



Board of Adjustment Staff Report

Meeting Date: April 2, 2026

Agenda Item: 8A

SPECIAL USE PERMIT CASE NUMBER: WSUP26-0003 (Crossbow Ct Daycare)

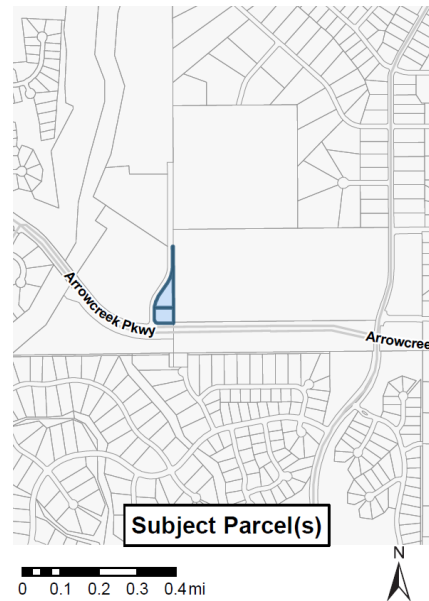
BRIEF SUMMARY OF REQUEST: A request for a child daycare and neighborhood center use type in the LDS regulatory zone.

STAFF PLANNER: Chris Bronczyk, Senior Planner
775.328.3612
cbronczyk@washoecounty.gov

CASE DESCRIPTION

For hearing, discussion, and possible action to approve a special use permit for a 7,219 square foot child daycare and a 4,800 square foot neighborhood center on two parcels totaling ±1.82 acres in the low density suburban (LDS) regulatory zone.

Applicant:	Russell Montessori LLC
Property Owner:	Hutter Family Trust
Location:	2500 and 2540 Crossbow Court
APN:	152-921-01; 152-921-02
Parcel Size:	0.774 acres; 1.073 acres
Master Plan:	Suburban Residential (SR)
Regulatory Zone:	Low Density Suburban (LDS)
Area Plan:	Southwest Truckee
Development Code:	Authorized in Article 810, Special Use Permits
Commission District:	2 – Commissioner Clark



Vicinity Map

STAFF RECOMMENDATION

APPROVE

APPROVE WITH CONDITIONS

DENY

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Special Use Permit

The purpose of a special use permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the special use permit, that approval is subject to conditions of approval. Conditions of approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e. a grading permit, a building permit, etc.)
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure
- Prior to the issuance of a business license or other permits/licenses
- Some conditions of approval are referred to as “operational conditions.” These conditions must be continually complied with for the life of the business or project.

The conditions of approval for Special Use Permit Case Number WSUP26-0003 are attached to this staff report and will be included with the action order.

The subject property is designated as Low Density Suburban (LDS). The proposed use type is a neighborhood center which is a subcategory under commercial center and is permitted in the LDS regulatory zone with an approved special use permit per WCC 110.302.05.3. The other proposed use type is a child daycare, which is permitted in the LDS regulatory zone with an approved special use permit. Therefore, the applicant is seeking approval of this SUP from the Board of Adjustment to establish both uses.

Project Evaluation

The proposed project site consists of two currently undeveloped parcels totaling ±1.82 acres. This site has had three (3) previous special use permits that were submitted in 2014, 2018, and 2020. Two (2) were approved by Washoe County and the other was withdrawn by the applicant.

The subject properties have a Master Plan designation of Suburban Residential (SR) and a regulatory zone of Low Density Suburban (LDS). The proposed development will be required to meet LDS yard setbacks which are 30 feet from the front and rear property lines and 12 feet from the side yard property lines. The proposed project site is adjacent to other properties with LDS regulatory zones to the east, north, west, and south. Immediately to the east is Marce Herz Middle School, while to the west is Hunsberger Elementary School and to the north is Sage Ridge School, a private school. Arrowcreek Park is located to the southwest of the project site.

The applicant is proposing to construct a 7,219 square foot child daycare facility and a 4,800 square foot neighborhood commercial center within the LDS regulatory zone, along with associated parking, circulation, landscaping, lighting, utilities, and stormwater improvements. The proposed uses are intended to serve the surrounding neighborhood at a scale compatible with nearby residential areas and schools. A neighborhood commercial center is a type of a commercial center (commercial use type) and is defined in Washoe County Code Chapter 110, Article 304, *Use Classification System*, as follows:

Section 110.304.25 Commercial Use Types:

Commercial use types include the distribution and sale or rental of goods, and the provision of services other than those classified as civic or industrial use types. All permanent commercial uses are required to operate from a commercial structure.

The Washoe County Development Code details what is allowed within the LDS Regulatory Zone in Article 302, Allowed Uses, and defines each use in Article 304, Use Classification System. If the Board wishes to approve the proposed special use permit to allow for a Neighborhood Center. The applicant is requesting to establish a Neighborhood center, as defined below:

- (f) Commercial Centers: Commercial centers use type refers to a group of unified commercial establishments built on a site which is planned, developed, owned and managed as an operating unit. The following are commercial center use types:
 - (1) Neighborhood Centers: Neighborhood centers refer to sales of convenience goods (foods, drugs and sundries) **and** personal services, those which meet the daily needs of an immediate neighborhood trade area. A neighborhood center typically includes convenience retail and services a population of 2,500 to 40,000 people, typically has a service area radius of one-half to one-and-one-half miles, and has a typical range of 15,000 to 50,000 square feet of gross leasable area.

Commercial use types allowed or permitted within the LDS regulatory zone are allowed as a main use within the neighborhood center. Other types of commercial uses may be permitted as an ancillary use within a neighborhood center, specifically personal services which is not typically allowed in the LDS regulatory zone but is called out explicitly within the development code as an allowable use within neighborhood centers. Therefore, any

personal services must be part of a mix of convenience and personal services. Staff have determined that any proposed personal services use type shall not exceed 50% of the total building footprint to meet the intent of the neighborhood center use definition. Any personal services use type is limited to 2,400 square feet.

The definition of personal services can be found below.

Personal Services: Personal services use type refers to establishments primarily engaged in the provision of informational, instructional, personal improvement, and similar services of a non-professional nature, but excludes services classified as commercial recreation or lodging services. Typical uses include photography studios, yoga studios, driving schools, and weight loss centers.

Development will occur in two phases: Phase 1 will construct the daycare and site improvements (anticipated completion Q2 2027), and Phase 2 will construct the neighborhood center, with each phase designed to operate independently and meet County requirements.

The proposed daycare facility can serve up to 111 children between the ages of 18 months and 6 years. The proposed hours of operation are from 7:30am to 5:30pm. Standard hours will be 8:30am to 2:30pm with extended daycare options from 7:30am to 8:30am and 2:30pm to 5:30pm to accommodate parental schedules. The daycare facility is expecting up to 14 staff members.

The neighborhood center component is 4,800 square feet and is designed to accommodate up to 4 tenants. The application states that specific tenants have not been identified, the center is anticipating support of approximately 6 employees based on parking demand calculations. The neighborhood center will operate during standard business hours.

Parking and Screening

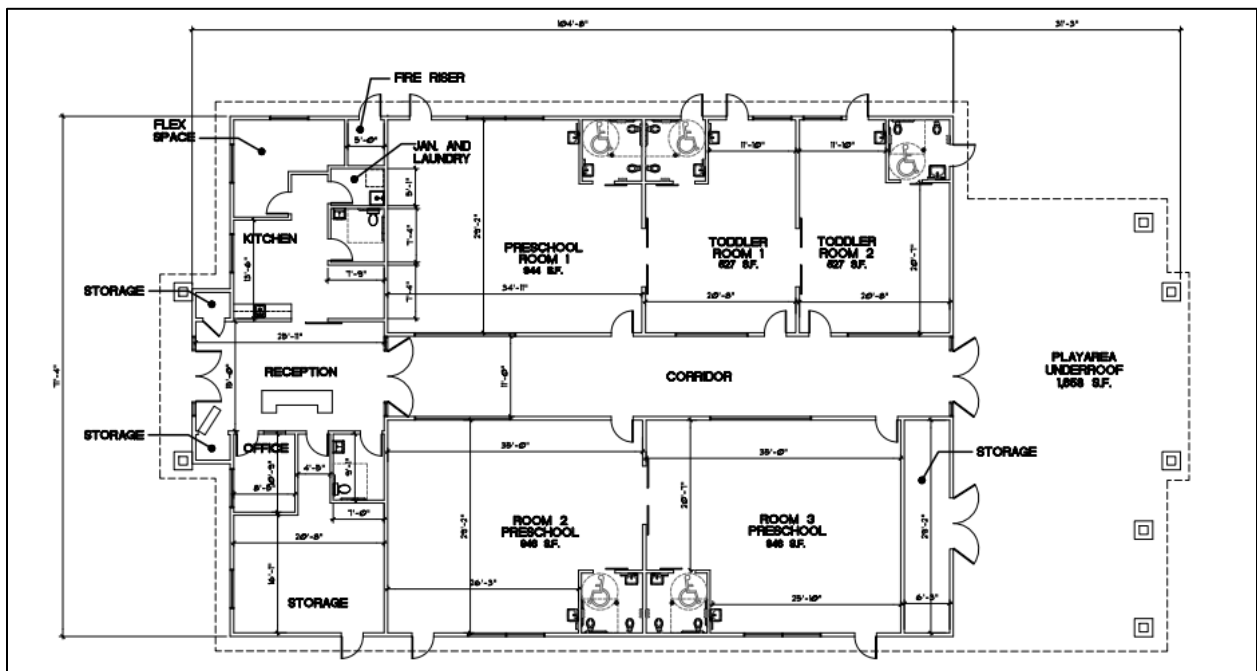
WCC Section 110.410.10, *Required Parking Spaces*, and WCC Table 110.410.10.3, *Off-Street Parking Space Requirements*, requires, for child daycares, 1 parking space per employee, 1 loading spot per 8 students, and 1 space per 1,000 feet if assembly hall is included. Commercial centers which include a neighborhood center, for structures less than 15,000 square feet, 5 parking spaces per 1,000 square feet of a building. The applicant is proposing 55 total parking spaces between the 2 use types. Since there is no assembly hall included as part of the proposal, the 55 spaces provided exceed the 48 total spaces required.

Site Elevations and Floor Plan:

The applicants provided site elevation and floor plans for the proposed daycare center. Those are shown below:



Site Elevations



Floor Plan

Traffic Flow/Access

The Traffic Impact Study estimates that the proposed development will generate approximately 988 average daily vehicle trips, including approximately 88 trips during the AM peak hour and 118 trips during the PM peak hour. Project-related trips are expected to be distributed throughout the peak hour rather than concentrated in short drop-off or pick-up windows typical of school operations.

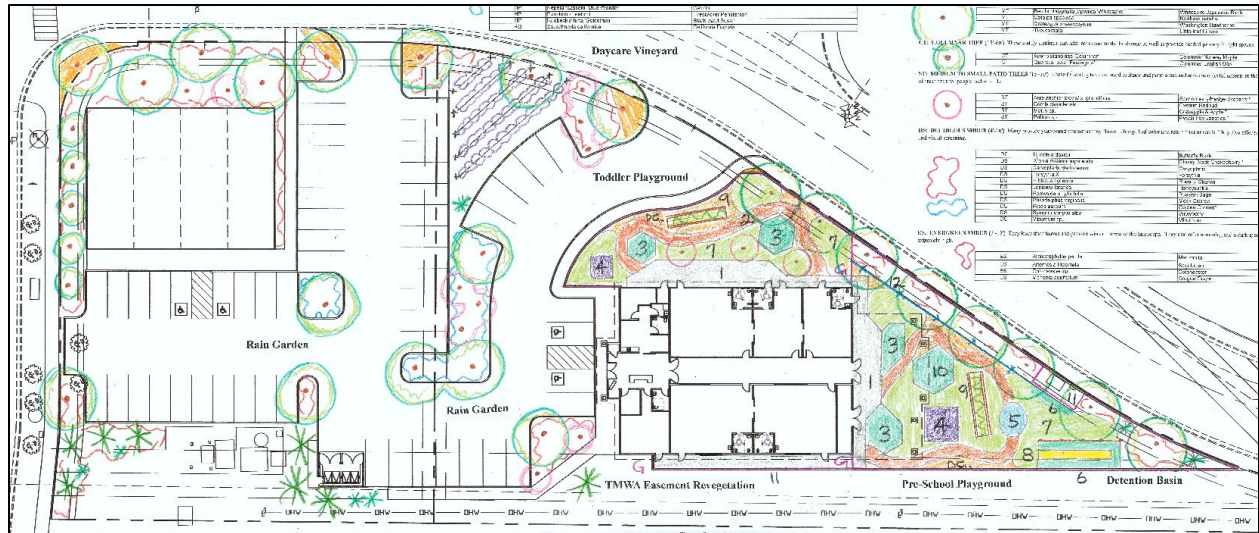
The site is located within an area that already experiences concentrated school-related traffic activity, particularly during weekday morning and afternoon peak periods associated with student drop-off and pick-up. These existing traffic patterns were recognized and evaluated as part of the project's traffic analysis.

Based on the analysis of site access operations and surrounding roadway conditions, several traffic control improvements are recommended to support safe circulation and pedestrian connectivity in the area. These improvements include:

- Installation of a "No Parking Any Time" sign along the project frontage on Crossbow Court.
- Installation of a marked pedestrian crosswalk across Crossbow Court at the intersection with the Hunsberger Elementary School north access and the project access drive
- Construction of ADA-compliant pedestrian curb ramps at the crosswalk termini consistent with Washoe County standards.
- A "STOP" sign with associated pavement markings is recommended for the westbound egress at the project access drive.
- All required on-site and off-site signage and striping improvements will be incorporated into the project's civil improvement plans and will conform to the applicable standards of the Manual on Uniform Traffic Control Devices (MUTCD) and Washoe County requirements.

Landscaping

A preliminary landscape plan has been provided as part of the application. Per Washoe County Code Section 110.412.40, a minimum of 20% of the total developed land area shall be landscaped and 20% of the 1.81-acre site is 12,600 square feet. Additionally, 1 tree every 50 linear feet of street frontage is required. The landscaping plan as submitted appears to meet the requirements set forth in Article 412.



Lighting

All on-site lighting must adhere to Washoe County’s lighting requirements, including down shielded lights and not allowing for spillover onto adjoining properties, per the Washoe County Development Code Section 110.414.21. Light poles cannot exceed 12 feet in total height if within 100 feet of a residentially zoned property. All lighting must comply with Article 414, Noise and Lighting Standards. A condition of approval has been included that requires an updated lighting plan with a photometric plan be submitted at building permit stage that conforms to code standards.

Grading

A total of 4,261 cubic yards of cut and 2,326 cubic yards of fill is anticipated at this site, of which 1,935 cubic yards is expected to be exported. The site will have a total disturbance area of 67,000 square feet. Most of the disturbed area will be covered by buildings, parking, paving, and ornamental landscaping.

Southwest Truckee Meadows Area Plan Modifiers

WCC Chapter 110, Article 214, *Southwest Truckee Meadows Area*, has one section applicable to this proposed application:

Section 110.214.10 Height Restrictions – In addition to height restrictions established in Article 402, Density/Intensity Standards, and Article 406, Building Placement Standards, all new commercial structures in commercial or residential regulatory zones are limited to two stories in height, not to exceed thirty-five (35) feet in height. If the underlying building pad has a slope in excess of fifteen (15) percent, an additional six (6) feet shall be added to the thirty-five (35) foot maximum.

Staff Comment: The applicant has proposed the height of the daycare to be 21 feet 7 inches, which is under the thirty-five (35) foot maximum building height. Therefore, the proposed day care is in conformance with this requirement. The neighborhood center will also be required to meet this code section.

Neighborhood Meeting

The applicant conducted a neighborhood meeting on January 14, 2026. The neighborhood meeting participants expressed concerns about the height of the proposed structures, site lighting and down shield lighting, and traffic during peak pickup and drop-off hours of the three (3) adjacent schools.

Reviewing Agencies

The following agencies/individuals received a copy of the project application for review and evaluation.

Agencies	Sent to Review	Responded	Provided Conditions	Contact
NDOT (Transportation)	X			
Washoe County Building & Safety	X			
Washoe County Parks & Open Space	X	X		
Washoe County Traffic	X	X	X	Mitch Fink, MFink@washoecounty.gov
Washoe County Water Rights Manager (All Apps)	X	X		
WCSO Law Enforcement	X			
Washoe County Engineering (Land Development) (All)	X	X	X	Rob Wimer, rwimer@washoecounty.gov; Janelle Thomas, jkthomas@washoecounty.gov
Washoe County Engineering & Capital Projects Director (All Apps)	X			
NNPH Air Quality	X			
NNPH EMS	X	X	X	No specific contact - emsprogram@washoecounty.gov
NNPH Environmental Health	X			
TMFPD	X	X	X	Richard Edwards: ; Jen Donohue
Washoe County School District (All TMs)	X	X	X	Brett Rodela, Brett.Rodela@WashoeSchools.net; Kyle Chisholm; Kyle.Chisholm@washoeschools.net
Human Services Agency (Day Care)	X			

The project application was also sent to the Nevada State Fire Marshal Division, the Fire Marshal Division responded and provided conditions of approval. Safe Routes to Schools provided a request for the installation of a Rectangular Rapid Flashing Beacon (RRFB) at the newly constructed crosswalk on Crossbow Court to ensure higher safety standards for students. The applicants have agreed to complete the requested improvement (Exhibit C). All conditions required by the contacted agencies can be found in Exhibit A, Conditions of Approval.

Staff Comment on Required Findings

WCC Section 110.810.30, Article 810, *Special Use Permits*, requires that all of the following findings be made to the satisfaction of the Washoe County Board of Adjustment before granting approval of the request. Staff has completed an analysis of the special use permit application and has determined that the proposal is in compliance with the required findings as follows.

- (a) Consistency. That proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Southwest Truckee Meadows Planning Area.

Staff Comment: The proposed child daycare (7,219 sq. ft.) and neighborhood center (4,800 sq. ft.) on two LDS-zoned parcels are

consistent with the Master Plan and the Southwest Truckee Meadows Planning Area. Under Article 302 (Allowed Uses), child daycare and neighborhood center uses are permitted in LDS with a Special Use Permit; the application advances neighborhood-serving services in proximity to existing schools and residential areas, consistent with the area plan's intent for compatible, small-scale services within suburban neighborhoods.

- (b) Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.

Staff Comment: Adequate public facilities and infrastructure are available or can be extended to serve the proposed development. The project will connect to existing water, sewer, electrical, sanitation, and emergency service systems available in the area. Stormwater will be managed on-site in accordance with Washoe County standards as demonstrated in the submitted Drainage Memorandum, and the project will utilize existing roadway infrastructure.

- (c) Site Suitability. That the site is physically suitable for neighborhood center and child daycare, and for the intensity of such a development.

Staff Comment: The parcel's size, configuration, access layout, and level topography allows the site to accommodate the proposed buildings, parking areas, circulation, and related site improvements. The project includes controlled access, adequate on-site parking, and internal circulation designed to safely support pick-up, drop-off, and daily operations associated with a child daycare facility. The project's building heights remain below the Area Plan cap of 35 feet (daycare proposed at 21 feet, 7 inches)

- (d) Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

Staff Comment: As proposed and with the conditions of approval, the proposed uses are expected to create minimal impacts and not cause significant detriment or injury to the public, adjacent properties, or surrounding area.

- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Staff Comment: No military installations are located within the required noticing distance; ; consequently, issuance of the permit will not have a detrimental effect on the location, purpose, or mission of any military installation.

Recommendation

After a thorough analysis and review, Special Use Permit Case Number WSUP26-0003 is recommended for approval with conditions. Staff offers the following motion for the Board’s consideration.

Motion

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP26-0003 for Russell Montessori LLC, with the conditions included as Exhibit A to this matter, having made all five findings in accordance with Washoe County Code Section 110.810.30:

- (a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Southwest Truckee Meadows Planning Area;
- (b) Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;
- (c) Site Suitability. That the site is physically suitable for a neighborhood center and child daycare, and for the intensity of such a development;
- (d) Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area;
- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Appeal Process

Board of Adjustment action will be effective 10 calendar days after the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant.

Applicant: Russell Montessori LLC

Property Owner: Hutter Family Trust



Conditions of Approval

Special Use Permit Case Number WSUP26-0003

The project approved under Special Use Permit Case Number WSUP26-0003 shall be carried out in accordance with the conditions of approval granted by the Board of Adjustment on April 2, 2026. Conditions of approval are requirements placed on a permit or development by each reviewing agency. These conditions of approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this special use permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division.

Compliance with the conditions of approval related to this special use permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the special use permit may result in the institution of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “ conditions of approval” are referred to as “operational conditions.” These conditions must be continually complied with for the life of the project or business.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Planning and Building Division

1. The following conditions are requirements of Planning and Building, which shall be responsible for determining compliance with these conditions.

Contact Name – Chris Bronczyk, Senior Planner, 775.328.3612, cbronczyk@washoecounty.gov

- a. **The applicant shall attach a copy of the action order approving this project to all permits and applications (including building permits) applied for as part of this special use permit.**
- b. **The applicant shall include a condition response memorandum with each subsequent permit application. That memorandum shall list each condition of approval, shall provide a narrative describing how each condition has been complied with, and the location of the information showing compliance with each condition within the improvement plan set that has been submitted.**
- c. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit.
- d. The applicant shall submit construction plans, with all information necessary for comprehensive review by Washoe County, and all applicable building permits shall be issued within two years from the date of approval by Washoe County. The applicant shall complete construction within the time specified by the building permits.
- e. A note shall be placed on all construction drawings and grading plans stating:

NOTE

Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

- f. Construction hours are 7am to 7pm Monday through Saturday. Any construction machinery activity or any noise associated with the construction activity are also limited to these hours.
- g. Prior to operation, a business license shall be obtained for the new use.
- h. The following **Operational Conditions** shall be required for the life of the business:
 - i. This special use permit shall remain in effect until or unless it is revoked or is inactive for one year.
 - ii. Failure to comply with any of the conditions of approval shall render this approval out of conformance and subject to revocation.
 - iii. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the **special use** permit to meet with

Planning and Building to review conditions of approval prior to the final sale of the site and/or the **special use** permit. Any subsequent purchaser/operator of the site and/or the **special use** permit shall notify Planning and Building of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

- iv. This special use permit shall remain in effect as long as the business is in operation and maintains a valid business license.
- v. Personal Services use types shall not exceed 50% of the total square footage of the building
- vi. All tenants and/or property owner(s) of the neighborhood center shall obtain all required licensure from Washoe County Business License prior to opening for any and all business operations.

Washoe County Engineering and Capital Projects

- 2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Rob Wimer, Professional Engineer, 775.328.2059, rwimer@washoecounty.gov

GENERAL CONDITIONS

Contact Information: Robert Wimer, P.E. (775) 328-2059

- a. The applicant shall include a condition response memorandum with each subsequent permit application. That memorandum shall list each condition of approval, shall provide a narrative describing how each condition has been complied with, and the location of the information showing compliance with each condition within the improvement plan set that has been submitted.
- b. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed to be conveyed onto adjacent property.
- c. Operations and Maintenance (O&M) Manual: The developer shall submit an O&M manual for use by the Landscape Maintenance Association (LMA), Homeowners' Association (HOA), or sub association thereof, that identifies ongoing and long-term maintenance of infrastructure items including, but not necessarily limited to, private roadways, graded slopes, private storm drainage infrastructure, landscaping, community amenities, retaining walls, rockery walls, and pedestrian sidewalks or pathways within common open space areas for review and approval by the County Engineer prior to the approval of any grading or building permit for this project. The O&M manual shall address inspection frequency, storm intensity triggers for inspection and/or repair, types of equipment to be used for the operation and maintenance of the common open space area improvements, and a site plan that graphically depicts the access

points and features that will be owned and maintained by the LMA or HOA, or sub association thereof.

GRADING (COUNTY CODE 110.438)

Contact Information: Robert Wimer, P.E. (775) 328-2059

- a. Final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submitting the subsequent individual building permits.
- b. Prior to acceptance of public improvements and release of any financial assurances, the developer shall provide as-built construction drawings in an acceptable digital format prepared by a civil engineer and/or surveyor licensed in the State of Nevada.
- c. A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the project development. Grading shall comply with best management practices (BMPs) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan.
- d. Any existing easements, facilities, or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate.
- e. Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project.
- f. Add the following note to the building permit application civil improvement plans: "All public utilities shall be placed underground, except in the case where underground placement of utilities is shown not to be feasible, in which case the County Engineer may approve exceptions to this requirement."
- g. With each affected building permit application, provide written approval from all utility provider(s) for any improvements located within their easement, or under or over their facilities.
- h. Appropriate easements shall be granted for any existing or new utilities, with each affected building permit application.
- i. A 10-foot public utility easement (PUE), public use easement for sidewalks, and Washoe County traffic control signage and plowed snow storage easement shall be granted adjacent to all rights-of-way.
- j. Slope easements shall be provided for areas of cut or fill that fall outside of the project boundary.

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

Contact Information: Robert Wimer, P.E. (775) 328-2059

- a. A detailed hydrology/hydraulic report, in conformance with the standards included in the Truckee Meadows Regional Drainage Manual, prepared by a professional engineer licensed in the State of Nevada shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates, and flood limits of all 5- and

100-year storm flows impacting onsite and offsite areas and the methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations, including a discussion of mitigation measure design for any impacts on existing offsite drainage facilities and properties. Additionally, any increase in storm water runoff resulting from the development and based upon the 5- and 100-year storms shall be detained on site and attenuated to existing flow rates for discharge to the satisfaction of the County Engineer.

- b. The following note shall be added to the construction drawings; “All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties.”

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

Contact Information: Mitchell Fink, P.E. (775) 328-2050

- a. All roadway improvements necessary (including but not limited to, curb, gutter, sidewalk, signing and striping, driveway access, and street lighting) to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.
- b. A detailed traffic report shall be prepared by a registered engineer and shall address driveway locations and turning movements, delivery truck patterns and movements, and provide recommendations on acceleration/deceleration lanes, storage lanes, and access control. The County Engineer shall be responsible for determining compliance with this condition and the traffic improvements that are required.
- c. The applicant shall design the southern project access to be an entrance median controlled right-in only access, and the northern access may be designed as a full movement access. This condition shall be approved by the County Engineer prior to the issuance of a building permit.
- d. The applicant shall design “No Parking” signs to be installed along the property frontage on Crossbow Ct. to the satisfaction of the County Engineer.
- e. The applicant shall design and install a pedestrian crosswalk at the north project access and provide ADA-compliant pedestrian ramps and MUTCD compliant signage and striping per the Traffic Impact Study recommendations. The applicant shall additionally install RRFBs at the pedestrian crossing of Crossbow Court in conformance with the requirement to install these devices in a letter from Washoe County School District (WCSD) Safe Routes to School (SRTS) dated 2-20-2026 and acceptance from the applicant in a letter dated 3-16-2026 to the satisfaction of the County Engineer. These improvements shall be constructed and accepted prior to the issuance of the first Certificate of Occupancy to the satisfaction of the County Engineer.
- f. A safe walkway route, including any required pedestrian crossings and appurtenances, shall be provided for all pedestrians which satisfy the WCSD

Washoe County Conditions of Approval

Safe Route to School requirements. A pedestrian walkway plan shall be approved by the County Engineer prior to the issuance of the building permit.

- g. The applicant shall submit an encroachment and excavation permit application, including temporary traffic control plans for review and approval for any construction within Washoe County Right of Way prior to commencement of construction.

UTILITIES (County Code 422 & Sewer Ordinance)

Contact Information: Katrina Pascual, P.E. (775) 954-4648

- a. All necessary utilities shall be stubbed beyond the edge of pavement for future development to the satisfaction of the County Engineer.
- b. The applicant shall conform to all conditions imposed by intergovernmental agreements required to provide sewer and reclaim water service to the subject project, and, if required, be a party to any such agreements.
- c. The applicant shall conform to all Washoe County utility design standards, including but not limited to, gravity sewer collection system, lift station design, and reclaim water design.

Truckee Meadows Fire Protection District

3. The following condition is a requirement of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with this condition.

**Contact Name – Jen Donohue, Fire Plans Examiner, JDonohue@tmfpd.us
Jenny Williamson, Fire Marshal, 775-326-6005, JeWilliamson@tmfpd.us**

- a. Provide fire apparatus access
- b. Depending on the type of construction and fire flow, additional fire hydrants may be required
- c. Project will require a fire sprinkler system and fire alarm system
- d. If there is a commercial kitchen, a kitchen hood suppression system may be required
- e. Construction plans (architectural, electrical, plumbing, and mechanical) shall be submitted to the Nevada State Fire Marshal Division for review and permits. Sprinkler system, Fire alarm system, and kitchen hood suppression system shall be deferred submittals.
- f. Plans shall be designed to the currently adopted codes and standards

Washoe County EMS Program

4. The following condition is a requirement of the Washoe County EMS Program, which shall be responsible for determining compliance with this condition.

**Contact Name – April Miller, Senior Office Specialist, 775.326.6049,
ALMiller@nnph.org**

Washoe County Conditions of Approval

- a. The applicant shall submit a comprehensive emergency response plan prior to operations. The comprehensive emergency response plan shall be approved by Washoe County EMS and then submitted to Washoe County Planning for review.

Nevada State Fire Marshall Division

5. The following condition is a requirement of the Nevada State Fire Marshal Division, which shall be responsible for determining compliance with this condition.

**Contact Name – Jenny Williams, Plans Examiner II, 775.684.7527,
jwilliamson@dps.state.nv.us**

- a. Provide fire apparatus access
- b. Depending on the type of construction and fire flow, additional fire hydrants may be required
- c. Project will require a fire sprinkler system and fire alarm system
- d. If there is a commercial kitchen, a kitchen hood suppression system may be required
- e. Construction plans (architectural, electrical, plumbing, and mechanical) shall be submitted to the Nevada State Fire Marshal Division for review and permits. Sprinkler system, Fire alarm system, and kitchen hood suppression system shall be deferred submittals.
- f. Plans shall be designed to the currently adopted codes and standards

*** End of Conditions ***



Date: March 16, 2026

To: Chris Bronczyk, Senior Planner

From: Janelle K. Thomas, P.E., C.F.M., Senior Licensed Engineer
Robert Wimer, P.E., Licensed Engineer

Re: Special Use Permit for **Crossbow Ct Daycare WSUP26-0003**
APN 152-921-01, 02

GENERAL PROJECT DISCUSSION

Washoe County Engineering staff have reviewed the above referenced application. The Special Use Permit is for the construction of a daycare and is located on approximately 1.82 acres at the intersection of Crossbow Court and Arrowcreek Parkway. The Engineering and Capital Projects Division recommends approval with the following comments and conditions of approval which supplement the applicable County Code and are based upon our review of the site and the application prepared by Tectonics Design Group. The County Engineer shall determine compliance with the following conditions of approval.

For questions related to sections below, please contact the staff's name referenced.

GENERAL CONDITIONS

Contact Information: Robert Wimer, P.E. (775) 328-2059

Discussion:

1. Applicant shall indicate on the plans the specific location/business exported materials will be taken and a grading permit shall be obtained for the import site.
2. Exported materials shall not be sold without the proper business license.

Conditions:

1. The applicant shall include a condition response memorandum with each subsequent permit application. That memorandum shall list each condition of approval, shall provide a narrative describing how each condition has been complied with, and the location of the information showing compliance with each condition within the improvement plan set that has been submitted.
2. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed to be conveyed onto adjacent property.

3. Operations and Maintenance (O&M) Manual: The developer shall submit an O&M manual for use by the Landscape Maintenance Association (LMA), Homeowners' Association (HOA), or sub association thereof, that identifies ongoing and long-term maintenance of infrastructure items including, but not necessarily limited to, private roadways, graded slopes, private storm drainage infrastructure, landscaping, community amenities, retaining walls, rockery walls, and pedestrian sidewalks or pathways within common open space areas for review and approval by the County Engineer prior to the approval of any grading or building permit for this project. The O&M manual shall address inspection frequency, storm intensity triggers for inspection and/or repair, types of equipment to be used for the operation and maintenance of the common open space area improvements, and a site plan that graphically depicts the access points and features that will be owned and maintained by the LMA or HOA, or sub association thereof.

GRADING (COUNTY CODE 110.438)

Contact Information: Robert Wimer, P.E. (775) 328-2059

Discussion:

1. No walls shall be allowed in easements, and no grading is allowed within 2 feet of the property line. The application depicts a proposed wall at the south property line and is within a PUE and abutting the back edge of the public sidewalk.

Conditions:

1. Final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submitting the subsequent individual building permits.
2. Prior to acceptance of public improvements and release of any financial assurances, the developer shall provide as-built construction drawings in an acceptable digital format prepared by a civil engineer and/or surveyor licensed in the State of Nevada.
3. A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the project development. Grading shall comply with best management practices (BMPs) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan.
4. Any existing easements, facilities, or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate.
5. Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project.
6. Add the following note to the building permit application civil improvement plans: "All public utilities shall be placed underground, except in the case where underground placement of utilities is shown not to be feasible, in which case the County Engineer may approve exceptions to this requirement."

7. With each affected building permit application, provide written approval from all utility provider(s) for any improvements located within their easement, or under or over their facilities.
8. Appropriate easements shall be granted for any existing or new utilities, with each affected building permit application.
9. A 10-foot public utility easement (PUE), public use easement for sidewalks, and Washoe County traffic control signage and plowed snow storage easement shall be granted adjacent to all rights-of-way.
10. Slope easements shall be provided for areas of cut or fill that fall outside of the project boundary.

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

Contact Information: Robert Wimer, P.E. (775) 328-2059

Conditions:

1. A detailed hydrology/hydraulic report, in conformance with the standards included in the Truckee Meadows Regional Drainage Manual, prepared by a professional engineer licensed in the State of Nevada shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates, and flood limits of all 5- and 100-year storm flows impacting onsite and offsite areas and the methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations, including a discussion of mitigation measure design for any impacts on existing offsite drainage facilities and properties. Additionally, any increase in storm water runoff resulting from the development and based upon the 5- and 100-year storms shall be detained on site and attenuated to existing flow rates for discharge to the satisfaction of the County Engineer.
2. The following note shall be added to the construction drawings; "All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

Contact Information: Mitchell Fink, P.E. (775) 328-2050

Discussion:

1. Sight distance triangles shall be shown on the plans at the driveway access points to verify AASHTO sight distance requirements. The application depicts trees within the anticipated sight distance triangles.

Conditions:

1. All roadway improvements necessary (including but not limited to, curb, gutter, sidewalk, signing and striping, driveway access, and street lighting) to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.

2. A detailed traffic report shall be prepared by a registered engineer and shall address driveway locations and turning movements, delivery truck patterns and movements, and provide recommendations on acceleration/deceleration lanes, storage lanes, and access control. The County Engineer shall be responsible for determining compliance with this condition and the traffic improvements that are required.
3. The applicant shall design the southern project access to be an entrance median controlled right-in only access, and the northern access may be designed as a full movement access. This condition shall be approved by the County Engineer prior to the issuance of a building permit.
4. The applicant shall design “No Parking” signs to be installed along the property frontage on Crossbow Ct. to the satisfaction of the County Engineer.
5. The applicant shall design and install a pedestrian crosswalk at the north project access and provide ADA-compliant pedestrian ramps and MUTCD compliant signage and striping per the Traffic Impact Study recommendations. The applicant shall additionally install RRFBs at the pedestrian crossing of Crossbow Court in conformance with the requirement to install these devices in a letter from Washoe County School District (WCSD) Safe Routes to School (SRTS) dated 2-20-2026 and acceptance from the applicant in a letter dated 3-16-2026 to the satisfaction of the County Engineer. These improvements shall be constructed and accepted prior to the issuance of the first Certificate of Occupancy to the satisfaction of the County Engineer.
6. A safe walkway route, including any required pedestrian crossings and appurtenances, shall be provided for all pedestrians which satisfy the WCSD Safe Route to School requirements. A pedestrian walkway plan shall be approved by the County Engineer prior to the issuance of the building permit.
7. The applicant shall submit an encroachment and excavation permit application, including temporary traffic control plans for review and approval for any construction within Washoe County Right of Way prior to commencement of construction.

UTILITIES (County Code 422 & Sewer Ordinance)

Contact Information: Katrina Pascual, P.E. (775) 954-4648

Conditions:

1. All necessary utilities shall be stubbed beyond the edge of pavement for future development to the satisfaction of the County Engineer.
2. The applicant shall conform to all conditions imposed by intergovernmental agreements required to provide sewer and reclaim water service to the subject project, and, if required, be a party to any such agreements.
3. The applicant shall conform to all Washoe County utility design standards, including but not limited to, gravity sewer collection system, lift station design, and reclaim water design.

**WASHOE COUNTY SCHOOL DISTRICT
POLICE DEPARTMENT**

425 East Ninth Street P.O. Box 30425



**SAFE
ROUTES
TO SCHOOL**

Date: February 20, 2026

Chris Bronczyk, Senior Planner
Washoe County Community Services Department
Planning and Building Division
1001 E. 9th Street Reno, NV 89512

RE: Request for Installation of Rectangular Rapid Flashing Beacon (RRFB) – Crossbow Court Crosswalk

Dear Mr. Bronczyk,

Safe Routes to School (SRTS) is requesting the installation of a Rectangular Rapid Flashing Beacon (RRFB) at the newly constructed crosswalk on Crossbow Court. This request is being made to ensure the highest standards of safety for students traveling to and from campus.

