

DESIGN COMPATABILITY REPORT

For

Concurrent Plan Amendment and Rezoning

402 and 430 West Medina Rd
Tucson, Arizona

APN: 138-19-2530

APN: 138-19-2540

Prepared for:

**N1 Electric
402 W. Medina Rd
Tucson, AZ 85756**

September 30, 2025

KAEKO Job # 702402700



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Design Compatibility Report for 402 and 430 West Medina Road

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I. Introduction and Policy

A. Project Overview

This report addresses the proposed rezoning of two lots at 402 and 430 W Medina Road in Tucson, Arizona. The APNs are 138-19-2540 and 138-19-2530, respectively. The existing lots are located are bounded by W Medina Road to the south, S Lundy Avenue to the east, and an existing church to the north. The parcel bounding the west side of the site contains a mostly gravel lot with a barber shop to the northwest of the site. Currently, both lots are zoned R-1. The parcels are currently developed an adult daycare of 6,080 square feet on Lot 1 and a single-family home on lot 2. Rezoning to O-2 will allow additional clients at the daycare business and use of the home for an administrative office for N1 Electric LLC. Both of these businesses are locally owned. Structures on both lots already exist under the existing zoning. Further development includes improvements on lot 2 to pedestrian access, landscaping, and parking.

B. Applicable Plans and Ordinances:

12th Ave – Valencia Road Area Plan

402 and 430 West Medina are within the boundaries of this area development plan. The 12th Ave – Valencia Road Area Plan¹ includes the following 11 general goals:

1. Identify appropriate locations for residential, office, commercial and industrial uses;
2. Provide safe and efficient circulation systems for all appropriate modes of transportation including pedestrian and bicycle;
3. Revitalize area washes to create trails, open space, and other uses that will turn the washes into neighborhood amenities;
4. Protect and enhance vegetation and open space;
5. Encourage an improved visual appearance of the area through the planting of additional drought-tolerant plant landscaping, by upgrading the built environment through means such as façade improvements, and by including art as part of public and private developments;
6. Preserve, protect and enhance the integrity of established neighborhoods;
7. Promote a greater sense of community through the establishment, registration and participation of neighborhood associations;
8. Foster the creation of safe and child-friendly neighborhoods;
9. Encourage neighborhood associations to work with the City to provide increased recreational opportunities;
10. Encourage developers to communicate with area neighborhood associations and residents and to design development which respects and bolsters the value of the area; and
11. Support commercial revitalization that promotes neighborhood stability and enhancement.

General land use policies are specified to support these goals and have been considered in this rezoning and plan amendment application. Example of how Sunshine DTA and N1 Electric adhere to these general land use polices include:

Policy 4 of the area plan which directs the use of landscaping and screening to demonstrate sensitivity to surrounding use.

Policy 6 which discusses Defensible Space.

Policy 8 which encourages developers to meet with neighborhood associations.

Policy 10 requires a minimum of 50% of a parcel to be used for landscaping and parking when commercial use expands into residential zones.

Office and Commercial land use policies in the Area Plan include:

Policy 1 which recommends that commercial development be supported when on sites designated for that use.

Policies 3, 8, and 9 which require rezoning plans to provide buffering (similar to General Land use policy 4) between commercial and residential use.

Policy 5 which encourages limited hours of operation.

These are to be considered on a case by case basis to provide compatibility between the commercial use and adjacent use. Limited hours of operation to prevent business related traffic in the evenings or overnight is a policy already in place. Sunshine DTA specifically provides day services, not overnight care. Buffering also already exists through use of screen walls and landscaping and will be improved with the addition of a 10' landscape buffer on lot 2.

The area plan's Non-Residential Community Policy recognizes that while the majority of non-residential use is along major streets, there are some businesses dispersed among residential areas. The policy encourages maintenance and upgrading of these locally owned businesses, which is the intent of this rezoning and plan amendment.

The 12th Avenue – Valencia Road Area Plan also provides design guidelines that will be discussed in Section III of this report.

Plan Tucson 2025:

The new Plan Tucson 2025 is getting closer to implementation. The rezoning and plan amendment being requested for 402 and 430 West Medina are supportive of the goals and policies included in Plan Tucson 2025. Goal 2: Support the Development of an Equitable Community, provides a graphic of prioritized areas for investment. As shown in fig. I.B.1 below (fig 3.2.2 from Tucson plan 2025) the locally owned businesses supported by this rezoning application are in the highest priority area.

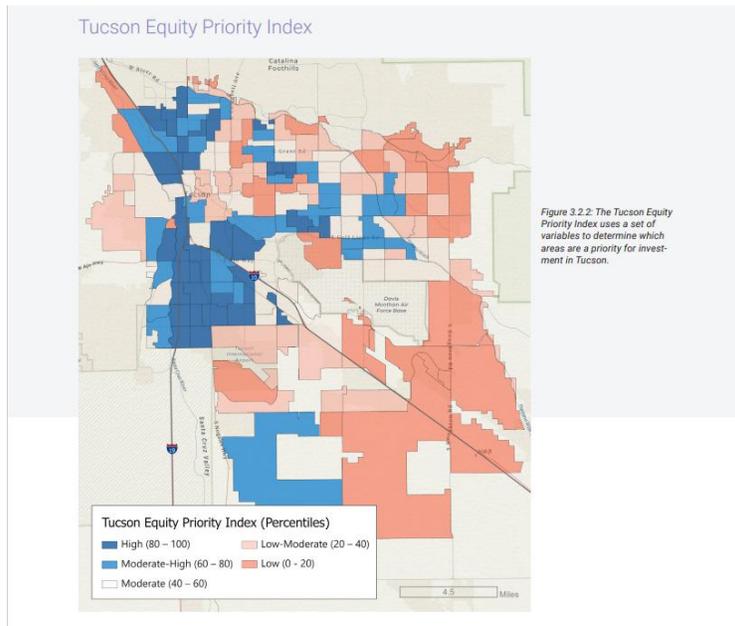
The Plan Tucson policy Land Use 1 is to "Support developments that provide all residents with access to critical, general, recreation, and entertainment services, including childcare and healthcare, and other community facilities, such as libraries, community centers, and green space."² The O-2 zoning for Sunshine DTA will support that policy by increasing availability of adult day care services in the community. Other relevant policies are included in Goal 12: Strengthen the Local and Regional Economy to Provide Opportunities for All Tucsonans to Thrive. Both the Sunshine DTA and

