating. I am considering moving because of it.

We were happy when Pastures of Plenty went out of business. But then Boulder Flower Farm popped up. I now understand Pastures of Plenty/now called Ogallala Farm, is going to again be hosting weddings. Ugh! Enough is enough!! We do not need a commercial events center out in the country. We already have enough venues that create problems in the neighborhood. I expressed my discontentment to my neighbors who own Boulder Flower Farm. We came up with a solution of them buying me noise canceling headphones – I have to wear headphones if I want to be outside on my property! It's not ideal, but is what I have to do when there is an event.

The Prairie Orchard proposal is incompatible with our area and cannot exist in harmony with our neighborhood.

We did not choose to live out here to be subjected to loud noise, amplified music, light pollution, increased traffic, and the disruption to our quality of life. The owners of Prairie Orchard are not farming the land or living on site. The acreage cannot support what they are asking for. I implore you to not allow this venture to impact the neighborhood.

Per the Boulder County land use code, article 4: "A Zoning ordinance imposes such reasonable limitations upon the right of a property owner to use their property as they please. BUT, THEY MAY NOT USE THEIR PROPERTY WITHOUT REGARD FOR THEIR NEIGHBORS, OR THE EFFECT OF THEIR ACTIONS UPON THE WELFARE AND PROSPERITY OF THE WHOLE COMMUNITY OF WHICH THEY ARE A PART."

Boulder Flower Farm has negatively impacted my way of life. Please do not enable Prairie Orchard to further impact our rural community. The Altona Grange is an established reception hall. We do not need more commercial ventures in the country! Please deny the application.

Sabrina Gerringe

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Rowan Wing](#)
To: [L"Orange. Pete](#)
Subject: [EXTERNAL] Special Use Permit: Docket # SU-22-0010
Date: Saturday, March 25, 2023 7:58:45 AM

Hello,

Below is a statement in opposition to the Special Use Permit requested for 5114 Niwot Rd, Docket #SU-22-0010. Please help direct my comments to the appropriate place or let me know where I should be sending these comments.

To Whom It May Concern,

I am writing in strong opposition to the Special Use Permit requested for 5114 Niwot Rd, Docket #SU-22-0010. The proposed venue will have a significant and negative impact on the surrounding community, will jeopardize the safety of the local and county residents who use Niwot Rd. for access to their homes and for recreation, and will have a serious and unassessed negative impact on the natural ecosystem.

There are hundreds of homes and thousands of residents living in this quiet neighborhood. The music, noise, and lights will be disruptive and negatively impact the quality of life for residents in this community. The proposed venue is incompatible with the neighborhood and the character of the community and goes against the reason so many residents have chosen the space for their home.

Additionally, Niwot Rd is a small **country road that** was not designed to handle this scale of traffic and is used heavily by bikers and joggers, which already makes navigating Niwot Rd tricky and often unsafe. The proposed increase in traffic will create significant safety concerns for the neighboring residents and the thousands of people who use the road for recreation.

Importantly, the area surrounding the requested venue is a haven for wildlife. The property in question sits in the middle of main thoroughfare for many forms of wildlife and is a high density area for local and migrating birds. The increased human traffic and noise will disrupt this entire ecosystem. **The potentially damaging impact to this wildlife area has not been assessed and is not well understood.** This is out of line with Boulder County's values of preserving the natural environment and with the intent of the surrounding open space.

In summary, I strongly oppose the proposed Special Use Permit for 5114 Niwot Rd. The negative impact on the surrounding community, the traffic and safety of the residents, bikers, and joggers, and the outsized negative impact on the surrounding wildlife ecosystem makes this proposal incompatible with the character of the community and the values of Boulder County.

Rowan Wing 3980 Pebble Beach Dr.

From: [carlson624](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] RE: Opposition Letter to SU-22-0010 PO
Date: Saturday, March 25, 2023 4:37:14 PM

3/25/23

RE: SU-22-0010 Letter in Opposition to Prairie Orchard Permit

Dear Mr Pete L'Orange,

I am imagining that you are getting many similar letters concerning the inappropriateness of permitting an event center on Niwot Road.

Since many people will talk about the disruption and traffic danger this would cause to our community, I will point out that it is not just concern for ourselves as neighbors of an actual business plunked down in the middle of our community; but it is also a concern for all of the bike riders, runners, horse riders, marathon runners and all of the other people who come out to Niwot Road to enjoy recreation in a quiet rural setting. Boulder County has a long term plan to protect and preserve this area and to that end has many conservation easements on properties along Niwot Road. A business of this nature would not at all be in keeping with this plan.

Sound carries amazingly out here, especially in the evening. That events center would be an unacceptable disturbance of the peace; not only for all of the humans who live in and use this area, but also for the wildlife (bear, deer, elk, hawks, eagles, owls, fox, coyote, etc).

There is no benefit to anyone other than the off-site proprietors of this proposed event center, only detriment to our peaceful rural area, detriment to recreational visitors and detriment to the wildlife.

Please do not permit this to happen.