While the addition of the crosswalk is a welcome improvement, the current uncontrolled nature of this crossing remains a significant point of concern.

The primary objective of this request is to enhance driver awareness and pedestrian visibility. Federal Highway Administration (FHWA) data and various traffic safety studies indicate that RRFBs are among the most effective tools for uncontrolled crossings. Specifically:

- **Crash Reduction:** RRFBs can reduce pedestrian-related crashes by up to **47%**.
- **Driver Compliance:** Studies show that motorist yielding rates can increase to as high as **98%** following installation.

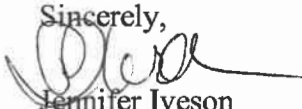
The crosswalk on Crossbow Court is situated within a corridor characterized by concentrated, school-related activity. During weekday peak periods, the area experiences heavy congestion associated with drop-off and pick-up of several schools.

Safe Routes to School is specifically requesting this infrastructure because children are among the most vulnerable pedestrians. At an uncontrolled location like Crossbow Court, an RRFB provides the necessary active warning to drivers that a child is entering the roadway. Relying on passive signage alone in a high-traffic school zone is insufficient to protect our students.

This proactive measure will mitigate the risks associated with school-hour traffic and ensure a truly "safe route" for our children.

Thank you for your time and consideration of our request.

Sincerely,



Jennifer Iveson

Program Coordinator, Safe Routes to School

Jennifer.Iveson@washoeschools.net

(775)333-3782



February 27, 2026

The following are my comments from a pre-development review. If you have any questions or concerns, please feel free to contact Jenny Williamson, Fire Marshal.

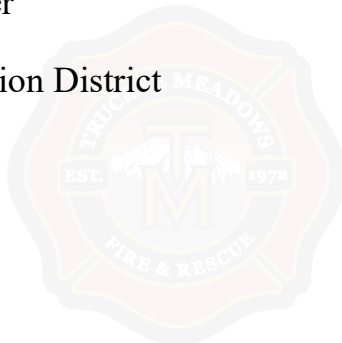
Pre-school:

1. Provide fire apparatus access
2. Depending on the type of construction and fire flow, additional fire hydrants may be required
3. Project will require a fire sprinkler system and fire alarm system
4. If there is a commercial kitchen, a kitchen hood suppression system may be required
5. Construction plans (architectural, electrical, plumbing, and mechanical) shall be submitted to the Nevada State Fire Marshal Division for review and permits. Sprinkler system, Fire alarm system, and kitchen hood suppression system shall be deferred submittals.
6. Plans shall be designed to the currently adopted codes and standards.

Jen Donohue

Contracted Fire Plans Examiner

Truckee Meadows Fire Protection District



Joe Lombardo
Governor



George Togliatti
Director

Kristi Defer
Deputy Director

Nevada State Fire Marshal Division

Joseph Rodriguez
State Fire Marshal

Stewart Facility
107 Jacobsen Way
Carson City, Nevada 89711
Telephone (775) 684-7501 - Fax (775) 684-7518

February 18, 2026

The following are my comments from a pre-development review. If you have any questions or concerns, please feel free to contact me.

Pre-school:

1. Provide fire apparatus access
2. Depending on the type of construction and fire flow, additional fire hydrants may be required
3. Project will require a fire sprinkler system and fire alarm system
4. If there is a commercial kitchen, a kitchen hood suppression system may be required
5. Construction plans (architectural, electrical, plumbing, and mechanical) shall be submitted to the Nevada State Fire Marshal Division for review and permits. Sprinkler system, Fire alarm system, and kitchen hood suppression system shall be deferred submittals.
6. Plans shall be designed to the currently adopted codes and standards

Jenny Williamson
Plans Examiner II
Nevada State Fire Marshal
775-684-7527
jwilliamson@dps.state.nv.us

Capitol Police • Highway Patrol • Investigations • Parole and Probation • State Fire Marshal • Training Division
• Office of Traffic Safety • Office of Professional Responsibility • Office of Criminal Justice Assistance
• Records, Communications and Compliance • Office of Cyber Defense Coordination • Emergency Response Commission



Date: February 26, 2026

To: Chris Bronczyk, Senior Planner

From: Timber Weiss, P.E., Licensed Engineer

Re: Special Use Permit Case Number WSUP26-0003 (Crossbow Ct Daycare)

GENERAL PROJECT DISCUSSION

For hearing, discussion, and possible action to approve a special use permit for child daycare and neighborhood center in low density suburban regulatory zone.

The Community Services Department (CSD) recommends approval of this project with the following Water Rights conditions:

No water rights conditions for this permit. Applicant shall comply with TMWA requirements for new businesses.

From: [Program, EMS](#)
To: [Bronczyk, Christopher](#)
Cc: [Program, EMS](#)
Subject: FW: February Agency Review Memo I - Special Use Permit Case Number WSUP26-003 (Crossbow Ct Daycare)
Date: Thursday, February 26, 2026 8:45:35 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[February Agency Memo I.pdf](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image009.png](#)
[image010.png](#)
[image011.png](#)

Good Morning,

The EMS Program has reviewed the February Agency Review Memo I - Special Use Permit Case Number WSUP26-003 (Crossbow Ct Daycare), and would recommend a comprehensive emergency response plan. Otherwise, the Program has no concerns or questions at this time based on the information provided.

Thank you



April Miller
Sr. Office Specialist
Population Health Division

O: [775-326-6049](tel:775-326-6049)
1001 E Ninth St. Bldg. B Reno, NV 89512

NNPH.org | [f](#) [f](#) [@](#) [X](#) [in](#)

[Click here to take our customer satisfaction survey](#)

From: [Pekar, Faye-Marie](#)
To: [Bronczyk, Christopher](#)
Subject: Special Use Permit Case Number WSUP26-0003 (Crossbow Ct Daycare)
Date: Tuesday, March 3, 2026 11:59:55 AM
Attachments: [Outlook-kd5jkjpa.png](#)
[Outlook-uglgwyv.png](#)
[Outlook-ircyze04.png](#)
[Outlook-mskpsta.png](#)
[Outlook-ln2rl1fm.png](#)

Hi Chris,

I have reviewed Special Use Permit Case Number WSUP26-0003 (Crossbow Ct Daycare) on behalf of Regional Parks and Open Space Division and do not have any comments.

Thank you,

Faye-Marie



Faye-Marie L. Pekar, MPA, CPRP
Park Planner
Community Services Department | Regional Parks and Open Space
fpekar@washoecounty.gov | 775.328.3611
1001 East Ninth Street, Reno, NV 89512



Have some kudos to share about a Community Services Department employee or experience? Submit a nomination for a Washoe Star by clicking this link: [WASHOE STAR](#)



March 16th, 2026

Chris Bronczyk, Senior Planner
Washoe County Community Services Department
Planning and Building Division
1001 E. 9th Street
Reno, NV 89512

Re: Crossbow Court Daycare and Neighborhood Center

Dear Mr. Bronczyk,

On behalf of the applicant, we acknowledge receipt of the Safe Routes to School Program's letter requesting installation of a Rectangular Rapid Flashing Beacon (RRFB) at the Crossbow Court crosswalk for our proposed development and Special Use Permit application.

The applicant acknowledges this request and is willing to accept the proposed condition of approval requiring the design and installation of a pedestrian crosswalk at the north project access along Crossbow Court, including ADA-compliant pedestrian ramps and MUTCD compliant signage and striping consistent with the Traffic Impact Study recommendations. The applicant will also install RRFBs at the pedestrian crossing of Crossbow Court as requested by the Safe Routes to School Program. These improvements will be incorporated into the project plans and submitted as part of the building permit review process. The applicant will coordinate with Washoe County to ensure the improvements are designed and constructed to the satisfaction of the County Engineer and completed prior to issuance of the first Certificate of Occupancy.

Sincerely,

A handwritten signature in black ink that reads "Veronica Sharma".

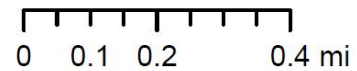
Veronica Sharma | Planner | **Tectonics Design Group**
730 Sandhill Rd, Suite 250 | Reno, Nevada 89521
(775) 234-5142 | www.tectonicsdesigngroup.com

Public Notice

Washoe County Code requires that public notification for a variance must be mailed to a minimum of 30 separate property owners within a minimum 500-foot radius of the subject property a minimum of 10 days prior to the public hearing date. A notice setting forth the time, place, purpose of hearing, a description of the request and the land involved was sent within a 1,000-foot radius of the subject property. A total of 34 separate property owners were notified a minimum of 10 days prior to the public hearing date.



3/17/2026



Public Notice Map

Special Use Permit Case Number WSUP26-0003

**APPLICATION FOR
SPECIAL USE PERMIT**

**FOR
Crossbow Court Daycare &
Neighborhood Center
Washoe County, NV**

Address:

2500 & 2540 Crossbow Court
Reno, NV 89511

Parcel Number (APN):

152-921-01 and 152-921-02

Prepared for:

Russell Montessori LLC
2510 E Sunset Road, Str. 6-147
Las Vegas, NV 89120

Prepared by:



730 Sandhill Road, Suite 250
Reno, Nevada 89521

February 9th, 2026

**WSUP26-0003
EXHIBIT E**

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- Fg-4. Existing Master Plan Designation
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Appendix

- A – Application
- B – Civil Plans
- C – Landscape Plans
- D – Architectural Site and Lighting Plan
- E – Elevations, Floor Plans
- F – Drainage Memo
- G – Traffic Impact Study

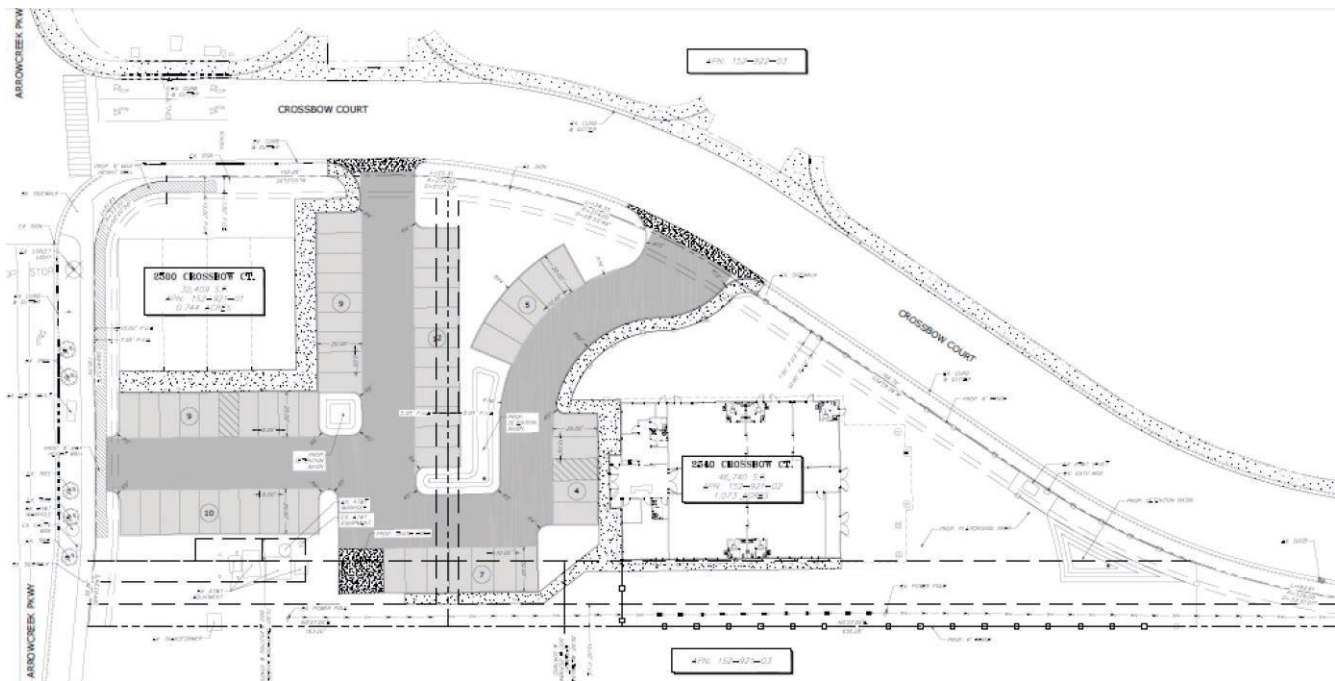
1 Project Description

The Crossbow Court Daycare & Neighborhood Center project proposes development of a child daycare facility and a neighborhood center commercial use on two vacant parcels located at 2500 and 2540 Crossbow Court in Washoe County. The site consists of APNs 152-921-01 and 152-921-02, totaling approximately 1.82 acres, and is zoned Low Density Suburban (LDS).

The project includes a 7,219 square-foot child daycare facility and a 4,800 square-foot neighborhood center, along with associated site improvements including parking, internal circulation, landscaping, lighting, utilities, and stormwater management. The proposed uses are intended to serve the surrounding neighborhood and operate at a scale compatible with nearby residential development and schools.

Development is proposed in two phases. Phase 1 includes site improvements and construction of the daycare facility, with anticipated completion in Q2 2027. Phase 2 includes construction of the neighborhood center. Each phase is designed to function independently and comply with applicable County requirements.

Figure 1 : Site Plan



2 Site and Surrounding Context

The project site consists of two vacant parcels totaling approximately 1.82 acres, located along Crossbow Court within the Arrowcreek neighborhood area of Washoe County. The

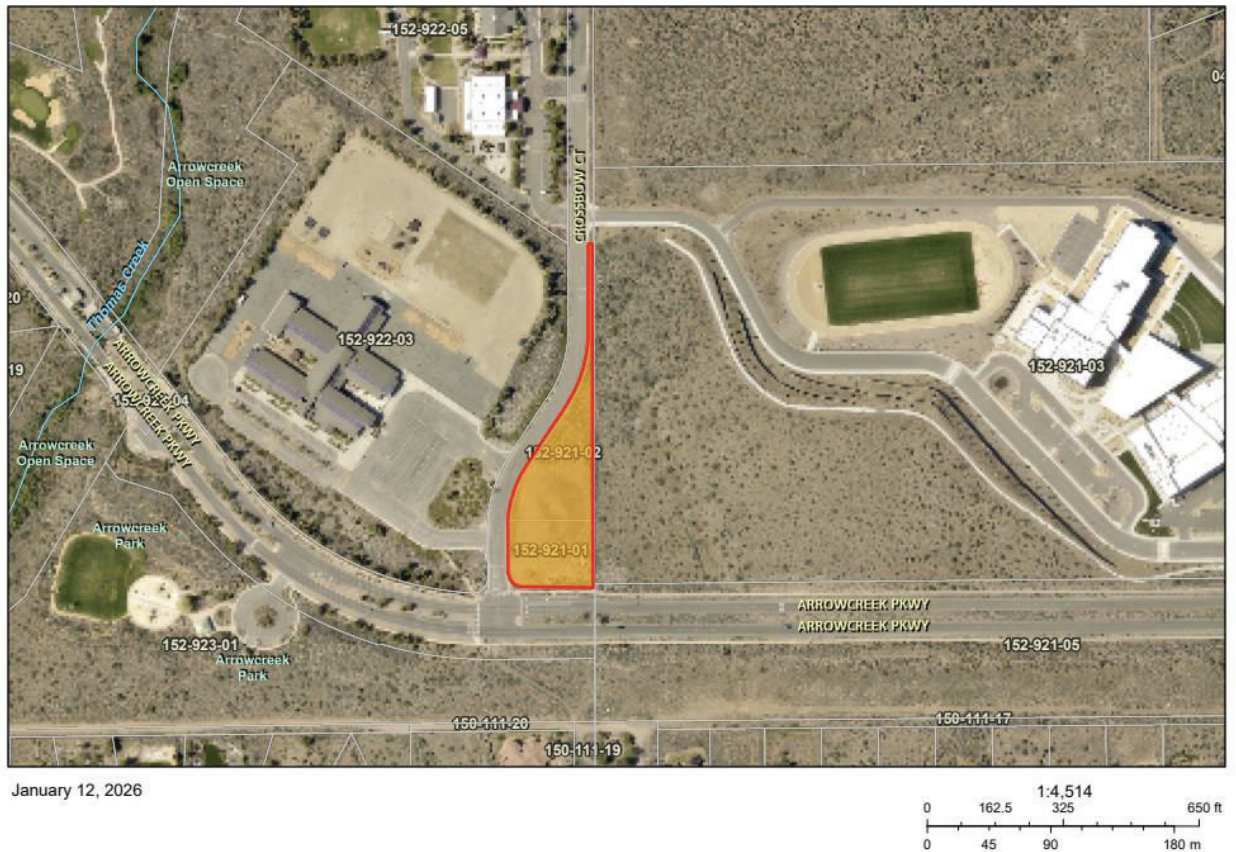
surrounding area is characterized by established residential neighborhoods and nearby schools, which informed the project's neighborhood-serving scale and overall site planning approach.

Arrowcreek Parkway functions as the primary arterial roadway serving the broader Arrowcreek neighborhood. Crossbow Court intersects Arrowcreek Parkway and serves as a local roadway, providing access primarily to nearby schools. This roadway hierarchy establishes Crossbow Court as a neighborhood-scale street with traffic patterns largely tied to school-related activities, rather than through traffic.

The project site is zoned Low Density Suburban (LDS), a zoning district intended to accommodate low-density residential development while allowing select neighborhood-serving nonresidential uses when designed to be compatible with surrounding residential areas. The site's location within the Arrowcreek neighborhood, combined with its zoning designation, establishes a context where carefully scaled and well-designed neighborhood-serving uses are appropriate.

The parcels are currently vacant, allowing the proposed development to be planned comprehensively with respect to site layout, access, buffering, and compatibility with surrounding residential development and nearby schools.

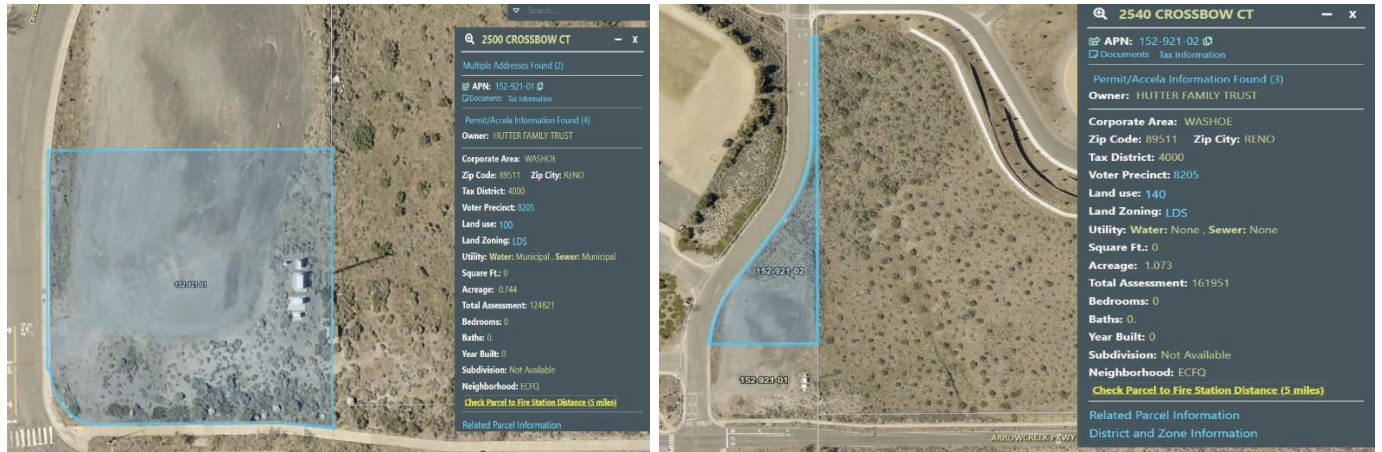
Figure 1 : Project Location



3 Consistency with the Washoe County Master Plan and Zoning

The proposed Crossbow Court Daycare & Neighborhood Center is consistent with the Washoe County Master Plan designation of Suburban Residential and the intent of the Low Density Suburban (LDS) zoning district.

Figure 2 : Existing Zoning Designation (LDS)



While the LDS zoning district is primarily intended to accommodate single-family residential development, it also allows neighborhood-serving nonresidential uses when such uses are designed to be compatible with surrounding residential development. The proposed child daycare and neighborhood center are intended to serve the immediate surrounding neighborhood and provide services that meet daily needs at a scale appropriate for the area.

The project site is located within an established residential area with nearby schools, which supports the suitability of carefully designed neighborhood-serving uses. The proposed development reflects the intent of the LDS zoning district through its scale, building placement, site layout, and operational characteristics, all of which are designed to maintain compatibility with surrounding residential uses.

Figure 3 : Existing Surrounding Zoning Designations

	Existing Zoning	Existing Master Plan	Current Land Use
North	Low Density Suburban (LDS)	Suburban Residential	Sage Ridge School
East	Low Density Suburban (LDS)	Suburban Residential	Hunsberger Elementary School
South	Low Density Suburban (LDS)	Suburban Residential	Park, Residential
West	Low Density Suburban (LDS)	Suburban Residential	Marce Herz Middle School

Applicable master plan policies supporting new development are identified below:

- o **LUT.4.1** Maintain a balanced distribution of land use patterns to:
 - o Provide opportunities for a variety of land uses, facilities and services that serve present and future population;
 - o Promote integrated communities with opportunities for employment, housing, schools, park civic facilities, and services essential to the daily life of residents.
- o **LUT.21.2** Nonresidential development shall be compatible with the nearby neighborhoods, service and facility capacities, and the surrounding environment.

Accordingly, the proposed project is consistent with the Washoe County Master Plan and the intent of the Low Density Suburban zoning district.

4 Public Facilities and Infrastructure

Adequate public facilities and infrastructure exist, or will be provided, to support the proposed development.

The project will be served by existing public utilities, including water, sewer, and power, which are available in the surrounding area and will be extended to serve the site as necessary. Solid waste service, fire protection, and emergency services are also available to serve the proposed uses.

Stormwater management for the site has been evaluated through a Drainage Memorandum prepared for the project. Existing drainage conditions consist of sheet flow across the undeveloped parcels. Post-development runoff will be collected, conveyed, and detained on-site in accordance with Washoe County standards, with controlled release to existing downstream discharge points. Post-development peak runoff rates will not exceed pre-development conditions, ensuring that drainage impacts to adjacent properties are avoided.

5 Traffic, Access, and Public Safety

Traffic conditions along Crossbow Court and at its intersection with Arrowcreek Parkway represent the primary public safety consideration associated with the proposed project. The site is located within an area that already experiences concentrated, school-related traffic activity, particularly during weekday morning and afternoon peak periods associated with school drop-off and pick-up. These existing conditions were acknowledged and evaluated as part of the project's traffic analysis.

A Traffic Impact Study (TIS) was prepared to evaluate existing and future traffic operations associated with the proposed development. The study analyzed daily and peak hour traffic volumes,

site access operations, nearby intersections, pedestrian conditions, and crash history, with specific attention given to overlapping school-related peak traffic patterns.

The TIS indicates that the proposed development is anticipated to generate approximately 988 daily trips, with 88 trips during the AM peak hour and 118 trips during the PM peak hour. Unlike school-related traffic, project-generated trips are more evenly distributed throughout the peak hour, and represent a relatively small proportion of total peak hour volumes in the study area. The analysis demonstrates that the addition of project traffic does not result in failing levels of service at any of the analyzed intersections.

Figure 4 : Trip Generation from TIS

ITE Code	Description	Size	AM Peak Hour			PM Peak Hour			Daily Trips
			In	Out	Total	In	Out	Total	
720	Medical-Dental Office Building	2,400 SF	6	2	8	2	6	8	82
930	Fast Casual Restaurant	2,400 SF	3	1	4	18	16	34	542
585	Day Care Center	96 students	40	36	76	36	40	76	364
Net Total Trips			49	39	88	56	62	118	988

Source: ITE Trip Generation Manual, 12th Edition

Vehicular access to the site is provided via two driveways from Crossbow Court, each serving a distinct function. The northern driveway is designed as a right-in only access, limiting turning movements and reducing potential conflicts along Crossbow Court, while a second driveway provides full ingress and egress to accommodate primary site access and internal circulation. On-site parking and circulation are designed to accommodate daycare drop-off and pick-up activity entirely on site, minimizing reliance on the public roadway.

Based on the traffic analysis, the TIS identifies the following safety and operational improvements, which are incorporated into the project design:

- *An R7-1 “NO PARKING ANY TIME” sign shall be installed along the project frontage on Crossbow Court.*
- *A marked pedestrian crosswalk shall be provided across Crossbow Court at the intersection of Crossbow Court and Hunsberger Elementary School North Access/Project Access Drive (A), consistent with Washoe County standards and the Manual on Uniform Traffic Control Devices (MUTCD).*
- *ADA-compliant pedestrian curb ramps shall be installed at the crosswalk termini in accordance with applicable ADA accessibility requirements and Washoe County standards.*
- *An R1-1 “STOP” sign with appropriate pavement markings shall be installed for the westbound egress at the project access drives.*

- *All on-site and off-site signing and striping improvements shall be incorporated into the civil drawings and conform to the current MUTCD, as applicable.*

With these measures in place, the Traffic Impact Study concludes that the surrounding roadway network can safely accommodate project-generated traffic. The proposed access configuration and safety improvements ensure that the project will operate in a safe and orderly manner and will not be significantly detrimental to public health or safety.

6 Site Suitability and Physical Characteristics

The physical characteristics of the site make it well suited to accommodate the proposed uses and the associated intensity of development. The project site consists of two vacant parcels totaling approximately 1.82 acres, with sufficient area and frontage along Crossbow Court to support controlled vehicular access, internal circulation, and on-site parking.

Vehicular access to the site is provided via two driveways from Crossbow Court, each serving a distinct and intentional function. The northern driveway is designed as a right-in only access, limiting turning movements and reducing potential conflicts along Crossbow Court. A second driveway provides full ingress and egress, accommodating primary site access and supporting internal circulation for the proposed uses. This access configuration establishes a clear hierarchy of movements and supports orderly site operations, including peak daycare drop-off and pick-up periods.

The site exhibits a notable topographic change, with an overall elevation drop of approximately 30 feet across the combined parcels, generally sloping from south to north. These existing grade conditions are addressed through site design and grading that respond to the natural terrain, allowing development to be accommodated entirely on-site without reliance on adjacent properties. The site's size, configuration, and topography support appropriate building placement, circulation, and buffering consistent with neighborhood-serving development.

Taken together, the site's physical characteristics including access configuration, topography, and parcel configuration demonstrate that the site is suitable for the proposed uses and capable of accommodating the associated intensity in a manner compatible with surrounding residential development.

Figure 5 : Photo of the existing site



7 Landscaping, Architecture, and Lighting

The proposed development incorporates landscaping, architectural design, and lighting features intended to enhance compatibility with the surrounding residential neighborhood and nearby schools. These elements are designed to meet or exceed applicable Washoe County Development Code standards and to provide appropriate buffering, visual interest, and pedestrian-scale design.

Landscaping

Landscaping is provided throughout the site in accordance with Washoe County requirements. Based on the preliminary Landscape Plan, the project is required to provide approximately 12,600 square feet of landscaping, and proposed landscaping meets and/or exceeds minimum code requirements.

The landscape design includes a combination of canopy trees, ornamental trees, shrubs, and groundcover, strategically located along site frontages, parking areas, and building perimeters to soften views of development and enhance compatibility with adjacent residential uses. The plan proposes approximately 55 new trees, including both shade and accent species, which contribute to visual screening, shade, and long-term site character.

Landscaping is also utilized to define pedestrian pathways, separate parking areas from buildings, and reinforce the neighborhood-scale nature of the development. All landscaping will be installed and maintained in accordance with County standards.

Figure 5 : Landscaping Area

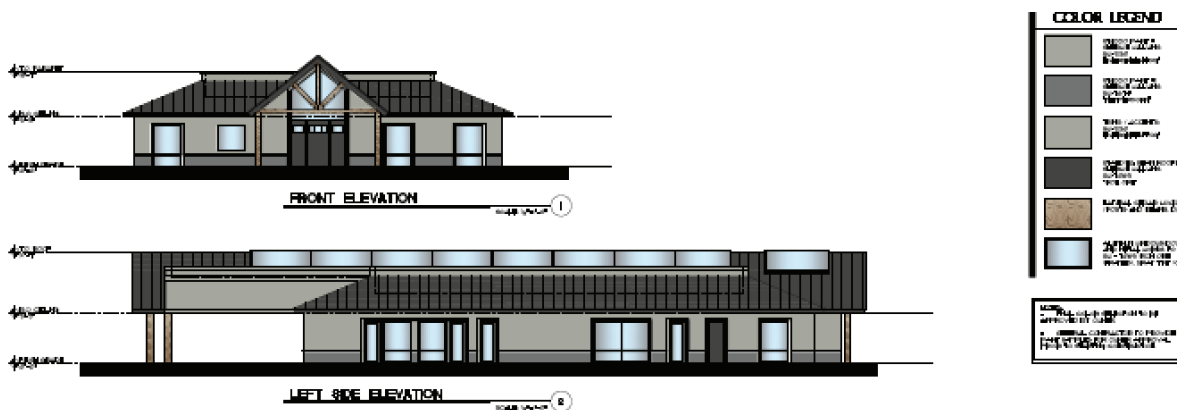


Architectural Design

Architectural elevations reflect a low-profile, neighborhood-scaled design appropriate for the surrounding Low Density Suburban area. Building massing is articulated to reduce visual bulk, with variations in rooflines, façade treatments, and material transitions.

The proposed buildings incorporate materials and finishes that are compatible with the surrounding residential character, including natural-toned exterior materials, articulated façades, and varied roof forms, as illustrated in the submitted architectural elevations. Building placement and orientation are designed to minimize visual impacts from Crossbow Court and adjacent properties while maintaining a cohesive site layout.

Figure 6 : Colored Elevation (front and side)



Lighting

Exterior lighting for the project is designed to comply with Washoe County lighting standards. All exterior light fixtures will be fully shielded and directed downward to minimize glare and light spillover onto adjacent properties.

Lighting levels are designed to provide adequate visibility for safety and security while maintaining a low-impact, neighborhood-appropriate character. Photometric plans demonstrate that light levels at property lines comply with County requirements, and all fixtures will conform to applicable dark-sky standards, as required by code.

No monument signage is proposed. Any building-mounted signage will comply with applicable Washoe County Development Code standards.

8 Community Context and Public Welfare

The proposed Crossbow Court Daycare & Neighborhood Center has been developed with consideration for the surrounding neighborhood and public welfare. As part of the project review process, the applicant conducted a neighborhood meeting to introduce the project, describe proposed site features and operations, and receive community input.

During the neighborhood meeting, key topics included traffic conditions along Crossbow Court, site access, and exterior lighting. Questions and concerns raised during the meeting were addressed directly, including discussion of the Traffic Impact Study recommendations and the project's lighting design, which incorporates shielded fixtures and compliance with Washoe County residential adjacency standards.

In addition to the neighborhood meeting, the applicant received direct communication from nearby residents expressing support for the project, including phone calls in favor of the proposed daycare and neighborhood-serving uses. The applicant has also received written testimony from parents with children attending nearby schools, expressing support for the project and identifying the benefit of having accessible childcare and neighborhood services within the community.

The proposed development responds to community input by incorporating safety-focused traffic measures, code-compliant lighting, and site design features intended to minimize impacts to adjacent properties. The project provides services that support daily neighborhood needs and contributes to public welfare by enhancing access to childcare and neighborhood-serving uses within an established residential area.

9 Findings for Approval

Pursuant to **Section 110.810.30 (Findings)** of the Washoe County Development Code, the following findings are required prior to approval of a Special Use Permit. As discussed below, each finding is satisfied by the proposed Crossbow Court Daycare & Neighborhood Center.

(a) Consistency

The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan.

As discussed in **Section 3**, the proposed daycare and neighborhood center are consistent with the Washoe County Master Plan designation of Suburban Residential and the intent of the Low Density Suburban (LDS) zoning district. The project is designed as a neighborhood-serving use at an appropriate scale and is supported by applicable Master Plan policies encouraging integrated communities and compatible nonresidential development.

(b) Improvements

Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.

As described in **Section 4**, adequate public facilities and infrastructure are available to serve the proposed development, including water, sewer, power, sanitation, and emergency services. Stormwater management has been evaluated through a Drainage Memorandum and will be managed on-site in accordance with Washoe County standards. Roadway access and related improvements are appropriately related to existing roadway conditions.

(c) Site Suitability

The site is physically suitable for the type of development and for the intensity of development.

As discussed in **Section 6**, the site's size, configuration, access layout, and topography make it physically suitable to accommodate the proposed uses and associated intensity. The project provides controlled access, on-site parking and circulation, and appropriate building placement and buffering consistent with neighborhood-serving development.

(d) Issuance Not Detrimental

Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

As detailed in **Sections 5, 7, and 8**, traffic and safety impacts have been evaluated through a Traffic Impact Study, which concludes that the surrounding roadway network can safely

accommodate project-generated traffic with the implementation of recommended safety measures. Landscaping, architectural design, and lighting are designed to maintain neighborhood character, and community outreach efforts demonstrate responsiveness to public concerns. The project will not be detrimental to public health, safety, welfare, or surrounding properties.

(e) Effect on a Military Installation

Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

The project is not located within or adjacent to a military installation, and issuance of the Special Use Permit will not have a detrimental effect on the location, purpose, or mission of any military installation.

10 Conclusion

The proposed Crossbow Court Daycare & Neighborhood Center has been designed to function as a compatible, neighborhood-serving development within the Arrowcreek area of unincorporated Washoe County. The project responds to the surrounding residential and school context through its scale, site layout, access configuration, traffic safety measures, and architectural and landscape design.

As demonstrated throughout this narrative, the project is consistent with the Washoe County Master Plan and the intent of the Low Density Suburban zoning district, is supported by adequate public facilities and infrastructure, is physically suited to the site, and will not be detrimental to the public health, safety, or welfare or to the character of the surrounding area. Community input has been considered and incorporated through project design and safety measures.

Based on the information provided and the findings outlined in Section 9, approval of the Special Use Permit for the Crossbow Court Daycare & Neighborhood Center is respectfully requested.



Veronica Sharma | Planner | **Tectonics Design Group**
730 Sandhill Rd, Suite 250 | Reno, Nevada 89521
(775) 234-5142 | www.tectonicsdesigngroup.com

Appendix A Application

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name: Crossbow Ct Daycare & Neighborhood Center			
Project Description: Special Use Permit approval requested for the construction of a Child Daycare and Neighborhood Center in Low-Density Suburban (LDS) Zoning.			
Project Address: 2500 & 2540 Crossbow Court, Reno, NV 89511			
Project Area (acres or square feet): 1.817 acres			
Project Location (with point of reference to major cross streets AND area locator): Vacant lot at the northeast corner of Arrowcreek Parkway and Crossbow Court.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
152-921-01	0.774 acres		
152-921-02	1.073 acres		
Indicate any previous Washoe County approvals associated with this application: Case No.(s). WSUP20-0009			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Hutter Family Trust		Name: Tectonics Design Group	
Address: [REDACTED]		Address: [REDACTED]	
Reno	Zip: NV 89511	[REDACTED]	Zip: NV 89521
Phone: [REDACTED]	Fax: NA	Phone: [REDACTED]	Fax: NA
Email: [REDACTED]		Email: Veronica	
Cell: NA	Other: NA	Cell: NA	Other: NA
Contact Person: Jen Hutter		Contact Person: Veronica Sharma	
Applicant/Developer:		Other Persons to be Contacted:	
Name: Russell Montessori LLC		Name:	
Address: [REDACTED]		Address:	
[REDACTED]	Zip: NV 89120		Zip:
Phone: [REDACTED]	Fax:	Phone:	Fax:
Email: [REDACTED]		Email:	
Cell: NA	Other: NA	Cell:	Other:
Contact Person: Alexandra Magliarditi		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

The applicant is requesting approval of a Special Use Permit to allow development of a Child Daycare and Neighborhood Center on two vacant parcels located at 2500 and 2540 Crossbow Court within the Low Density Suburban (LDS) zoning district. The project includes a 7,219 square-foot child daycare facility and a 4,800 square-foot neighborhood center, along with associated site improvements.

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

Site plan and additional exhibits/plans have been submitted showing all existing and proposed improvements, including buildings, parking, access and circulation, utilities, stormwater management, landscaping, lighting, and other supporting infrastructure.