N1 Electric LLC business represent economic growth, as supported by the following Plan Tucson 2025 policies:

Economy 9: Promote economic growth by investing in local workers, entrepreneurs, and legacy businesses.²

Land Use 8: Adopt zoning and land use regulations and review them on a regular basis to ensure they promote the establishment and growth of businesses as well as to facilitate housing production.²

Fig I.B.1



Plan Tucson 2025²

Tucson Resilient Together

This application for rezoning and plan amendment is supportive of Tucson’s goal to become carbon neutral by 2025. Inclusion of bicycle racks and desert landscaping options on these properties help with carbon reduction and sustainable water practices.

Tucson Overlay zones:

The Medina Road properties are near the Gateway Corridor on Valencia about 1000’ to the North, as well as the Airport Environs boundaries about 600’ to the Northeast. However, they are not within any of the overlay zones for the City of Tucson.

C. Conflicts with adopted City Ordinances or Policies:

A change in zoning for these lots does require a plan amendment, as the current development plan for the area indicates for the lots to be in a residential zone. Amending the plan to allow the zone

change to O2 will not create any additional conflict with the area development plan. These changes are also consistent with Plan Tucson 2025 and the UDC.

Proposed Plan amendment

This report proposes to amend the 12th Avenue – Valencia Road Area Plan to re-designate these two lots for O-2 zoning instead of R-1.

II. Site Analysis

A. General Information

Location

The properties being proposed for rezoning are 402 and 430 West Medina Road, in Tucson AZ.

Existing land use and structures nearby

The block contained within West Medina, South Lundy, W. Lerdo, and S. 12th Ave included Life Bridge Church, a Barber Shop, Sunshine DTA, the 402 W. Medina Residence / N1 Electric, and a vacant lot where an apartment building is being constructed. To the East across South Lundy Avenue and to the West across South 12th Street are single story residences. To the Sout across West Medina Road are single story residences and the TEP Medina Substation. To the North, across West Lerdo is the Math and Science Success Academy Charter School.

Existing Zoning

Most of the area near the subject properties is zoned as R-1 residential. The lot immediately to the West is zoned as C-1 commercial and is currently under construction for a new multi-story apartment building.

Table IIA: Surrounding Development:

IIA	Zoning	Use	Approx. Distance to nearest building (feet)
North	R-1	Church	115
South	R-1	TEP and Residential Homes	70
East	R-1	Residential Homes	75
West	C-1	New Apartment Building	75

B. Circulation and Trips

The adjacent streets to these lots are West Medina Road and South Lundy Avenue. Neither of these local roadways are classified as an arterial or collector road. In the current condition there are 24’ entrances onto both lots from the south on West Medina and a 24’ entrance onto lot 2 from the East on South Lundy. A traffic impact study was completed by United Civil Group in April of 2025. This study indicates that the level of service, even at peak hours, will still have an acceptable rating

of “C”. With this assessment, no roadway alterations or additional controls are recommended. Any added landscaping will need to be designed to maintain sight distance triangles. The City of Tucson Access Management Guidelines Section 5.2 will be followed as appropriate when designing the access and landscaping. The traffic impact study is included in its entirety as exhibit 1.

C. Hydrology

General topography in the site area favors drainage from southeast to northwest. The north, east and west perimeters of the site are walled so there are no offsite flows affecting the property from these directions. The offsite drainage affecting the property is a small watershed nominally 0.18 acres that extends slightly beyond the south right of way line of Medina Road to the south property line. Medina Road proximate to the site current has no curb some stormwater reports onto the site. This is nominally 1.5 CFS during the 100 year storm.

The site is located within Zone X, defined as areas of the 500-year flood on FEMA FIRM Panel 04019C2288L (revised June 16, 2011). As such there is no base flood elevation affecting these properties.

Lot 1 (430 West Medina) includes retention basins totaling 2,244 cubic feet for stormwater harvesting in that lot. These improvements were part of the recent development of that lot. Calculations are provided in exhibit 2.

Lot 2 (402 W. Medina) will have additional hardscape improvements. There will be pavement for parking on site, totaling about 5,000 square feet. A new paved path from the sidewalk to the front door will be about 300 square feet. These changes in condition from the existing compacted gravel for the parking area, and the unimproved surface where the sidewalk will be will create some additional storm water runoff. In a 100- year, 2 hour storm a volume increase of 325 cubic feet of water would be expected. This amount of water can easily be retained by including a few inches of depth for water harvesting in landscaped areas.