Thank you,

Susan and Richard Carlson
5371 Niwot Road

5469 Niwot Road
Niwot, Colorado 80503
3039561609

From: [Suzanne Reynolds](#)
To: [L'Orange, Pete](#)
Cc: tombugnitz4099@gmail.com; hoa@lakevalley.com
Subject: [EXTERNAL] SU-22-0010 Opposition to 5114 Niwot Rd.
Date: Saturday, March 25, 2023 9:59:49 PM

Dear Mr. L'Orange,

We, along with all of our neighbors in Lake Valley Estates that we have spoken with, are vehemently opposed to the establishment of a reception hall and vacation rental facility so close to our quiet residential area. Sound travels very far in our valley without dissipating, and OUR LAKE AMPLIFIES SOUND. This property in question is too close and will disrupt our peaceful enjoyment of our own homes. This is not an appropriate use in our area.

Suzanne and Marc Reynolds
4130 Greens Pl.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Douglas Bacon - SU-22-0010 - 4578 Palmer Ct
Date: Sunday, March 26, 2023 10:35:22 AM

Boulder County Property Address : 4578 Palmer Ct

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Douglas Bacon

Email Address: DougB7583@gmail.com

Phone Number: (810) 241-4728

Please enter your question or comment: My wife and I bought, retired, and moved back to Boulder from Michigan to 4578 Palmer Ct in Lake Valley Estates on 10/4/20 in the midst of COVID. Both of us graduated from CU in 1979.

After leaving town for 42 years, we have been certain that we had bought our own little slice of heaven - until now. We bought here because of the beauty, serenity, and peace of the open space. We bought here because of the wildlife that calls this area home. Bob cats, coyotes, deer, prairie dogs, harrier hawks, redtails, bald eagles, great horn owls, and osprey are a few of the critters we see regularly. We bought here because of our family - our son, daughter-in-law, and three grandbabies live 7 houses down. We bought here because of our proximity to Boulder, and Denver's amenities, schools, healthcare, the golf club, the lakes, and the neighborhood.

Sadly, it appears possible that a Boulder County approval for the development of 5114 Niwot Rd as a Reception Hall, and Vacation Rental could severely impact our wildlife, and greatly detract from the nearby residential area through increasing traffic on Niwot Rd, parking impacts on the nearby roads, increasing human noise and light pollution. Please VOTE NO

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

TO: Community Planning & Permitting Department - Pete L'Orange
SUBJECT: Proposed Reception Hall and Vacation Rental at 5114 Niwot Road
REFERENCE: Prairie Orchard, Docket SU-22-0010

Dear Planning & Permitting Committee,

My husband and I believe our Lake Valley neighborhood to be an ideal place for raising our family. We especially value the peaceful setting with lack of traffic, crowds, light and noise as well as an abundance of wildlife, farms and open space in the area. These are the very qualities that are jeopardized by the application for a reception hall at 5114 Niwot Road. This quiet rural area is NOT THE PLACE for this type of venue!

Our home is located on Snead Court which is on the far North East side of the Lake Valley Estates neighborhood. We can see the property at 5114 Niwot Road from our backyard and would be directly impacted by the amplified noise and light pollution. These would travel easily across the open space; therefore, impacting surrounding residents, as well as neighboring wildlife, farms and livestock. People moved to rural Boulder County to get away from these type of events!

The additional traffic is also very concerning as there are so many that use Niwot Road for recreation – organized races, biking, running, hiking, walking – not to mention the potential for drivers leaving an event under the influence. And if folks end up parking on Niwot Road, a tragic result is inevitable.

These types of events usually allow for smoking and fire pits which would increase the potential for fire danger. This is dangerous as the winds in this area can be extreme. Even more of a concern as the property owner will not be living onsite, and the house could be occupied by vacationers who may have a disregard for the preservation of the area and respect for its residents.

What type of enforcement would be in place to ensure that these events are operating within the guidelines for traffic, crowd limits, noise levels, quitting time and fire danger? Does Boulder County really have the resources to cover the additional oversight and liability?

It's just not a good idea! We are NOT in favor of this Special Use Permit application.

Respectfully Yours,

Debbie Koch

The Koch Family @ 6750 Snead Court Longmont, CO 80503

From: [Paul Griffin](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Griffin Comments SU-22-0010, Prairie Orchard at 5114 Niwot Road, Longmont, CO 80503
Date: Sunday, March 26, 2023 11:17:56 AM

To: Pete L-Orange, Staff Planner with Boulder Community Planning and Permitting

Re: SU-22-0010, Prairie Orchard at 5114 Niwot Road, Longmont, CO 80503

From: Paul Griffin, owner of 7284 Cardinal Lane Longmont CO 80503

I strongly object to the proposed development of 5114 Niwot Road as an event venue and vacation rental.

My main concern is the precedent that will be set by allowing an event venue on a 3+ acre parcel in this area. Many people in my neighborhood and adjacent neighborhoods own properties in the 3-5 acre range. If Prairie Orchard is allowed to go forward, what precludes other smaller parcels from seeking special commercial uses? This feels like a slippery slope, headed toward an agricultural and residential neighborhood turning into a commercial zone. There is plenty of commercial activity around here in Niwot, Gunbarrel, Longmont and Boulder proper. There is absolutely no need for an event venue in this area. The costs of allowing this far outweigh any possible benefits.