3. What is the intended phasing schedule for the construction and completion of the project?

The project is proposed in two phases.
Phase 1: Site improvements and construction of the child daycare facility. Anticipated completion: Q2 2027
Phase 2: Construction of the neighborhood center building.
Each phase will function independently and will comply with applicable County requirements at the time of construction.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The site is well suited to accommodate the proposed uses due to its size, configuration, and location within an area that includes nearby schools and residential development. The site's size and configuration allow vehicle access, parking, and circulation to occur entirely on-site, supporting safe and orderly operations. These physical characteristics allow the proposed uses to function at a neighborhood-serving scale while maintaining compatibility with surrounding residences.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The proposed project will provide essential neighborhood-serving childcare and personal services that support local families and residents. By locating these services within the surrounding neighborhood, the project helps meet daily needs locally and can reduce the need for longer off-site trips. Development of the currently vacant site will introduce compatible, well-designed improvements and contribute to a more complete and functional neighborhood consistent with County planning objectives.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

The primary anticipated impact associated with the project is increased vehicular activity during peak drop-off and pick-up periods of nearby schools. Traffic conditions have been evaluated through a Traffic Impact Study, which concludes that the surrounding roadway network can safely accommodate the proposed use. Recommended measures, including on-site circulation design, parking provision, and targeted traffic control and pedestrian safety improvements, are incorporated to support safe and orderly operations.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

Landscaping, parking, and lighting are designed to comply with applicable Washoe County Development Code requirements and are shown on the submitted plans. Parking is provided on-site to serve the proposed uses, and exterior lighting will be fully shielded and directed downward to minimize glare and light spillover. No monument signage is proposed. Any building-mounted signage will comply with applicable Washoe County signage standards.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
------------------------------	--

9. Utilities:

a. Sewer Service	Trcukee Meadows Water Reclamation Facility (TMWRF)
b. Electrical Service	NV Energy
c. Telephone Service	AT&T or Spectrum
d. LPG or Natural Gas Service	NV Energy
e. Solid Waste Disposal Service	Waste Management
f. Cable Television Service	Spectrum
g. Water Service	Truckee Meadows Water Authority (TMWA)

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #	Not Applicable	acre-feet per year	Not Applicable
i. Certificate #	Not Applicable	acre-feet per year	Not Applicable
j. Surface Claim #	Not Applicable	acre-feet per year	Not Applicable
k. Other #	Not Applicable	acre-feet per year	Not Applicable

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

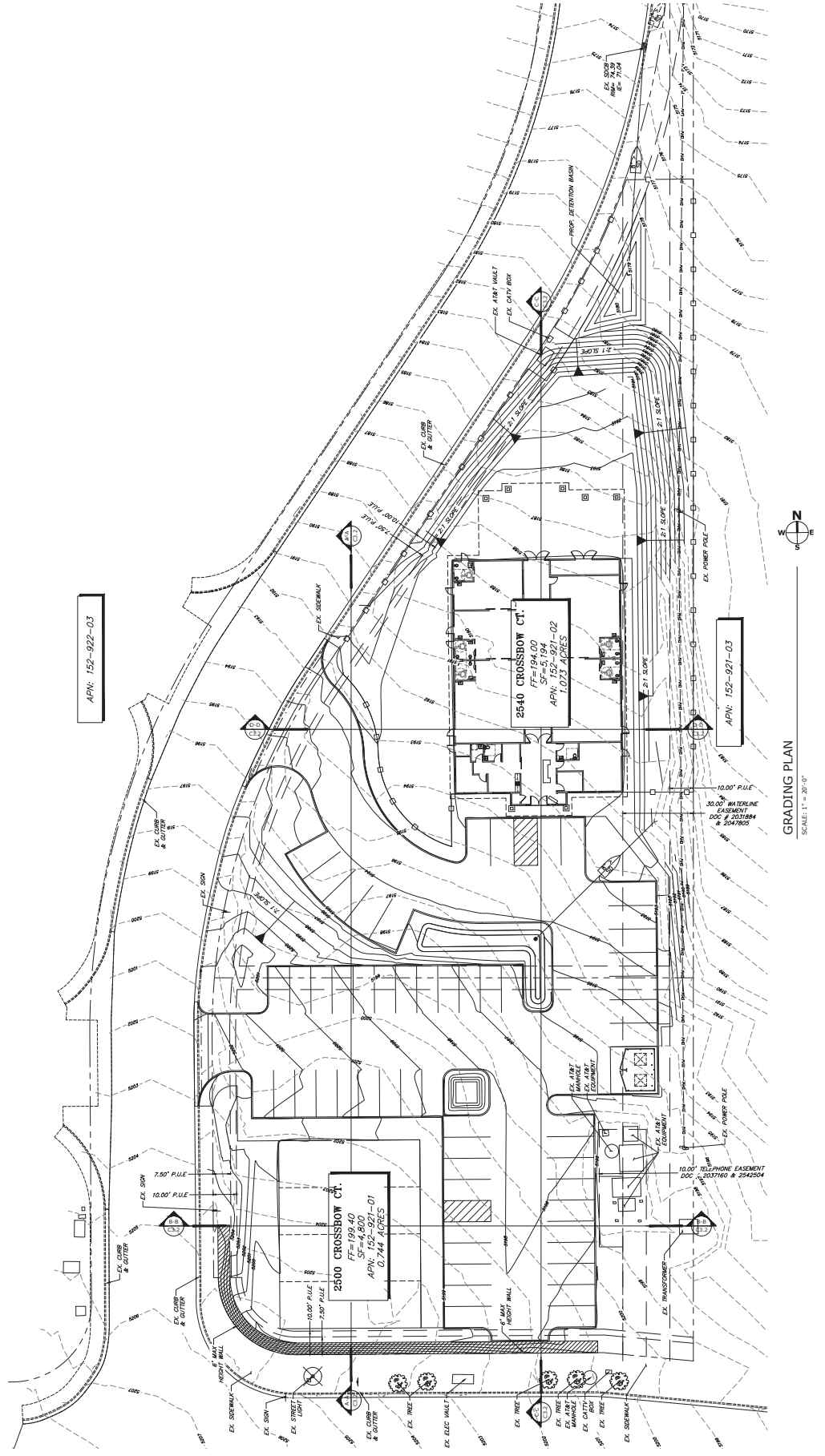
TMWA will serve this site and if needed water rights will be purchased during project permitting
--

10. Community Services (provided and nearest facility):

a. Fire Station	Washoe County Fire Protection District – Fire Station No. 30 (Damonte Ranch)
b. Health Care Facility	Renown South Meadows Medical Center & ER at Damonte Ranch
c. Elementary School	Hunsberger Elementary School and Sage Ridge School
d. Middle School	Marce Herz Middle School
e. High School	Galena High School
f. Parks	South Valleys Regional Park
g. Library	South Valleys Library
h. Citifare Bus Stop	S Virginia Street and Damonte Ranch Parkway Bus Stop

Appendix B

Civil Plans



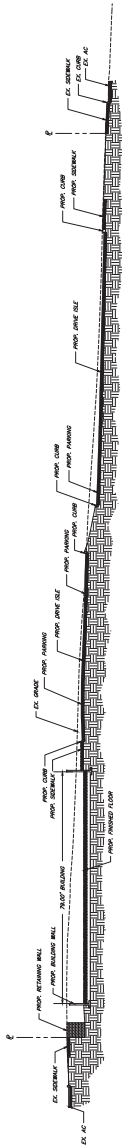
ESTIMATED EARTHWORK QUANTITIES TO SUB-GRADE:
 CUT: 4,397 CY OUT
 TOTAL: 4,397 CY EARTH
 CONTRACTOR IS RESPONSIBLE TO CONSTRUCT PROJECT TO UNIFORM AND GRADES AS SHOWN ON THE PLAN.
 ESTIMATED AREA TO BE DISTURBED: 61,000 SF
 DISTURBED AREA: 61,000 SF

- NOTES:**
1. REFERENCE "GENERAL NOTES" ON SHEET 02.1
 2. REFERENCE "DIMENSIONS" ON SHEET 02.1
 3. REFERENCE "ELEVATIONS" ON SHEET 02.1
 4. ADD 5000 TO ALL FINISHED GRADE OR INVERT ELEVATIONS
 5. ALL SLOPES GREATER THAN 3:1 SHALL BE TREATED WITH 6.5' KEEP & 6" PITCH STRIPS

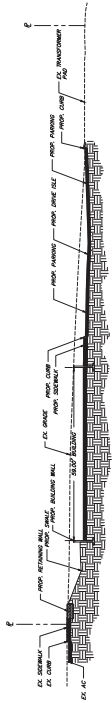
- EROSION CONTROL NOTES:**
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE, MAINTAIN AND REMOVE EROSION CONTROL MEASURES THROUGHOUT CONSTRUCTION.
 2. INSTALL SEDIMENT FENCE AND PERMITS EROSION CONTROL MEASURES PRIOR TO BEGINNING CONSTRUCTION.
 3. LEAVE WATER VEGETATION UNDISTURBED OUTSIDE AREAS OF CONSTRUCTION.
 4. MAINTAIN EROSION CONTROL MEASURES AS REQUIRED DUE TO WEATHER OR CONSTRUCTION CHANGES.
 5. SEE EROSION CONTROL DETAIL SHEETS FOR ADDITIONAL NOTES AND DETAILS.
 6. LOCATION OF EROSION FACILITIES SHOWN ARE APPROXIMATE. CONTRACTOR TO FIELD PLACE PER CONSTRUCTION RECOMMENDATIONS.
 7. CONTRACTOR TO MECHANICALLY BRIDGE SEDIMENT FROM ROAD AND SHALL NOT WASH IT DOWN STORM SEWERS.

GRADING PLAN
 SCALE: 1" = 20'-0"

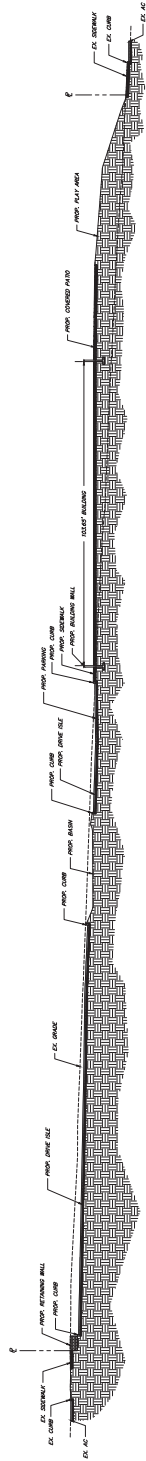
2 DAYS BEFORE YOU DIG CALL USA TOLL FREE 1-800-227-2600



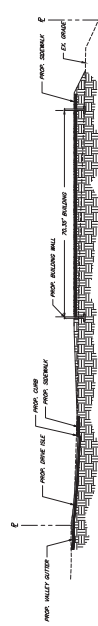
CROSS SECTION A-A
SCALE: 1" = 20'-0"



CROSS SECTION B-B
SCALE: 1" = 20'-0"



CROSS SECTION C-C
SCALE: 1" = 20'-0"



CROSS SECTION D-D
SCALE: 1" = 20'-0"

DESIGNER: A 119 B
 CHECKED BY: J P B
 ALL DRAWINGS HEREON ARE THE PROPERTY OF TECTONICS DESIGN GROUP AND MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF TECTONICS DESIGN GROUP.

DESIGNER: A 119 B
 CHECKED BY: J P B
 LICENSED PROFESSIONAL ENGINEER
 STATE OF NEW YORK
 PROFESSIONAL ENGINEERING
 LICENSE NO. 101817

TECTONICS DESIGN GROUP
 270 Sandhill Road, Suite 250, Reno, NV 89511
 Tel: 775-824-9988 Fax: 775-824-9986
 www.tectonicsdesigngroup.com

DESIGNER: A 119 B
 CHECKED BY: J P B
 LICENSED PROFESSIONAL ENGINEER
 STATE OF NEW YORK
 PROFESSIONAL ENGINEERING
 LICENSE NO. 101817

**CROSSBOW CT.
 DAYCARE**
 2500 & 2540 Crossbow Ct.
 Reno, NV 89511

PROJECT/CLIENT:	25123
DATE:	02/06/26
SUBMITTAL:	SUP
CITY APPROVAL:	
SHEET TITLE:	GRADING PROFILES
SHEET:	C3.2

Appendix C

Landscape Plans

Notes

- Landscape shall be installed to meet requirements in Washoe County Development Code Article 412.
- The proposed irrigation system shall be NetSulf drip hose under mulch zoned to reflect plant water needs.
- Harvest topsoil with crushed native shrubs and grasses then stockpiled for later use.
- Most plants are selected to attract pollinators.
- Water conservation techniques include:
 - Waterwise plants
 - Group plants based on water needs
 - Water harvesting
 - Mulch all bare areas with 4" wood grindings
 - Use soil amendments based on existing soil
 - Revegetation of TMWA's easement with seed and tubling plants irrigated with temporary drip system.

GC: CROSSBOW DAYCARE (17) Plans for this daycare are to be installed in the existing building footprint. These typically low-growing plants are suitable for container and living walls. Use a variety of colors and textures to create visual interest. Use good quality soil and water.

V: YUKON Spruce or Redwood. Use in areas with high humidity and high humidity. Use in areas with high humidity and high humidity.

IP: HERBACEOUS PERENNIALS/SHRUBS/GARDEN PLANTS - These plants are valued for their colorful flowers and attractive foliage. Many have a pleasant aromatic fragrance. Use in areas with high humidity and high humidity.

ET: EVERGREEN TREES (15-25) They provide structure, privacy, and shade. They also provide background for flowering trees and shrubs. Evergreen pine trees are suitable for this area.

ET: EVERGREEN TREES (15-25) They provide structure, privacy, and shade. They also provide background for flowering trees and shrubs. Evergreen pine trees are suitable for this area.

ET: EVERGREEN TREES (15-25) They provide structure, privacy, and shade. They also provide background for flowering trees and shrubs. Evergreen pine trees are suitable for this area.



Crossbow Daycare Preliminary Plantlist & Notes

ROW	PLANT NAME	QUANTITY	NOTES
01	AGAVE FOXTAIL	10	Low growing, drought tolerant.
02	AGAVE NEOTOMIENSIS	10	Low growing, drought tolerant.
03	AGAVE PARVIFLORA	10	Low growing, drought tolerant.
04	AGAVE SCHOTTII	10	Low growing, drought tolerant.
05	AGAVE SPINOSA	10	Low growing, drought tolerant.
06	AGAVE VICTORIAE	10	Low growing, drought tolerant.
07	AGAVE Yucca	10	Low growing, drought tolerant.
08	AGAVE	10	Low growing, drought tolerant.
09	AGAVE	10	Low growing, drought tolerant.
10	AGAVE	10	Low growing, drought tolerant.
11	AGAVE	10	Low growing, drought tolerant.
12	AGAVE	10	Low growing, drought tolerant.
13	AGAVE	10	Low growing, drought tolerant.
14	AGAVE	10	Low growing, drought tolerant.
15	AGAVE	10	Low growing, drought tolerant.
16	AGAVE	10	Low growing, drought tolerant.
17	AGAVE	10	Low growing, drought tolerant.
18	AGAVE	10	Low growing, drought tolerant.
19	AGAVE	10	Low growing, drought tolerant.
20	AGAVE	10	Low growing, drought tolerant.

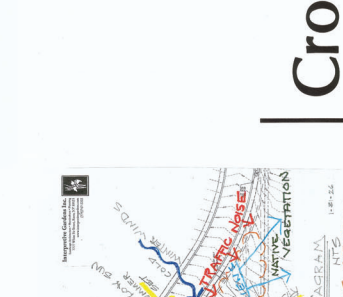
Crossbow Daycare Landscape Calculations & Notes

Total Site Area:	79,149
Developed Area:	63,000 sf
Required Landscape Area:	20%
Required Landscape Area:	12,600 sf
TMWA Easement to be revegetated:	16,149 sf
Plants to be installed:	42 Trees Required
Plants to be installed:	55 Shrubs Planned
Plants to be installed:	252 Shrubs Required
Plants to be installed:	350 Shrubs, Vines, Perennial Flowers
Plants to be installed:	35 Planned
Plants to be installed:	Plants selected to withstand periodic flooding

Crossbow Daycare Playground Legend

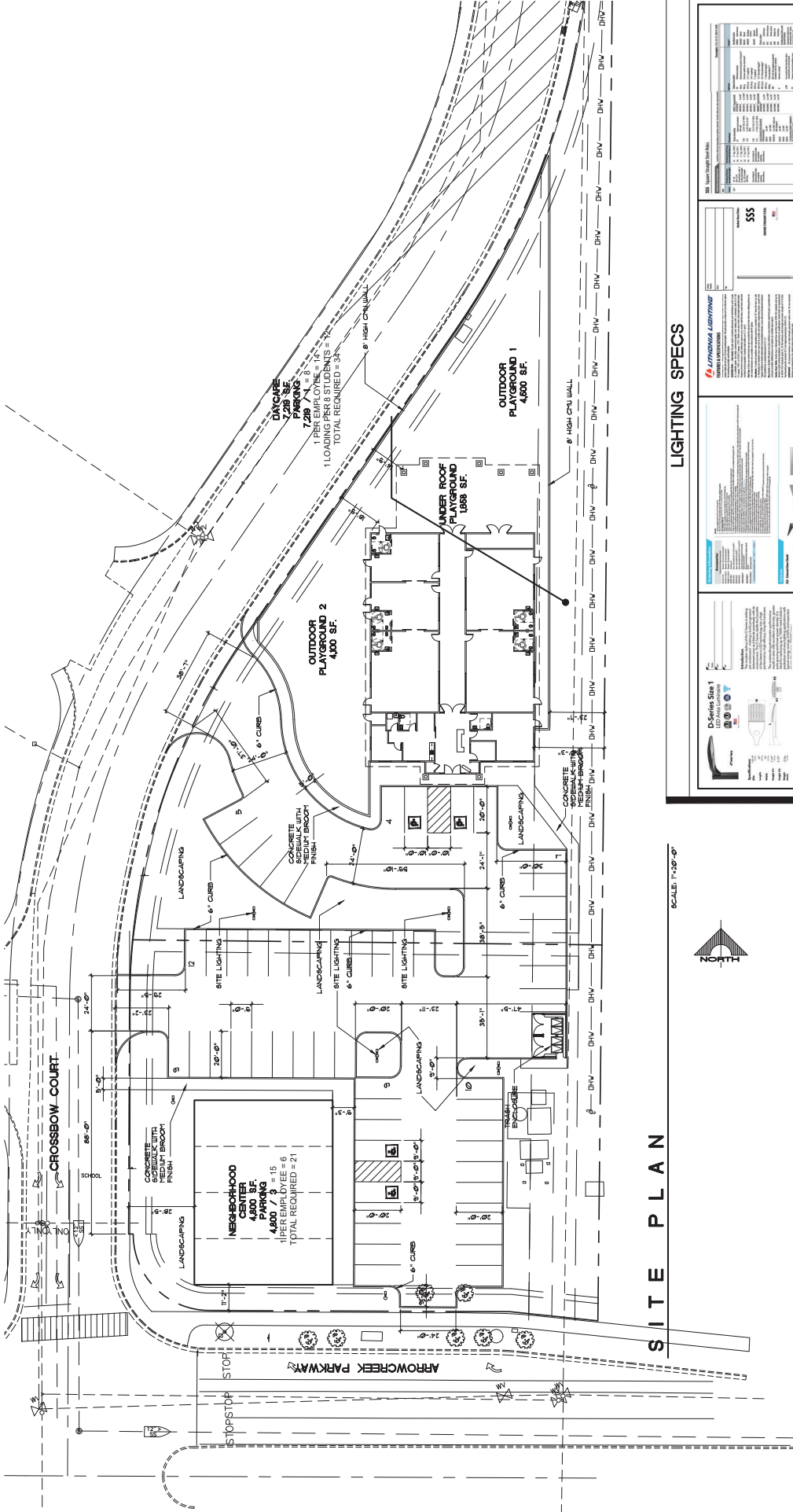
1	Concrete Path + PATIO
2	5' Wide Concrete Tri-cycle Path
3	Play Structure
4	Ground Level Trampoline
5	Concrete Interactive All Sport Court
6	Padded Turf
7	Turfgrass
8	Slide + ROPE CLIMBER
9	Planter Raised Beds 12" high
10	Balance Equipment
11	6' High Fence
12	2' High Garden Fence
13	Fence Gate

Crossbow Daycare Site Analysis Diagram



Appendix D

Architectural Site and Lighting Plan



SITE PLAN

SCALE: 1"=30'-0"



LIGHTING SPECS

Item No.	Description	Quantity	Unit	Notes
1	Site Lighting	12	Fixtures	See Schedule
2	6" Curb	10	Linear Feet	See Schedule
3	8" High Curb Wall	1	Linear Feet	See Schedule
4	Concrete Repair	25	Sq. Yards	See Schedule
5	Concrete Finish	10	Sq. Yards	See Schedule
6	6" Curb	10	Linear Feet	See Schedule
7	Site Lighting	6	Fixtures	See Schedule
8	6" Curb	10	Linear Feet	See Schedule
9	8" High Curb Wall	1	Linear Feet	See Schedule
10	Concrete Repair	25	Sq. Yards	See Schedule
11	Concrete Finish	10	Sq. Yards	See Schedule
12	6" Curb	10	Linear Feet	See Schedule
13	Site Lighting	6	Fixtures	See Schedule
14	6" Curb	10	Linear Feet	See Schedule
15	8" High Curb Wall	1	Linear Feet	See Schedule
16	Concrete Repair	25	Sq. Yards	See Schedule
17	Concrete Finish	10	Sq. Yards	See Schedule
18	6" Curb	10	Linear Feet	See Schedule
19	Site Lighting	6	Fixtures	See Schedule
20	6" Curb	10	Linear Feet	See Schedule
21	8" High Curb Wall	1	Linear Feet	See Schedule
22	Concrete Repair	25	Sq. Yards	See Schedule
23	Concrete Finish	10	Sq. Yards	See Schedule
24	6" Curb	10	Linear Feet	See Schedule
25	Site Lighting	6	Fixtures	See Schedule
26	6" Curb	10	Linear Feet	See Schedule
27	8" High Curb Wall	1	Linear Feet	See Schedule
28	Concrete Repair	25	Sq. Yards	See Schedule
29	Concrete Finish	10	Sq. Yards	See Schedule
30	6" Curb	10	Linear Feet	See Schedule
31	Site Lighting	6	Fixtures	See Schedule
32	6" Curb	10	Linear Feet	See Schedule
33	8" High Curb Wall	1	Linear Feet	See Schedule
34	Concrete Repair	25	Sq. Yards	See Schedule
35	Concrete Finish	10	Sq. Yards	See Schedule
36	6" Curb	10	Linear Feet	See Schedule
37	Site Lighting	6	Fixtures	See Schedule
38	6" Curb	10	Linear Feet	See Schedule
39	8" High Curb Wall	1	Linear Feet	See Schedule
40	Concrete Repair	25	Sq. Yards	See Schedule
41	Concrete Finish	10	Sq. Yards	See Schedule
42	6" Curb	10	Linear Feet	See Schedule
43	Site Lighting	6	Fixtures	See Schedule
44	6" Curb	10	Linear Feet	See Schedule
45	8" High Curb Wall	1	Linear Feet	See Schedule
46	Concrete Repair	25	Sq. Yards	See Schedule
47	Concrete Finish	10	Sq. Yards	See Schedule
48	6" Curb	10	Linear Feet	See Schedule
49	Site Lighting	6	Fixtures	See Schedule
50	6" Curb	10	Linear Feet	See Schedule
51	8" High Curb Wall	1	Linear Feet	See Schedule
52	Concrete Repair	25	Sq. Yards	See Schedule
53	Concrete Finish	10	Sq. Yards	See Schedule
54	6" Curb	10	Linear Feet	See Schedule
55	Site Lighting	6	Fixtures	See Schedule
56	6" Curb	10	Linear Feet	See Schedule
57	8" High Curb Wall	1	Linear Feet	See Schedule
58	Concrete Repair	25	Sq. Yards	See Schedule
59	Concrete Finish	10	Sq. Yards	See Schedule
60	6" Curb	10	Linear Feet	See Schedule

LITMUNA LIGHTING

D-Series Site 1 LED AREA LIGHTING

SSS

WSUP26-0003 EXHIBIT E

2140 E. PEBBLE RD.
SUITE 140
LAS VEGAS, NEVADA 89123
PH (702) 719-2020 FX (702) 269-9673

Crossbow Daycare

AS1

Site Plan Concept

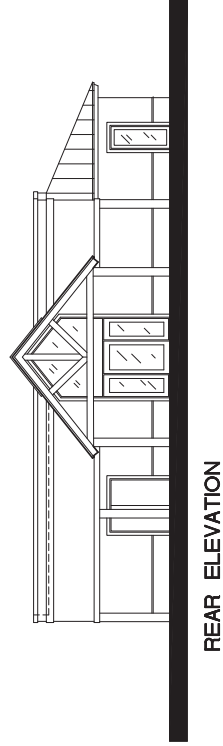
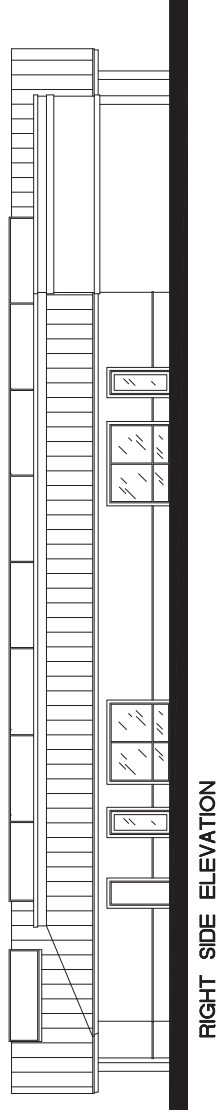
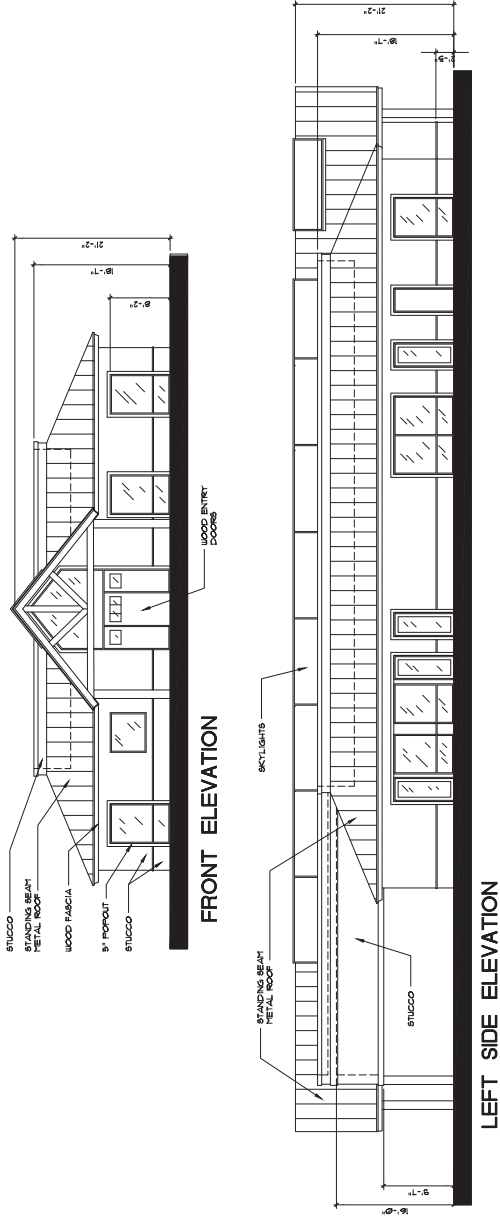
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02.03.2026
25341

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Appendix E

Elevations and Floor Plans

Exterior Elevations



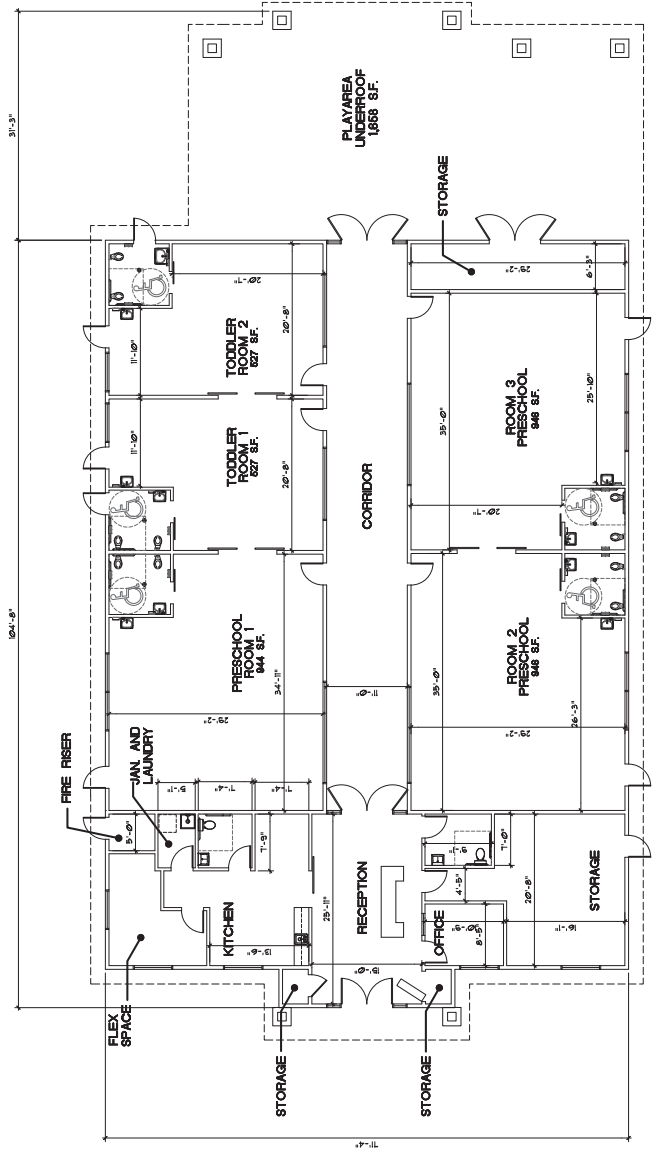
Crossbow Daycare

A2.1

25341
 SCALE: 1/8"=1'-0"
 02.03.2026

Floor Plan Concept

A1.1



FLOOR PLAN

Crossbow Daycare 7,219 S.F.

Sca design
 2140 E. PEBBLE RD.
 SUITE 140
 LAS VEGAS, NEVADA 89123
 PH (702) 719-2020 FX (702) 269-9673

WSUP26-0003 EXHIBIT E

Appendix F

Drainage Memo

February 06, 2026

Washoe County Planning Department
1001 E 9th St.
Reno, NV 89512

RE: Crossbow Ct. Daycare & Neighborhood Center

This drainage memorandum has been prepared to evaluate existing and proposed drainage conditions for the development of a daycare and neighborhood center located at 2500 Crossbow Court (APN 152-921-01) and 2540 Crossbow Court (APN 152-921-02) in Washoe County, Nevada.

The project site consists of two undeveloped parcels located at 2500 Crossbow Court (APN 152-921-01), comprising approximately 0.744 acres, and 2540 Crossbow Court (APN 152-921-02), comprising approximately 1.073 acres. The site generally drains from south to north, with an overall elevation drop of approximately 30 feet across the combined parcels. Existing drainage occurs as diffuse sheet flow over native ground surfaces, with runoff naturally discharging toward the north and east at the downstream property boundaries. No formal drainage infrastructure currently exists on the site, and stormwater runoff follows existing topography to the established discharge locations.

The proposed project includes development of a daycare and neighborhood center with associated surface improvements such as buildings, parking areas, drive aisles, and playground facilities. These improvements will increase impervious area and modify existing drainage patterns. Post-development runoff will be collected and conveyed through a coordinated system of onsite drainage features, including surface conveyance and detention basins. Detention facilities will be designed to mitigate peak runoff rates in accordance with all applicable Washoe County drainage criteria and standards, ensuring that post-development peak flows do not exceed pre-development conditions. Detained runoff will be released in a controlled manner at the existing downstream discharge points to the north and east, maintaining established drainage patterns and protecting adjacent properties.

Table 1 below summarizes the existing and proposed run off volumes for the 100-Yr storm. Rainfall intensities for runoff calculations were obtained from the NOAA Atlas 14 Point Precipitation Frequency for the site location. Basin sizing calculations are referenced in Appendix A.

Table 1 – 100-YR Storm

Detention Basin	100 YR Required Volume (CF)	100 YR Provided Volume (CF)
Basin 1	1,178	1,747
Basin 2	1,271	1,913

Please contact me with any questions.

Sincerely,



Matt K. Rasmussen, P.E.

APPENDIX A

Existing Condition Runoff Basin 1



Project: Crossbow CT. Daycare
 Project #: 25152

By: AWP
 Date: 2/9/2026

Tc
10

Acre
0.87

	Area (sf)	C
Building	0	0.9
Impervious	0	0.9
Pervious	38075	0.45

	C (comp)	Adj	C (adj)
100-yr	0.45	1	0.45
50-yr	0.45	1	0.45
25-yr	0.45	1	0.45
10-yr	0.45	1	0.45
5-yr	0.45	1	0.45

Tc	Pre Development Peak Flows (cfs)				
	5yr	10yr	25yr	50yr	100yr
10	0.61	0.75	1.00	1.21	1.47

T	100-Yr		50-Yr		25-Yr		10-Yr		5-Yr	
	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)
5	1.94	775	1.59	636	1.30	521	0.99	397	0.80	320
10	1.47	1178	1.21	970	1.00	797	0.75	602	0.61	488
11	1.42	1223	1.17	1007	0.96	827	0.73	624	0.59	507
12	1.37	1262	1.13	1039	0.93	853	0.70	644	0.57	522
13	1.32	1295	1.09	1066	0.89	874	0.67	661	0.55	536
14	1.27	1322	1.04	1088	0.86	892	0.65	674	0.52	546
15	1.22	1342	1.00	1104	0.82	905	0.62	684	0.50	554
16	1.19	1385	0.98	1139	0.80	933	0.61	706	0.49	572
17	1.17	1424	0.96	1172	0.79	960	0.59	726	0.48	588
18	1.14	1459	0.94	1201	0.77	984	0.58	745	0.47	603
19	1.11	1492	0.92	1228	0.75	1005	0.57	762	0.46	616
20	1.09	1521	0.89	1253	0.73	1025	0.55	777	0.45	628
21	1.06	1547	0.87	1275	0.71	1042	0.54	791	0.44	639
22	1.03	1570	0.85	1294	0.70	1058	0.53	803	0.43	649
23	1.01	1589	0.83	1310	0.68	1071	0.51	813	0.42	657
24	0.98	1606	0.81	1324	0.66	1082	0.50	822	0.40	664
25	0.95	1619	0.79	1336	0.64	1091	0.49	830	0.39	669
26	0.93	1629	0.76	1345	0.62	1097	0.47	835	0.38	673
27	0.90	1636	0.74	1351	0.60	1102	0.46	839	0.37	676
28	0.87	1640	0.72	1354	0.59	1104	0.45	842	0.36	678
29	0.84	1640	0.70	1355	0.57	1104	0.43	843	0.35	678
30	0.82	1637	0.68	1354	0.55	1102	0.42	842	0.34	677
60	0.51	1929	0.42	1585	0.34	1299	0.26	985	0.21	797
120	0.27	1977	0.23	1691	0.18	1365	0.16	1162	0.13	978

Existing Condition Runoff Basin 2



Project: Crossbow CT. Daycare
 Project #: 25152

By: AWP
 Date: 2/9/2026

Tc
10

Acre
0.94

	Area (sf)	C
Building	0	0.9
Impervious	0	0.9
Pervious	41074	0.45

	C (comp)	Adj	C (adj)
100-yr	0.45	1	0.45
50-yr	0.45	1	0.45
25-yr	0.45	1	0.45
10-yr	0.45	1	0.45
5-yr	0.45	1	0.45

Tc	Pre Development Peak Flows (cfs)				
	5yr	10yr	25yr	50yr	100yr
10	0.66	0.81	1.07	1.31	1.59

T	100-Yr		50-Yr		25-Yr		10-Yr		5-Yr	
	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)	Peak (cfs)	Volume (cf)
5	2.09	836	1.71	687	1.40	562	1.07	428	0.86	345
10	1.59	1271	1.31	1047	1.07	860	0.81	649	0.66	527
11	1.53	1320	1.26	1087	1.04	892	0.78	674	0.63	547
12	1.48	1362	1.22	1121	1.00	920	0.75	695	0.61	564
13	1.42	1397	1.17	1150	0.96	943	0.73	713	0.59	578
14	1.37	1426	1.13	1173	0.92	962	0.70	727	0.57	589
15	1.32	1448	1.08	1191	0.89	976	0.67	738	0.54	598
16	1.29	1494	1.06	1229	0.87	1007	0.66	762	0.53	617
17	1.26	1536	1.04	1264	0.85	1035	0.64	783	0.52	634
18	1.23	1574	1.01	1296	0.83	1061	0.63	803	0.51	650
19	1.20	1609	0.99	1325	0.81	1085	0.61	822	0.50	665
20	1.17	1641	0.96	1351	0.79	1106	0.60	838	0.48	678
21	1.14	1669	0.94	1375	0.77	1125	0.58	853	0.47	689
22	1.11	1693	0.92	1396	0.75	1141	0.57	866	0.46	700
23	1.08	1715	0.89	1414	0.73	1155	0.56	877	0.45	708
24	1.06	1732	0.87	1429	0.71	1167	0.54	887	0.44	716
25	1.03	1747	0.85	1441	0.69	1176	0.53	895	0.42	722
26	1.00	1757	0.82	1451	0.67	1184	0.51	901	0.41	726
27	0.97	1765	0.80	1457	0.65	1188	0.50	906	0.40	729
28	0.94	1769	0.78	1461	0.63	1191	0.48	908	0.39	731
29	0.91	1769	0.75	1462	0.61	1191	0.47	909	0.38	731
30	0.88	1766	0.73	1460	0.59	1189	0.45	908	0.36	730
60	0.55	2081	0.45	1710	0.37	1402	0.28	1063	0.23	860
120	0.29	2132	0.25	1825	0.20	1473	0.17	1253	0.14	1055

Appendix G

Traffic Impact

Study

2500 CROSSBOW COURT

WASHOE COUNTY, NEVADA

APN: 152-921-01, 152-921-02



Prepared for:
Alexandra Magliarditi
5545 S. Mountain Vista St., Ste. F (2nd Floor)
Las Vegas, NV 89120
(702) 637-0096

Prepared by:

Kimley»»Horn

February 2026
192888000
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TRAFFIC IMPACT STUDY

FOR

2500 CROSSBOW COURT

Prepared for:

Alexandra Magliarditi

5545 S. Mountain Vista St., Ste. F (2nd Floor)

Las Vegas, NV 89120

(702) 637-0096

Prepared by:

Kimley-Horn and Associates, Inc.