D. Cultural Resources and Previous Development

The 12th Ave – Valencia Road Area is just North of the San Xavier District of the Tohono O’Odham Nation. The MapTucson GIS does not show any historic districts or properties in the immediate area. Existing buildings and site development have not demonstrated the presence of archaeological material on this site. If artifacts or remains are discovered during construction associated with proposed hardscape and landscape work, work will be halted and the City of Tucson Historic Preservation Office will be notified.

E. Schools, Recreation, and Cultural Facilities

Medina Road is close to the Tucson International Airport and Desert Diamond Casino. It is about 2 miles from the Desert Vista Campus of Pima Community College, and about 3 miles from the San Xavier Mission and from the Tucson Rodeo Grounds. There are many schools and churches in the local area, the list on the following page shows distances in feet to the facilities closest to 430 and 402 West Medina.

Parks

El Vado New Hope Park: 1,687

Park Barrio Nopal Park: 3,136

Schools

San Miguel High School: 730

Math and Science Success Academy: 505

Churches

Kingdom hall of Jehova's Witnesses: 435

Lifebridge: 115

The closest neighbor, Life Bridge Church, submitted a letter of endorsement for the neighborhood meeting to discuss this rezoning and plan amendment. The letter is included as exhibit 3.

F. Soils

USDA Natural Resources and Conservation Service classifies soils in the area as "Cave soils and urban land". Soil information is included as exhibit 4.

G. Topography

Proposed changes have negligible effect on local topography.

H. Utilities

Utilities to the site are already provided. Water and Electric service are provided by Tucson Water and Tucson Electric Power. Both properties also have connections to public sewer. The proposed use associated with this rezoning will not require additional utility connections.

I. Vegetation and Screening

In the current condition there is no landscaping on lot 2 other than a single tree. Site screening exists through use of screen walls on lot 2. Recent development at site 1 includes landscaping which implements water harvesting, desert plants, and shade trees. The landscape plan is included as exhibit 5. The proposed site plan for lot 2 will include a 10' landscape buffer inside the property line, equating to about 3,500 square feet. A landscaping plan similar to the plan for site 1 will be provided that does not interfere with sight triangles at vehicle access points and is consistent with landscape standards as required by UDC 7.6.4.

J. Views

The buildings on these sites exist already, with no additional buildings being proposed. Thus, the proposed re zoning and plan amendment should not reduce the quality of the view scape in the area. The single-story buildings are consistent with most other building heights in the area. One exception is the newly constructed multi-story apartment complex immediately to the West of lot 1.

III. Plan Proposal

A. Building Layout

Building layout will not be altered with this plan. Recent development has already established the Sunshine DTA facility, and the Residence at 430 will remain in its existing condition. Improvements on lot 2 will be to pavement for parking and to landscape. Building setbacks are at 20' or more from the property line, which is consistent with the guidance for being 1.5 times the height of the building (both structures are about 13' high). The Sunshine DTA building has parking between the building front and West Medina, and a landscape border between the parking lot and the sidewalk, providing an inviting commercial appearance with a symmetrically arranged storefront. The N1 Electric building has some open space and parking at the corner of West Medina and South Lundy, but the side and back of the property is screened by CMU block walls with metal gates for vehicle access. The building remains consistent with other residences in the area.

B. Design Compatibility

The neighborhood plan calls for the use of Defensible Space (12th Ave – Valencia Rd Neighborhood Plan Policy 6¹). Screening, lighting, and landscape borders all distinctly define the properties while maintaining visibility, particularly at main entrances. These defensible space techniques help to make neighborhoods less inviting for criminal activity.

Policy 4 of the area plan (12th Ave – Valencia Rd Neighborhood Plan Policy 4¹) directs the use of landscaping and screening to demonstrate sensitivity to surrounding use. While screening and landscaping are already present and effective, landscaping improvements on lot 2 will further define and enhance the appearance of that property.

Policy 8 (12th Ave – Valencia Rd Neighborhood Plan Policy 8¹) encourages developers to meet with neighborhood associations. The business owners for N1 and Sunshine DTA met with representatives from the Barrio Nopal Neighborhood Association in a neighborhood meeting on August 25th. There were no particular concerns regarding a plan amendment and rezoning for these properties.

Policy 10 (12th Ave – Valencia Rd Neighborhood Plan Policy 10¹) requires at least half of a parcel to be used for landscaping and parking when commercial use expands into residential zones. Both properties in this case meet that expectation. Lot 1 has a 6,080 square foot building with over 3,000 square feet of parking and over 5,500 square feet of landscaping. Lot 2 has two buildings totaling 2,900 square feet with over 6,000 square feet of parking. At least 1,000 square feet of landscape work will be added to lot 2 as well.

New sidewalk has been included along West Medina and South Lundy providing pedestrian access to the Sunshine DTA facility on lot 1. Future development will include paving from the sidewalk to the main entrance on lot 2, as well as secure bicycle parking for the office.

C. Post-Development Hydrology

Post development hydrology uses retention basins and landscaping to capture first flush volumes from a 100 year, 2 hour storm event. On site retention is also sufficient to capture the difference in storm water flow between pre and post development conditions.

D. Landscaped Areas and Screening

Existing screening on lot 2 is provided from CMU walls which are consistent with other screen walls in the area. Landscaping on lot 1 uses drought tolerant plants and shade trees (cercidium hybrid) near the parking lot. The trees are not fully grown yet, but at maturity they should each have a canopy of at least 15' diameter to help shade the parking lot. The landscaped areas are also graded to provide water retention. Additional landscaping will be provided for lot 2 that will follow the same design principles as the landscaping on lot 1.