Many people living in this neighborhood have a long-standing interest in (and have made considerable investments in), exploring sustainable ways of living in balance with the elements of the natural world. We seek to embody a way of life that is based on a stewardship of the land, not on its exploitation. We let the land and the accompanying environment tell us how to get along here, respecting the wildlife, the birdlife, the wind and the water. We are quintessentially an agricultural area, developing our holistic and organic techniques for raising some food, breeding some animals, rearing our children, while yet trying to respect the land and its limits.

I would like you to consider that commercial development within this kind of community actually brings a degradation of its value, and of its values. In a time when commerce and economic development are actually needed in so many other desperate and impoverished areas around us, can't planners encourage developers and entrepreneurs to bring their talents and resources to those areas?

If you have any further questions, please do not hesitate to contact me.

Sincerely,

Paul Griffin
7284 Cardinal Lane
Longmont, CO 80503
720.273.4277
catbirdhuman@gmail.com

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Terri Stonehocker - SU-22-0010 - 5114 Niwot Rd
Date: Friday, March 24, 2023 8:27:01 PM

Boulder County Property Address : 5114 Niwot Rd

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Terri Stonehocker

Email Address: terri@stonehockerfarms.com

Please enter your question or comment: Dear planning Department,

I am writing in regard to the plans to create a commercial event center on Niwot Rd. We have 75 acres on Oxford Rd and will hear the noise and be effected by the traffic created by this venue. We chose this area for the amazing peace and quiet. Our property values will be negatively effected with a commercial enterprise like this in the neighborhood.

This is a farming community and most everyone here places a high value on the quiet rural environment and the plentiful wildlife. Most owners here use their land for agriculture, raising animals, hay or market farming. We do not want to see our neighborhood turn into an area with short term rentals, loud music multiple nights a week, greatly increased traffic with both large buses and late night drunk drivers. All of these things will negatively effect our neighborhood.

Because of the low amount of traffic on the road Niwot Rd is used heavily by bikers and joggers, large buses and drivers not familiar with the area will cause a great danger to them. The number of traffic accidents will greatly increase.

We are against changing the use of our neighborhood and want it to remain the quiet peaceful place it currently is.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Paula Shuler](#)
 To: [L"Orange, Pete](#)
 Subject: [EXTERNAL] Prairie Orchard
 Date: Wednesday, March 29, 2023 2:09:55 PM

Re: SU-22-0010, Prairie Orchard

Boulder County,

I have written several times with questions and also written in September with comments opposing the application for a "Reception Hall" on 3.65 acres of land in our rural agricultural neighborhood. Prairie Orchard has submitted re-referral application materials and I would like to say that I remain strongly opposed to a "Reception Hall" at 5114 Niwot Road for the all the reasons I have previously stated. I want to re-iterate per Boulder County's own plans and policies why this special use application should be denied:

BOULDER COUNTY COMPREHENSIVE PLAN

Guiding Principle #5: Maintain the rural character and function of the unincorporated area of Boulder County by protecting environmental resources, agricultural uses, open spaces, vistas, and **the distinction between urban and rural areas of the county.**

Prairie Orchard is a completely commercial endeavor on an agriculturally zoned parcel. Prairie Orchard will blur the lines between urban and rural, this event center belongs in an urban or commercial setting. This events center will bring significant traffic impacts, noise pollution, light pollution, as well as impacts to wildlife. There will be no agricultural use on this parcel, in fact the applicants have stated they do not want to be agriculturalists and they feel they cannot have an agricultural operation because there is a ditch that bisects their parcel. There will be no protection of environmental resources, just additional degradation to this very small parcel.

Sustainability Goal #5: Preserve the Built & Contextual Character. The preservation of the built and contextual character of Boulder County's diverse rural landscapes, neighborhoods and communities should be fostered and promoted through encouraging participation by the residents and property owners in those areas to identify the characteristics that are of importance to them and assist in development of land use strategies and tools for maintaining those characteristics.

The residents of this area are speaking up loud and clear. The characteristics that are important to us as a community are maintaining the rural agricultural character of our neighborhood and peace and quiet. We do not want or need more commercialization, more impact. The applicants will not be stewarding the land, they will be negatively impacting it. The owners will not reside there, no one will. They will be creating incredible negative impacts to this neighborhood but not experiencing any of it because they will not be present. This community does not want a "Reception Hall" aka LARGE COMMERCIAL SPECIAL EVENTS CENTER, it will destroy the character of our neighborhood. There are many existing venues in Boulder County. Allowing a reception hall on this parcel goes against the foundations of our rural landscape and neighborhood. This is the wrong place for an Events Center.

I. Plains Planning Area

"This element of the [Boulder County Comprehensive] Plan provides physical representation of the county's goals and policies."... "This element is also the foundation of the county's land use regulations."

Plains Planning Area Goal #4: Protect Rural Character. Protect the rural character of Boulder County.

POLICIES: PPA 1.03 Guidelines for Land Use Proposals. Where pertinent, land use proposals within the Plains Planning Area should adhere to the following land use guidelines:

D) Minimizing potential negative impacts on surrounding lands, including agricultural land, attendant agricultural uses, and established neighborhoods and other adjoining or nearby development and land uses.