7900 Rancharrah Parkway

Suite 100

Reno, Nevada 89511

(775) 787-7552

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192888000

EXECUTIVE SUMMARY

The mixed-use development is to be located at the northeast corner of Arrowcreek Parkway and Crossbow Court in Reno, Nevada. It is planned to be built on 1.82-acres within the APNs 152-921-01 and 152-921-02. The development is anticipated to be comprised of a Montessori school and a neighborhood center housing a sandwich/coffee shop and a pediatric dentist.

Regional access to the project site is expected to be provided by Interstate 580 (I-580) and Mount Rose Highway (SR-431). Primary access to the project site is anticipated to be from Crossbow Court. Direct access to the project sites is anticipated from two project access driveways off Crossbow Court.

The following intersections were identified for a full level of service (LOS) analysis:

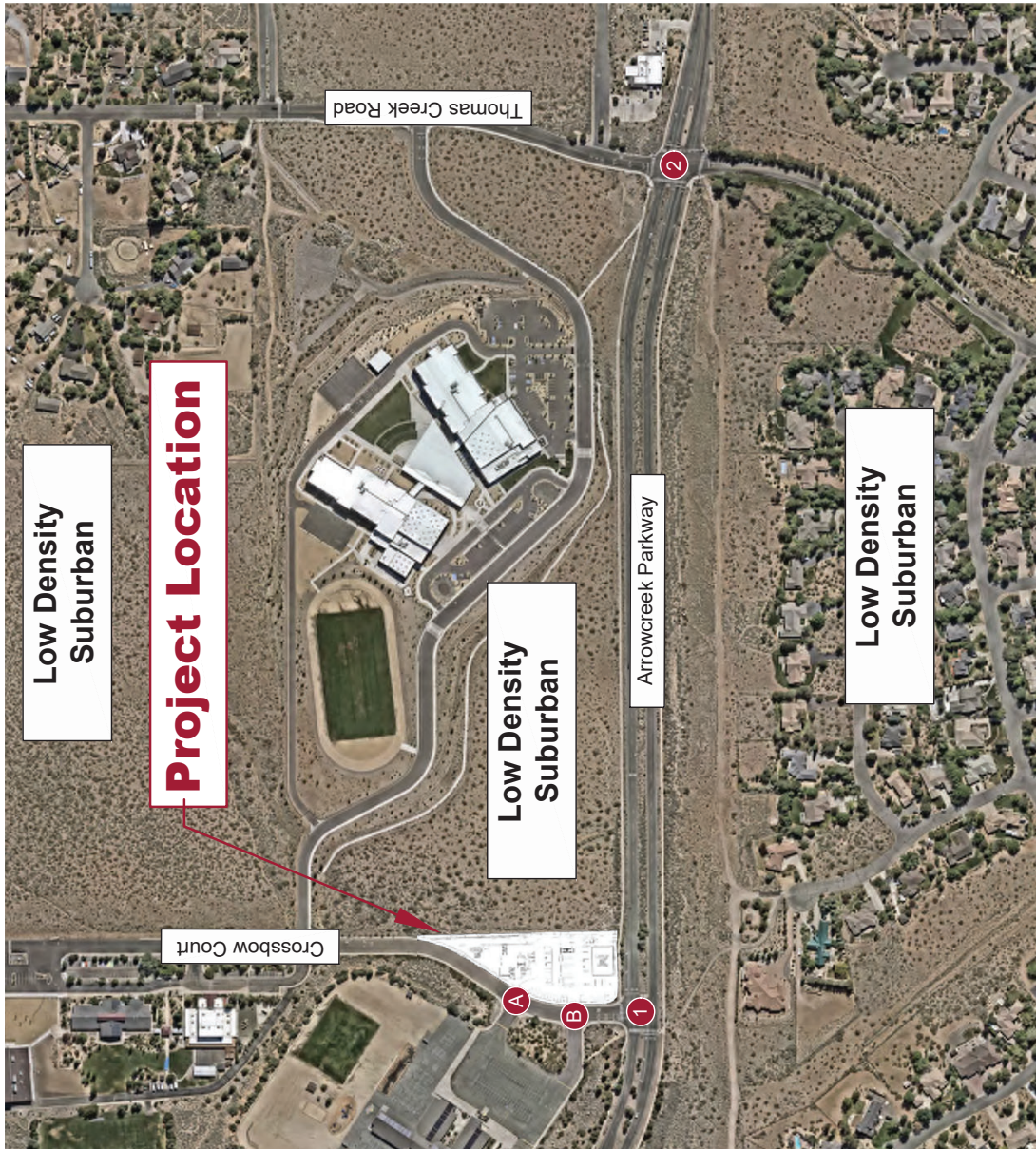
- Arrowcreek Parkway and Crossbow Court (#1)
- Arrowcreek Parkway and Thomas Creek Court (#2)
- Crossbow Court and Hunsberger Elementary School North Access/Project Access Drive (A)
- Crossbow Court and Hunsberger Elementary School South Access/Project Access Drive (B)

Figure E-1 shows the study area intersections.

The proposed development is expected to generate approximately 988 daily trips, with 88 trips anticipated to occur during the AM peak hour and 118 trips anticipated to occur during the PM peak hour.

The proposed development is anticipated to generate traffic volumes resulting in the following recommendations:

- An R7-1 “NO PARKING ANY TIME” should be installed along the project frontage along Crossbow Court.
- Provide a marked pedestrian crosswalk across Crossbow Court at the intersection of Crossbow Court and Hunsberger Elementary School North Access/Project Access Drive (A), consistent with Washoe County standards and the Manual on Uniform Traffic Control Devices (MUTCD).
- Install ADA-compliant pedestrian curb ramps at the crosswalk termini in accordance with applicable ADA accessibility requirements and Washoe County standards.
- An R1-1 “STOP” sign with appropriate pavement markings should be installed for the westbound egress at the project access drives.
- All on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to the current MUTCD, as applicable.



Study Area Intersections

1. Arrowcreek Parkway and Crossbow Court
2. Arrowcreek Parkway and Thomas Creek Road
- A. Crossbow Court and Hunsberger Elementary School North Access/Project Access Drive A
- B. Crossbow Court and Hunsberger Elementary School South Access/Project Access Drive B



Legend

- # Study Area Key Intersection
- X Project Access Drive

Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Study Area

Figure E-1
Kimley»Horn

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network

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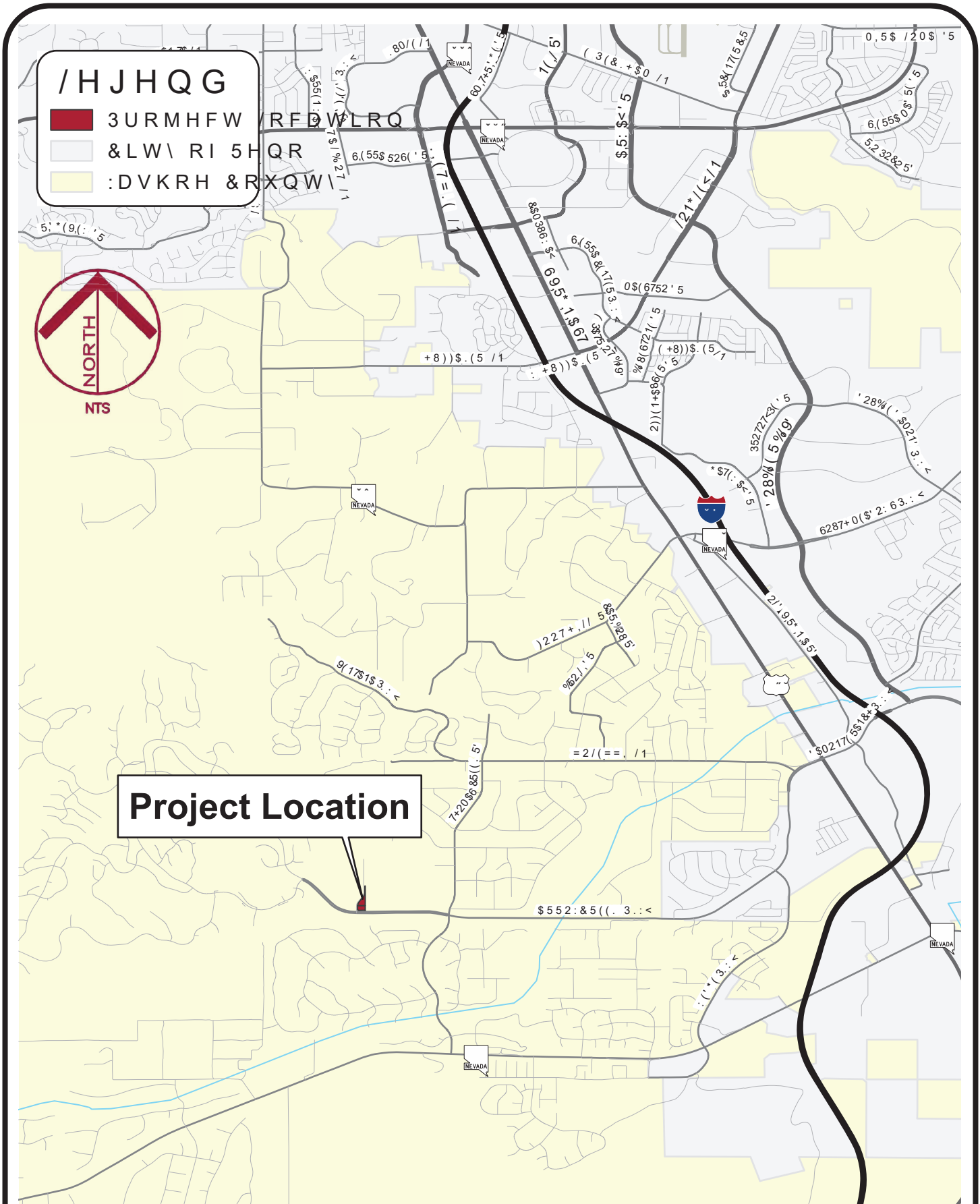
Appendix A	Count Data
Appendix B	Growth Rate Calculations
Appendix C	Trip Generation Calculations
Appendix D	Key Intersection Peak Hour LOS Calculations
Appendix E	Project Access Peak Hour LOS Calculations
Appendix F	Site Plan

1. INTRODUCTION

Kimley-Horn and Associates, Inc. has been retained by Russel Montessori LLC to prepare a traffic impact study for the proposed mixed-use development. The purpose of this traffic impact study is to identify traffic generation characteristics of the proposed development, identify potential traffic-related impacts on the local street system, and develop mitigation measures required for the identified impacts.

The mixed-use development is to be located at the northeast corner of Arrowcreek Parkway and Crossbow Court in Reno, Nevada. It is planned to be built on 1.82-acres within the APNs 152-921-01 and 152-921-02. The development is anticipated to be comprised of a Montessori school and a neighborhood center housing a sandwich/coffee shop and a pediatric dentist. The location of the project site is shown on **Figure 1** and a site plan is provided in **Appendix F**.

Regional access to the project site is expected to be provided by Interstate 580 (I-580) and Mount Rose Highway (SR-431). Primary access to the project site is anticipated to be from Crossbow Court. Direct access to the project sites is anticipated from two project access driveways off Crossbow Court.



**2500 Crossbow Court
Vicinity Map**

Figure 1

2. EXISTING CONDITIONS

This section of the report details existing conditions near the project sites.

2.1. Study Area Intersections

The following intersections were identified for a full level of service (LOS) analysis:

- Arrowcreek Parkway and Crossbow Court (#1)
- Arrowcreek Parkway and Thomas Creek Court (#2)
- Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)
- Crossbow Court and Hunsberger Elementary School South Access/ Project Access Drive (B)

The study area intersections are shown in **Figure 2**.

2.2. Existing Land Uses

The location for the proposed project site is currently low-density suburban. The area surrounding the project site is composed primarily of residential and institutional (school) land uses. The location of the project site, study area intersections and existing land uses are shown in **Figure 2**.

2.3. Existing Lane Configurations and Control

Regional access to the project site is expected to be provided by Interstate 580 (I-580) and Mount Rose Highway (SR-431). Primary access to the project site is anticipated to be from Crossbow Court. Direct access to the project sites is anticipated from two project access driveways off Crossbow Court. Existing speed limits, lane configuration, and traffic control are illustrated in **Figure 2**.

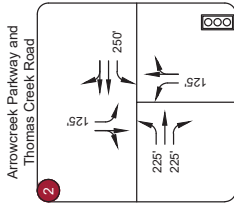
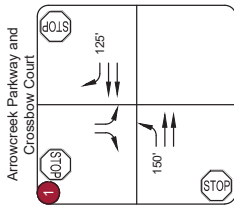
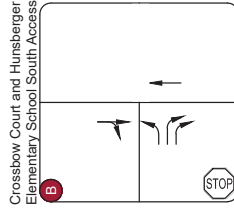
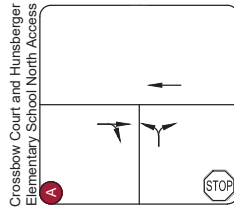
2.4. Existing Turning Movement Counts

Twenty-four-hour turning movement data was field counted in 2025 at the study intersections, as summarized in **Table 1**. Count data sheets are provided in **Appendix A**. Traffic volumes for Crossbow Court and Hunsberger Elementary School South Access/Project Access Drive (B) were extrapolated from the adjacent intersections. **Figure 3** illustrates the existing peak hour traffic volumes.

Table 1 – Peak Hour Turning Movement Count Dates

Intersection	Count Date
Arrowcreek Parkway and Crossbow Court (#1)	Thursday, May 29, 2025
Arrowcreek Parkway and Thomas Creek Court (#2)	Thursday, May 29, 2025
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)	Thursday, May 29, 2025
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (B)*	-

*Volumes were extrapolated from adjacent intersections.



Legend

- # Study Area Key Intersection
- X Project Access Drive
- 25 Roadway Speed Limit
- STOP Stop Controlled Approach
- Signalized Intersection
- Existing Approach

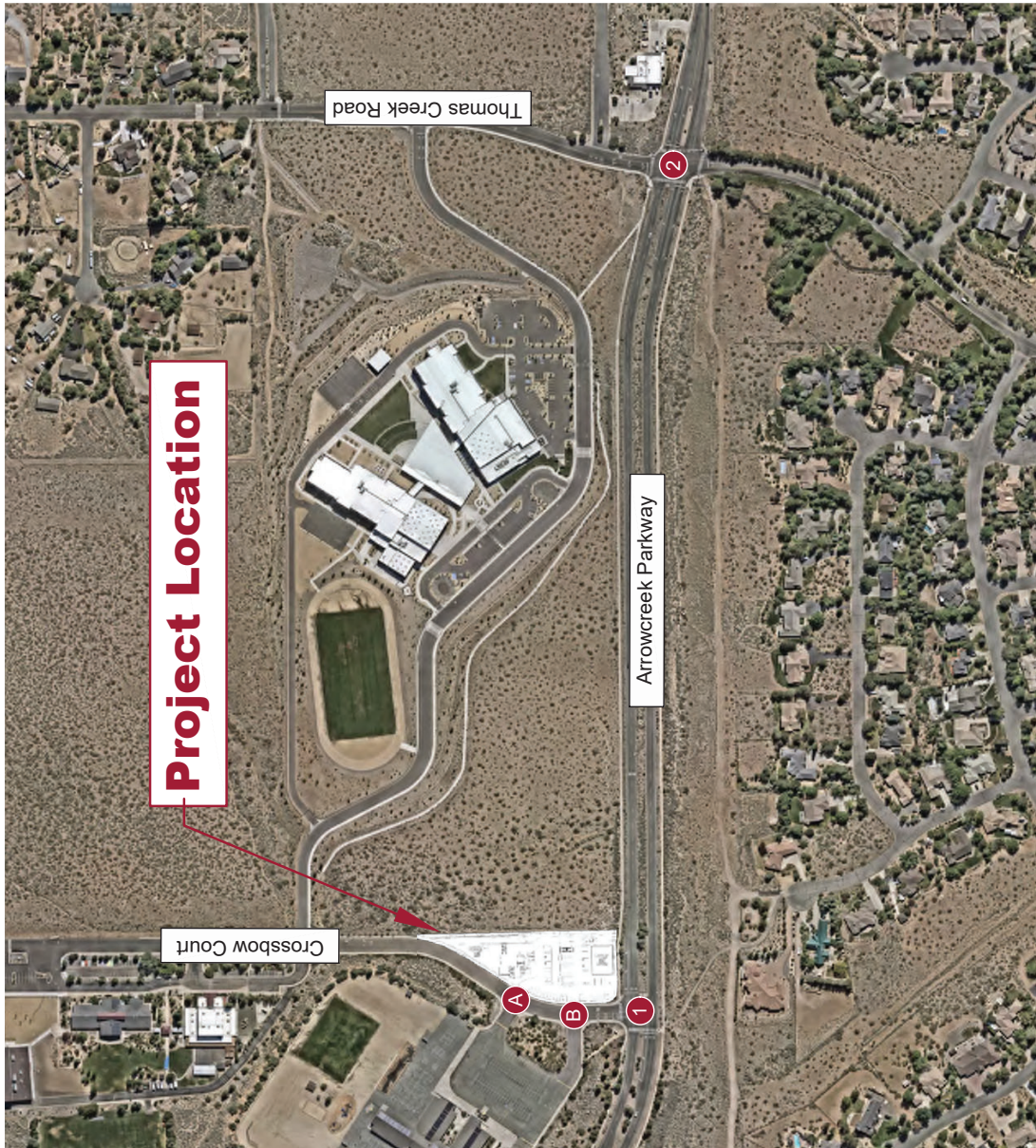
Source: Nearmap US, Inc. Image Date: July 2025

**2500 Crossbow Court
Existing Lane Configuration and Control**

Figure 2



Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Existing Peak Hour Traffic Volumes

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



A Crossbow Court and Hunsberger Elementary School North Access
Peak Hour: 7:15 AM (2:45 PM)

→	5(2)	←	182(72)
→	0(1)	←	0(1)
→	0(2)	←	5(48)
→	9(48)	←	225(110)

1 Arrowcreek Parkway and Crossbow Court
Peak Hour: 8:45 AM (2:45 PM)

→	26(43)	←	210(184)
→	29(31)	←	238(257)
→	1(0)	←	1(0)
→	214(232)	←	230(262)

B Crossbow Court and Hunsberger Elementary School South Access
Peak Hour: 7:15 AM (2:45 PM)

→	49(107)	←	187(120)
→	9(105)	←	234(158)

2 Arrowcreek Parkway and Thomas Creek Road
Peak Hour: 7:00 AM (3:00 PM)

→	11(23)	←	158(74)
→	19(22)	←	273(278)
→	129(149)	←	155(141)
→	132(29)	←	117(67)
→	225(313)	←	76(93)
→	53(87)	←	151(141)

Legend

- # Study Area Key Intersection
- X Project Access Drive
- ← xx (xx) AM(PM) Peak Hour Volume

Figure 3



3. FUTURE CONDITIONS

This section of the report details the conditions that are expected in the future.

3.1. Background Lane Configuration and Control

Expected speed limits, lane configuration, and traffic control in the 2027 background scenario is illustrated in **Figure 4**.

3.2. Background Traffic Growth

To accurately determine the impact of project traffic, it is necessary to establish future baseline traffic volumes along roadways in the vicinity of the proposed development site. An annual growth rate of 0.21% was obtained from the evaluation of three NDOT count stations (0310590, 0311180, 0311090, and 0311091). Two count stations were located on Arrowcreek Parkway, one count station was located on Thomas Creek Road, and one count station was located on Mount Rose Highway (SR-431). Detailed growth calculations are included in **Appendix B**.

To provide conservative analysis, the existing year peak hour traffic volumes were grown for two years at a 0.21% annual growth rate to obtain future background traffic volumes in 2027 when the proposed development is anticipated to be fully completed. The 2027 background peak hour traffic volumes at the key intersections are illustrated in **Figure 5**.

3.3. Background Plus Project Lane Configuration and Control

Regional access to the project site is expected to be provided by Interstate 580 (I-580) and Mount Rose Highway (SR-431). Primary access to the project site is anticipated to be from Crossbow Court. Direct access to the project sites is anticipated from two project access driveways off Crossbow Court.

Expected speed limits, lane configuration, and traffic control for the 2027 background plus project scenario are illustrated in **Figure 6**.



Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Background Lane Configuration and Control

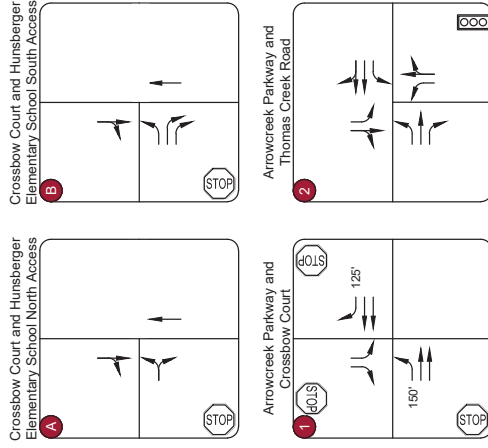


Figure 4
Kimley»Horn

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Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Background Peak Hour Traffic Volumes

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



Crossbow Court and Hunsberger Elementary School North Access

9(48) →	9(48) ←
0(26) →	0(1) ←
5(2) →	183(72) ←
226(110) →	226(110) ←

Crossbow Court and Hunsberger Elementary School South Access

49(107) →	188(121) ←
9(105) →	235(159) ←

Arrowcreek Parkway and Crossbow Court

26(43) →	21(185) ←
29(31) →	231(263) ←
239(258) →	1(0) ←
215(233) →	231(263) ←

Arrowcreek Parkway and Thomas Creek Road

11(23) →	159(74) ←
19(22) →	274(279) ←
130(150) →	130(150) ←
156(142) →	117(67) ←
76(93) →	133(29) ←
53(87) →	228(314) ←

Legend

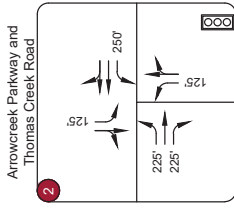
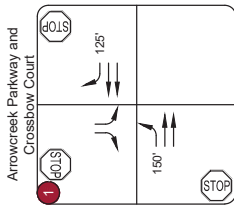
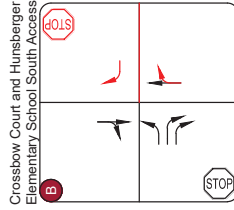
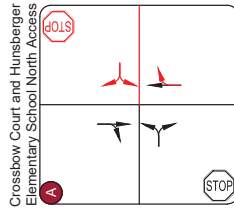
- # Study Area Key Intersection
- X Project Access Drive
- ← xx (xx) AM(PM) Peak Hour Volume

Figure 5
 Kimley-Horn



Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Background + Project Lane Configuration and Control



Legend

- # Study Area Key Intersection
- X Project Access Drive
- 25 Roadway Speed Limit
- STOP Stop Controlled Approach
- Signalized Intersection
- Existing Approach
- STOP Project Improvement

Figure 6

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network

3.4. Project Trip Generation

To estimate the number of new trips anticipated to be generated by the proposed Montessori school, sandwich/coffee shop, and pediatric dentist, the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 12th edition was used. The ITE *Trip Generation Manual* is a standard reference used by jurisdictions throughout the country and is based on actual trip generation studies performed at numerous locations in areas of various populations.

The *Trip Generation Manual* does not have a specific land use for a Montessori school; however the operations of a Montessori school are very similar in nature to that of a day care center. The *Trip Generation Manual* has a land use called Day Care Center and defines it as “a facility where care for preschool children is provided, normally during daytime hours. A day care facility generally includes classrooms, offices, eating areas, and playgrounds. A center may also provide after-school care for school-age children.” Within the *Trip Generation Manual*, a Day Care Center is designated by ITE Trip Generation Land Use Code 565.

The proposed Montessori school, sandwich/coffee shop, and pediatric dentist are anticipated to generate approximately 988 daily trips, with 88 trips anticipated to occur during the AM peak hour and 118 trips anticipated to occur during the PM peak hour. **Table 2** summarizes the estimated project trips. Calculations are provided in **Appendix C**.

Table 2 – Trip Generation

ITE Code	Description	Size	AM Peak Hour			PM Peak Hour			Daily Trips
			In	Out	Total	In	Out	Total	
720	Medical-Dental Office Building	2,400 SF	6	2	8	2	6	8	82
930	Fast Casual Restaurant	2,400 SF	3	1	4	18	16	34	542
565	Day Care Center	96 students	40	36	76	36	40	76	364
Net Total Trips			49	39	88	56	62	118	988

Source: ITE Trip Generation Manual, 12th Edition

3.5. Project Trip Distribution

The study area street network characteristics, including the existing traffic patterns, expected street network, and access to regional facilities (I-580 and SR-431) were used to determine the distribution of site generated traffic. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site in the same or different direction. **Figure 7** shows the project trip distribution at the study area intersections.

3.6. Traffic Assignment

Project traffic assignment was obtained by applying the project trip distribution from **Figure 7** to the estimated traffic generation of the development shown in **Table 2**. Project traffic assignment is illustrated in **Figure 8** for the study area intersections.

The entering and exiting trips generated by the proposed development are rounded to the nearest whole number when assigned. Therefore, the number of trips assigned may differ slightly from the total trip generation.

3.7. Project Buildout Traffic Volumes

The project generated traffic volumes in **Figure 8** were added to the 2027 background scenarios traffic volumes in **Figure 5**, to represent estimated traffic conditions at project completion. The 2027 background plus project peak hour traffic volumes for the study area intersections are illustrated in **Figure 9**.



<p>Crossbow Court and Hunsberger Elementary School North Access</p> <p>A</p> <table border="1"> <tr> <td>← 0% (100%)</td> <td>↖ 50% (0%)</td> </tr> </table>	← 0% (100%)	↖ 50% (0%)	<p>Crossbow Court and Hunsberger Elementary School South Access</p> <p>B</p> <table border="1"> <tr> <td>→ 0% (100%)</td> <td>↖ 50% (0%)</td> <td>↖ 50% (0%)</td> </tr> </table>	→ 0% (100%)	↖ 50% (0%)	↖ 50% (0%)											
← 0% (100%)	↖ 50% (0%)																
→ 0% (100%)	↖ 50% (0%)	↖ 50% (0%)															
<p>Arrowcreek Parkway and Crossbow Court</p> <p>1</p> <table border="1"> <tr> <td>↖ 0% (10%)</td> <td>↖ 0% (90%)</td> <td>↖ 90% (0%)</td> </tr> <tr> <td>→ 10% (0%)</td> <td></td> <td></td> </tr> </table>	↖ 0% (10%)	↖ 0% (90%)	↖ 90% (0%)	→ 10% (0%)			<p>Arrowcreek Parkway and Thomas Creek Road</p> <p>2</p> <table border="1"> <tr> <td>↖ 15% (0%)</td> <td>↖ 0% (15%)</td> <td>↖ 0% (50%)</td> <td>↖ 0% (25%)</td> <td>↖ 25% (0%)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>↖ 50% (0%)</td> </tr> </table>	↖ 15% (0%)	↖ 0% (15%)	↖ 0% (50%)	↖ 0% (25%)	↖ 25% (0%)					↖ 50% (0%)
↖ 0% (10%)	↖ 0% (90%)	↖ 90% (0%)															
→ 10% (0%)																	
↖ 15% (0%)	↖ 0% (15%)	↖ 0% (50%)	↖ 0% (25%)	↖ 25% (0%)													
				↖ 50% (0%)													

Legend

- # Study Area Key Intersection
- X Project Access Drive
- ←-XX%-> Global Peak Hour Trip Distribution
- ←-xxx(%%) IN(OUT) Peak Hour Trip Distribution

Figure 7



Source: Nearmap US, Inc. Image Date: July 2025

**2500 Crossbow Court
Project Trip Distribution**

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Project Traffic Assignment

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\Figures\2025-12-22 2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



Crossbow Court and Hunsberger Elementary School North Access

	← 39(62)	↖ 25(28)
--	----------	----------

Crossbow Court and Hunsberger Elementary School South Access

	→ 39(62)	↗ 25(28)
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Arrowcreek Parkway and Crossbow Court

↖ 4(6)	↗ 5(6) →
↖ 35(56)	↗ 44(50)

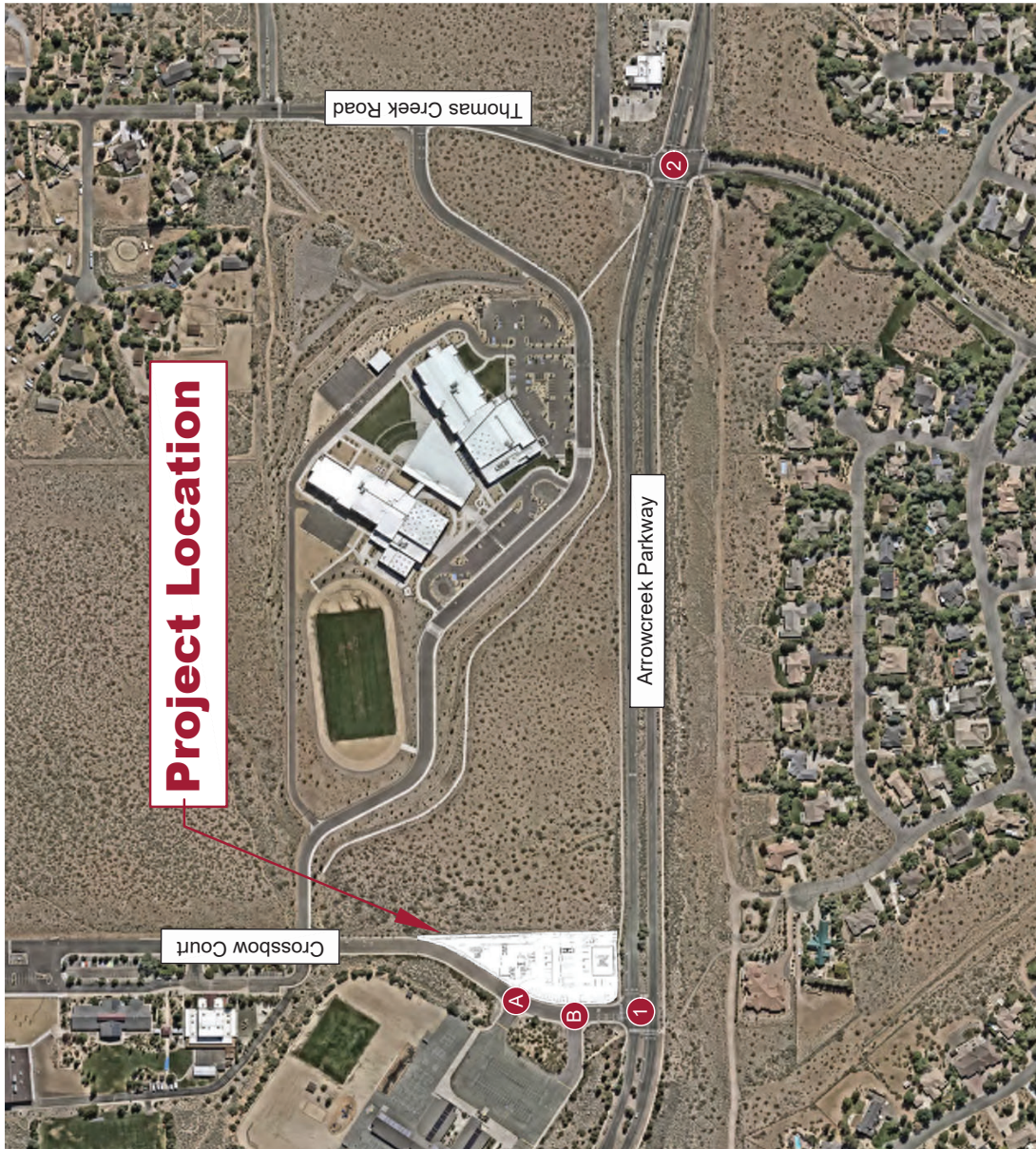
Arrowcreek Parkway and Thomas Creek Road

↖ 7(8)	↗ 20(31)	↘ 10(16)
↖ 12(14)	↗ 25(28)	

Legend

- # Study Area Key Intersection
- X Project Access Drive
- ← xx (xx) AM(PM) Peak Hour Volume

Figure 8
 Kimley»Horn



Source: Nearmap US, Inc. Image Date: July 2025

2500 Crossbow Court Background + Project Peak Hour Traffic Volumes

Date: December 23, 2025 - 5:15pm / User: Alex.Tong
 Path: C:\Users\alex.tong\OneDrive\Documents\2500 Crossbow Court\2500 Crossbow Court TIS.dwg / Xref: 2023 CC MC Street Network;2023 CC CL Street Network



A Crossbow Court and Hunsberger Elementary School North Access

5(2)	33(72)	0(1)	39(62)
42(48)	13(48)	16(10)	25(28)
4(26)	16(10)	13(48)	172(187)
	33(72)	172(187)	97(105)

B Crossbow Court and Hunsberger Elementary School South Access

114(183)	162(107)	97(105)	25(28)
----------	----------	---------	--------

1 Arrowcreek Parkway and Crossbow Court

30(49)	246(241)	1(0)	259(283)
34(37)	231(263)	1(0)	133(29)
239(258)	159(74)	180(69)	251(342)
	18(31)	53(87)	76(93)

2 Arrowcreek Parkway and Thomas Creek Road

140(166)	284(310)	117(67)	168(156)
25(31)	159(74)	117(67)	117(67)
180(69)	180(69)	117(67)	117(67)
140(166)	180(69)	117(67)	117(67)

Legend

- # Study Area Key Intersection
- X Project Access Drive
- ← xx (xx) AM(PM) Peak Hour Volume

Figure 9
 Kimley-Horn

4. TRAFFIC IMPACT ANALYSIS

Traffic analyses for existing, background, and background plus project scenarios were conducted at the identified key intersections to determine possible existing and/or future deficiencies in the street network.

4.1. Analysis Methodology

Study area intersections were analyzed based on the average total delay for signalized and unsignalized intersections presented in the Transportation Research Board’s *Highway Capacity Manual, 7th Edition* (HCM 7). For unsignalized intersections, the level of service (LOS) for two-way stop-control is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized and four-way stop-controlled intersections can be defined for the whole intersection. **Table 3** shows the LOS criteria for motorized vehicle modes at intersections.

Table 3 – Level of Service Criteria

Level of Service	Signalized Intersection Average Control Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Source: *Highway Capacity Manual, 7th Edition, Transportation Research Board.*

Synchro 12 was used to analyze the study area’s intersections and driveways for LOS. Synchro is an interactive computer program that enables planners and engineers to conduct traffic operations analysis (capacity and level of service). It utilizes the HCM 7 methodology to analyze intersection delay and LOS. It should be noted that HCM 7 does not support more than one exclusive lane on turning movements as seen with the dual-right-turn movements at the intersection of Crossbow Court and Hunsberger Elementary School South Access/Project Access (B). The LOS for this intersection will be reported using HCM 2000.

4.1.1. Peak Hour Factor Adjustment

The existing study intersections experience a highly peaked, school-related traffic pattern, particularly during the AM peak hour. Peak Hour Factor (PHF) describes how traffic demand is distributed within the busiest hour, with lower values indicating that a larger share of traffic occurs during a limited portion of that hour rather than being evenly spread throughout. Since analysis for this study was performed during adjacent school peak hours, the intersections analyzed in this study have lower PHFs than that of typical intersections across the area during peak hours. Unlike a school, the proposed development generates traffic that is more evenly distributed across the peak hour, consistent with a PHF of approximately 0.92. Accordingly, PHFs for the 2027 background plus project scenarios were calculated using a volume-weighted approach to reflect the differing traffic patterns associated with the local schools compared to the proposed development. Because the project traffic represents a relatively small proportion of total peak-

hour volumes dominated by school traffic, the volume-weighted PHF increases are modest. The PHFs applied in the operational analysis are shown in the 2027 background plus project PHF column in **Table 4**.

Table 4 –Key Intersection Peak Hour Factor Adjustment

Intersection	2025 Existing PHF		2027 Background Plus Project PHF	
	AM	PM	AM	PM
Arrowcreek Parkway and Crossbow Court (#1)	0.53	0.83	0.58	0.85
Arrowcreek Parkway and Thomas Creek Court (#2)	0.53	0.83	0.57	0.85
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)	0.67	0.84	0.69	0.85
Crossbow Court and Hunsberger Elementary School South Access/ Project Access Drive (B)	0.73	0.67	0.74	0.68

4.2. Intersection Operational Analysis

Calculations for the LOS at the study intersections are provided in **Appendix D**. The 2025 existing scenario analysis is based on the lane geometry and intersection control shown in **Figure 2**. The 2027 background scenarios analyses are based on the lane geometry and intersection control shown in **Figure 4**. The 2027 background plus project scenario analyses are based on the lane geometry and intersection control shown in **Figure 6**. The results of the Key Intersection LOS Analysis for existing and horizon year conditions are summarized in **Table 5**. The results of the project access drive LOS Analysis are summarized in **Table 6**.