E. Lighting

Both buildings have exterior lighting on the building front closest to West Medina Road. While providing visibility at night and increasing security at building entrances the lights are directed downward. There is no evident nuisance to adjacent properties or violation of Tucson’s dark sky requirements.

F. Pedestrian Access

Pedestrian access is provided via concrete sidewalks along the fronts of both properties on West Medina Road and South Lundy Avenue.

G. Signs

The Sunshine DTA building has a wall mounted sign. The sign is about 16 square feet and conforms with 7.A.10.2. There are no billboards on the site.

H. Topography

No additional rooflines are proposed with this report, and existing buildings are only 1 story.

I. Traffic

Traffic increase from the Lot 1 Sunshine DTA development and lot 2 commercial office use has been analyzed in exhibit 1, which provided the following forecast for daily and peak hour trips generated by the proposed commercial use of lots 1 and 2.

Table III.I Traffic Projection

Land Use	Units	Size	Daily	AM Peak			PM Peak		
				total	in	out	total	in	out
Day Care	1,000 sqft	6.08	290	67	35	32	68	32	36
Small Office	1,000 sqft	2.90	42	5	4	1	6	2	4
TOTAL			332	72	39	33	74	34	40

Parking for these functions is provided on site, and sidewalk improvements have been made for pedestrian access.

J. Undisturbed Areas

These developed lots do not have or affect undisturbed areas.

K. Utilities

There are no proposed changes to utilities in this report.

L. Vehicular Use Areas

Vehicle parking is on site, over 50' away from residences. Existing screen walls and planned landscaping provide buffering between parking areas and adjacent properties. Landscaping will include shade trees evenly dispersed near parking areas.

IV. Summary

The rezoning and amendment being considered in this report do not detract from the existing use, appearance, or character of the neighborhood. The structures already exist with compatibility in the R-1 zone. Changing the zone to O-2 will improve the use and functionality of the existing businesses. This change will promote local economic growth, develop local business, and increase beneficial services to the local community.

Resources

¹12th Avenue – Valencia Road Area Plan

City of Tucson Unified Development Code, 2025.

MapTucson, City of Tucson GIS, 2025

PimaMaps, Pima County GIS, 2025

²Plan Tucson 2025, City of Tucson General & Sustainability Plan

USGS Web Soil Survey, 2023

TRAFFIC IMPACT STUDY
Office and Adult Daycare
NWC of Lundy Avenue and Medina Road
Tucson, Arizona

April 29, 2025

PREPARED FOR
KAEKO
4655 North Flowing Wells Road
Tucson, Arizona 85705

PREPARED BY



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Office and Adult Daycare
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UCG Project Number: TR24104



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Appendix A . . . Traffic Data
Appendix B . . . Capacity Analyses



I. EXECUTIVE SUMMARY

KAEKO retained United Civil Group (UCG) to perform this Traffic Impact Study (TIS) for the planned Adult Daycare and Office Development located on the northwest corner of Lundy Avenue and Medina Road in Tucson, Arizona. The parcels are currently developed as a single family home and a vacant lot. Once redeveloped, the site will consist of an adult daycare of 6,080 square feet on Lot 1 (APN 138-192-540) and an office 2,900 square feet Lot 2 (APN 138-192-530) on a total of approximately 1 acre of land.

It is assumed that the Adult Daycare and Office will be constructed in one phase and occupied by the year 2026.

A. Guiding Criteria

Because Lundy Avenue and Medina Road are within the jurisdiction of the City of Tucson, this TIA has been performed according to the jurisdiction's guiding criteria. Therefore, this TIA has been prepared according to the City of Tucson Transportation Access Management Guidelines revised December 2011. This TIA is also guided by locally accepted standards, national manuals and industry practice.

Per the City of Tucson Standards, this TIA will be completed as a Category I which generates between 100 and 500 vehicles trips during any peak hour. The study area for a Category I TIA includes all site driveways and intersections abutting the development. The analysis years for a Category I TIA include the existing conditions, opening year of the development.

Within these general parameters, the following guidelines were followed:

Horizon years:

Opening of development – 2026

Study area intersections:

12th Avenue/Lerdo Road
Lerdo Road/Lundy Road
Lundy Road, Medina Road
Leary Road/Medina Road
Medina Road/12th Avenue
12th Avenue/Calle Lerdo
Access A/Medina Road
Access B/Medina Road
Access C/Lundy Avenue

B. Study Objectives

This study is intended to investigate the existing and future traffic conditions and identify any potential roadway improvements necessary to serve the proposed development. Major study objectives of this traffic report are as follows:

- Analyze the existing study area intersections and site accessibility for the development.
- Determine the site traffic volumes generated by the proposed development and their impacts on the surrounding study area and roadway network.
- Where applicable, recommend safety, intersection and/or roadway improvements, sufficient to meet the needs of the development and adjacent roadway network due to the additional site generated traffic volumes.

C. Conclusions and Recommendations

The northwest corner of Lundy Avenue and Medina Road is currently developed as a residence and a vacant lot. Once redeveloped, the site will consist of the existing house (office) of 1,700 square feet, an additional office structure of 12,000 square feet, and an adult daycare of 6,000 square feet on approximately 1 acre of land in Tucson, Arizona. It is assumed that the redevelopment will occur in one phase and occupied by the year 2026.

The proposed small office and adult daycare are forecast to generate a total of 332 trips per day with 72 trips occurring in the morning peak hour and 74 trips occurring in the evening peak hour.

Ingress to and egress from the planned developments include one access for the Adult Daycare on Medina Road and two accesses for the office, one on Medina Road and one on Lundy Avenue. The accesses exist with full turning movements.