The negative impacts Prairie Orchard would bring to the surrounding lands, animals and established neighborhoods are enormous. There is no real buffer from the Prairie Orchard 3.65 acre parcel to the surrounding lands. It cannot be the intention of the Land Use Code to allow such a small parcel to have such incredible negative impacts on an entire community and destroy a bucolic area. An event center does not protect the rural character of a neighborhood, it degrades the rural character. Not a good fit, not the right area.

BOULDER COUNTY LAND USE CODE

Article 4 • Zoning

From the Forward to the Boulder County Zoning Resolution, February 4, 1944: "A zoning ordinance imposes such reasonable limitations upon the right of a property owner to use his property as he pleases, as may be determined by considerations of public health, safety, and welfare . **But he may not use his property as he pleases without regard for his neighbors, or the effect of his actions upon the welfare and prosperity of the whole community of which he is a part.**" The applicants appear to have no regard for their neighbors or the community of which they are now a part because what they are asking for is truly a commercial event center with incredible intensity and impact. There is significant and extreme opposition to this proposal. The applicants have provided less than adequate, realistic or sufficient answers on how they will mitigate the traffic, congestion, noise and light pollution. This special use, if granted, is a permanent fixture with devastating consequences to this neighborhood and community. Boulder County need to seriously consider that. The commercialization of this parcel seems to be far more important to the applicants than any regard for their neighbors.

4-600 Uses Permitted by Special Review and Limited Impact Special Review : "A land use designated as a special use in a zoning district is one that – because of its inherent nature, extent and external effects – may be allowed to establish if subject to Special Review to assure the use **is located, designed, and operated in harmony with neighboring development and the surrounding area and does not adversely affect the public health, safety, and welfare** . The purpose of the review process is to determine **the compatibility of the use with the site and surrounding land and uses** and the adequacy of services.... During the review process, **the county considers location, design, configuration, intensity, and impacts** by comparing the proposal to the code criteria, intergovernmental agreements, established hazard areas, **parcel specific conditions, site context** and any other applicable regulations to assure that **the use can operate in a sustainable way with minimal danger or impact to** the users, **the natural environment, or the developed environment** ."

Prairie Orchard will not operate in harmony with the neighboring development and is not compatible with the surrounding land and uses. How can Prairie Orchard possibly operate in a sustainable way when they are proposing such frequency and intensity of events? Prairie Orchard will have an overwhelming negative impact on the natural environment and the developed environment in this area. This is the wrong location for a commercial events center.

4-601 Review Criteria Except as otherwise noted, the use will comply with the **minimum zoning requirements of the zoning district in which the use is to be established**, and will also comply with all other applicable requirements. **Article 4-4-102 D. Lot, Building, and Structure Requirements 1. Minimum lot size...35 acres.** Parcel is only 3.65 acres, thus non compliant.

Article 4 -4-102: The use will be compatible with the surrounding area. In determining compatibility, **the Board should consider the location of structures** and other improvements on the site; the size, height

and massing of the structures; the number and arrangement of structures; the design of structures and other site features; **the proposed removal or addition of vegetation; the extent of site disturbance, including, but not limited to, any grading and changes to natural topography; and the nature and intensity of the activities that will take place on the site.**

Not compatible with the quiet rural area of Niwot Road. Prairie Orchard proposal will degrade much of their 3.6 acre parcel by adding a large gravel parking area, expanded gravel driveway, additional parking for the house (where ADA parking will do double duty?), an additional septic field and a large area for a tent where the ground will be constantly trampled and any grass that might exist in that area could die and turn to dirt. It appears that nearly an additional acre will become disturbed/degraded on this small parcel to accommodate events. This parcel is designated as significant agricultural land of statewide importance and should be stewarded not disturbed or degraded.

In determining the surrounding area, the Board should consider the unique location and environment of the proposed use; **assess the relevant area that the use is expected to impact;** and take note of important features in the area including, but not limited to, scenic vistas, historic townsites and rural communities, mountainous terrain, **agricultural lands and activities, sensitive environmental areas, and the characteristics of nearby development and neighborhoods;**

Niwot Road already experiences incredible impact from large amounts of runners and cyclists each day and even more on weekends. We have many special events on our road already. A Special Events Center is only going to add to the increasing daily congestion on our roads. At times, it is already very challenging. Last year we made changes to our hay schedule because we were unable to move equipment during the Boulderthon. The roads in our area were “closed” for half of the day and we could not get our equipment to where we intended to work. It seems agriculture is taking a back seat to all the other special interests, even though we truly embrace the land, are good stewards trying to improve the planet and make a difference to local food in the area. A triathlon by day and a wedding by night. Is that the new agenda for rural Boulder County?

BOULDER NOISE ORDINANCE

SECTION 1.01.010 Declaration of Policy.

ORDINANCE NO. 92-28

AN ORDINANCE PERTAINING TO THE REGULATION OF NOISE ON PUBLIC AND PRIVATE PROPERTY

CHAPTER 1.01

It is hereby declared to be the policy of the County of Boulder that the **peace, health, safety and welfare of its citizens require protection from excessive, unnecessary and unreasonable noise.** It is the intention of this ordinance to control such noise.