Table 5 –Key Intersection Peak Hour LOS Analysis

Intersection	2025 Existing		2027 Background		2027 Background Plus Project	
	AM	PM	AM	PM	AM	PM
	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)
Arrowcreek Parkway and Crossbow Court (#1) All-Way Stop Control	15.2 (C)	11.2 (B)	15.3 (C)	11.3 (B)	18.3 (C)	13.3 (B)
Arrowcreek Parkway and Thomas Creek Court (#2) Signalized	27.0 (C)	24.7 (C)	27.0 (C)	24.4 (C)	27.9 (C)	24.3 (C)

The key intersections are expected to operate at acceptable LOS (as defined by Washoe County) under 2025 existing, 2027 background, and 2027 background plus project scenarios

4.3. Project Access Operational Analysis

Calculations for the LOS at the study intersections are provided in **Appendix E**. The 2027 and background plus project analyses are based on the lane configuration and intersection control shown in **Figure 6**. The analysis is based on traffic volumes shown in **Figure 9**. The results of the LOS analysis for the intersection of Crossbow Court and Project Access Drive A and B are presented in **Table 6**.

Table 6 – Project Access Drive Peak Hour LOS Analysis

Intersection	2025 Existing		2027 Background		2027 Plus Project	
	AM	PM	AM	PM	AM	PM
	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)	Delay (LOS)
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)						
Two-Way Stop Control						
Northbound Left	7.8 (A)	7.5 (A)	7.8 (A)	7.5 (A)	7.7 (A)	7.5 (A)
Eastbound Left	9.5 (A)	9.9 (A)	9.5 (A)	9.9 (A)	9.5 (A)	10.1 (B)
Westbound Left	-	-	-	-	17.9 (C)	12.6 (B)
Crossbow Court and Hunsberger Elementary School South Access/ Project Access Drive (B)						
Two-Way Stop Control (Right-In/Right-Out Only)						
Eastbound Right	9.8 (A)	9.3 (A)	9.8 (A)	9.3 (A)	10.1 (B)	9.7 (A)
Northbound Left	3.9 (A)	3.6 (A)	3.8 (A)	3.6 (A)	3.5 (A)	3.2 (A)

The project access driveways are expected to operate at acceptable LOS (as defined by Washoe County) under 2025 existing, 2027 background, and 2027 background plus project scenarios

4.4. Queuing Analysis

A queuing analysis was conducted at the study area intersections and project access drives to analyze project impacts to the existing queues on the network. The analysis was conducted using HCM 7 to obtain the 95th percentile queue for unsignalized intersections. The results are summarized in **Table 7**. The queuing reports for all intersections can be found within the LOS reports in **Appendix D** and **Appendix E**.

The left turn storage bay calculations include AM and PM peak volumes. The existing storage bays have adequate length to serve 2027 background and 2027 background plus project conditions during both the AM and PM peak hours with the exception of the following:

- The southbound left-turn lane at Arrowcreek Parkway and Thomas Creek Court (#2) in the 2027 background AM and 2027 background plus project AM scenarios.

It should be noted that the southbound left-turn vehicle queues at the intersection of Arrowcreek Parkway and Thomas Creek Court (#2) are associated with the parent drop-off egress at Marce Herz Middle School. Project generated traffic is not anticipated to impact this movement.

Table 7 – Queueing Analysis

Intersection	Storage Provided	2027 Background Queue (ft)		2027 Background Plus Project Queue (ft)	
		AM	PM	AM	PM
Arrowcreek Parkway and Crossbow Court (#1)					
Two-Way Stop Control					
Eastbound Left	150'	<25'	<25'	<25'	<25'
Westbound Right	125'	50'	33'	73'	50'
Southbound Left	Continuous	128'	58'	178'	95'
Southbound Right	Continuous	<25'	<25'	<25'	<25'
Arrowcreek Parkway and Thomas Creek Court (#2)					
Signalized					
Eastbound Left	225'	<25'	25'	28'	<25'
Westbound Left	250'	63'	83'	63'	80'
Northbound Left	125'	113'	110'	125'	123'
Southbound Left	125'	135'	60'	140'	60'
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)					
Two-Way Stop Control					
Northbound Left	<25'	<25'	<25'	<25'	<25'
Eastbound Left/Right	<25'	<25'	<25'	<25'	<25'
Westbound Left/Right	<25'	<25'	<25'	<25'	<25'
Crossbow Court and Hunsberger Elementary School South Access/ Project Access Drive (B)					
Two-Way Stop Control					
Eastbound Right	<25'	<25'	<25'	<25'	<25'
Northbound Left	<25'	<25'	<25'	<25'	<25'

5. CRASH DATA SUMMARY

Crash data was requested for the four existing study intersections from the NDOT Safety Engineering Division for the most recently available five-year period (January 2019 - December 2023). The crash data for the study intersections is summarized in **Table 8**.

Table 8 – Crash Data Summary

Intersection Name	Total Crashes	Property Damage Only	Injury	Fatal
Arrowcreek Parkway and Crossbow Court (#1)	3 (100%)	2 (67%)	1 (33%)	0 (0%)
Arrowcreek Parkway and Thomas Creek Court (#2)	8 (100%)	4 (50%)	4 (50%)	0 (0%)
Crossbow Court and Hunsberger Elementary School North Access/ Project Access Drive (A)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Crossbow Court and Hunsberger Elementary School South Access/ Project Access Drive (B)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total	11 (100%)	6 (55%)	5 (45%)	0 (0%)

A total of 11 crashes were recorded at the study intersections in the most recently available five-year period. The 11 crashes resulted in six property damage only crash (55%) and five crashes resulted in an injury crash (45%). No fatal crashes were reported for the two existing study intersections.

6. CONCLUSIONS/RECOMMENDATIONS

The proposed development is anticipated to generate traffic volumes resulting in the following recommendations:

- An R7-1 “NO PARKING ANY TIME” should be installed along the project frontage along Crossbow Court.
- Provide a marked pedestrian crosswalk across Crossbow Court at the intersection of Crossbow Court and Hunsberger Elementary School North Access/Project Access Drive (A), consistent with Washoe County standards and the Manual on Uniform Traffic Control Devices (MUTCD).
- Install ADA-compliant pedestrian curb ramps at the crosswalk termini in accordance with applicable ADA accessibility requirements and Washoe County standards.
- An R1-1 “STOP” sign with appropriate pavement markings should be installed for the westbound egress at the project access drives.
- All on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to the current MUTCD, as applicable.

APPENDIX A
COUNT DATA

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int
	R	L	U	App	Ped*	T	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2025-05-29 12:00AM	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	3
12:15AM	0	0	0	0	0	2	0	0	2	0	0	3	0	3	0	5
12:30AM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
12:45AM	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2
Hourly Total	0	0	0	0	0	4	0	0	4	0	0	7	0	7	0	11
1:00AM	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3
1:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	3
2:00AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
2:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
3:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45AM	0	0	0	0	0	1	0	0	1	0	0	1	0	1	0	2
Hourly Total	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	3
4:00AM	0	0	0	0	0	2	0	0	2	0	0	1	0	1	0	3
4:15AM	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3
4:30AM	0	0	0	0	0	3	0	0	3	0	0	2	0	2	0	5
4:45AM	0	0	0	0	0	6	0	0	6	0	0	5	0	5	0	11
Hourly Total	0	0	0	0	0	14	0	0	14	0	0	8	0	8	0	22
5:00AM	1	2	0	3	0	4	0	0	4	0	1	3	0	4	0	11
5:15AM	0	0	0	0	0	5	0	0	5	0	0	7	0	7	0	12
5:30AM	0	0	0	0	0	12	0	0	12	0	0	18	0	18	0	30
5:45AM	0	0	0	0	0	11	0	0	11	0	1	18	0	19	0	30
Hourly Total	1	2	0	3	0	32	0	0	32	0	2	46	0	48	0	83
6:00AM	0	0	0	0	0	14	0	0	14	0	0	8	0	8	0	22
6:15AM	0	0	0	0	1	13	0	0	13	1	0	4	0	4	0	17
6:30AM	0	0	0	0	0	20	1	0	21	0	1	16	0	17	0	38
6:45AM	1	0	0	1	0	31	3	0	34	0	14	26	0	40	0	75
Hourly Total	1	0	0	1	1	78	4	0	82	1	15	54	0	69	0	152
7:00AM	0	57	0	57	4	35	9	0	44	3	58	36	0	94	0	195
7:15AM	4	105	0	109	7	36	11	0	47	1	100	31	2	133	0	289
7:30AM	3	19	0	22	0	77	1	0	78	0	17	33	0	50	0	150
7:45AM	0	29	0	29	0	62	4	0	66	0	42	54	0	96	0	191
Hourly Total	7	210	0	217	11	210	25	0	235	4	217	154	2	373	0	825
8:00AM	7	48	0	55	0	50	11	0	61	0	79	58	0	137	0	253
8:15AM	2	24	0	26	0	60	1	0	61	0	30	60	0	90	0	177
8:30AM	0	17	0	17	1	61	0	0	61	3	13	46	0	59	0	137
8:45AM	1	7	0	8	2	57	0	0	57	1	30	66	0	96	0	161
Hourly Total	10	96	0	106	3	228	12	0	240	4	152	230	0	382	0	728
9:00AM	4	51	0	55	3	61	15	0	76	2	83	51	0	134	0	265
9:15AM	17	118	0	135	1	51	10	0	61	3	95	60	1	156	0	352
9:30AM	4	34	0	38	1	69	4	0	73	1	6	53	0	59	0	170
9:45AM	2	3	0	5	0	54	0	0	54	0	6	58	0	64	0	123
Hourly Total	27	206	0	233	5	235	29	0	264	6	190	222	1	413	0	910
10:00AM	2	3	0	5	1	61	0	0	61	0	6	58	1	65	0	131
10:15AM	0	4	0	4	0	59	0	1	60	0	4	46	0	50	0	114
10:30AM	0	2	0	2	0	55	0	0	55	0	5	68	0	73	0	130

Leg Direction	Crossbow Court Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int
	R	L	U	App	Ped*	T	L	U	App	Ped*	R	T	U	App	Ped*	
10:45AM	2	7	0	9	0	63	0	0	63	0	3	55	0	58	0	130
Hourly Total	4	16	0	20	1	238	0	1	239	0	18	227	1	246	0	505
11:00AM	1	3	0	4	0	75	0	0	75	0	7	51	0	58	0	137
11:15AM	0	5	0	5	2	55	1	0	56	0	6	40	0	46	0	107
11:30AM	0	4	0	4	3	62	0	0	62	0	2	51	0	53	0	119
11:45AM	0	2	0	2	0	64	0	0	64	0	6	59	0	65	0	131
Hourly Total	1	14	0	15	5	256	1	0	257	0	21	201	0	222	0	494
12:00PM	1	6	0	7	0	54	1	0	55	0	0	58	1	59	0	121
12:15PM	1	4	0	5	0	57	1	0	58	0	4	63	0	67	0	130
12:30PM	2	5	0	7	0	49	1	0	50	0	8	63	1	72	0	129
12:45PM	0	3	0	3	0	54	0	0	54	0	1	58	0	59	0	116
Hourly Total	4	18	0	22	0	214	3	0	217	0	13	242	2	257	0	496
1:00PM	0	0	0	0	0	62	0	0	62	0	6	51	0	57	0	119
1:15PM	0	7	0	7	0	60	0	0	60	0	6	56	1	63	0	130
1:30PM	1	6	0	7	0	66	2	0	68	0	21	50	0	71	0	146
1:45PM	3	4	0	7	0	63	5	0	68	0	23	55	0	78	0	153
Hourly Total	4	17	0	21	0	251	7	0	258	0	56	212	1	269	0	548
2:00PM	11	91	0	102	9	75	4	1	80	3	17	49	0	66	0	248
2:15PM	2	15	0	17	0	63	0	0	63	0	9	52	0	61	0	141
2:30PM	0	5	0	5	0	61	6	0	67	0	13	66	0	79	0	151
2:45PM	3	5	0	8	2	61	7	0	68	2	27	72	0	99	0	175
Hourly Total	16	116	0	132	11	260	17	1	278	5	66	239	0	305	0	715
3:00PM	4	11	0	15	6	61	12	0	73	0	90	51	0	141	0	229
3:15PM	9	63	0	72	2	54	10	0	64	2	99	70	0	169	0	305
3:30PM	27	105	0	132	1	81	2	0	83	19	16	69	0	85	0	300
3:45PM	1	22	0	23	0	65	1	0	66	0	6	77	0	83	0	172
Hourly Total	41	201	0	242	9	261	25	0	286	21	211	267	0	478	0	1006
4:00PM	0	24	0	24	2	71	1	0	72	0	11	56	0	67	0	163
4:15PM	3	20	0	23	0	65	3	0	68	2	14	58	0	72	0	163
4:30PM	2	15	0	17	0	67	1	0	68	2	14	60	1	75	0	160
4:45PM	3	20	0	23	0	60	8	0	68	0	14	53	0	67	0	158
Hourly Total	8	79	0	87	2	263	13	0	276	4	53	227	1	281	0	644
5:00PM	10	24	0	34	0	58	2	0	60	3	13	48	2	63	0	157
5:15PM	2	15	0	17	0	52	1	0	53	0	18	60	0	78	0	148
5:30PM	1	13	0	14	1	40	4	0	44	0	17	64	0	81	0	139
5:45PM	1	6	0	7	0	38	4	0	42	0	12	50	2	64	0	113
Hourly Total	14	58	0	72	1	188	11	0	199	3	60	222	4	286	0	557
6:00PM	2	4	0	6	0	23	3	0	26	0	8	48	1	57	0	89
6:15PM	0	12	0	12	1	31	2	0	33	3	17	36	0	53	0	98
6:30PM	2	19	0	21	1	27	2	0	29	0	18	34	0	52	0	102
6:45PM	4	20	0	24	0	28	5	0	33	0	18	33	1	52	0	109
Hourly Total	8	55	0	63	2	109	12	0	121	3	61	151	2	214	0	398
7:00PM	0	4	0	4	4	30	2	0	32	3	2	32	0	34	0	70
7:15PM	3	7	0	10	0	19	0	0	19	0	1	29	0	30	0	59
7:30PM	0	0	0	0	0	13	0	0	13	0	2	28	0	30	0	43
7:45PM	1	0	0	1	0	15	1	0	16	0	3	29	0	32	0	49
Hourly Total	4	11	0	15	4	77	3	0	80	3	8	118	0	126	0	221
8:00PM	1	8	0	9	0	28	0	0	28	0	0	32	0	32	0	69
8:15PM	0	1	0	1	0	15	0	0	15	0	2	26	0	28	0	44
8:30PM	0	3	0	3	1	15	0	0	15	0	1	24	0	25	0	43
8:45PM	1	10	0	11	0	20	0	0	20	0	1	35	0	36	0	67
Hourly Total	2	22	0	24	1	78	0	0	78	0	4	117	0	121	0	223
9:00PM	2	5	1	8	0	13	0	0	13	0	0	27	0	27	0	48
9:15PM	4	17	0	21	0	14	0	0	14	0	0	19	0	19	0	54
9:30PM	1	3	0	4	0	10	0	0	10	0	0	16	0	16	0	30
9:45PM	0	0	0	0	0	9	0	0	9	0	0	14	0	14	0	23
Hourly Total	7	25	1	33	0	46	0	0	46	0	0	76	0	76	0	155
10:00PM	0	1	0	1	0	8	0	0	8	0	0	7	0	7	0	16
10:15PM	0	0	0	0	0	1	0	0	1	0	0	9	0	9	0	10
10:30PM	0	0	0	0	0	1	0	0	1	0	0	7	0	7	0	8

Leg Direction	Crossbow Court Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int
	R	L	U	App	Ped*	T	L	U	App	Ped*	R	T	U	App	Ped*	
10:45PM	0	1	0	1	0	4	0	0	4	0	0	5	0	5	0	10
Hourly Total	0	2	0	2	0	14	0	0	14	0	0	28	0	28	0	44
11:00PM	0	1	0	1	0	0	0	0	0	0	1	5	0	6	0	7
11:15PM	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	3
11:30PM	0	2	0	2	0	0	0	0	0	0	1	6	0	7	0	9
11:45PM	1	2	0	3	0	3	0	0	3	0	0	3	0	3	0	9
Hourly Total	1	5	0	6	0	4	0	0	4	0	2	16	0	18	0	28
Total	160	1153	1	1314	56	3061	162	2	3225	54	1149	3070	14	4233	0	8772
% Approach	12.2%	87.7%	0.1%	-	-	94.9%	5.0%	0.1%	-	-	27.1%	72.5%	0.3%	-	-	-
% Total	1.8%	13.1%	0%	15.0%	-	34.9%	1.8%	0%	36.8%	-	13.1%	35.0%	0.2%	48.3%	-	-
Lights	152	1137	1	1290	-	2986	158	2	3146	-	1114	3006	13	4133	-	8569
% Lights	95.0%	98.6%	100%	98.2%	-	97.5%	97.5%	100%	97.6%	-	97.0%	97.9%	92.9%	97.6%	-	97.7%
Articulated Trucks	0	0	0	0	-	11	0	0	11	-	0	10	0	10	-	21
% Articulated Trucks	0%	0%	0%	0%	-	0.4%	0%	0%	0.3%	-	0%	0.3%	0%	0.2%	-	0.2%
Buses and Single-Unit Trucks	5	16	0	21	-	59	4	0	63	-	35	48	1	84	-	168
% Buses and Single-Unit Trucks	3.1%	1.4%	0%	1.6%	-	1.9%	2.5%	0%	2.0%	-	3.0%	1.6%	7.1%	2.0%	-	1.9%
Bicycles on Road	3	0	0	3	-	5	0	0	5	-	0	6	0	6	-	14
% Bicycles on Road	1.9%	0%	0%	0.2%	-	0.2%	0%	0%	0.2%	-	0%	0.2%	0%	0.1%	-	0.2%
Pedestrians	-	-	-	-	28	-	-	-	-	39	-	-	-	-	0	-
% Pedestrians	-	-	-	-	50.0%	-	-	-	-	72.2%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	28	-	-	-	-	15	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	50.0%	-	-	-	-	27.8%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

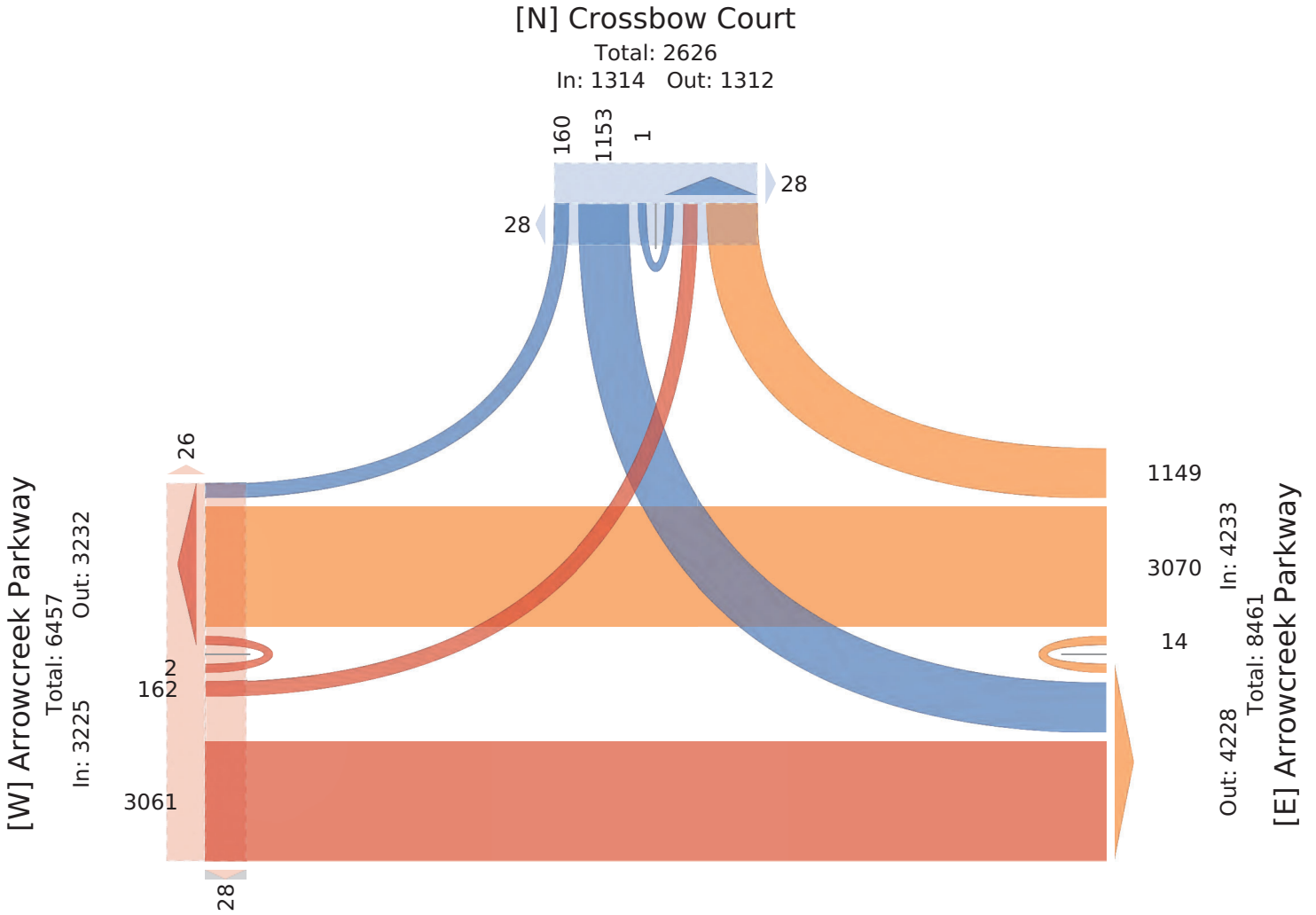
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US



Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

AM Peak (8:45 AM - 9:45 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int
	R	L	U	App	Ped*	T	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2025-05-29 8:45AM	1	7	0	8	2	57	0	0	57	1	30	66	0	96	0	161
9:00AM	4	51	0	55	3	61	15	0	76	2	83	51	0	134	0	265
9:15AM	17	118	0	135	1	51	10	0	61	3	95	60	1	156	0	352
9:30AM	4	34	0	38	1	69	4	0	73	1	6	53	0	59	0	170
Total	26	210	0	236	7	238	29	0	267	7	214	230	1	445	0	948
% Approach	11.0%	89.0%	0%	-	-	89.1%	10.9%	0%	-	-	48.1%	51.7%	0.2%	-	-	-
% Total	2.7%	22.2%	0%	24.9%	-	25.1%	3.1%	0%	28.2%	-	22.6%	24.3%	0.1%	46.9%	-	-
PHF	0.382	0.445	-	0.437	-	0.862	0.483	-	0.878	-	0.563	0.891	0.250	0.710	-	0.672
Lights	25	202	0	227	-	235	28	0	263	-	208	226	1	435	-	925
% Lights	96.2%	96.2%	0%	96.2%	-	98.7%	96.6%	0%	98.5%	-	97.2%	98.3%	100%	97.8%	-	97.6%
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	1	0	1	-	1
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0.4%	0%	0.2%	-	0.1%
Buses and Single-Unit Trucks	1	8	0	9	-	3	1	0	4	-	6	1	0	7	-	20
% Buses and Single-Unit Trucks	3.8%	3.8%	0%	3.8%	-	1.3%	3.4%	0%	1.5%	-	2.8%	0.4%	0%	1.6%	-	2.1%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	2	0	2	-	2
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0.9%	0%	0.4%	-	0.2%
Pedestrians	-	-	-	-	6	-	-	-	-	7	-	-	-	-	0	-
% Pedestrians	-	-	-	-	85.7%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	14.3%	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

AM Peak (8:45 AM - 9:45 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

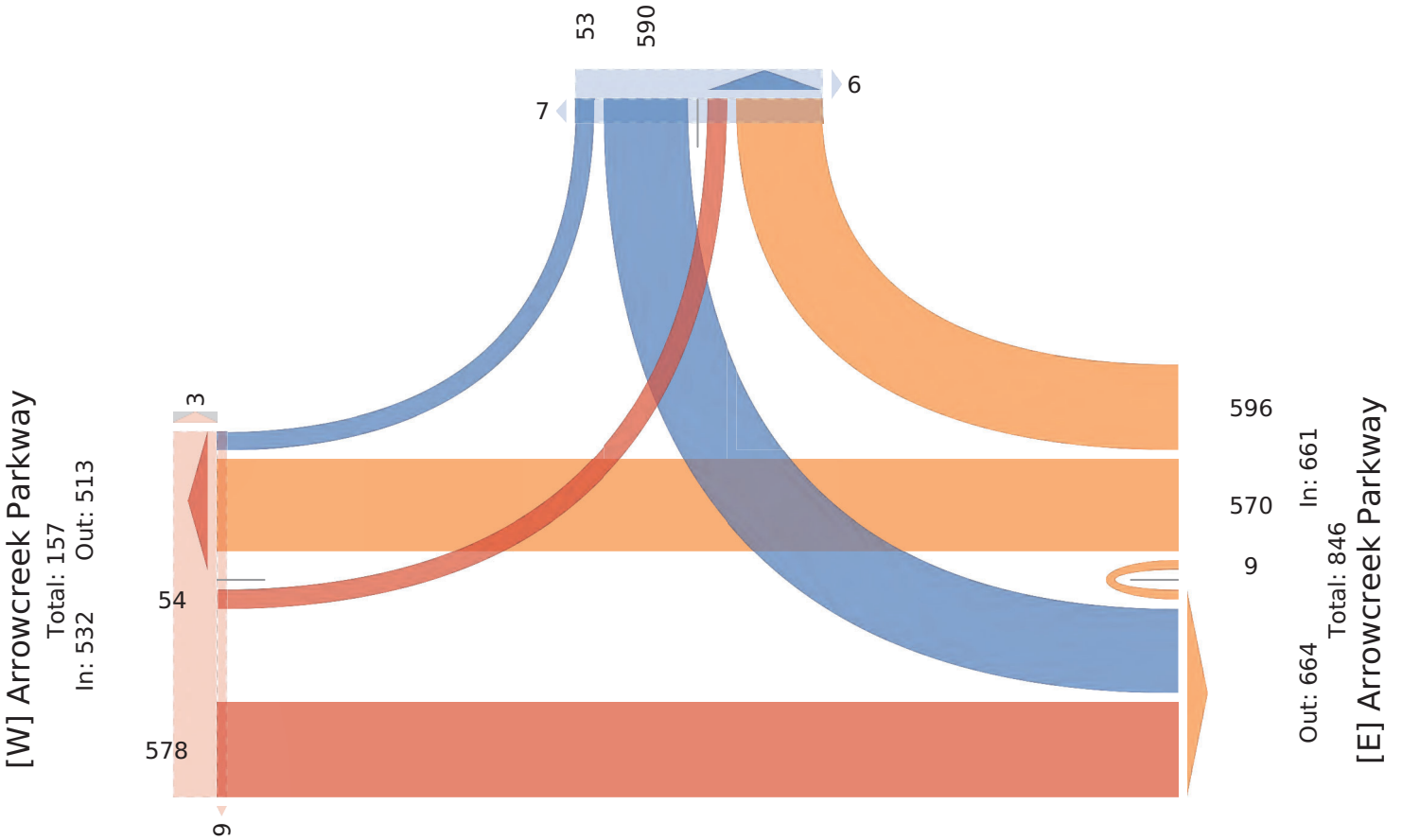
Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

[N] Crossbow Court

Total: 624

In: 573 Out: 567



Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

MAPPay eka(& eM 42 eM-

) ll Classks LAhg,) tgalagP Ttur(s, c usks adP BAli lk4n dAgTtur(s, ekPksGAds,

c Ayrllks Sd USaP, c Ayrllks Sd CtSsso al(-

) ll MSRkwkdg

vmI : D011: 9, LSragSDI D93101. 69, 4 : 93799D65

etSRkP byI KAvlky4HStd adP

) ssSr Agks, vdr 3

767 EusgA Bgkkg BuAk : 00,

BaAlgeaul, MN, 55: : 1, n B

Lki mAkrgSd	CtSssbSo CSutg BSughbSudP	) ttSo rtkk(eat(o ay EasgSudP	) ttSo rtkk(eat(o ay WksghSudP	
TAwk	U L n) pp ekP*	T L n) pp ekP*	U T n) pp ekP*	vdg
20250529 : I00eM	0 0 0 0 0	62 0 0 62 0	6 5: 0 57 0	: : 9
: I: 5eM	0 7 0 7 0	60 0 0 60 0	6 56 : 6D 0	: D
: IDeM	: 6 0 7 0	66 2 0 6. 0	2: 50 0 7: 0	: 16
: I15eM	D 1 0 7 0	6D 5 0 6. 0	2D 55 0 7. 0	: 5D
TSgl	1 : 7 0 2: 0	25: 7 0 25. 0	56 2: 2 : 269 0	51.
%) pptSarh	: 93% . : 3% 0% 4 4	973% 23% 0% 4 4	203% 7.3% 03% 4 4	4
% TSgl	03% D3% 0% D3% 4 4	153% : 3% 0% 173% 4 4	: 03% D3% 03% 193% 4 4	4
eHF	03DD 0307 4 0350 4	035: 0350 4 0319 4	0309 0316 0350 0362 4	0395
LAhg	1 : 7 0 2: 4	21D 7 0 250 4	17 20. 0 255 4	526
% LAhg	: 00% : 00% 0% : 00% 4	963% : 00% 0% 963% 4	. D3% 9.3% 0% 913% 4	963%
) tgalagP Ttur(s	0 0 0 0 4	2 0 0 2 4	0 0 0 0 4	2
(%) tgalagP Ttur(s	0% 0% 0% 0% 4	03% 0% 0% 03% 4	0% 0% 0% 0% 4	03%
c usks adP BAli lk4n dAgTtur(s	0 0 0 0 4	6 0 0 6 4	9 1 : : 1 4	20
% c usks adP BAli lk4n dAgTtur(s	0% 0% 0% 0% 4	23% 0% 0% 23% 4	: 63% : 3% : 00% 53% 4	D6%
c Ayrllks Sd USaP	0 0 0 0 4	0 0 0 0 4	0 0 0 0 4	0
% c Ayrllks Sd USaP	0% 0% 0% 0% 4	0% 0% 0% 0% 4	0% 0% 0% 0% 4	0%
e kPksGAds	4 4 4 4 0	4 4 4 4 0	4 4 4 4 0	
% e kPksGAds	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4
c Ayrllks Sd CtSsso al(	4 4 4 4 0	4 4 4 4 0	4 4 4 4 0	
% c Ayrllks Sd CtSsso al(	4 4 4 4 4	4 4 4 4 4	4 4 4 4 4	4

* e kPksGAds adP c Ayrllks Sd CtSsso al(3LI Lkfg UI UAhg TI Thtu, n I n 4Tutd

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

MAP Pay eka (8 eM 42 eM-

) ll Classks 8LA hg,) t gAulagP Ttur (s, c usks adP BAli lk4 dA Ttur (s, ekPkg Ads, c Ayr lks

Sd USA P, c Ayr lks Sd Ct Ssso al (-

) ll MSRkwkdg

vmI : D011: 9, LSragSdI D03101. 69, 4 : 93799D65

etSRPkP byI KAvlky4HStd adP

) ssSr Ags, vdr 3

767 EusgA Bgkkg BuAk : 00,

BaAigeaul, MN, 55: : 1, n B

[N] Crossbow Court

Total: 84

In: 21 Out: 63

4 17

[W] Arrowcreek Parkway

Total: 474

Out: 216

In: 258

251

7

56

212

1

Out: 269 In: 269

Total: 538

[E] Arrowcreek Parkway

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

PM Peak (2:45 PM - 3:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int
	R	L	U	App	Ped*	T	L	U	App	Ped*	R	T	U	App	Ped*	
Time																
2025-05-29 2:45PM	3	5	0	8	2	61	7	0	68	2	27	72	0	99	0	175
3:00PM	4	11	0	15	6	61	12	0	73	0	90	51	0	141	0	229
3:15PM	9	63	0	72	2	54	10	0	64	2	99	70	0	169	0	305
3:30PM	27	105	0	132	1	81	2	0	83	19	16	69	0	85	0	300
Total	43	184	0	227	11	257	31	0	288	23	232	262	0	494	0	1009
% Approach	18.9%	81.1%	0%	-	-	89.2%	10.8%	0%	-	-	47.0%	53.0%	0%	-	-	-
% Total	4.3%	18.2%	0%	22.5%	-	25.5%	3.1%	0%	28.5%	-	23.0%	26.0%	0%	49.0%	-	-
PHF	0.398	0.438	-	0.430	-	0.793	0.646	-	0.867	-	0.586	0.910	-	0.731	-	0.827
Lights	42	178	0	220	-	244	29	0	273	-	227	254	0	481	-	974
% Lights	97.7%	96.7%	0%	96.9%	-	94.9%	93.5%	0%	94.8%	-	97.8%	96.9%	0%	97.4%	-	96.5%
Articulated Trucks	0	0	0	0	-	3	0	0	3	-	0	0	0	0	-	3
% Articulated Trucks	0%	0%	0%	0%	-	1.2%	0%	0%	1.0%	-	0%	0%	0%	0%	-	0.3%
Buses and Single-Unit Trucks	1	6	0	7	-	10	2	0	12	-	5	8	0	13	-	32
% Buses and Single-Unit Trucks	2.3%	3.3%	0%	3.1%	-	3.9%	6.5%	0%	4.2%	-	2.2%	3.1%	0%	2.6%	-	3.2%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	10	-	-	-	-	21	-	-	-	-	0	-
% Pedestrians	-	-	-	-	90.9%	-	-	-	-	91.3%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	2	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	9.1%	-	-	-	-	8.7%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Arrowcreek Parkway and Crossbow Court - TMC

Thu May 29, 2025

PM Peak (2:45 PM - 3:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304419, Location: 39.404869, -119.799365

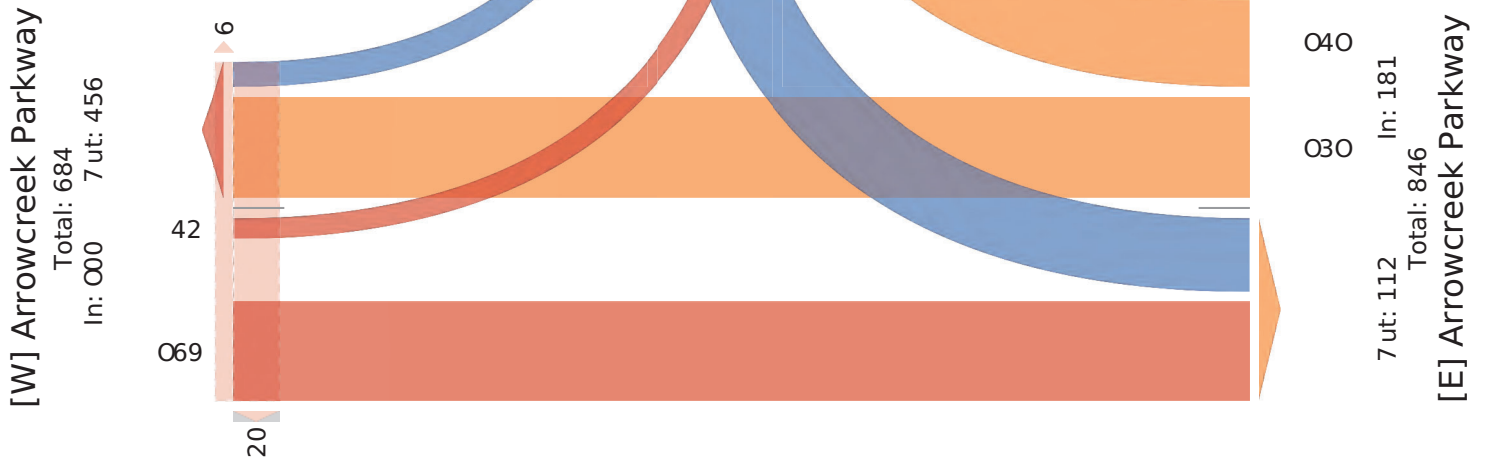
Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

[N] Crossbow Court

Total: 185

In: 009 7 ut: 034



Arrowcreek Parkway and Thomas Creek Road - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 130442. , Location: 398404. 51, -1198907. 9