When the site is fully occupied, the study area intersections are anticipated to operate at an acceptable LOS of C or better during the morning and evening peak hours.

Proper intersection sight distance and sight triangles shall be provided and maintained at the site accesses and intersections of the proposed development to give drivers exiting the accesses a clear view of oncoming traffic. The landscape and hardscape within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. To ensure adequate sight distances and sight distance triangles, AASHTO's *A Policy on Geometric Design of Highways and Streets* Section 9.5 and The City of Tucson Access Management Guidelines Section 5.2 should be followed as appropriate when designing the accesses and landscaping.

Based on the findings of this TIA, the following recommendations apply:

- Provide adequate sight distances at the proposed site accesses.

II. PROPOSED DEVELOPMENT

A. Site Location

The site is planned as an Adult Daycare and Office located on the northwest corner of Lundy Avenue and Medina Road in Tucson, Arizona.

Figure 1 presents the location of the proposed development within the context of the immediate area and its location within the City of Tucson. **Figure 2** shows the proposed development based on an aerial photograph. For this study, no other known planned development is included in the background.

B. Land Use

The parcels are currently developed as a single family home and a vacant lot. Once redeveloped, the site will consist of an adult daycare of 6,080 square feet on Lot 1 (APN 138-192-540) and an office 2,900 square feet Lot 2(APN 138-192-530) on a total of approximately 1 acre of land as shown on **Figure 3**.

C. Phasing and Timing

It is assumed that the Adult Daycare and Office will be constructed in one phase and occupied by the year 2026.

- Year 2026 - site buildout of the development

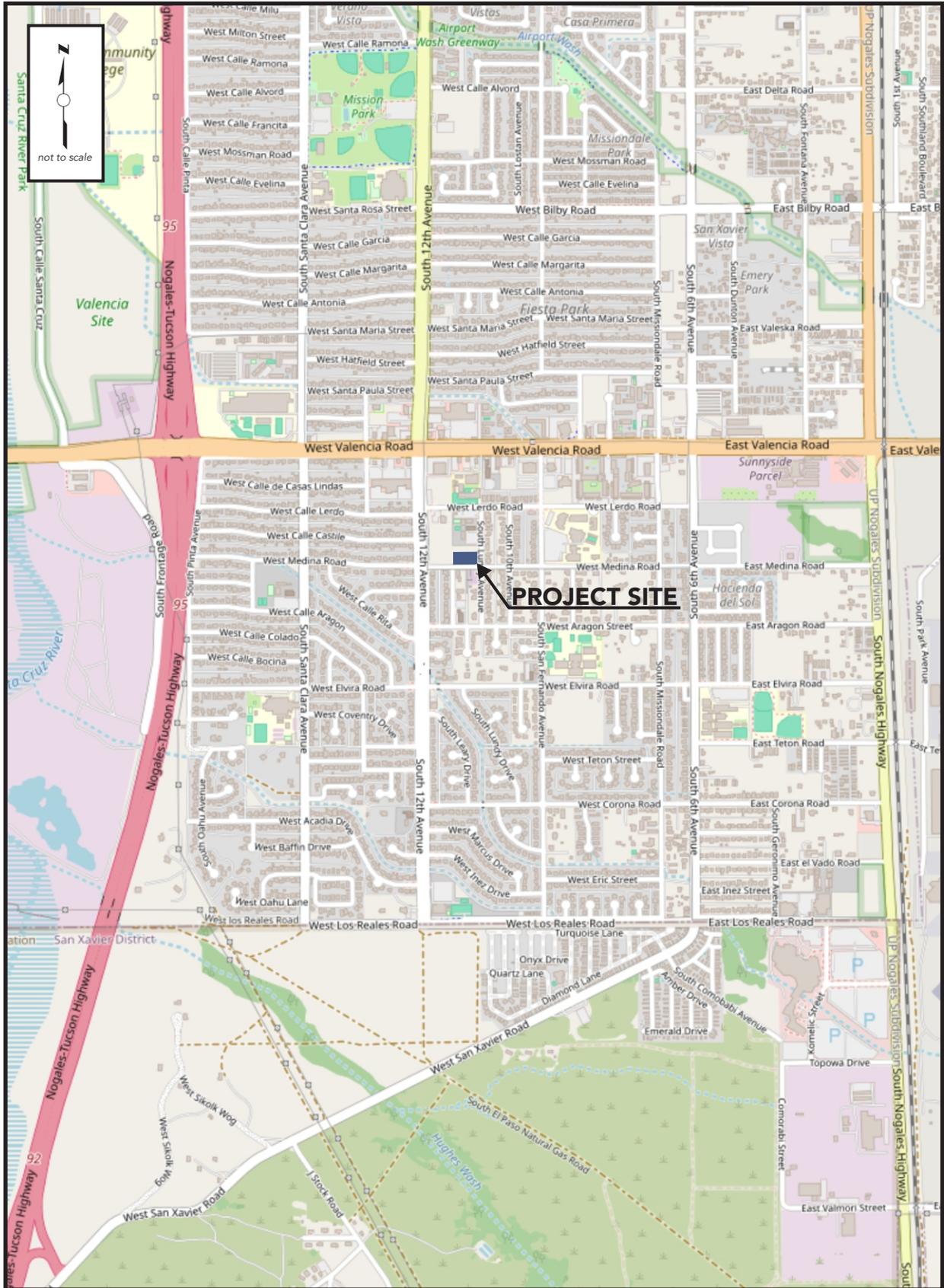
D. Site Accessibility

Ingress to and egress from the planned developments include one access for the Adult Daycare on Medina Road and two accesses for the office, one on Medina Road and one on Lundy Avenue. The accesses are existing.