Any music or conversations that I can hear from one half mile away and recognize the song or the words being spoken is excessive, unnecessary and unreasonable. This absolutely affects the peace, health and welfare of this neighborhood. Why is it okay to put a noise making event center into a rural area? Summer nights should be about the stars, the stillness of the evening and the natural sounds of the night such as crickets and owls hooting back and forth. Excessive noise, somebody else’s noise, should not be part of rural living.

In conclusion, Prairie Orchard reception hall is not compatible and will not exist in harmony with the surrounding area. This very small parcel will have incredible negative affects on our area and will absolutely adversely affect the public health, safety and welfare of the surrounding area. Boulder County really needs to consider that. Additionally, I truly feel that the applicants have not provided sufficient answers for what they are proposing. The noise mitigation is insufficient, the applicants claim that

amplified music will be indoors, yet there are three or four very large double doors that will be open as well as several windows. Noise travels incredible distances. Their small event last July, with “indoor music” was disturbing for many neighbors and could be heard over one mile away. Does the sound system that is fixed indoors have speakers that rotate to the outside? What if a client wants to have a band? That has the potential to be even more noise. A \$30 noise fine is nothing to pay and is not equitable to the disruption of an entire neighborhood on a continual basis. I happen to believe that the existing neighborhood’s well being is worth much more than \$30 dollars. Many of us have lived here several decades and would like to think that our time and financial investments to our land matters for something. I’d like to think that my as well as my horses peace and well being matters and is worth something.

Light pollution and a lighting plan is not being addressed. The tent area and parking lot could glow in the dark, disturbing both humans and animals. The headlights leaving the facility will be disruptive to the existing property owners across the street. Traffic, congestion and parking issues are unresolved. The shuttle plan is inadequate and unrealistic. A 130 person event has the potential to pose huge traffic, congestion and parking problems. For that matter a 60 person event with people not choosing to carpool will cause problems. The parking lot is not sufficient for what they are claiming/proposing, the applicants are making assumptions about how many people will be traveling in each vehicle, those assumptions are not realistic and there is no contingency plan. The driveway circle is tight for 20+ person shuttle buses to turn around, let alone multiple shuttles to stage. No parking signs on Niwot Road will only interfere with cyclists and runners. The proposed septic for 50 people is not close to being sufficient for what they are proposing and they are installing 7 toilets? Yet there were no porta-potties on their site plans. Where will those be located? That’s a whole other set of load in and load out that was not dealt with. A moveable plastic hedge and hay bales are insufficient barriers . There are multiple challenges with this special use proposal and none of these “solutions” are truly adequate or realistic.

This 3.6 area parcel is not the correct location for a reception hall for so many reasons. I really hope the planning department and planning commission will consider the Boulder County Comprehensive Plan, the Land Use Code and Noise Ordinance when considering this commercial facility. Those written words, policies and plans should matter. I respectfully ask Boulder County to deny this Special Use Proposal.

Thank You,
Paula Shuler
4560 Niwot Road

From: [Ask A Planner](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Mike Mullins - SU-22-0010 - 5114 NIWOT ROAD
Date: Friday, March 31, 2023 10:31:57 AM

Boulder County Property Address : 5114 NIWOT ROAD

If your comments are regarding a specific Docket, please enter the Docket number: SU-22-0010

Name: Mike Mullins

Email Address: mvmullins@gmail.com

Please enter your question or comment: Neighborhood resident worried about traffic congestion, potentially risky behavior (fire, noise), and noise echoing over the community from the event space.

We are opposed to the vacation rental as well as the event space for community safety.

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Stephen Mills - Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental - 5114 Niwot Road
Date: Friday, March 31, 2023 9:21:09 PM

Boulder County Property Address : 5114 Niwot Road

If your comments are regarding a specific Docket, please enter the Docket number: Docket SU-22-0010: PRAIRIE ORCHARD Reception Hall and Vacation Rental

Name: Stephen Mills

Email Address: flycast_mills@yahoo.com

Phone Number: (303) 545-9496

Please enter your question or comment: We strongly oppose allowing this Commercial Endeavor to move forward.

The bottom line for us: This is a commercial endeavor requesting to insert itself into a closed agricultural land use community. There are plenty of other areas in Boulder County zoned for this use, this should not become one.

The owners state this is a community resource - it is not: it is a private resource/commercial venture.

The unmentioned issues covered below should give the County Commissioners/Planning Board/Review Board pause on looking to pass this proposal.

This is really a set of math problems:

#1) There are 3.6 acres of land that makes up this property.

It is stated there is room for 142 cars - this would require almost 50% of the current acreage to park this number of cars on the property. With the addition of the footprints for the house, barn and cottage, these events would take up almost the entire acreage.

At a large event with maximum capacity, there would be nowhere for the people to go except into the house, barn and out buildings. This land could not support support a 300 person event.

This is almost 7 times the septic/water usage of a family of four living in houses in a small area. In addition, adding seven new 4 member homes in the community with no increases in taxes or support services.

#2) The application states there is potential for approximately 9800 people a year to use the property (or more).

Assumptions:

4 large events/year X 300 people = 1200 attendees

24 medium events/year X 150 people = 3600 attendees

e.g. 100 (unlimited) small events (approximately) X 50 people = 5000 attendees

#3) This is a commercial endeavor promising a 365 days a year, 14 hour (9AM to 11PM) schedule. That doesn't fit into this Agricultural zoned neighborhood.