Provided by: Kimley-Horn and Associates,

Inc8

6. 6 Eustis Street, Suite 100,

Saint Paul, MN, 55114, US

Leg Direction	Thomas Creek Road Northbound					Thomas Creek Road Southbound					Arrowcreek Parkway Eastbound					Arrowcreek Parkway Westbound					Int		
	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*			
Time	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*	R	T	L	U	App Ped*			
2025-05-29 12:00AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	2	1	0	3		5	
12:15AM	0	0	1	0	0	0	0	0	0	0	0	2	0	0	2	2	2	0	0	4		6	
12:30AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0		1	
12:45AM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1		3	
Hourly Total	0	1	2	0	3	0	0	1	0	1	0	4	0	0	4	2	5	1	0	7		1.	
1:00AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3		4	
1:15AM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0		2	
1:30AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2		3	
1:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Hourly Total	1	0	1	0	2	1	0	0	0	1	1	0	0	0	1	0	2	3	0	5		9	
2:00AM	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1		4	
2:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
2:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		1	
2:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
Hourly Total	2	0	0	0	2	0	0	1	0	1	0	0	0	0	0	1	1	0	0	2		5	
3:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
3:15AM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1		3	
3:30AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1		3	
3:45AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	1	2	0	3		5	
Hourly Total	2	0	0	0	2	0	1	2	0	3	0	1	0	0	1	0	2	3	0	5		11	
4:00AM	1	0	0	0	1	0	0	1	0	1	0	2	0	0	2	0	1	0	0	1		5	
4:15AM	3	0	0	0	3	0	0	1	0	1	1	2	0	0	3	1	0	0	0	1		7	
4:30AM	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1		.	
4:45AM	0	1	0	0	1	0	1	0	0	1	2	6	0	0	9	0	5	0	0	5		1.	
Hourly Total	5	4	1	0	10	0	1	2	0	3	3	11	0	0	14	1	6	0	0	7		35	
5:00AM	1	2	0	0	3	0	2	0	0	2	1	4	1	0	.	0	4	1	0	5		1.	
5:15AM	4	0	0	0	4	1	2	0	0	3	2	3	0	0	5	0	6	0	0	6		19	
5:30AM	0	1	4	0	5	0	0	0	0	0	0	11	1	0	12	0	13	0	0	13		30	
5:45AM	0	0	5	0	5	0	3	1	0	4	0	10	0	0	10	2	14	0	0	1.		35	
Hourly Total	5	3	9	0	16	1	6	1	0	9	3	27	2	0	33	2	37	1	0	41		100	
.:00AM	4	2	0	0	.	0	1	0	0	1	3	12	0	0	15	1	7	3	0	12		34	
.:15AM	4	0	0	0	4	0	4	0	0	4	1	9	1	0	11	3	4	4	0	11		30	
.:30AM	7	0	2	0	10	1	7	5	0	14	5	16	0	0	22	.	1.	7	0	30		6.	
.:45AM	9	15	10	0	34	1	7	9	0	17	.	15	3	0	24	31	26	12	0	60		14.	
Hourly Total	25	16	12	0	54	2	21	14	0	36	15	53	4	0	62	41	55	26	0	123		27.	
6:00AM	15	.1	56	0	133	1	29	36	0	.6	29	55	3	0	76	2	72	54	10	14.		433	
6:15AM	21	32	52	0	105	.	.0	72	0	147	39	95	13	0	146	3	41	.9	14	124		524	
6:30AM	23	13	13	0	49	0	4.	50	0	9.	26	.7	2	0	96	6	40	15	0	.2		304	
6:45AM	16	11	33	0	.1	4	23	10	0	36	34	55	1	0	90	2	.2	14	0	67		2..	
Hourly Total	6.	116	155	0	347	11	157	169	0	347	129	263	19	0	421	5	132	225	53	0	410		1526
7:00AM	13	13	41	0	.6	5	12	7	0	25	24	62	0	0	9.	6	74	12	0	103		291	
7:15AM	16	13	25	0	55	6	1.	7	0	31	20	.1	6	0	77	9	56	14	0	70		254	
7:30AM	2.	12	17	0	5.	7	13	.	0	26	16	.3	4	0	74	1	31	14	0	4.		213	
7:45AM	16	10	24	0	51	5	15	5	0	25	20	41	4	0	.5	5	.3	19	0	76		227	
Hourly Total	63	47	107	0	229	25	5.	26	0	107	71	236	15	0	333	1	22	235	59	0	31.		97.
9:00AM	13	9	.1	0	73	9	9	6	0	25	32	54	4	0	90	1	14	64	19	1	107		30.
9:15AM	1.	9	53	0	67	11	6	13	0	31	.1	109	6	0	166	5	71	1.	0	102		377	
9:30AM	17	7	12	0	37	5	3	10	0	17	41	.1	9	0	111	5	46	24	1	66		244	
9:45AM	1.	3	22	0	41	2	.	4	0	12	9	47	4	0	.1	3	40	9	0	52		1..	
Hourly Total	.3	29	147	0	240	26	25	34	0	7.	143	262	24	0	439	2	26	242	.7	2	339		1104
10:00AM	22	4	21	0	46	6	4	4	0	15	14	46	2	0	.3	11	40	21	0	62		196	
10:15AM	16	10	14	0	41	4	10	6	0	21	16	47	1	0	..	.	36	16	0	.0		177	
10:30AM	17	12	21	0	51	0	.	.	0	12	9	4.	1	0	5.	3	44	2.	0	63		192	
10:45AM	21	.	10	0	36	.	12	7	0	2.	16	46	4	0	.7	9	43	21	0	63		204	
Hourly Total	67	32	..	0	16.	16	32	25	0	64	56	177	7	0	253	7	29	1.4	75	0	267		671
11:00AM	14	9	12	0	35	2	5	9	0	1.	15	5.	4	0	65	7	40	14	0	.2		177	
11:15AM	1.	10	21	0	46	2	6	4	0	13	10	51	0	0	.1	3	30	20	0	53		164	
11:30AM	13	2	13	0	27	1	6	9	0	16	17	47	3	0	.9	5	34	27	0	.6		171	
11:45AM	22	7	20	0	50	3	11	.	0	20	15	44	3	0	.2	6	43	19	0	.9		201	
Hourly Total	.5	29	..	0	1.0	7	30	27	0	..	57	199	10	0	2.6	23	146	71	0	251		644	

Leg Direction	Thomas Creek Road Northbound						Thomas Creek Road Southbound						Arrowcreek Parkway Eastbound						Arrowcreek Parkway Westbound						Int
	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	
12:00PM	20	7	1	0	44	0	0	9	3	0	12	0	14	43	3	0	.0	1	9	44	21	0	64	0	190
12:15PM	11	7	27	0	46	0	1	9	4	0	14	0	7	45	.	0	59	0	4	37	1.	0	57	1	167
12:30PM	17	7	24	0	50	0	4	5	.	0	15	0	9	4.	1	0	5.	0	6	45	19	0	61	1	192
12:45PM	12	16	15	0	44	1	3	13	3	0	19	1	15	40	2	0	56	1	10	41	23	0	64	0	194
Hourly Total	.1	41	73	0	175	1	7	3.	1.	0	.0	1	4.	164	12	0	232	2	30	1.7	69	0	266	2	654
1:00PM	17	7	14	0	40	0	.	7	9	0	23	0	9	46	.	0	.2	0	13	39	15	0	.6	2	192
1:15PM	12	10	12	0	34	0	3	11	4	0	17	0	2.	44	2	0	62	0	11	47	14	0	63	0	196
1:30PM	10	26	19	0	5.	0	2	13	5	0	20	0	10	53	6	0	60	0	25	47	16	0	90	0	23.
1:45PM	12	39	26	0	67	0	1	5	6	0	13	0	15	49	3	0	.6	0	46	53	26	0	126	2	275
Hourly Total	52	74	62	0	207	0	12	36	25	0	64	0	.0	193	17	0	261	0	9.	177	63	0	356	4	910
2:00PM	7	17	20	0	4.	0	1	35	57	0	94	0	52	91	10	0	153	24	42	42	25	0	109	0	402
2:15PM	11	15	16	0	43	0	4	45	41	0	90	0	15	.4	.	0	75	1	14	43	23	0	70	0	297
2:30PM	21	20	30	0	61	0	.	11	1.	0	33	0	13	54	4	0	61	0	.	45	31	0	72	0	256
2:45PM	12	1.	32	0	.0	0	7	12	9	0	29	0	1.	44	3	1	.4	0	5	56	21	0	73	0	23.
Hourly Total	52	.9	99	0	220	0	19	103	124	0	24.	0	9.	253	23	1	363	25	.6	176	100	0	354	0	1193
3:00PM	21	13	47	0	72	0	4	12	15	0	31	0	21	42	6	0	60	0	9	96	21	0	126	0	310
3:15PM	20	14	51	0	75	0	9	22	1.	0	46	0	41	.9	1	0	111	0	7	10.	20	0	134	0	366
3:30PM	2.	17	22	0	..	0	3	26	31	0	.1	0	60	103	9	0	172	0	4	.2	26	0	93	0	402
3:45PM	2.	22	20	0	.7	0	6	13	6	0	26	0	16	.4	5	0	7.	0	7	47	19	0	65	0	25.
Hourly Total	93	.6	141	0	301	0	23	64	.9	0	1..	0	149	267	22	0	449	0	29	313	76	0	429	0	1345
4:00PM	2.	13	24	0	.3	0	.	11	7	0	25	0	19	61	.	0	9.	0	3	3.	27	0	.6	0	251
4:15PM	26	1.	24	0	.6	1	3	.	10	0	19	0	13	.2	6	0	72	0	5	41	30	0	6.	0	244
4:30PM	17	11	22	0	51	0	.	14	9	0	29	0	21	.5	3	0	79	0	6	46	39	0	93	0	2.2
4:45PM	17	4.	22	0	7.	0	4	19	22	0	45	0	17	55	2	0	65	0	26	42	21	0	90	0	29.
Hourly Total	79	7.	92	0	2.6	1	19	50	49	0	117	0	61	253	17	0	342	0	42	1..	117	0	32.	0	1053
5:00PM	16	21	21	0	59	0	3	42	19	0	.4	0	24	54	7	1	76	0	17	41	22	1	72	0	292
5:15PM	13	21	17	0	52	0	4	9	9	0	22	0	1.	5.	3	0	65	2	22	51	30	0	103	0	252
5:30PM	15	33	19	0	.6	0	6	12	7	0	26	0	10	39	.	0	55	0	36	56	21	0	115	0	2.4
5:45PM	9	43	1.	0	.7	0	2	16	4	0	23	0	9	3.	1	0	4.	0	3.	45	14	1	9.	0	233
Hourly Total	54	117	64	0	24.	0	1.	70	40	0	13.	0	59	175	17	1	2.3	2	113	194	76	2	39.	0	1041
.:00PM	13	23	19	0	55	0	2	7	4	0	14	0	4	25	1	0	30	0	22	36	1.	0	65	0	164
.:15PM	10	7	13	0	31	0	0	11	5	0	1.	0	6	3.	3	0	4.	0	12	36	23	0	62	0	1.5
.:30PM	10	7	1.	0	34	0	3	23	32	0	57	0	11	26	4	0	42	1	11	33	16	0	.1	0	195
.:45PM	.	15	20	0	41	0	2	36	52	0	91	0	14	30	9	0	53	0	17	30	20	0	.7	0	253
Hourly Total	39	54	.7	0	1.1	0	6	69	93	0	169	0	3.	117	16	0	161	1	.3	136	6.	0	26.	0	676
6:00PM	10	17	4	0	32	0	5	17	25	0	47	0	6	19	3	0	29	1	15	23	17	0	5.	0	1.5
6:15PM	.	10	9	0	25	0	1	6	30	0	37	0	5	20	1	0	2.	0	7	19	5	0	32	0	121
6:30PM	4	6	6	0	17	0	1	1	4	0	.	0	5	6	0	0	12	0	5	22	14	0	41	0	66
6:45PM	3	.	9	0	17	0	2	4	2	0	7	0	7	6	1	0	1.	0	5	20	13	1	39	1	71
Hourly Total	23	41	29	0	93	0	9	30	.1	0	100	0	25	53	5	0	73	1	33	74	50	1	1.7	1	444
7:00PM	.	2	6	0	15	0	1	6	2	0	10	0	11	21	0	0	32	1	2	25	15	0	42	0	99
7:15PM	.	.	12	0	24	0	1	3	6	0	11	0	5	11	0	0	1.	0	4	15	10	0	29	0	70
7:30PM	7	.	5	0	19	0	0	11	12	0	23	0	5	15	0	0	20	0	1	20	10	0	31	0	93
7:45PM	3	5	.	0	14	0	1	6	3	0	11	0	4	22	1	0	26	0	2	27	15	0	45	0	96
Hourly Total	23	19	30	0	62	0	3	27	24	0	55	0	25	.9	1	0	95	1	9	77	50	0	146	0	3.9
9:00PM	.	.	6	0	19	0	1	2	2	0	5	0	.	13	0	0	19	1	3	17	11	0	32	0	65
9:15PM	.	3	4	0	13	0	0	4	0	0	4	0	16	1.	0	0	33	0	1	14	6	0	22	0	62
9:30PM	3	2	4	0	9	0	0	3	0	0	3	0	3	10	0	0	13	0	0	1.	4	0	20	0	45
9:45PM	1	1	0	0	2	0	1	1	1	0	3	0	1	7	0	0	9	0	3	9	.	0	17	0	32
Hourly Total	1.	12	15	0	43	0	2	10	3	0	15	0	26	46	0	0	64	1	6	56	27	0	92	0	224
10:00PM	2	2	3	0	6	0	0	1	2	0	3	0	0	9	0	0	9	0	0	5	2	1	7	0	26
10:15PM	0	1	4	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	4	0	0	4	0	10
10:30PM	2	3	2	0	6	0	1	0	0	0	1	0	0	2	0	0	2	0	0	4	1	0	5	0	15
10:45PM	1	2	0	0	3	0	0	2	0	0	2	0	0	4	1	0	5	0	0	5	1	0	.	0	1.
Hourly Total	5	7	9	0	22	0	1	3	2	0	.	0	0	1.	1	0	16	0	0	17	4	1	23	0	.7
11:00PM	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0	5	2	0	6	0	10
11:15PM	2	0	1	0	3	0	0	2	1	0	3	0	0	1	0	0	1	0	0	2	2	0	4	0	11
11:30PM	0	2	2	0	4	0	0	1	0	0	1	0	0	2	0	0	2	0	1	4	0	0	5	0	12
11:45PM	0	0	1	0	1	0	0	0	0	0	0	0	0	5	0	0	5	0	0	2	3	0	5	0	11
Hourly Total	2	2	5	0	9	0	0	4	1	0	5	0	0	9	0	0</									

Leg Direction	Thomas Creek Road Northbound						Thomas Creek Road Southbound						Arrowcreek Parkway Eastbound						Arrowcreek Parkway Westbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
Buses and Single-Unit Trucks	14	11	25	0	50	-	7	19	13	0	40	-	21	27	.	0	55	-	5	55	.	0	..	-	211
% Buses and Single-Unit Trucks	15%	12%	19%	0%	18%	-	37%	22%	18%	0%	21%	-	19%	19%	27%	0%	18%	-	08%	20%	05%	0%	18%	-	15%
Bicycles on Road	3	6	2	0	12	-	2	5	0	0	6	-	2	1	3	0	.	-	0	1	1	0	2	-	26
% Bicycles on Road	08%	08%	02%	0%	08%	-	08%	08%	0%	0%	08%	-	02%	0%	18%	0%	08%	-	0%	0%	08%	0%	0%	-	02%
Pedestrians	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	40	-	-	-	-	-	11	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	86%	-	-	-	-	-	65%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	13	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	33%	-	-	-	-	-	24%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

Arrowcreek Parkway and Thomas Creek Road - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 130442. , Location: 398404. 51, -1198907. 9

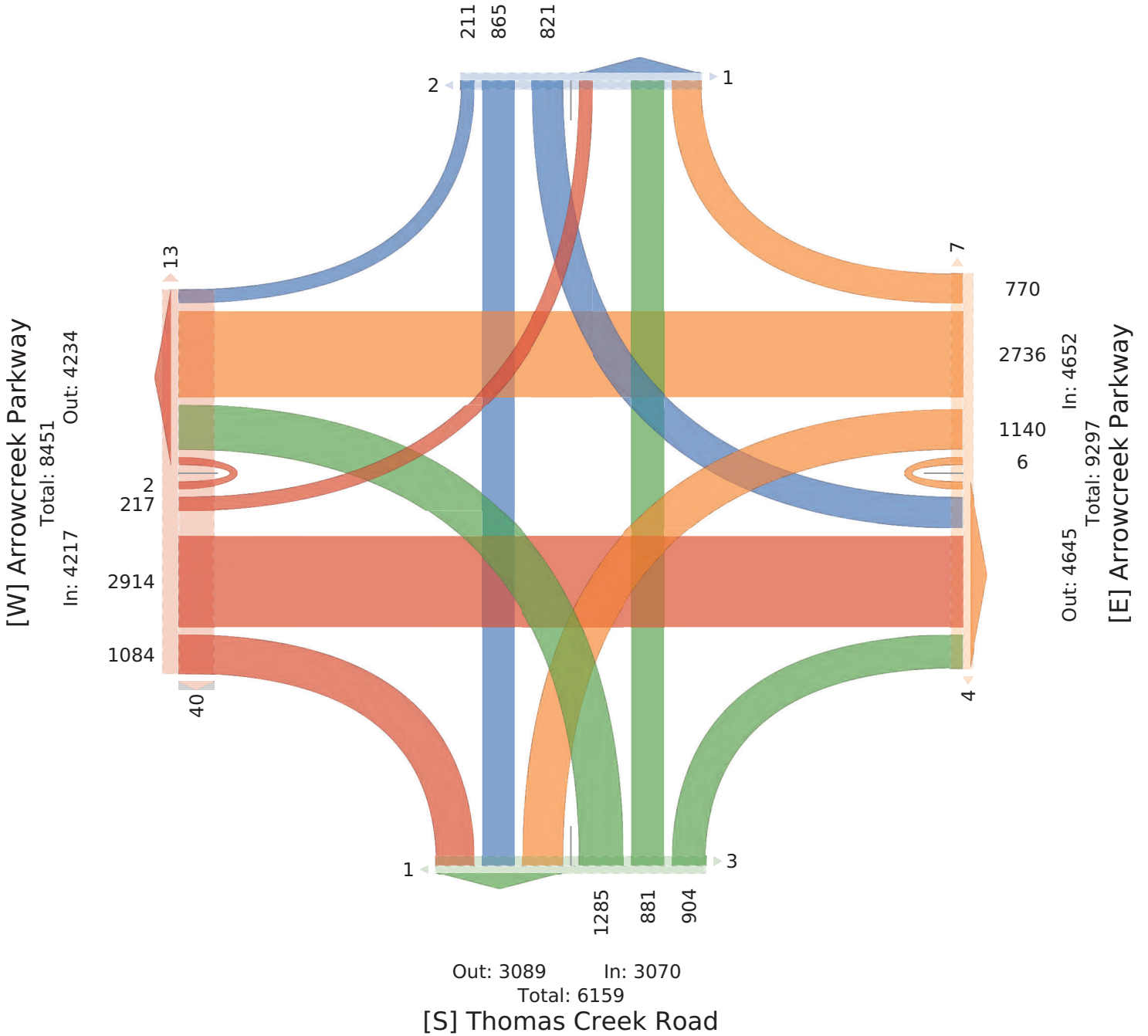
Provided by: Kimley-Horn and Associates, Inc8

6. 6 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

[N] Thomas Creek Road

Total: 3765

In: 1897 Out: 1868



Arrowcreek Parkway and Thomas Creek Road - TMC

erovlckc byDKIwlky-HorBaBc P Cöt lagC

Thu May 29, 2025

nbt 7

P M eka(:4 P M - 3 P M) - Ovkral eka(Hour

464 EuGjCngkkg nuIk 100,

P ll AlaCkC:s li hg, P rgt ulagc Trut (C d uCkCaBc nIb l k-S Blg Trut (C e kckGrlaBC, d l t yt lkCoB

naBgeaul, MN, 55118, S n

Uoac, d l t yt lkCoB AroCRal()

P ll MovkwkBgC

n Dl. 08826, s ot agloBD 97808651, -1197490369

s ki l lkt gOB	ThowaCArkk(Uoac NorghbouBc					ThowaCArkk(Uoac noughbouBc					PrroRtrkk(ear(Ray EaGhouBc					PrroRtrkk(ear(Ray WkGhouBc					nbg	
	U	T	s	S	Ppp ekc*	U	T	s	S	Ppp ekc*	U	T	s	S	Ppp ekc*	U	T	s	S	Ppp ekc*		
2025-05-29 4D0P M	15	61	54	0	1.	1	29	.4	0	64	29	55	.	0	34	32	58	10	0	186	1	8.
4D5P M	21	.2	52	0	105	6	60	32	0	183	.9	95	1.	0	184	81	69	18	0	128	0	528
4D0P M	2.	1.	1.	0	89	0	86	50	0	96	24	63	2	0	94	4	80	15	0	62	1	.08
4B5P M	14	11	.	0	61	8	2.	10	0	.4	.8	55	1	0	90	2	62	18	0	43	0	266
Togbl	46	114	155	0	.83	11	153	149	0	.83	129	24.	19	0	821	1.2	225	5.	0	810	2	1524
% P pproath	213%	. . 7%	887%	0%	-	. 7%	858%	518%	0%	-	. 07%	688%	87%	0%	-	. 22%	587%	127%	0%	-	-	-
% Togbl	57%	47%	107%	0%	227%	07%	107%	117%	0%	227%	37%	147%	17%	0%	247%	37%	187%	. 7%	0%	267%	-	-
eHF	07326	07845	07630	-	07652	07853	07653	07586	-	07533	07824	07413	0765	-	07416	07802	07315	0733.	-	07402	-	07423
s li hgC	45	116	152	0	.8.	11	158	148	0	.9	123	241	19	0	813	1.2	213	52	0	802	-	1502
% s li hgC	9374%	997%	937%	0%	937%	100%	947%	947%	0%	947%	9972%	997%	100%	0%	997%	100%	967%	937%	0%	937%	-	937%
P rgt ulagc Trut (C	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% P rgt ulagc Trut (C	0%	0%	07%	0%	07%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	07%
d uCkCaBc nIb l k-S Blg Trut (C	1	0	2	0	.	0	8	5	0	9	1	2	0	0	.	0	4	1	0	3	-	2.
% d uCkCaBc nIb l k-S Blg Trut (C	17%	0%	17%	0%	07%	0%	27%	27%	0%	27%	07%	07%	0%	0%	07%	0%	. 7%	17%	0%	27%	-	17%
d l t yt lkCoB Uoac	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% d l t yt lkCoB Uoac	0%	07%	0%	0%	07%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	07%
e kckGrlaBC	-	-	-	-	0	-	-	-	-	1	-	-	-	-	5	-	-	-	-	-	2	-
% e kckGrlaBC	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	-	100%	-
d l t yt lkCoB AroCRal(	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-
% d l t yt lkCoB AroCRal(	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-

* e kckGrlaBCaBc d l t yt lkCoB AroCRal(7s Ds kfg UDUIi hg TDT hru, S DS -TurB

Arrowcreek Parkway and Thomas Creek Road - TMC

Thu May 29, 2025

PM Peak (2:45 PM - 3:45 PM) - Overall Peak Hour

Project: Signalized Intersection of Arrowcreek Parkway and Thomas Creek Road (City of Duluth) - Signalized Intersection of Arrowcreek Parkway and Thomas Creek Road (City of Duluth)

Project: Signalized Intersection of Arrowcreek Parkway and Thomas Creek Road (City of Duluth)

Project: Signalized Intersection of Arrowcreek Parkway and Thomas Creek Road (City of Duluth)

Prepared by: KIMBERLY HORNBACH

Project No: 2024-07

464 Euclid Avenue, Suite 100,
Bloomington, MN, 55118, USA

[N] Thomas Creek Road

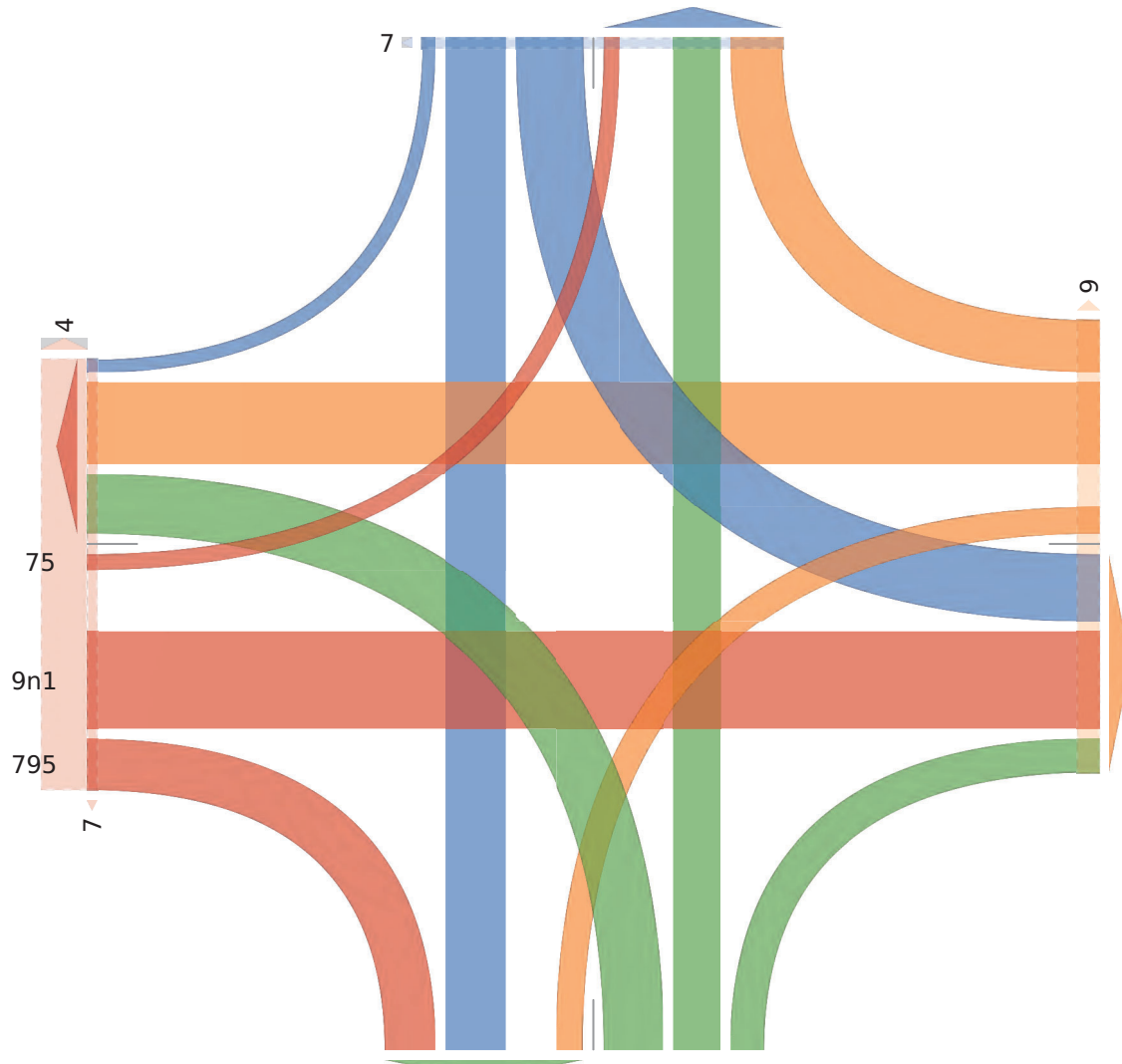
Total: 373

0 : 146 28t: 936

77
7u6
7n5

[W] Arrowcreek Parkway

Total: 679
0 : 497 28t: 157



[E] Arrowcreek Parkway

Total: 516
0 : 470 28t: 96

28t: 140 0 : 146
Total: 366

[S] Thomas Creek Road

Arrowcreek Parkway and Thomas Creek Road - TMC

etSRAP by I KAvlky4HStd adP) ssSr Agks,

Thu May 29, 2025

vdv.

MAPPay eka(& eM 42 eM-

636 EusgA Bgkkg BuAk : 00,

) ll Classks BLA hgs,) tgaulagP Ttur(s, c usks adP BAli lk4 dAg Ttur(s, ekPksG Ads, c Ayr lks Sd

BaAlgeaul, MN, 55: : 1, n B

USaP, c Ayr lks Sd CtSsso al(-

) ll MSRkwkdg

vml : DD1123, LSragSdi D9.10135: , 4 : 9.690739

Lki mAkrgSd	ThSwas Ctkk(USAp NSgjbSudP	ThSwas Ctkk(USAp BSgjbSudP	) ttSo rtkk(eat(o ay EasgSudP	) ttSo rtkk(eat(o ay WksSudP	vdg
TAvk	U T L n) pp ekP*	U T L n) pp ekP*	U T L n) pp ekP*	U T L n) pp ekP*	
202540549 : 100eM	: 7 7 : 1 0 10 0	3 7 9 0 2D 0	9 16 3 0 32 0	: D D9 : 5 0 36 2	: 92
: I: 5eM	: 2 : 0 : 2 0 D1 0	D : : 1 0 : 7 0	23 11 2 0 62 0	: : 17 : 1 0 6D 0	: 96
: ID0eM	: 0 26 : 9 0 53 0	2 : D 5 0 20 0	: 0 5D 6 0 60 0	25 17 : 6 0 90 0	2DB
: I15eM	: 2 D9 26 0 67 0	: 5 6 0 : D 0	: 5 19 D 0 36 0	16 5D 26 0 : 26 2	275
TSgl	52 71 62 0 207 0	: 2 D6 25 0 61 0	30 : 9D : 7 0 26: 0	93 : 77 6D 0 D66 1	9: 0
%) pptSarh	25.0% 10.1% D1.3% 0% 4 4	: 3.2% 50.0% D7% 0% 4 4	22.: % 6: .2% 3.3% 0% 4 4	23.9% 52.6% 20.1% 0% 4 4	4 4
% TSgl	5.6% 9.2% 6.9% 0% 22.9% 4	: .D% 1.: % 2.6% 0% 7.: % 4	3.3% 2: .2% 2.0% 0% 29.7% 4	: 0.5% 20.6% 7.0% 0% D9.2% 4	4 4
eHF	0.622 0.5D7 0.336 4 0.336 4	0.500 0.6: 2 0.391 4 0.701 4	0.566 0.9: 0 0.31D 4 0.91: 4	0.5: : 0.776 0.363 4 0.60D 4	0.697
LAhgs	5: 71 37 0 20D 4	: : D8 25 0 62 4	30 : 79 : 6 0 233 4	95 : 63 6D 0 D11 4	775
% LAhgs	97.: % : 00% 91.1% 0% 96.3% 4	9: .6% 96.D% : 00% 0% 96.D% 4	: 00% 96.9% 91.1% 0% 97.2% 4	99.0% 9D3% : 00% 0% 93.1% 4	96.D%
) tgaulagP Ttur(s	0 0 0 0 0 4	0 0 0 0 0 4	0 : 0 0 : 4	0 : 0 0 : 4	2
%) tgaulagP Ttur(s	0% 0% 0% 0% 0% 4	0% 0% 0% 0% 0% 4	0% 0.5% 0% 0% 0.1% 4	0% 0.5% 0% 0% 0.D% 4	0.2%
c usks adP BAli lk4 dAg Ttur(s	: 0 1 0 5 4	: : 0 0 2 4	0 D : 0 1 4	: : 0 0 : 2 4	2D
% c usks adP BAli lk4 dAg Ttur(s	: .9% 0% 5.3% 0% 2.1% 4	7.D% 2.6% 0% 0% 2.6% 4	0% : .3% 5.3% 0% : .5% 4	: .0% 5.9% 0% 0% D1% 4	2.5%
c Ayr lks Sd USaP	0 0 0 0 0 4	0 0 0 0 0 4	0 0 0 0 0 4	0 0 0 0 0 4	0
% c Ayr lks Sd USaP	0% 0% 0% 0% 0% 4	0% 0% 0% 0% 0% 4	0% 0% 0% 0% 0% 4	0% 0% 0% 0% 0% 4	0%
e kPksG Ads	4 4 4 4 4 0	4 4 4 4 4 0	4 4 4 4 4 0	4 4 4 4 4 1	
% e kPksG Ads	4 4 4 4 4 4	4 4 4 4 4 4	4 4 4 4 4 4	4 4 4 4 4 : 00%	4
c Ayr lks Sd CtSsso al(-	4 4 4 4 4 0	4 4 4 4 4 0	4 4 4 4 4 0	4 4 4 4 4 0	
% c Ayr lks Sd CtSsso al(-	4 4 4 4 4 4	4 4 4 4 4 4	4 4 4 4 4 4	4 4 4 4 4 0%	4

* e kPksG Ads adP c Ayr lks Sd CtSsso al(. LI Lkfg UI UA hg TI Thtu, n I n 4Tutd

Arrowcreek Parkway and Thomas Creek Road - TMC

Thu May 29, 2025

M 42 eM 42 eM-

) ll Classks 8LA hg,) tga ulagP Ttur (s, c usks adP BAli lk4 dA Ttur (s, ekPkgA ds, c Ayrllks
Sd USAp, c Ayrllks Sd CtSsso al(-

) ll MSRkwkdg

vmI : D01123, LSragSdI D0.10135: , 4 : 9.690739

etSRPkP byI KAvlky4HStd adP

) ssSr Ags, vdr.