Access A – is existing and located on Medina Road is a full turning movement driveway and will provide access to the Adult Daycare. Access A is located approximately 75 feet east of Leary Drive and 110 feet west of Access B, measured from center of drive to center of drive.

Access B – is existing and located on Medina Road is a full turning movement driveway and will provide access to the office building. Access B is located approximately 110 feet east of Access A and 125 feet west of Lundy Avenue, measured from center of drive to center of drive.

Access C – is existing and located on Lundy Avenue. Access C provides full turning movements into and out of the site. Access C is approximately 140 feet north of Medina Road and 85 feet south of an existing driveway, measured from center of drive to center of drive.



ArcGIS 2024

Figure 1: Vicinity Map



Permission for commercial use granted by Google Earth

Figure 2: Aerial View

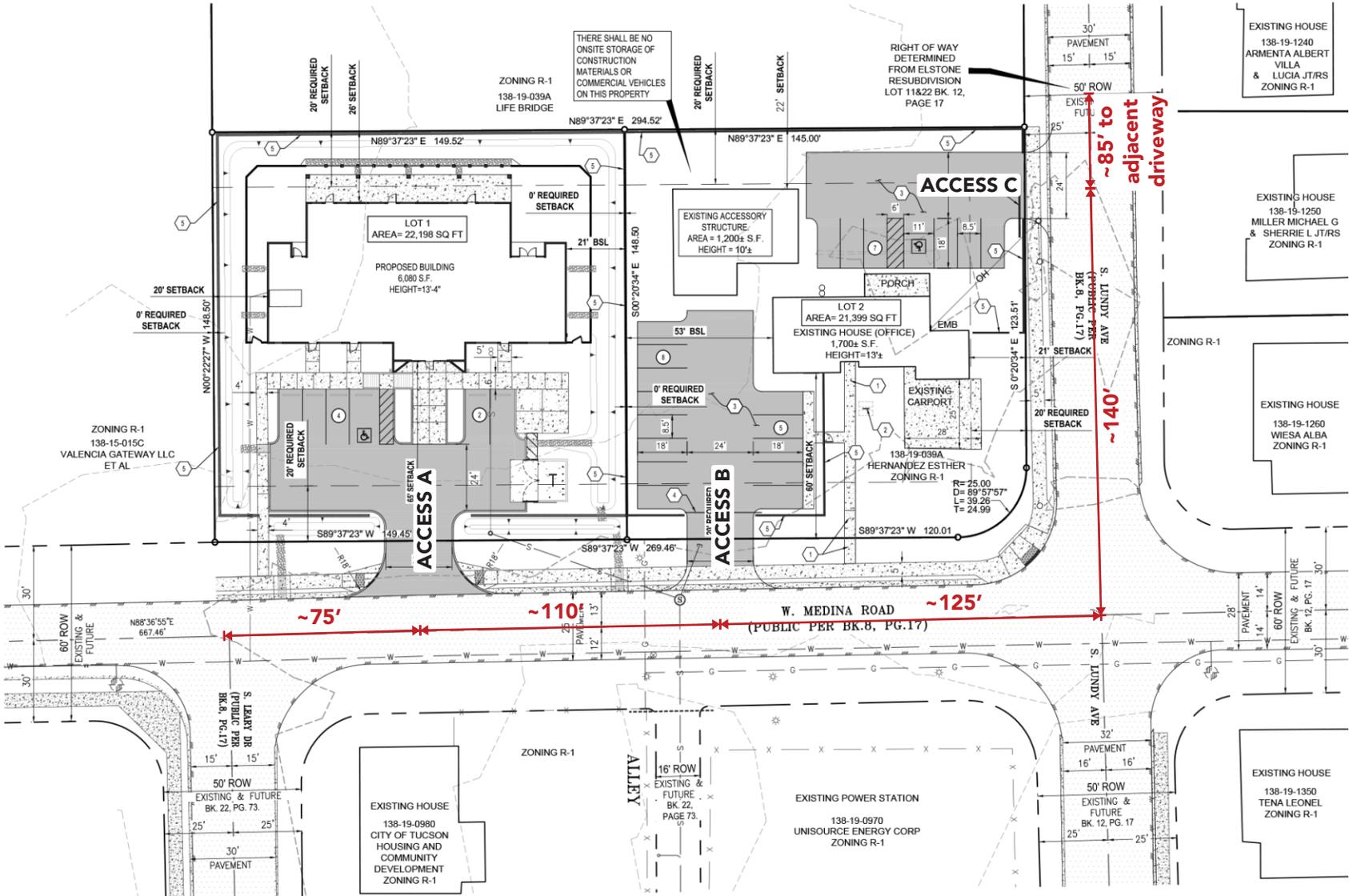


Figure 3: Site Plan

III. STUDY AREA CONDITIONS

A. Study Area

Based on the forecasted trip generation of the proposed development, the minimum study area as defined by the City of Tucson criteria for a TIA includes all site access driveways that abut the site. Therefore, based on these criteria the study area includes:

- 12th Avenue/Lerdo Road
- Lerdo Road/Lundy Road
- Lundy Road, Medina Road
- Leary Road/Medina Road
- Medina Road/12th Avenue
- 12th Avenue/Calle Lerdo
- Access A/Medina Road
- Access B/Medina Road
- Access C/Lundy Avenue

B. Study Area Land Use

The following describes the existing land uses of the subject site and surrounding area:

SUBJECT SITE: Existing single family home

NORTH: Church

SOUTH: Medina Road followed by TEP Site and residential homes

EAST: Lundy Avenue followed by residential homes

WEST: Vacant lot

C. Anticipated Future Development and Planned Improvements

There are no capital improvement projects or other known developments planned within the study area.