Unmentioned Issues:

1) Parking on this property would tax the roadway and impede traffic - potential for this activity is 14 hours per day, 365 days a year.

2) Traffic pattern issues: No turn lanes, limited sight distance to the West and East because of the 6 ft tall fence on the property line that sits next to the road. This is a cause for safety concerns for bicyclists, runners and residents.

3) Septic and Sewage is a huge environmental concern on groundwater and drainage. 9800 people using these natural resources would tax this area.

4) The 3/4 inch water line for a commercial venture is insufficient.

5) There is no provision for the out buildings, cottage or house to be outfitted for fire sprinklers in case of fire. (there is not enough water capacity to install fire sprinklers).

6) Stacked hay bales are potential fire hazards.

7) There is no mention of alcohol use or restrictions and the potential ramifications in a private community.

8) How can a non-compliant structure (the cottage) become habitable for commercial usage?

9) There is an assumption the church will be a permanent drop-off/shuttle point for the life of the commercial endeavor. What happens when this assumption is no longer valid? This venture should stand on its own without a

promise of a business relationship that has no agreement/guarantee.

10) No increase in: Road maintenance, Fire Department/Emergency Services or Sheriff coverage for events

There are plenty of areas in Boulder County zoned for this activity. This type of zoning should not be allowed in this community. People moved to this area/location because of the non commercial/Agricultural aspects of this community.

We ask Boulder County to reject this proposal.

Steve Mills/Mary Elsea

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: [Wufoo](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Ask a Planner - Aurora Culkin - -
Date: Monday, April 3, 2023 9:00:20 PM

If your comments are regarding a specific Docket, please enter the Docket number:

<https://landuse.boco.solutions/boco.lu.docketlistings/app/detail.html?docket=SU-22-0010>

Name: Aurora Culkin

Email Address: aculkin1@gmail.com

Phone Number: (303) 927-8007

Please enter your question or comment: I am against allowing an event center to operate at 5114 Niwot Road. Please do not allow this, it will be very disruptive to the families that live in the area and to the environment, light pollution, waste, noise, etc.

Thank you.

Aurora Culkin

Public record acknowledgement:

I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

April 8, 2023

Boulder County Community Planning & Permitting Department
PO Box 471
Boulder, Colorado 80306

SUBJECT: SU-22-0010. Special Use Review request for the establishment of a Reception Hall venue with a second primary use of a Vacation Rental; 5114 Niwot Road, Longmont Colorado.

Review Committee,

My wife, Beth Potter, and I live at 5050 Niwot Road, Longmont, Colorado, next door to the property for which the Special Use Review has been requested. Thank you for the opportunity to provide written comment.

We understand that the new owners of 5114 Niwot Road intend to host a great number of community-oriented events such as weddings, wedding receptions, and other gatherings of 50 to 274 individuals, according to the modified submission. We are concerned that the number and size of the planned gatherings effectively create a commercial enterprise on the County's rural and agricultural land.

Therefore, we oppose the approval of SU-22-0010.

In support of that opposition, here are some comments (and numbers) about **traffic** for your consideration.

Boulder County Code.

Boulder County Land Use Code, Article 4-516 "Accessory Uses", paragraph N "Farm Events", Item 5c states that "This use must occur on a parcel large enough to accommodate the use, parking, and sanitary facilities in a manner that does not negatively impact the neighboring parcels and traffic and the Principal Use of the parcel itself".

The Issue.

Backup of traffic along Niwot Road. In order to fully understand the traffic-density problem, a quick calculation is appropriate.

The data used in this analysis are taken from materials associated with SU-22-0010 and are publicly available.

- a. A Transportation Impact Study conducted by LSC Transportation Consultants dated October 5, 2022.
- b. A "Large Event Timeline Example" dated January 2023.

The Large Event Timeline describes a sample large event and the Transportation Impact Study states that a large- or medium-sized event includes about 60 vehicles entering and leaving the subject property. Per the Timeline Example, for a 4:00 PM event, 60 vehicles will arrive from 3:00 PM to 3:45 PM.

Why Is This Important?

Research shows that the average amount of time for a vehicle to come to a stop and turn, with oncoming traffic, may be about 10 seconds.¹ 60 vehicles x 10 seconds per vehicle is 10 minutes. That is, approximately 10 minutes to get 60 guest vehicles into a very tight parking area.

Per the Transportation Impact Study, from 3:00 PM to 3:45 PM, when guests are attempting to enter the property, regular daily traffic along Niwot Road is quite busy; that is, 150 vehicles will attempt to pass the subject property during the arrival time of 3:00 PM to 3:45 PM (3 vehicles per minute).²

The challenge is this: where will those 150 vehicles go during the 10 minutes it takes for attendees to turn and get into the property?

The answer is that traffic may likely back up along Niwot Road. I calculate a backup of 5 to 10 vehicles.

The Result.

For a single event, this may not be much of an issue. The applicant, however, is requesting far more than one event. Per SU-22-0010, the applicant is requesting 24 medium and large events per year for which some significant level of traffic backup may occur.