636 EusgA Bgkkg BuAk : 00,

BaAigeaul, MN, 55: : 1, n B

[N] Thomas Creek Road

Total: 373

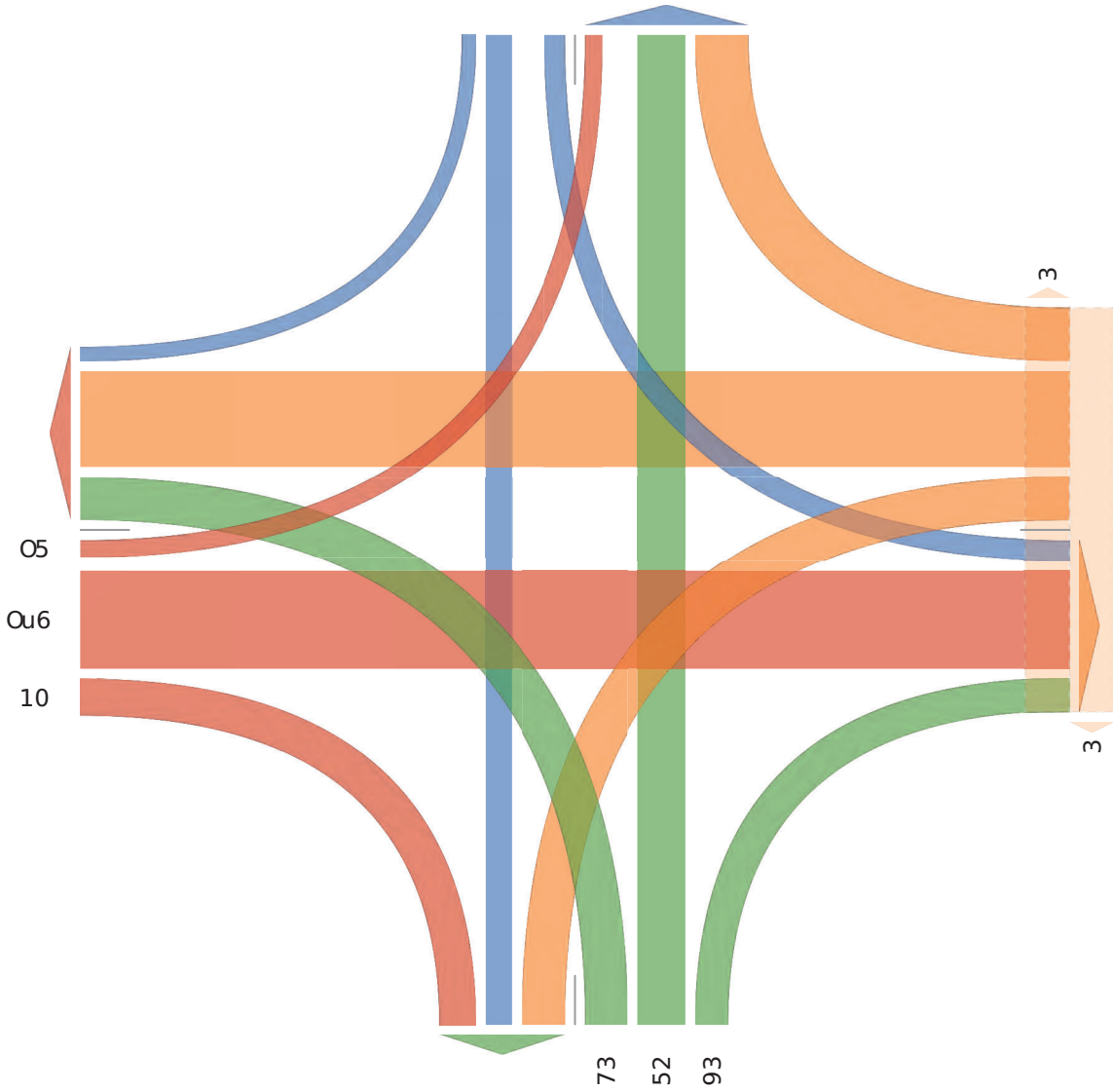
In: 72 84t: Ou5

03 67 39

[W] Arrowcreek Parkway

Total: 926
In: 370 84t: 373

05
06
10



84t: 370 In: 697

Total: 137

[E] Arrowcreek Parkway

84t: 070 In: 305

Total: 675

[S] Thomas Creek Road

Arrowcreek Parkway and Thomas Creek Road - TMC

At Uic Pc by DKlv)Py8HUuBaBc - CUfIagPC

Thu May 29, 2025

AM APae k(AM 8: AM4

636 EuGjCngPPg nuIgd 100,
naIlgAu), MN, 5511:, S n

-))l)a(CPCks li hgC - tgru)agC TtureC, du(CCaBc nIbI)P8S BlgTtureC, APcPcglabC, d lryr)PCUB
o Uac, d lryr)PCUB1 tUCRa)e4

-))MUwPv PBgC

nh DI(0: : 23, s UragLBD(9: : 0: 351, 8119.690739

s Fi I ltr gLB	ThUv aCl tPpe o Uac NUighbUuBc	ThUv aCl tPpe o Uac nUighbUuBc	- ttURrtPpe AateRay EaGhUuBc	- ttURrtPpe AateRay WPGhUuBc	
Tlv P	o T s S - pp APc*	o T s S - pp APc*	o T s S - pp APc*	o T s S - pp APc*	nhg
2025805829 (100AM	21 1(: 7 0 72 0	: 12 15 0 (1 0	21 :2 6 0 60 0	9 96 21 0 126 0	(10
(D5AM	20 1: 51 0 75 0	9 22 13 0 :6 0	: 1 39 1 0 111 0	7 103 20 0 1(: 0	(66
(D0AM	23 17 22 0 33 0	(26 (1 0 31 0	60 10(9 0 172 0	: 32 26 0 9(0	: 02
(D5AM	23 22 20 0 37 0	6 1(6 0 26 0	16 3: 5 0 73 0	7 : 7 19 0 65 0	253
TUg)	9(36 1: 1 0 (01 0	2(6: 39 0 133 0	1: 9 267 22 0 :: 9 0	29 (1(76 0 : 29 0	1(: 5
% - pptUarh	(0.9% 22.(% : 3.7% 0% 8 8	1(.9% :: .3% : 1.3% 0% 8 8	((.2% 31.9% : .9% 0% 8 8	3.7% 6(.0% 20.(% 0% 8 8	8 8
% TUg)	3.9% 5.0% 10.5% 0% 22.: % 8 8	1.6% 5.5% 5.1% 0% 12.(% 8 8	11.1% 20.6% 1.3% 0% ((.: % 8 8	2.2% 2(.% 3.5% 0% (1.9% 8 8	8 8
AHF	0.79: 0.673 0.391 8 0.772 8	0.3(9 0.363 0.553 8 0.363 8	0.5(2 0.365 0.311 8 0.316 8	0.703 0.6(7 0.703 8 0.700 8	0.7(5
s li hgC	91 3: 1(: 0 279 8	2(61 33 0 130 8	1: 2 261 20 0 : (8	27 (10 73 0 : 2: 8	1(03
% s li hgC	96.7% 95.5% 95.0% 0% 93.0% 8	100% 95.9% 95.6% 0% 93.: % 8	95.(% 96.5% 90.9% 0% 93.: % 8	93.3% 99.0% 97.9% 0% 97.7% 8	96.1%
- tgru)agC TtureC	0 1 0 0 1 8	0 0 0 0 0 8	0 (1 0 : 8	0 1 0 0 1 8	3
% - tgru)agC TtureC	0% 1.5% 0% 0% 0.(% 8	0% 0% 0% 0% 0% 8	0% 1.1% : .5% 0% 0.9% 8	0% 0.(% 0% 0% 0.2% 8	0.: %
du(CCaBc nIbI)P8S Blg TtureC	2 1 6 0 10 8	0 2 (0 5 8	6 : 1 0 12 8	1 2 1 0 : 8	(1
% du(CCaBc nIbI)P8S Blg TtureC	2.2% 1.5% 5.0% 0% (.(% 8	0% 2.6% : .(% 0% (.0% 8	:.6% 1.: % : .5% 0% 2.6% 8	(.: % 0.3% 1.1% 0% 0.9% 8	2.(%
d lryr)PCUBo Uac	0 1 0 0 1 8	0 1 0 0 1 8	0 0 0 0 0 8	0 0 0 0 0 8	2
% d lryr)PCUBo Uac	0% 1.5% 0% 0% 0.(% 8	0% 1.: % 0% 0% 0.3% 8	0% 0% 0% 0% 0% 8	0% 0% 0% 0% 0% 8	0.1%
APcPcglabC	8 8 8 8 8 0	8 8 8 8 8 0	8 8 8 8 8 0	8 8 8 8 8 0	
% APcPcglabC	8 8 8 8 8 8	8 8 8 8 8 8	8 8 8 8 8 8	8 8 8 8 8 8	8
d lryr)PCUB1 tUCRa)e	8 8 8 8 8 0	8 8 8 8 8 0	8 8 8 8 8 0	8 8 8 8 8 0	
% d lryr)PCUB1 tUCRa)e	8 8 8 8 8 8	8 8 8 8 8 8	8 8 8 8 8 8	8 8 8 8 8 8	8

* APcPcglabCaBc d lryr)PCUB1 tUCRa)e. s Ds Pfg o Do li hg TDThtu, S Ds 8TutB

Arrowcreek Parkway and Thomas Creek Road - TMC

Thu May 29, 2025

AM 8: AM4

-))l)aCPCks li hgC - tgru)agPc TtureC duPCaBc nIBi)P8S BlgTtureC APcPGaBC d Iryr)PC
 UBo Uac, d Iryr)PCUBl tUCRA)e4

-))MUwPv PBc

m DI(0: : 23, s UragLEB(9.: 0: 351, 8119.690739

At UwlC Pc byDKIv)Py8HUlBaBc

- CUl lagPC, nBr.

636 EuGjCngPPg nuIqP 100,
 naIBgAau), MN, 5511: , S n

[N] Thomas Creek Road

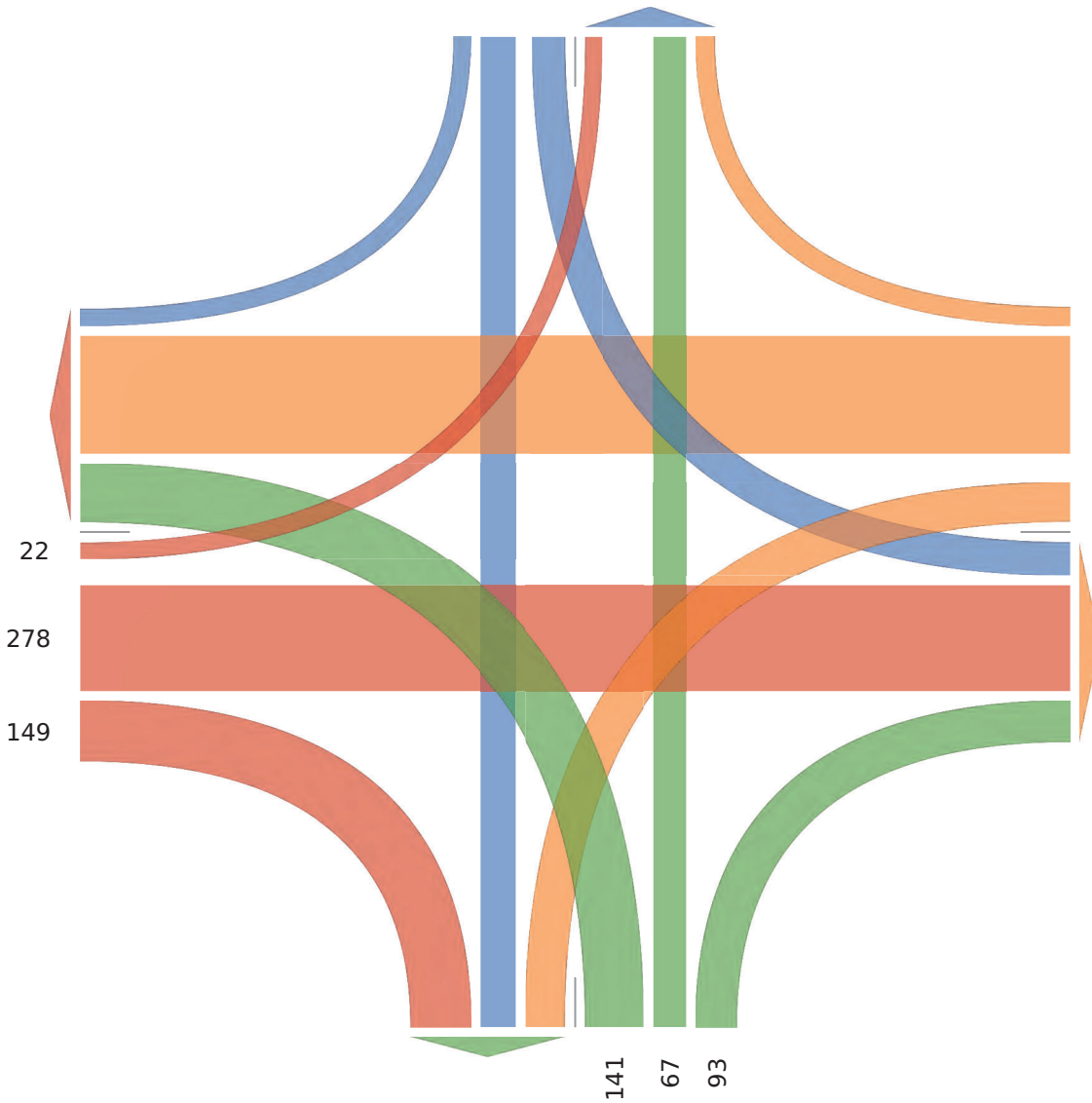
Total: 284

In: 166 Out: 118

23 74 69

[W] Arrowcreek Parkway

Total: 926
 In: 449 Out: 477



29
 313
 87
 In: 429
 Total: 869
 Out: 440
 [E] Arrowcreek Parkway

Out: 310 In: 301
 Total: 611
 [S] Thomas Creek Road

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304434, Location: 39.405767, -119.799266

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Northbound					Crossbow Court Southbound					Hunsberger ES Eastbound					Int
	T	L	U	App	Ped*	R	T	U	App	Ped*	R	L	U	App	Ped*	
Time																
2025-05-29 12:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00AM	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
5:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	2
6:00AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
6:45AM	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
Hourly Total	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	11
7:00AM	61	0	0	61	0	1	55	0	56	0	0	1	0	1	5	118
7:15AM	106	1	0	107	0	3	103	0	106	0	4	0	0	4	0	217
7:30AM	12	2	0	14	0	2	17	0	19	0	0	0	0	0	0	33
7:45AM	37	3	0	40	0	0	14	0	14	0	1	0	0	1	0	55
Hourly Total	216	6	0	222	0	6	189	0	195	0	5	1	0	6	5	423
8:00AM	70	3	0	73	0	0	48	0	48	0	0	0	0	0	0	121
8:15AM	15	6	0	21	0	1	17	0	18	0	0	0	0	0	0	39
8:30AM	1	0	0	1	0	0	9	0	9	0	1	0	0	1	0	11
8:45AM	3	8	0	11	0	0	2	0	2	0	1	0	0	1	0	14
Hourly Total	89	17	0	106	0	1	76	0	77	0	2	0	0	2	0	185
9:00AM	6	54	0	60	0	2	13	0	15	0	10	2	0	12	0	87
9:15AM	4	67	0	71	0	3	12	0	15	0	20	2	0	22	0	108
9:30AM	3	1	0	4	0	0	6	0	6	0	11	0	0	11	0	21
9:45AM	1	1	0	2	0	1	2	0	3	0	0	0	0	0	0	5
Hourly Total	14	123	0	137	0	6	33	0	39	0	41	4	0	45	0	221
10:00AM	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2
10:15AM	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	3
10:30AM	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	3

Leg Direction	Crossbow Court Northbound					Crossbow Court Southbound					Hunsberger ES Eastbound					Int
	T	L	U	App	Ped*	R	T	U	App	Ped*	R	L	U	App	Ped*	
10:45AM	3	0	0	3	0	0	5	0	5	0	1	0	0	1	0	9
Hourly Total	8	0	0	8	0	0	7	0	7	0	2	0	0	2	0	17
11:00AM	3	1	0	4	0	0	2	0	2	0	0	0	0	0	0	6
11:15AM	5	1	0	6	0	1	4	0	5	0	0	0	0	0	0	11
11:30AM	2	0	0	2	0	0	1	0	1	0	1	0	0	1	0	4
11:45AM	3	2	0	5	0	1	2	0	3	0	0	0	0	0	0	8
Hourly Total	13	4	0	17	0	2	9	0	11	0	1	0	0	1	0	29
12:00PM	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	3
12:15PM	1	0	0	1	0	0	2	0	2	0	1	1	0	2	0	5
12:30PM	3	1	0	4	0	0	5	0	5	0	0	0	0	0	0	9
12:45PM	1	0	0	1	0	1	2	0	3	0	0	0	0	0	0	4
Hourly Total	6	1	0	7	0	1	11	0	12	0	1	1	0	2	0	21
1:00PM	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:15PM	6	0	0	6	0	0	6	0	6	0	1	0	0	1	0	13
1:30PM	17	0	0	17	0	0	3	0	3	0	0	0	0	0	0	20
1:45PM	28	0	0	28	0	0	5	0	5	0	0	0	0	0	1	33
Hourly Total	54	0	0	54	0	0	14	0	14	0	1	0	0	1	1	69
2:00PM	19	0	0	19	0	2	104	0	106	1	0	0	0	0	7	125
2:15PM	4	1	0	5	0	0	11	0	11	0	0	0	0	0	0	16
2:30PM	1	7	0	8	0	0	1	0	1	1	1	0	0	1	0	10
2:45PM	10	7	0	17	0	0	2	0	2	1	0	0	0	0	0	19
Hourly Total	34	15	0	49	0	2	118	0	120	3	1	0	0	1	7	170
3:00PM	43	20	0	63	0	1	0	0	1	0	3	0	0	3	0	67
3:15PM	41	13	0	54	0	1	55	0	56	2	4	0	0	4	0	114
3:30PM	16	8	0	24	0	0	15	1	16	23	41	26	0	67	2	107
3:45PM	1	4	0	5	0	0	5	0	5	0	1	0	0	1	0	11
Hourly Total	101	45	0	146	0	2	75	1	78	25	49	26	0	75	2	299
4:00PM	3	0	0	3	0	0	5	0	5	0	1	0	0	1	0	9
4:15PM	4	5	0	9	0	0	7	0	7	0	0	0	0	0	0	16
4:30PM	4	0	0	4	0	0	2	0	2	0	2	0	0	2	0	8
4:45PM	14	0	0	14	0	0	9	0	9	0	1	0	0	1	0	24
Hourly Total	25	5	0	30	0	0	23	0	23	0	4	0	0	4	0	57
5:00PM	6	3	0	9	1	0	13	0	13	0	1	0	0	1	0	23
5:15PM	7	7	0	14	0	0	5	0	5	0	0	0	0	0	0	19
5:30PM	8	5	0	13	0	0	4	0	4	0	0	0	0	0	0	17
5:45PM	8	2	0	10	0	0	0	0	0	0	0	1	0	1	0	11
Hourly Total	29	17	0	46	1	0	22	0	22	0	1	1	0	2	0	70
6:00PM	6	2	0	8	0	0	3	0	3	0	0	0	0	0	0	11
6:15PM	21	0	0	21	0	0	11	0	11	0	0	0	0	0	0	32
6:30PM	19	2	0	21	0	0	18	0	18	0	3	0	0	3	0	42
6:45PM	23	0	0	23	0	0	16	0	16	0	1	0	0	1	0	40
Hourly Total	69	4	0	73	0	0	48	0	48	0	4	0	0	4	0	125
7:00PM	4	0	0	4	0	0	5	0	5	0	0	0	0	0	0	9
7:15PM	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	4
7:30PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
7:45PM	4	0	0	4	0	0	1	0	1	0	0	0	0	0	1	5
Hourly Total	9	0	0	9	0	0	10	0	10	0	0	0	0	0	1	19
8:00PM	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	8
8:15PM	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	3
8:30PM	0	1	0	1	0	0	2	0	2	0	0	0	0	0	0	3
8:45PM	1	0	0	1	0	0	11	0	11	0	0	0	0	0	0	12
Hourly Total	3	1	0	4	0	0	22	0	22	0	0	0	0	0	0	26
9:00PM	1	0	0	1	0	0	8	0	8	0	0	0	0	0	0	9
9:15PM	0	0	0	0	0	0	21	0	21	0	0	0	0	0	0	21
9:30PM	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	4
9:45PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	1	0	0	1	0	0	33	0	33	0	0	0	0	0	0	34
10:00PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
10:15PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1

Leg Direction	Crossbow Court Northbound					Crossbow Court Southbound					Hunsberger ES Eastbound					Int
	T	L	U	App	Ped*	R	T	U	App	Ped*	R	L	U	App	Ped*	
10:45PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	3
11:00PM	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2
11:15PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30PM	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	3
11:45PM	0	0	0	0	0	0	2	0	2	0	1	0	0	1	0	3
Hourly Total	2	0	0	2	0	0	5	0	5	0	1	0	0	1	0	8
Total	684	238	0	922	1	21	699	1	721	28	113	33	0	146	16	1789
% Approach	74.2%	25.8%	0%	-	-	2.9%	96.9%	0.1%	-	-	77.4%	22.6%	0%	-	-	-
% Total	38.2%	13.3%	0%	51.5%	-	1.2%	39.1%	0.1%	40.3%	-	6.3%	1.8%	0%	8.2%	-	-
Lights	660	237	0	897	-	21	694	1	716	-	112	33	0	145	-	1758
% Lights	96.5%	99.6%	0%	97.3%	-	100%	99.3%	100%	99.3%	-	99.1%	100%	0%	99.3%	-	98.3%
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Buses and Single-Unit Trucks	21	1	0	22	-	0	1	0	1	-	1	0	0	1	-	24
% Buses and Single-Unit Trucks	3.1%	0.4%	0%	2.4%	-	0%	0.1%	0%	0.1%	-	0.9%	0%	0%	0.7%	-	1.3%
Bicycles on Road	3	0	0	3	-	0	4	0	4	-	0	0	0	0	-	7
% Bicycles on Road	0.4%	0%	0%	0.3%	-	0%	0.6%	0%	0.6%	-	0%	0%	0%	0%	-	0.4%
Pedestrians	-	-	-	-	1	-	-	-	-	28	-	-	-	-	5	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	31.3%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	11	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	68.8%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

Full Length (12 AM-12 AM (+1))

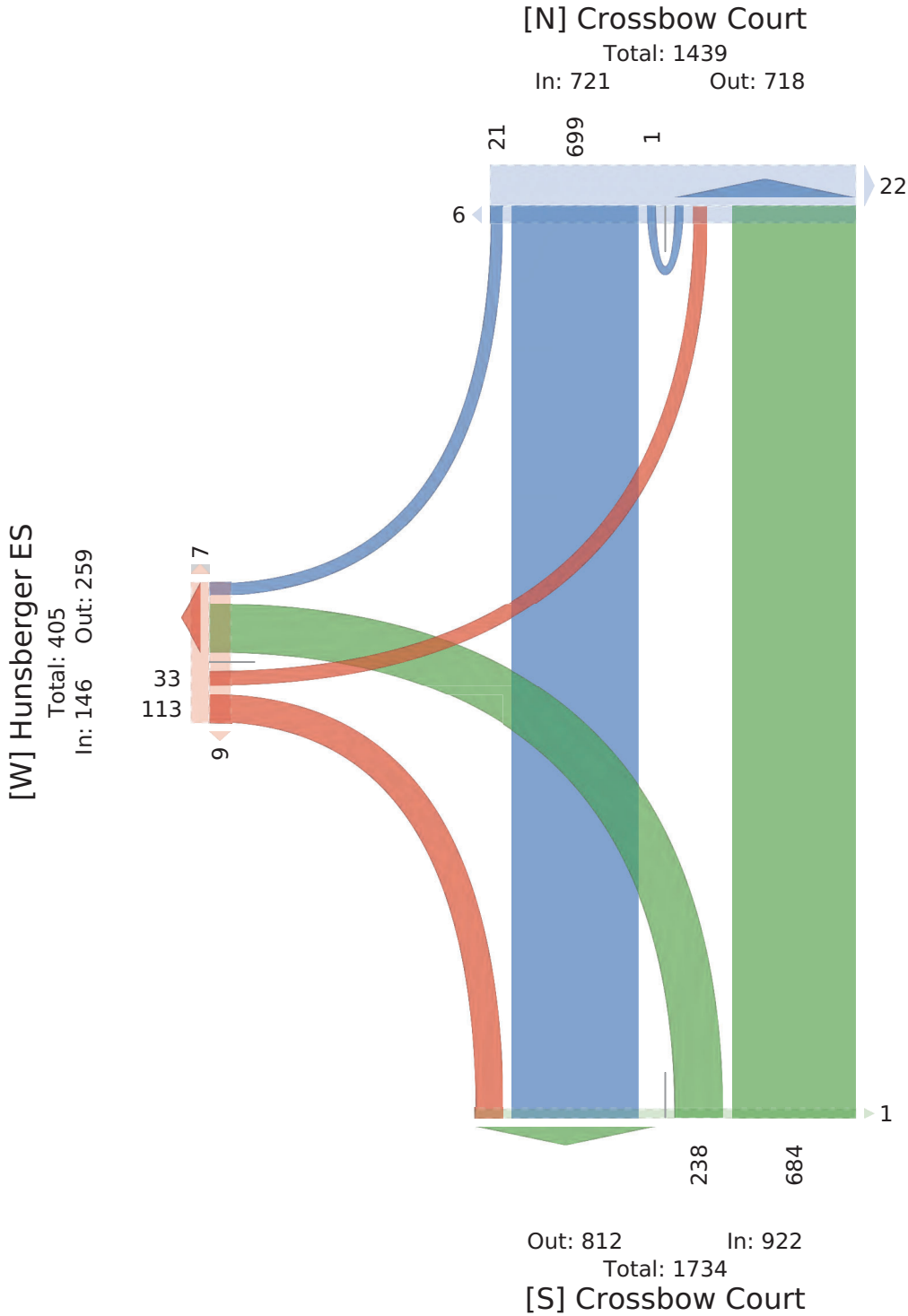
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304434, Location: 39.405767, -119.799266

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US



Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304434, Location: 39.405767, -119.799266

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Northbound					Crossbow Court Southbound					Hunsberger ES Eastbound					Int
	T	L	U	App	Ped*	R	T	U	App	Ped*	R	L	U	App	Ped*	
2025-05-29 7:15AM	106	1	0	107	0	3	103	0	106	0	4	0	0	4	0	217
7:30AM	12	2	0	14	0	2	17	0	19	0	0	0	0	0	0	33
7:45AM	37	3	0	40	0	0	14	0	14	0	1	0	0	1	0	55
8:00AM	70	3	0	73	0	0	48	0	48	0	0	0	0	0	0	121
Total	225	9	0	234	0	5	182	0	187	0	5	0	0	5	0	426
% Approach	96.2%	3.8%	0%	-	-	2.7%	97.3%	0%	-	-	100%	0%	0%	-	-	-
% Total	52.8%	2.1%	0%	54.9%	-	1.2%	42.7%	0%	43.9%	-	1.2%	0%	0%	1.2%	-	-
PHF	0.531	0.750	-	0.547	-	0.417	0.444	-	0.443	-	0.313	-	-	0.313	-	0.492
Lights	222	9	0	231	-	5	181	0	186	-	5	0	0	5	-	422
% Lights	98.7%	100%	0%	98.7%	-	100%	99.5%	0%	99.5%	-	100%	0%	0%	100%	-	99.1%
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Buses and Single-Unit Trucks	3	0	0	3	-	0	0	0	0	-	0	0	0	0	-	3
% Buses and Single-Unit Trucks	1.3%	0%	0%	1.3%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.7%
Bicycles on Road	0	0	0	0	-	0	1	0	1	-	0	0	0	0	-	1
% Bicycles on Road	0%	0%	0%	0%	-	0%	0.5%	0%	0.5%	-	0%	0%	0%	0%	-	0.2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

PM eka(:4-35 PM) O35 PMv) r l kHoe ka(AGuH

P os aLLkL:i g hd, P HgduackBTHid(L, nuLkLaSB USt d)RSg THid(L, ekBkLdSL, n glyddkL

CS wCaB, n glyddkLCS s HLLma(v

P ωMCl kl kSdL

D -3. 088. 8, i CdagCS- . 9605474,)3396499277

eHl gBby- Kg dy)ACH sSB

P LLCdackL, Sd6

474 EuLg. Utkk, Uugk 300,

UagSceauq MN, 55338, RU

[W] Hunsberger ES

Total: 19

In: 5 Out: 14

5

[N] Crossbow Court

Total: 412

In: 187

Out: 225

5

182



Out: 187

In: 234

Total: 421

[S] Crossbow Court

9

225

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

Midday Peak (1 PM - 2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304434, Location: 39.405767, -119.799266

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

Leg Direction	Crossbow Court Northbound					Crossbow Court Southbound					Hunsberger ES Eastbound					Int
	T	L	U	App	Ped*	R	T	U	App	Ped*	R	L	U	App	Ped*	
2025-05-29 1:00PM	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
1:15PM	6	0	0	6	0	0	6	0	6	0	1	0	0	1	0	13
1:30PM	17	0	0	17	0	0	3	0	3	0	0	0	0	0	0	20
1:45PM	28	0	0	28	0	0	5	0	5	0	0	0	0	0	1	33
Total	54	0	0	54	0	0	14	0	14	0	1	0	0	1	1	69
% Approach	100%	0%	0%	-	-	0%	100%	0%	-	-	100%	0%	0%	-	-	-
% Total	78.3%	0%	0%	78.3%	-	0%	20.3%	0%	20.3%	-	1.4%	0%	0%	1.4%	-	-
PHF	0.482	-	-	0.482	-	-	0.583	-	0.583	-	0.250	-	-	0.250	-	0.523
Lights	45	0	0	45	-	0	14	0	14	-	1	0	0	1	-	60
% Lights	83.3%	0%	0%	83.3%	-	0%	100%	0%	100%	-	100%	0%	0%	100%	-	87.0%
Articulated Trucks	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Buses and Single-Unit Trucks	9	0	0	9	-	0	0	0	0	-	0	0	0	0	-	9
% Buses and Single-Unit Trucks	16.7%	0%	0%	16.7%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	13.0%
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

Midday Peak (1 PM - 2 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 1304434, Location: 39.405767, -119.799266

Provided by: Kimley-Horn and Associates, Inc.

767 Eustis Street, Suite 100,
Saint Paul, MN, 55114, US

[W] Hunsberger ES

Total: 1
In: 1 Out: 0

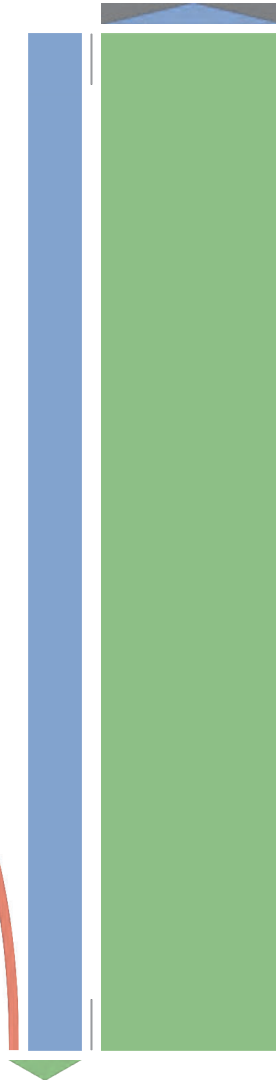
1

[N] Crossbow Court

Total: 68

In: 14 Out: 54

14



Out: 15 In: 54

Total: 69

[S] Crossbow Court

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

i M i daP e2k(5 i M 1-k(5 i M)

All Classds eLg hrs, AcrgBulardn TauEPs, Susds aUh ogI IdIRUg TauEPs, i dndsrgaUs, SgByBds wUv wan, SgByBds wUCcwsmlP)

All Mw dDdUs

:3 k4-0(-(-, LwBargwUk-9.(05767, 1449.799266

i cwl gdn bykKgDldy1HwUaUh

AsswBards, :UB

767 Eusrg orcddr, ougd 400,

oagI i aul, MN, 5544(, Ro

Ldt 3 gdlBgU	Cwssbwm Cwucr NwcrhbwuUh					Cwssbwm Cwucr owurhbwuUh					HuUsbdct dc Eo EasrbwuUh					:U
	T	L	R	App	i dn*	v	T	R	App	i dn*	v	L	R	App	i dn*	
2025105129 2k(5i M	40	7	0	47	0	0	2	0	2	4	0	0	0	0	0	49
-100i M	(-	20	0	6-	0	4	0	0	4	0	-	0	0	-	0	67
-k45i M	(4	4-	0	5(	0	4	55	0	56	2	(	0	0	(	0	44(
-k0i M	46	8	0	2(	0	0	45	4	46	2-	(4	26	0	67	2	407
Twal	440	(8	0	458	0	2	72	4	75	26	(8	26	0	7(	2	-07
% AppcwaBh	69.6%	-0.	0%	1	1	2.7%	96.0%	4.-	1	1	6(.9%	-5.4%	0%	1	1	1
% Twal	-5.8%	45.6%	0%	54.5%	1	0.7%	2-.5%	0.-	2(.%	1	45.6%	8.5%	0%	2(.4%	1	1
i HF	0.6(0	0.600	1	0.627	1	0.500	0.-27	0.250	0.--5	1	0.29-	0.250	1	0.276	1	0.67-
Lg hrs	440	(8	0	458	1	2	72	4	75	1	(8	26	0	7(	1	-07
% Lg hrs	400%	400%	0%	400%	1	400%	400%	400%	400%	1	400%	400%	0%	400%	1	400%
AcrgBulardn TauEPs	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0
% AcrgBulardn TauEPs	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%
Susds aUh ogI IdIRUg TauEPs	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0
% Susds aUh ogI IdIRUg TauEPs	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%
SgByBds wUv wan	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0
% SgByBds wUv wan	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%	0%	0%	0%	1	0%
i dndsrgaUs	1	1	1	1	0	1	1	1	1	26	1	1	1	1	2	
% i dndsrgaUs	1	1	1	1	1	1	1	1	1	400%	1	1	1	1	400%	1
SgByBds wUCcwsmlP	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	
% SgByBds wUCcwsmlP	1	1	1	1	1	1	1	1	1	0%	1	1	1	1	0%	1

*i dndsrgaUs aUh SgByBds wUCcwsmlP. LkLdfr, v kv g hr, TkThau, RkRfTucU

Crossbow Court and Hunsberger ES - TMC

Thu May 29, 2025

i M i da P e 2 (5 i M 1 - k (5 i M)

All Classds eLg hrs, Acg Bilardn TuPs, Susds aU h og U ld1R U g TuPs, i ndsrog U s, S g y B ds wUv wan, S g y B ds wU Cc wssmal P

All Mw dD Us

:3 k4- 0((-, Lw Brg Uk-9.(05767, 1449.799266

i cw gdn bykKg Dldy1HwUaU h

Assw Bards, :UB

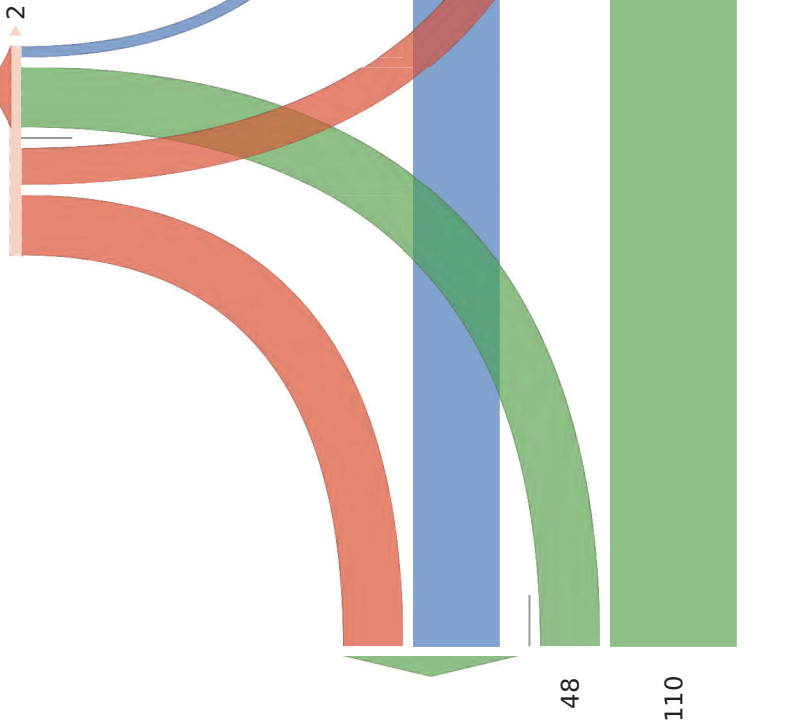
767 Eusrg oraddr, ougd 400,

oagU i aul, MN, 5544(, Ro

[W] Hunsberger ES

Total: 124
In: 74 Out: 50

26
48



Out: 120 In: 158
Total: 278
[S] Crossbow Court

APPENDIX B
GROWTH RATE CALCULATIONS

Project: 2500 Crossbow Court
 Subject: NDOT Growth Rate Calculations
 Designed By: AKT

Project Number: 192888000
 Date: 2/5/2026
 Page: 1 of 1

Existing Growth Rate Calculations

Ref: Nevada Department of Transportation - Annual Traffic Report 2024

Number of Count Stations Analyzed = 4

Average Annual Growth Rate in the Vicinity of the Proposed Project = 0.21%

NDOT COUNT STATION:		0310590
ROADWAY:		Arrowcreek Pkwy
LOCATION:		700ft W of Zolezzi Ln
Year	AADT	Annual Growth Rate
2014	12,500	1.70%
2024	14,800	
YEARS =	10	
PROJECTED TRAFFIC VOLUMES		
Year	AADT	
2025	15,052	
2026	15,308	
2027	15,569	

NDOT COUNT STATION:		0311180
ROADWAY:		SR439
LOCATION:		SR439, 1.1 Miles N of US50
Year	AADT	Annual Growth Rate
2016	6,800	-2.51%
2024	5,550	
YEARS =	8	
PROJECTED TRAFFIC VOLUMES		
Year	AADT	
2025	5,411	
2026	5,275	
2027	5,143	

NDOT COUNT STATION:		0311090
ROADWAY:		Thomas Creek Rd
LOCATION:		295ft N of Lake Placid Dr
Year	AADT	Annual Growth Rate
2014	4,000	0.37%
2024	4,150	
YEARS =	10	
PROJECTED TRAFFIC VOLUMES		
Year	AADT	
2025	4,221	
2026	4,293	
2027	4,366	

NDOT COUNT STATION:		0311091
ROADWAY:		1,SR431 (Mt Rose Hwy)
LOCATION:		460ft W of Sundance Dr
Year	AADT	Annual Growth Rate
2014	15,500	1.28%
2024	17,600	
YEARS =	10	
PROJECTED TRAFFIC VOLUMES		
Year	AADT	
2025	17,159	
2026	16,729	
2027	16,309	

APPENDIX C
TRIP GENERATION CALCULATIONS

Scenario 1 Daily Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS										DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
Land Use + Code	Land Use	Subcategory	Land Use Type	Source	ITE Edition	ITE LUC	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	In	Out	Total
1 (720) Medical-Dental Office Building	Medical-Dental Office Building	Stand-Alone	Exclude	ITE 12th Ed	12	720	2.4	KSF	T = 34.03(X)	50%	50%	41	41	82
2 (930) Fast Casual Restaurant	Fast Casual Restaurant	All Sites	Exclude	ITE 12th Ed	12	930	2.4	KSF	T = 225.89(X)	50%	50%	271	271	542
3 (665) Day Care Center	Day Care Center	All Sites	Exclude	ITE 12th Ed	12	565	96	STU	T = 3.79(X)	50%	50%	182	182	364
Total:												494	494	988

Scenario 1 AM Peak Hour Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS										DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
Land Use + Code	Land Use	Subcategory	Land Use Type	Source	ITE Edition	ITE LUC	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	In	Out	Total
1 (720) Medical-Dental Office Building	Medical-Dental Office Building	Stand-Alone	Exclude	ITE 12th Ed	12	720	2.4	KSF	T = 3.21(X)	78%	22%	6	2	8
2 (930) Fast Casual Restaurant	Fast Casual Restaurant	All Sites	Exclude	ITE 12th Ed	12	930	2.4	KSF	T = 1.58(X)	64%	36%	3	1	4
3 (665) Day Care Center	Day Care Center	All Sites	Exclude	ITE 12th Ed	12	565	96	STU	T = 0.79(X)	53%	47%	40	36	76

Scenario 1 PM Peak Hour Trip Generation Calculations

TRIP GENERATION CHARACTERISTICS										DIRECTIONAL DISTRIBUTION		NEW EXTERNAL VEHICLE TRIPS		
Land Use + Code	Land Use	Subcategory	Land Use Type	Source	ITE Edition	ITE LUC	Scale	ITE Unit	Equation/Rate	Entering %	Exiting %	In	Out	Total
1 (720) Medical-Dental Office Building	Medical-Dental Office Building	Stand-Alone	Exclude	ITE 12th Ed	12	720	2.4	KSF	T = 3.42(X)	30%	70%	2	6	8
2 (930) Fast Casual Restaurant	Fast Casual Restaurant	All Sites	Exclude	ITE 12th Ed	12	930	2.4	KSF	T = 14.35(X)	53%	47%	18	16	34
3 (665) Day Care Center	Day Care Center	All Sites	Exclude	ITE 12th Ed	12	565	96	STU	T = 0.79(X)	47%	53%	36	40	76
Total:												56	62	118