IV. LEVEL OF SERVICE METHODOLOGY

The roadway system’s ability to accommodate traffic demand is typically limited by the capacity. The level of service (LOS) concept is used in traffic engineering to describe the degree of delay a driver can expect. The concept defines a near-capacity condition as LOS E while a free flow condition under which a driver would experience minimal delay is defined as LOS A.

Intersection capacity analysis is a principal tool used in traffic engineering. Operation is characterized according to the amount of delay at an intersection approach and quantified into a level of service (“LOS”). The intersection LOS was determined using the methodologies presented in the Transportation Research Board’s Highway Capacity Manual (“HCM”). The LOS grades quantify and categorize a driver’s discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. Per the HCM, the signalized and unsignalized (all-way stop controlled or two-way stop-controlled intersection) delay and associated LOS is presented in **Table 1**. City guidelines strive to obtain a level of service D or better for both signalized and unsignalized intersection overall operations. Intersections having a LOS E or LOS F may warrant improvements or traffic reductions.

Table 1: Intersection Levels of Service and Delay

Level of Service	Description	Signalized Delay (Sec/Veh)	Unsignalized Delay (Sec/Veh)
A	Minimal control delay, traffic operates at primary free flow conditions, unimpeded movement within traffic stream	≤ 10	≤ 10
B	Minor control delay at signalized intersections, traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream	> 10 and ≤ 20	> 10 and ≤ 15
C	Moderate control delay, movement within traffic stream more restricted than LOS B, formation of queues contributes to lower average travel speeds	> 20 and ≤ 35	> 15 and ≤ 25
D	Considerable control delay that may be substantially increased by small increases in flow, average travel speeds continue to decrease.	> 35 and ≤ 55	> 25 and ≤ 35
E	High control delay, average travel speed no more than 22 percent of free flow speed	> 55 and ≤ 80	> 35 and ≤ 50
F	Extremely high control	> 80	> 50

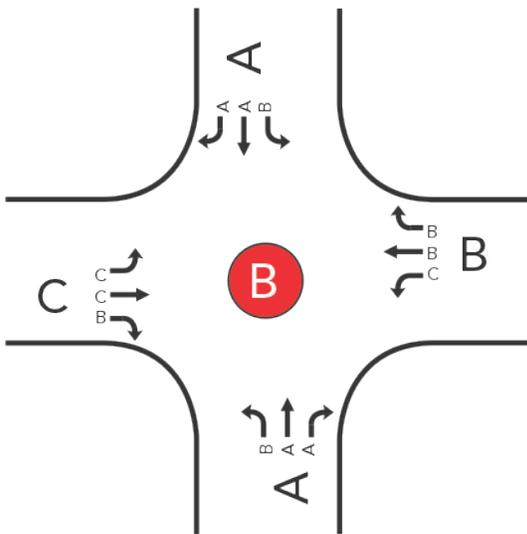
Source: *Highway Capacity Manual 2010*

For signalized and all-way stop controlled intersections, LOS is calculated for a movement (e.g., left, through, right), for the approach (e.g., northbound, southbound, eastbound, westbound) and for the overall intersection.

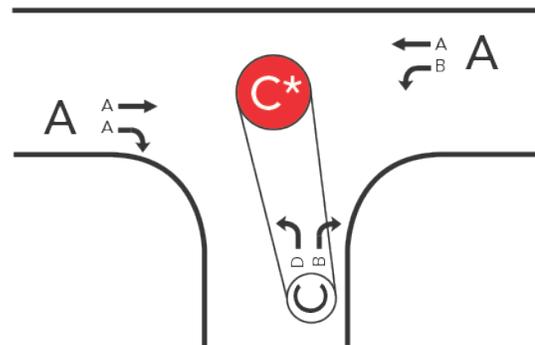
For two-way stop-controlled intersections, LOS is calculated for a movement and for the approach. However, for the overall intersection, LOS is reported as the lowest approach within the intersection. This is because most drivers are on the major roadway and do not experience delay traversing through the intersection. The example below illustrates the various LOS calculations completed for intersections.

EXAMPLE:

Signalized & All-Way Stop Controlled



Two-Way Stop Controlled



*Reported as approach LOS

Source: United Civil Group, 2021

B. Existing Traffic Volumes

Existing turning movement counts (TMC) in 15-minute intervals were collected at the study area intersections of 12th Avenue/Lerdo Road, Lerdo Road/Lundy Road, Lundy Road, Medina Road, Leary Road/Medina Road, Medina Road/12th Avenue and 12th Avenue/Calle Lerdo on Tuesday, October 8, 2024, during the morning (7:00AM – 9:00AM) and evening (4:00PM – 6:00PM) peak periods. Complete traffic count data can be found in **Appendix A**.

Figure 4 graphically depicts the existing roadway and intersection geometry within the study area along with the 2024 turning movement counts.

C. Existing Traffic Observations

Traffic conditions and operations were observed during the study's weekday morning and evening peak periods. No major traffic issues were noted.