Moreover, the applicant is requesting smaller events up to 340 days per year; some may occur twice per day. Each of these smaller events, with up to 50 guests and, possibly, a similar number of vehicles, may cause smaller traffic difficulties.

As a result, neighbors in the surrounding area will be delayed and some, such as across the street from the subject property, may not be able to get

¹ Mike Spack, "Numbers Every Traffic Engineer Should Know", [Mike on Traffic](#), December 9, 2011. Mike Spack, PE, Professional Traffic Operations Engineer (PTOE) is the recognized industry leader of traffic studies and traffic data collection. Data is based on Level of Service D/E thresholds in HCM 6th Edition. Peak hour capacity at a stop-sign controlled intersection is 35 seconds per vehicle. Based on this baseline, time to stop and cross oncoming traffic of 3 vehicles per minute is estimated to be 10 seconds.

² Transportation Impact Study, Figure 3, by Counter Measures Inc. This figure shows that approximately 150 vehicles will pass the subject property between 3:00 PM and 3:45 PM. That equates to 150 vehicles/minute / 45 minutes = 3 vehicles per minute.

out of their driveways. The backup will interrupt farm-vehicle and construction-vehicle traffic and the danger to frequent cyclists and runners will increase exponentially.

Summary.

This is an analysis of data from the Transportation Impact Study and the Large Event Timeline Example provided by the applicant.

Given this analysis, it seems that the planned activities violate Boulder County Land Use Code, Article 4-516 "Accessory Uses", paragraph N "Farm Events", Item 5c. That is, the proposed activities will "negatively impact the neighboring parcels and traffic".

Conclusion.

We propose that SU-22-0010 (revised) violates Boulder County Land Use Code.

Dan Moorer and Beth Potter
5050 Niwot Road, Longmont

From: [Cliff Watts](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] SU-22-0010, Prairie Orchard at 5114 Niwot Road
Date: Sunday, April 9, 2023 11:54:32 AM

Pete,

Please oppose this project.

I have been a resident and home owner in Brigadoon Glens for the last seventeen years. I chose to purchase my residence because of its location. This neighborhood is quiet and has a very low traffic volume.

Residents walk on the local roads daily. There are no sidewalks in this neighborhood. Drivers are polite and avoid walkers, their dogs and horses. Increased traffic, especially by non-residents, will very negatively impact and endanger walkers, runners and cyclists. As I assume you are aware, our area has remained a haven for runners and cyclists. Most are individuals but many are organized groups that center on and around the Boulder Reservoir, a more appropriate event complex.

Allowing this project to proceed will endanger many of the above participants enjoying these activities. The proposed project will not only increase traffic in the area, but also the number of distracted and impaired drivers. As a retired Emergency Department Physician from our local hospital, I am certain of this opinion.

This is one of the quietest residential neighborhoods in the county. This is another primary reason for me choosing to live here. The proposed project will negatively affect all of the local residents. A more appropriate venue would be in a high density area, not a rural residential area where people live to avoid the crowds, noise and traffic.

This is a residential/farming area that should not be compromised by a non-agricultural commercial development for their benefit, while stealing our personal rights and privileges, especially on this small lot. I do not think this proposal is in keeping with the county master plan objectives or intentions.

Please oppose this proposed development. The venue is simply not appropriate for an event center.

Clifford Watts, MD
6500 Robin Drive
Longmont, CO 80503-8710
Cliff.kilowatts@gmail.com

From: [Nancy Newton](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] SU-22-0010,Prarie Orchard at 5114 Niwot
Date: Sunday, April 9, 2023 12:41:29 PM

To All Whom This May Concern,

Please oppose this project.

Given the nature of the area in which this project is proposed, its impact will have significantly negative effects on the nearby neighborhoods. Brigadoon Glen, for example, has no sidewalks, and is used daily by runners, walkers, and cyclists who would all be endangered by the greater volume of motor traffic.

The nature of an events center would exponentially increase the traffic in a quiet, rural neighborhood which is the reason many who live here chose it. This area is residential/farming property. There is no reason a non-agricultural commercial development should be allowed to proceed here. It is simply not an appropriate venue for an events center.

Nancy Newton
6500 Robin Drive

From: [Ed Byrne](#)
To: [L"Orange, Pete](#)
Subject: [EXTERNAL] Comments in Opposition to Docket SU-22-0010, Prairie Orchard, 5114 Niwot Road
Date: Wednesday, April 12, 2023 9:56:26 AM

Dear Pete,

I am working with a group of Niwot Road neighbors who are opposed to approval of the Reception Hall and Vacation Rental application filed by Prairie Orchard, LLC. For the following reasons, I would like to recommend not only that the application be denied, but that Boulder County seriously reconsider allowing Reception Halls and Community Meeting Facilities in the Agricultural zone district.

Unlawful Expansion of Use on a Substandard Lot.