APPENDIX D
KEY INTERSECTION PEAK HOUR LOS CALCULATIONS

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	238	230	214	210	26
Future Vol, veh/h	29	238	230	214	210	26
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	355	343	319	313	39
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	2.5	12.1	24
HCM LOS	B	B	C

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	119	119	115	115	214	210	26
LT Vol	29	0	0	0	0	0	210	0
Through Vol	0	119	119	115	115	0	0	0
RT Vol	0	0	0	0	0	214	0	26
Lane Flow Rate	43	178	178	172	172	319	313	39
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.096	0.369	0.281	0.339	0.339	0.41	0.682	0.071
Departure Headway (Hd)	7.99	7.477	5.697	7.113	7.113	4.619	7.833	6.628
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	481	629	506	506	779	461	540
Service Time	5.738	5.224	3.443	4.851	4.851	2.357	5.578	4.373
HCM Lane V/C Ratio	0.096	0.37	0.283	0.34	0.34	0.409	0.679	0.072
HCM Control Delay, s/veh	11.6	14.6	10.7	13.5	13.5	10.6	25.8	9.9
HCM Lane LOS	B	B	B	B	B	B	D	A
HCM 95th-tile Q	0.3	1.7	1.1	1.5	1.5	2	5	0.2

HCM 7th Signalized Intersection Summary
 4: Thomas Creek Road & Arrowcreek Parkway

2025 Existing AM
 12/26/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	273	129	53	225	132	155	117	76	179	158	11
Future Volume (veh/h)	19	273	129	53	225	132	155	117	76	179	158	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	374	177	73	308	181	212	160	104	245	216	15
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	447	379	192	560	321	656	465	302	627	779	54
Arrive On Green	0.03	0.24	0.24	0.04	0.26	0.26	0.09	0.44	0.44	0.10	0.45	0.45
Sat Flow, veh/h	1781	1870	1585	1781	2175	1247	1781	1058	688	1781	1729	120
Grp Volume(v), veh/h	26	374	177	73	250	239	212	0	264	245	0	231
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1646	1781	0	1747	1781	0	1849
Q Serve(g_s), s	1.1	19.3	9.7	3.1	12.3	12.8	6.5	0.0	10.1	7.4	0.0	7.9
Cycle Q Clear(g_c), s	1.1	19.3	9.7	3.1	12.3	12.8	6.5	0.0	10.1	7.4	0.0	7.9
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.39	1.00		0.06
Lane Grp Cap(c), veh/h	236	447	379	192	458	424	656	0	767	627	0	833
V/C Ratio(X)	0.11	0.84	0.47	0.38	0.55	0.56	0.32	0.00	0.34	0.39	0.00	0.28
Avail Cap(c_a), veh/h	375	933	790	297	886	821	965	0	767	916	0	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	36.7	33.0	29.1	32.5	32.6	13.1	0.0	18.7	13.1	0.0	17.5
Incr Delay (d2), s/veh	0.2	4.2	0.9	1.2	1.0	1.2	0.3	0.0	1.2	0.4	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	14.0	6.7	2.5	9.1	8.8	4.5	0.0	7.6	5.4	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.6	40.9	33.9	30.4	33.5	33.8	13.4	0.0	20.0	13.5	0.0	18.3
LnGrp LOS	C	D	C	C	C	C	B		B	B		B
Approach Vol, veh/h		577			562			476				476
Approach Delay, s/veh		38.2			33.2			17.0				15.8
Approach LOS		D			C			B				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	49.0	9.0	28.7	13.5	50.1	7.1	30.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	26.5	44.5	10.5	50.5	26.5	44.5	10.5	50.5				
Max Q Clear Time (g_c+I1), s	9.4	12.1	5.1	21.3	8.5	9.9	3.1	14.8				
Green Ext Time (p_c), s	0.7	1.6	0.1	2.9	0.5	1.5	0.0	3.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			27.0									
HCM 7th LOS			C									

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	257	262	232	184	43
Future Vol, veh/h	31	257	262	232	184	43
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	306	312	276	219	51
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	0.6	10.1	14.5
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	129	129	131	131	232	184	43
LT Vol	31	0	0	0	0	0	184	0
Through Vol	0	129	129	131	131	0	0	0
RT Vol	0	0	0	0	0	232	0	43
Lane Flow Rate	37	153	153	156	156	276	219	51
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.074	0.285	0.21	0.276	0.276	0.3	0.443	0.086
Departure Headway (Hd)	7.214	6.705	4.941	6.379	6.379	3.907	7.277	6.076
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	534	721	561	561	911	493	587
Service Time	4.984	4.475	2.71	4.143	4.143	1.67	5.041	3.84
HCM Lane V/C Ratio	0.075	0.287	0.212	0.278	0.278	0.303	0.444	0.087
HCM Control Delay, s/veh	10.6	12.2	9	11.6	11.6	8.4	15.7	9.4
HCM Lane LOS	B	B	A	B	B	A	C	A
HCM 95th-tile Q	0.2	1.2	0.8	1.1	1.1	1.3	2.2	0.3

HCM 7th Signalized Intersection Summary
 4: Thomas Creek Road & Arrowcreek Parkway

2025 Existing AM
 12/26/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	278	149	87	313	29	141	67	93	69	74	23
Future Volume (veh/h)	22	278	149	87	313	29	141	67	93	69	74	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	415	222	130	467	43	210	100	139	103	110	34
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	506	429	259	1024	94	630	282	392	523	487	151
Arrive On Green	0.03	0.27	0.27	0.07	0.31	0.31	0.10	0.40	0.40	0.06	0.36	0.36
Sat Flow, veh/h	1781	1870	1585	1781	3291	302	1781	708	985	1781	1371	424
Grp Volume(v), veh/h	33	415	222	130	251	259	210	0	239	103	0	144
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1816	1781	0	1693	1781	0	1794
Q Serve(g_s), s	1.2	18.4	10.5	4.5	10.1	10.1	6.3	0.0	8.8	3.2	0.0	5.0
Cycle Q Clear(g_c), s	1.2	18.4	10.5	4.5	10.1	10.1	6.3	0.0	8.8	3.2	0.0	5.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.58	1.00		0.24
Lane Grp Cap(c), veh/h	312	506	429	259	553	565	630	0	674	523	0	638
V/C Ratio(X)	0.11	0.82	0.52	0.50	0.45	0.46	0.33	0.00	0.35	0.20	0.00	0.23
Avail Cap(c_a), veh/h	528	1319	1118	402	1253	1281	946	0	674	915	0	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.2	30.3	27.4	22.5	24.5	24.5	14.5	0.0	18.7	16.4	0.0	20.0
Incr Delay (d2), s/veh	0.1	3.4	1.0	1.5	0.6	0.6	0.3	0.0	1.5	0.2	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	13.1	7.1	3.4	7.5	7.7	4.3	0.0	6.4	2.4	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.4	33.7	28.4	24.0	25.1	25.1	14.8	0.0	20.2	16.6	0.0	20.8
LnGrp LOS	C	C	C	C	C	C	B		C	B		C
Approach Vol, veh/h		670			640			449				247
Approach Delay, s/veh		31.4			24.8			17.6				19.1
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	39.8	10.9	28.5	13.2	36.0	7.3	32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	24.5	31.5	13.5	62.5	24.5	31.5	13.5	62.5				
Max Q Clear Time (g_c+I1), s	5.2	10.8	6.5	20.4	8.3	7.0	3.2	12.1				
Green Ext Time (p_c), s	0.2	1.3	0.2	3.5	0.5	0.8	0.0	3.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			24.7									
HCM 7th LOS			C									

Intersection	
Intersection Delay, s/veh	15.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	239	231	215	211	26
Future Vol, veh/h	29	239	231	215	211	26
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	357	345	321	315	39
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left SB			WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	2.5	12.1	24.3
HCM LOS	B	B	C

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	120	120	116	116	215	211	26
LT Vol	29	0	0	0	0	0	211	0
Through Vol	0	120	120	116	116	0	0	0
RT Vol	0	0	0	0	0	215	0	26
Lane Flow Rate	43	178	178	172	172	321	315	39
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.096	0.371	0.283	0.341	0.341	0.413	0.686	0.072
Departure Headway (Hd)	8.008	7.495	5.715	7.128	7.128	4.634	7.847	6.642
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	480	628	505	505	777	460	539
Service Time	5.755	5.241	3.46	4.866	4.866	2.371	5.592	4.387
HCM Lane V/C Ratio	0.096	0.371	0.283	0.341	0.341	0.413	0.685	0.072
HCM Control Delay, s/veh	11.6	14.6	10.7	13.5	13.5	10.6	26.1	9.9
HCM Lane LOS	B	B	B	B	B	B	D	A
HCM 95th-tile Q	0.3	1.7	1.2	1.5	1.5	2	5.1	0.2

HCM 7th Signalized Intersection Summary
 4: Thomas Creek Road & Arrowcreek Parkway

2027 Background AM
 12/26/2025



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	130	53	226	133	156	117	76	180	159	11
Future Volume (veh/h)	19	274	130	53	226	133	156	117	76	180	159	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	375	178	73	310	182	214	160	104	247	218	15
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	448	379	192	562	322	655	464	302	627	778	54
Arrive On Green	0.03	0.24	0.24	0.04	0.26	0.26	0.09	0.44	0.44	0.10	0.45	0.45
Sat Flow, veh/h	1781	1870	1585	1781	2176	1247	1781	1058	688	1781	1730	119
Grp Volume(v), veh/h	26	375	178	73	252	240	214	0	264	247	0	233
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1646	1781	0	1747	1781	0	1849
Q Serve(g_s), s	1.1	19.4	9.8	3.1	12.4	12.9	6.5	0.0	10.1	7.5	0.0	8.1
Cycle Q Clear(g_c), s	1.1	19.4	9.8	3.1	12.4	12.9	6.5	0.0	10.1	7.5	0.0	8.1
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.39	1.00		0.06
Lane Grp Cap(c), veh/h	235	448	379	192	459	425	655	0	766	627	0	831
V/C Ratio(X)	0.11	0.84	0.47	0.38	0.55	0.57	0.33	0.00	0.34	0.39	0.00	0.28
Avail Cap(c_a), veh/h	374	931	789	297	884	819	961	0	766	914	0	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.4	36.7	33.1	29.2	32.5	32.7	13.1	0.0	18.8	13.2	0.0	17.6
Incr Delay (d2), s/veh	0.2	4.2	0.9	1.2	1.0	1.2	0.3	0.0	1.2	0.4	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	14.1	6.8	2.5	9.1	8.9	4.5	0.0	7.6	5.4	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.6	40.9	34.0	30.4	33.6	33.9	13.4	0.0	20.1	13.6	0.0	18.4
LnGrp LOS	C	D	C	C	C	C	B		C	B		B
Approach Vol, veh/h	579			565			478			480		
Approach Delay, s/veh	38.2			33.3			17.1			15.9		
Approach LOS	D			C			B			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	49.0	9.0	28.8	13.6	50.1	7.1	30.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	26.5	44.5	10.5	50.5	26.5	44.5	10.5	50.5				
Max Q Clear Time (g_c+I1), s	9.5	12.1	5.1	21.4	8.5	10.1	3.1	14.9				
Green Ext Time (p_c), s	0.7	1.6	0.1	2.9	0.5	1.5	0.0	3.2				
Intersection Summary												
HCM 7th Control Delay, s/veh	27.0											
HCM 7th LOS	C											

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	258	263	233	185	43
Future Vol, veh/h	31	258	263	233	185	43
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	307	313	277	220	51
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left			WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	0.6	10.1	14.6
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	129	129	132	132	233	185	43
LT Vol	31	0	0	0	0	0	185	0
Through Vol	0	129	129	132	132	0	0	0
RT Vol	0	0	0	0	0	233	0	43
Lane Flow Rate	37	154	154	157	157	277	220	51
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.074	0.286	0.211	0.278	0.278	0.302	0.446	0.087
Departure Headway (Hd)	7.225	6.716	4.952	6.388	6.388	3.916	7.285	6.084
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	533	719	560	560	910	493	586
Service Time	4.999	4.49	2.724	4.154	4.154	1.68	5.051	3.85
HCM Lane V/C Ratio	0.075	0.289	0.214	0.28	0.28	0.304	0.446	0.087
HCM Control Delay, s/veh	10.6	12.2	9.1	11.6	11.6	8.4	15.8	9.4
HCM Lane LOS	B	B	A	B	B	A	C	A
HCM 95th-tile Q	0.2	1.2	0.8	1.1	1.1	1.3	2.3	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	279	150	87	314	29	142	67	93	69	74	23
Future Volume (veh/h)	22	279	150	87	314	29	142	67	93	69	74	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	416	224	130	469	43	212	100	139	103	110	34
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	508	431	261	1029	94	625	278	387	518	479	148
Arrive On Green	0.03	0.27	0.27	0.07	0.31	0.31	0.10	0.39	0.39	0.06	0.35	0.35
Sat Flow, veh/h	1781	1870	1585	1781	3292	301	1781	708	985	1781	1371	424
Grp Volume(v), veh/h	33	416	224	130	252	260	212	0	239	103	0	144
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1816	1781	0	1693	1781	0	1794
Q Serve(g_s), s	1.1	18.2	10.5	4.4	9.9	10.0	6.3	0.0	8.7	3.2	0.0	5.0
Cycle Q Clear(g_c), s	1.1	18.2	10.5	4.4	9.9	10.0	6.3	0.0	8.7	3.2	0.0	5.0
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.58	1.00		0.24
Lane Grp Cap(c), veh/h	314	508	431	261	555	568	625	0	665	518	0	627
V/C Ratio(X)	0.10	0.82	0.52	0.50	0.45	0.46	0.34	0.00	0.36	0.20	0.00	0.23
Avail Cap(c_a), veh/h	534	1339	1134	408	1272	1300	966	0	665	937	0	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.8	29.8	27.0	22.1	24.1	24.1	14.5	0.0	18.7	16.5	0.0	20.1
Incr Delay (d2), s/veh	0.1	3.3	1.0	1.5	0.6	0.6	0.3	0.0	1.5	0.2	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.9	13.0	7.0	3.3	7.3	7.6	4.4	0.0	6.3	2.4	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.0	33.1	27.9	23.5	24.6	24.7	14.8	0.0	20.2	16.7	0.0	21.0
LnGrp LOS	C	C	C	C	C	C	B		C	B		C
Approach Vol, veh/h		673			642			451				247
Approach Delay, s/veh		30.8			24.4			17.7				19.2
Approach LOS		C			C			B				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	38.8	10.8	28.2	13.3	35.0	7.3	31.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	25.5	30.5	13.5	62.5	25.5	30.5	13.5	62.5				
Max Q Clear Time (g_c+I1), s	5.2	10.7	6.4	20.2	8.3	7.0	3.1	12.0				
Green Ext Time (p_c), s	0.2	1.3	0.2	3.6	0.5	0.8	0.0	3.3				
Intersection Summary												
HCM 7th Control Delay, s/veh			24.4									
HCM 7th LOS			C									

Intersection	
Intersection Delay, s/veh	18.3
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	34	239	231	259	246	30
Future Vol, veh/h	34	239	231	259	246	30
Peak Hour Factor	0.69	0.69	0.69	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	346	335	375	357	43
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	13.2	13.3	32.4
HCM LOS	B	B	D

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	120	120	116	116	259	246	30
LT Vol	34	0	0	0	0	0	246	0
Through Vol	0	120	120	116	116	0	0	0
RT Vol	0	0	0	0	0	259	0	30
Lane Flow Rate	49	173	173	167	167	375	357	43
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.114	0.377	0.291	0.344	0.344	0.509	0.792	0.082
Departure Headway (Hd)	8.346	7.83	6.042	7.388	7.388	4.886	7.998	6.792
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	429	459	592	487	487	736	453	526
Service Time	6.106	5.59	3.801	5.14	5.14	2.635	5.756	4.55
HCM Lane V/C Ratio	0.114	0.377	0.292	0.343	0.343	0.51	0.788	0.082
HCM Control Delay, s/veh	12.2	15.3	11.3	14	14	12.6	35.1	10.2
HCM Lane LOS	B	C	B	B	B	B	E	B
HCM 95th-tile Q	0.4	1.7	1.2	1.5	1.5	2.9	7.1	0.3

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	310	166	87	342	29	156	67	93	69	74	31
Future Volume (veh/h)	31	310	166	87	342	29	156	67	93	69	74	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	456	244	128	503	43	229	99	137	101	109	46
Peak Hour Factor	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	552	468	260	1087	93	589	262	363	491	395	167
Arrive On Green	0.04	0.30	0.30	0.07	0.33	0.33	0.11	0.37	0.37	0.06	0.32	0.32
Sat Flow, veh/h	1781	1870	1585	1781	3314	282	1781	710	983	1781	1249	527
Grp Volume(v), veh/h	46	456	244	128	269	277	229	0	236	101	0	155
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1820	1781	0	1693	1781	0	1776
Q Serve(g_s), s	1.5	19.8	11.2	4.2	10.4	10.5	7.1	0.0	8.9	3.3	0.0	5.7
Cycle Q Clear(g_c), s	1.5	19.8	11.2	4.2	10.4	10.5	7.1	0.0	8.9	3.3	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.16	1.00		0.58	1.00		0.30
Lane Grp Cap(c), veh/h	330	552	468	260	583	597	589	0	625	491	0	561
V/C Ratio(X)	0.14	0.83	0.52	0.49	0.46	0.46	0.39	0.00	0.38	0.21	0.00	0.28
Avail Cap(c_a), veh/h	681	1193	1011	553	1133	1161	975	0	625	971	0	561
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	28.6	25.5	21.4	23.2	23.2	15.5	0.0	20.1	18.2	0.0	22.3
Incr Delay (d2), s/veh	0.2	3.2	0.9	1.4	0.6	0.6	0.4	0.0	1.7	0.2	0.0	1.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	13.8	7.4	3.2	7.6	7.8	4.9	0.0	6.5	2.4	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.4	31.8	26.4	22.8	23.7	23.7	16.0	0.0	21.9	18.4	0.0	23.5
LnGrp LOS	C	C	C	C	C	C	B		C	B		C
Approach Vol, veh/h		746			674			465				256
Approach Delay, s/veh		29.3			23.6			19.0				21.5
Approach LOS		C			C			B				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	36.6	10.7	30.2	14.1	32.0	7.9	33.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	28.5	27.5	20.5	55.5	28.5	27.5	20.5	55.5				
Max Q Clear Time (g_c+I1), s	5.3	10.9	6.2	21.8	9.1	7.7	3.5	12.5				
Green Ext Time (p_c), s	0.2	1.2	0.2	3.9	0.6	0.8	0.1	3.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			24.3									
HCM 7th LOS			C									

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	37	258	263	283	241	49
Future Vol, veh/h	37	258	263	283	241	49
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	304	309	333	284	58
Number of Lanes	1	2	2	1	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	3	3	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	3
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	3
HCM Control Delay, s/veh	11.5	11.2	19
HCM LOS	B	B	C

Lane	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	0%	0%	0%	100%	0%
Vol Thru, %	0%	100%	100%	100%	100%	0%	0%	0%
Vol Right, %	0%	0%	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	129	129	132	132	283	241	49
LT Vol	37	0	0	0	0	0	241	0
Through Vol	0	129	129	132	132	0	0	0
RT Vol	0	0	0	0	0	283	0	49
Lane Flow Rate	44	152	152	155	155	333	284	58
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.094	0.305	0.231	0.294	0.294	0.403	0.597	0.102
Departure Headway (Hd)	7.754	7.242	5.468	6.847	6.847	4.361	7.581	6.378
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	463	496	656	526	526	826	479	563
Service Time	5.493	4.981	3.205	4.566	4.566	2.079	5.302	4.099
HCM Lane V/C Ratio	0.095	0.306	0.232	0.295	0.295	0.403	0.593	0.103
HCM Control Delay, s/veh	11.3	13.1	9.9	12.4	12.4	10	20.9	9.8
HCM Lane LOS	B	B	A	B	B	A	C	A
HCM 95th-tile Q	0.3	1.3	0.9	1.2	1.2	2	3.8	0.3

HCM 7th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	294	140	53	251	133	168	117	76	180	159	18
Future Volume (veh/h)	25	294	140	53	251	133	168	117	76	180	159	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	397	189	72	339	180	227	158	103	243	215	24
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	470	398	187	597	311	642	460	300	620	728	81
Arrive On Green	0.03	0.25	0.25	0.04	0.26	0.26	0.09	0.44	0.44	0.10	0.44	0.44
Sat Flow, veh/h	1781	1870	1585	1781	2259	1176	1781	1057	689	1781	1653	184
Grp Volume(v), veh/h	34	397	189	72	265	254	227	0	261	243	0	239
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1659	1781	0	1746	1781	0	1837
Q Serve(g_s), s	1.5	21.1	10.6	3.1	13.5	13.9	7.2	0.0	10.4	7.7	0.0	8.7
Cycle Q Clear(g_c), s	1.5	21.1	10.6	3.1	13.5	13.9	7.2	0.0	10.4	7.7	0.0	8.7
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.39	1.00		0.10
Lane Grp Cap(c), veh/h	238	470	398	187	470	438	642	0	760	620	0	809
V/C Ratio(X)	0.14	0.85	0.47	0.39	0.56	0.58	0.35	0.00	0.34	0.39	0.00	0.30
Avail Cap(c_a), veh/h	364	939	796	289	892	833	876	0	760	845	0	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	37.2	33.3	29.5	33.3	33.4	13.7	0.0	19.6	13.8	0.0	18.8
Incr Delay (d2), s/veh	0.3	4.3	0.9	1.3	1.1	1.2	0.3	0.0	1.2	0.4	0.0	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	15.1	7.4	2.5	9.8	9.5	5.0	0.0	7.8	5.6	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.6	41.5	34.2	30.8	34.3	34.6	14.1	0.0	20.8	14.2	0.0	19.7
LnGrp LOS	C	D	C	C	C	C	B		C	B		B
Approach Vol, veh/h		620			591			488				482
Approach Delay, s/veh		38.6			34.0			17.7				17.0
Approach LOS		D			C			B				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	50.0	9.0	30.8	14.2	50.6	7.6	32.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.5	45.5	10.5	52.5	23.5	45.5	10.5	52.5				
Max Q Clear Time (g_c+I1), s	9.7	12.4	5.1	23.1	9.2	10.7	3.5	15.9				
Green Ext Time (p_c), s	0.6	1.6	0.1	3.2	0.5	1.6	0.0	3.4				
Intersection Summary												
HCM 7th Control Delay, s/veh				27.9								
HCM 7th LOS				C								

APPENDIX E
PROJECT ACCESS PEAK HOUR LOS CALCULATIONS

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	4	42	130	16	33	5
Future Vol, veh/h	4	42	130	16	33	5
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	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	79	245	30	62	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	588	67	72	0	0
Stage 1	67	-	-	-	-
Stage 2	521	-	-	-	-
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	472	997	1528	-	-
Stage 1	956	-	-	-	-
Stage 2	596	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	395	997	1528	-	-
Mov Cap-2 Maneuver	395	-	-	-	-
Stage 1	800	-	-	-	-
Stage 2	596	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.54	6.95	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	880	-	-
HCM Lane V/C Ratio	0.16	-	0.099	-	-
HCM Ctrl Dly (s/v)	7.8	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access

2025 Existing AM
 12/24/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	161	97	146	75	0
Future Volume (Veh/h)	0	161	97	146	75	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	0	304	183	275	142	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	783	142	142			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	783	142	142			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	66	87			
cM capacity (veh/h)	316	906	1441			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	152	152	458	142		
Volume Left	0	0	183	0		
Volume Right	152	152	0	0		
cSH	906	906	1441	1700		
Volume to Capacity	0.17	0.17	0.13	0.08		
Queue Length 95th (ft)	15	15	11	0		
Control Delay (s/veh)	9.8	9.8	3.9	0.0		
Lane LOS	A	A	A			
Approach Delay (s/veh)	9.8		3.9	0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			23.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	48	48	110	72	2
Future Vol, veh/h	26	48	48	110	72	2
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	58	58	133	87	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	336	88	89	0	0
Stage 1	88	-	-	-	-
Stage 2	248	-	-	-	-
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	659	970	1506	-	-
Stage 1	935	-	-	-	-
Stage 2	793	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	632	970	1506	-	-
Mov Cap-2 Maneuver	632	-	-	-	-
Stage 1	897	-	-	-	-
Stage 2	793	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.95	2.27	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	547	-	817	-	-
HCM Lane V/C Ratio	0.038	-	0.109	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access

2025 Existing AM
 12/24/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	107	105	158	120	0
Future Volume (Veh/h)	0	107	105	158	120	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	129	127	190	145	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	589	145	145			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	589	145	145			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	91			
cM capacity (veh/h)	429	902	1437			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	65	65	317	145		
Volume Left	0	0	127	0		
Volume Right	65	65	0	0		
cSH	902	902	1437	1700		
Volume to Capacity	0.07	0.07	0.09	0.09		
Queue Length 95th (ft)	6	6	7	0		
Control Delay (s/veh)	9.3	9.3	3.6	0.0		
Lane LOS	A	A	A			
Approach Delay (s/veh)	9.3		3.6	0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			24.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	42	131	16	33	5
Future Vol, veh/h	4	42	131	16	33	5
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	53	53	53	53	53	53
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	79	247	30	62	9

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	592	67	72	0	0
Stage 1	67	-	-	-	-
Stage 2	525	-	-	-	-
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	469	997	1528	-	-
Stage 1	956	-	-	-	-
Stage 2	594	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	392	997	1528	-	-
Mov Cap-2 Maneuver	392	-	-	-	-
Stage 1	799	-	-	-	-
Stage 2	594	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.55	6.96	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	879	-	-
HCM Lane V/C Ratio	0.162	-	0.099	-	-
HCM Ctrl Dly (s/v)	7.8	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	0.3	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access

2027 Background AM
 12/24/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	162	97	147	75	0
Future Volume (Veh/h)	0	162	97	147	75	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.53	0.53	0.53	0.53	0.53	0.53
Hourly flow rate (vph)	0	306	183	277	142	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	785	142	142			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	785	142	142			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	66	87			
cM capacity (veh/h)	316	906	1441			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	153	153	460	142		
Volume Left	0	0	183	0		
Volume Right	153	153	0	0		
cSH	906	906	1441	1700		
Volume to Capacity	0.17	0.17	0.13	0.08		
Queue Length 95th (ft)	15	15	11	0		
Control Delay (s/veh)	9.8	9.8	3.8	0.0		
Lane LOS	A	A	A			
Approach Delay (s/veh)	9.8		3.8	0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			23.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	48	48	110	72	2
Future Vol, veh/h	26	48	48	110	72	2
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	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	58	58	133	87	2

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	336	88	89	0	0
Stage 1	88	-	-	-	-
Stage 2	248	-	-	-	-
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	659	970	1506	-	-
Stage 1	935	-	-	-	-
Stage 2	793	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	632	970	1506	-	-
Mov Cap-2 Maneuver	632	-	-	-	-
Stage 1	897	-	-	-	-
Stage 2	793	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.95	2.27	0
HCM LOS	A		


Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	547	-	817	-	-
HCM Lane V/C Ratio	0.038	-	0.109	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access

2027 Background PM
 12/24/2025



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	107	105	159	121	0
Future Volume (Veh/h)	0	107	105	159	121	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Hourly flow rate (vph)	0	129	127	192	146	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	592	146	146			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592	146	146			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	86	91			
cM capacity (veh/h)	427	901	1436			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	65	65	319	146		
Volume Left	0	0	127	0		
Volume Right	65	65	0	0		
cSH	901	901	1436	1700		
Volume to Capacity	0.07	0.07	0.09	0.09		
Queue Length 95th (ft)	6	6	7	0		
Control Delay (s/veh)	9.3	9.3	3.6	0.0		
Lane LOS	A	A	A			
Approach Delay (s/veh)	9.3		3.6	0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			3.9			
Intersection Capacity Utilization			27.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	42	39	0	0	131	16	25	0	33	5
Future Vol, veh/h	4	0	42	39	0	0	131	16	25	0	33	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	58	58	58	58	58	58	58	58	58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	72	67	0	0	226	28	43	0	57	9

















Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	541	-	61	558	566	49	66	0	0	-	-	0
Stage 1	61	-	-	501	501	-	-	-	-	-	-	-
Stage 2	479	-	-	57	66	-	-	-	-	-	-	-
Critical Hdwy	7.12	-	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	452	0	1004	440	433	1019	1536	-	-	0	-	-
Stage 1	950	0	-	552	543	-	-	-	-	0	-	-
Stage 2	567	0	-	955	840	-	-	-	-	0	-	-
Platoon blocked, %	-											
Mov Cap-1 Maneuver	383	-	1004	346	367	1019	1536	-	-	-	-	-
Mov Cap-2 Maneuver	383	-	-	346	367	-	-	-	-	-	-	-
Stage 1	950	-	-	467	459	-	-	-	-	-	-	-
Stage 2	480	-	-	886	840	-	-	-	-	-	-	-


Approach	EB		WB		NB		SB				
HCM Ctrl Dly, s/v	9.5		17.9		5.9		0				
HCM LOS	A		C								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1222	-	-	880	346	-	-
HCM Lane V/C Ratio	0.147	-	-	0.09	0.194	-	-
HCM Ctrl Dly (s/v)	7.7	0	-	9.5	17.9	-	-
HCM Lane LOS	A	A	-	A	C	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.3	0.7	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access/Project Access B

2027 Background Plus AM
 12/24/2025

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	162	0	0	0	97	172	25	0	114	0
Future Volume (Veh/h)	0	0	162	0	0	0	97	172	25	0	114	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
Hourly flow rate (vph)	0	0	284	0	0	0	170	302	44	0	200	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	864	886	200	1148	864	324	200			346		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	864	886	200	1148	864	324	200			346		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	66	100	100	100	88			100		
cM capacity (veh/h)	248	248	841	105	256	717	1372			1213		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	142	142	0	516	200							
Volume Left	0	0	0	170	0							
Volume Right	142	142	0	44	0							
cSH	841	841	1700	1372	1700							
Volume to Capacity	0.17	0.17	0.00	0.12	0.12							
Queue Length 95th (ft)	15	15	0	11	0							
Control Delay (s/veh)	10.1	10.1	0.0	3.5	0.0							
Lane LOS	B	B	A	A								
Approach Delay (s/veh)	10.1		0.0	3.5	0.0							
Approach LOS	B		A									
Intersection Summary												
Average Delay			4.7									
Intersection Capacity Utilization			25.9%		ICU Level of Service					A		
Analysis Period (min)			15									

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	0	48	62	0	0	48	110	28	1	72	2
Future Vol, veh/h	26	0	48	62	0	0	48	110	28	1	72	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	0	56	73	0	0	56	129	33	1	85	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	331	-	86	346	348	146	87	0	0	162	0	0
Stage 1	88	-	-	259	259	-	-	-	-	-	-	-
Stage 2	242	-	-	87	89	-	-	-	-	-	-	-
Critical Hdwy	7.12	-	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	-	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	-	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	623	0	973	608	576	901	1509	-	-	1416	-	-
Stage 1	919	0	-	746	694	-	-	-	-	-	-	-
Stage 2	761	0	-	921	821	-	-	-	-	-	-	-
Platoon blocked, %	-											
Mov Cap-1 Maneuver	597	-	973	549	551	901	1509	-	-	1416	-	-
Mov Cap-2 Maneuver	597	-	-	549	551	-	-	-	-	-	-	-
Stage 1	918	-	-	715	665	-	-	-	-	-	-	-
Stage 2	730	-	-	866	820	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	10.07		12.56		1.93		0.1	
HCM LOS	B		B					

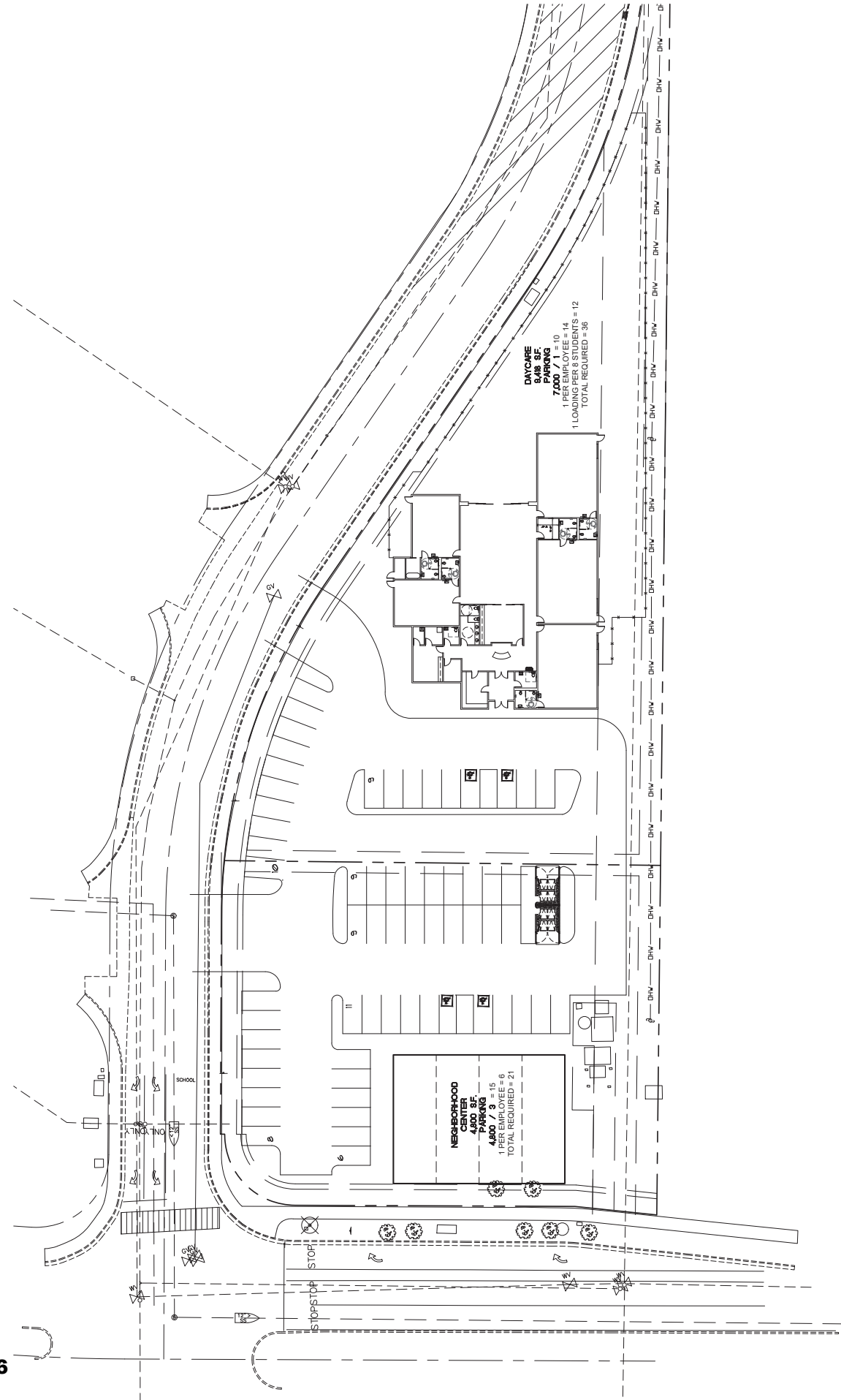
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	446	-	-	796	549	1416	-	-
HCM Lane V/C Ratio	0.037	-	-	0.109	0.133	0.001	-	-
HCM Ctrl Dly (s/v)	7.5	0	-	10.1	12.6	7.5	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.5	0	-	-

HCM Unsignalized Intersection Capacity Analysis
 2: Crossbow Court & Hunsberger ES S. Access/Project Access B

2027 Background Plus PM
 12/24/2025

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	107	0	0	0	105	187	28	0	183	0
Future Volume (Veh/h)	0	0	107	0	0	0	105	187	28	0	183	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	0	0	126	0	0	0	124	220	33	0	215	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	700	716	215	826	700	237	215			253		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	700	716	215	826	700	237	215			253		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	85	100	100	100	91			100		
cM capacity (veh/h)	329	323	825	230	330	802	1355			1312		
Direction, Lane #												
	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	63	63	0	377	215							
Volume Left	0	0	0	124	0							
Volume Right	63	63	0	33	0							
cSH	825	825	1700	1355	1700							
Volume to Capacity	0.08	0.08	0.00	0.09	0.13							
Queue Length 95th (ft)	6	6	0	8	0							
Control Delay (s/veh)	9.7	9.7	0.0	3.2	0.0							
Lane LOS	A	A	A	A								
Approach Delay (s/veh)	9.7		0.0	3.2	0.0							
Approach LOS	A		A									
Intersection Summary												
Average Delay			3.4									
Intersection Capacity Utilization			33.6%	ICU Level of Service		A						
Analysis Period (min)			15									

APPENDIX F
SITE PLAN



NEIGHBORHOOD CENTER PARKING
 4,800 / 3 = 15
 1 PER EMPLOYEE = 6
 TOTAL REQUIRED = 21

DAYCARE PARKING
 7,000 / 1 = 10
 1 PER STUDENT = 14
 1 LOADING PER 8 STUDENTS = 12
 TOTAL REQUIRED = 36

Crossbow Daycare

AS1

Site Plan Concept

SCALE: 1"=20'-0"
 12.09.2025
 25341

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