The Prairie Orchard proposal is an entirely inappropriate expansion of the current use of 5114 Niwot Road as a single family residence. The intensity is out of character with the surrounding neighborhood, particularly when situated on the 3.6-acre lot created in 1953 (Rec. No. 5305437, recorded 8/14/1953), which has been nonconforming in the Agricultural zone district since October 11, 1965, when the district's minimum lot size was increased to 5 acres. For more than half a century, at least 5 acres was required for a lot to be deemed lawful in the Agricultural zone district, and on August 21, 1978, the minimum lot size was increased to 35 acres. LUC §4-1003(C)(3) provides:

Owners of legal building lots containing agricultural uses, which have become nonconforming as a result of adoption or amendment of this Code, may restore, modify, and maintain existing conforming structures, and may construct new conforming structures, **provided such structures are directly related to the agricultural use, and provided the use is not enlarged or altered in any other way.**

Conversion of the structures and use from their historic and current single family residential and farm use to a Reception Hall, with all of its attendant negative impacts, is an impermissible enlargement and alteration of a nonconforming use, instead of a change "only to a use which is conforming in the zoning district in which the use is located." LUC §4-1003(D).

Need for a Moratorium on Approval of Reception Halls and Community Meeting Facilities in the Agricultural Zone District

The Niwot Neighbors have observed that several other reception halls and community meeting facilities have popped up in their near vicinity – a growth in such businesses that is unprecedented in their experience. It is a fair question to ask why? A brief comparison of how this use is handled in the Code, LUC §4-504(G), versus Farm Events, LUC §4-516(N) may explain their popularity:

Farm Events were added to support Boulder County's agricultural community, but neighborhood concerns resulted in the placement of tight limits on their potential off-site impacts, significantly reducing their upside profit-making potential. They are allowed to "provide an opportunity to showcase their farm and crops, introduce their customers to the farm, demonstrate their farming practices, and host community oriented events that provide marketing opportunities to the farm and help diversity farmers' incomes in a way that is low-impact on the land and neighboring property owners." LUC §4-516(N)(1). Possible events include farm-to-table dinners, weddings, wedding receptions, and any other gatherings, provided "the majority of the food served at the event is made with ingredients grown or raised in Boulder County or by the host farmer(s). Ibid. But wait! There's more:

- No more than 12 Farm Events per calendar year are permitted by right. LUC §4-516(N)(2)(a).
- 13 to 24 Farm Events per calendar year requires Limited Impact Special Review. LUC §4-516(N)(2)(c).
- 25 or mor requires Special Review. LUC §4-516(N)(2)(d).

Additional Provisions:

- Open Agriculture must be the Principal Use of the parcel, LUC §4-516(N)(5)(b).
- (T)he use must occur on a parcel large enough to accommodate the use, parking, and sanitary facilities in a manner that does not negatively impact the neighboring parcels and traffic and the Principal Use of the parcel itself.” LUC §4-516(N)(5)(c).
- No event will occur before 9 a.m. or after 10 p.m. LUC §4-516(N)(5)(d), and,
- *Every Farm Event* with more than 99 people (no more than 12 per year, above) may only occur after Special Authorization from the Zoning Administrator is obtained, following notice to neighbors within 1,500 feet and a 14 day comment period. LUC §4-516(N) (5)(g).

Reception Halls and Community Meeting Facilities are a “Community Use” defined as a “facility for the holding of events including but not limited to weddings, wedding receptions, community meetings, and group gatherings,” LUC §4-504(G)(N), allowed by Special Review in the Agricultural zone district. The ONLY listed requirement is one parking space per 30 square feet of floor area. LUC §4-504(G)(3). There are NO listed “additional provisions.” That’s it. Special Review is no walk in the park, but the Review Criteria are all, effectively, negotiable. County staff does not have a list of use-specific requirements similar in any way, shape or form to those applicable to Farm Events, *even though the potential on-site impacts on the land and off-site impacts on neighboring property owners are virtually identical in Boulder County’s rural areas.*

The Prairie Orchard application suffers from this lack of specific standards and proves at least two things:

1. It is time for Boulder County to place a moratorium on granting Special Review approval of Reception Halls and Community Meeting Facilities unless and until a thorough and comprehensive analysis of their off-site impacts is completed
2. Clear and unambiguous limits on the size, frequency and intensity of any proposed Reception Hall and Community Meeting Facility use need to be developed, adopted and enforced to protect Boulder County’s rural land, environmental resources, and residential neighborhood character.

Farm Events benefit Boulder County’s agricultural community, which needs support. The same community benefit argument cannot be made for Reception Halls and Community Meeting Facilities. They are a purely commercial use that benefits the proprietor, but imposes negative externalities on their neighbors.

If the Prairie Orchard Reception Hall and Community Meeting Facility, as proposed, is approved on this 3.65-acre undersized parcel, the precedent set will eviscerate the County’s ability in the future to deny or limit any similar proposal. The extraordinary intensity of this proposal is the virtual equivalent to a 24/7/365 commercial use that belongs, if anywhere, in Boulder County’s urban service delivery areas. It certainly has no place in the Niwot Road neighborhood.

In fact, staff should have made this clear to the Applicant at their initial Pre-Application meeting.

I urge the Planning Commission to recommend denial of the Prairie Orchard application, of course, but I would go further. Ask the Board of County Commissioners to declare a moratorium on approval of Reception Halls and Community Meeting Facilities in order to take the time necessary to strengthen the regulatory provisions before processing another such application.

Thank you for your consideration in this matter.

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