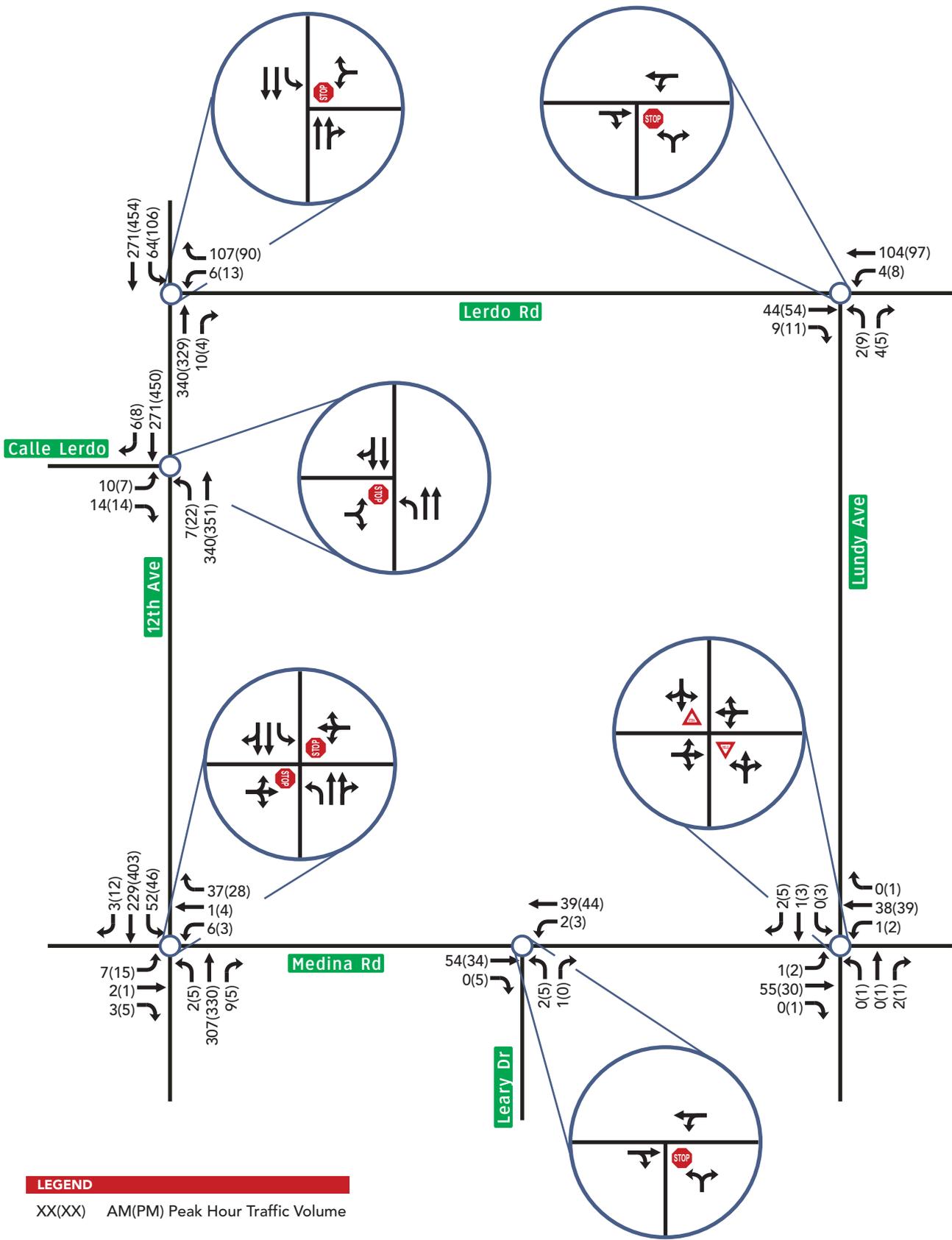


Figure 4: Existing Conditions - Year 2024

D. Existing Intersection Level of Service Analyses

The level of service (LOS) and average delay at the existing study area intersections were evaluated using the 2024 intersection volumes and the existing lane geometry and traffic control as presented in Figure 4. PTV Vistro traffic modeling software, employing the methodologies as presented in the *Highway Capacity Manual (HCM)*, was utilized for the capacity analyses to obtain the existing conditions LOS. Summaries of the Vistro output calculations are included in **Appendix B**. The results of the existing levels of service analysis are presented in **Table 2**.

Table 2: 2024 Existing Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Ø	L	T	R	Ø	L	T	R	Ø	L	T	R	Ø	
12th Avenue/Lerdo Road – One-Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	10.59 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	11.52 B*
12th Avenue/Calle Lerdo – One-Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	10.68 B*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	B	-	-	-	-	12.03 B*
12th Avenue/Calle Medina-Medina Road – Two-Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	B	C	A	B	C	C	A	B	13.55 B*
PM Peak Hour	A	A	A	A	A	A	A	A	C	C	B	C	C	C	A	B	16.91 C*
Leary Drive/Medina Road – One-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	8.90 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.00 A*
Lundy Avenue/Medina Road – Two-Way Yield Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	3.89 A*
PM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4.03 A*
Lundy Avenue/Lerdo Road – Two-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	8.87 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.29 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

In the existing conditions, the study area intersections operate at a LOS C or better in the morning and evening peak hours.

VI. PROJECTED BACKGROUND TRAFFIC

Non-site or background traffic volumes representing the amount of traffic estimated to be on the area roadway network without the proposed development within the study area are projected for the horizon years of the development: year 2026.

Because the area is primarily built out surrounding the proposed site, an annual ambient growth rate for the area of 2% per year, which is a typically appropriate value for the region has been assumed and applied to the existing morning and evening peak hour traffic volumes. The background traffic volumes are presented in **Figure 5**.

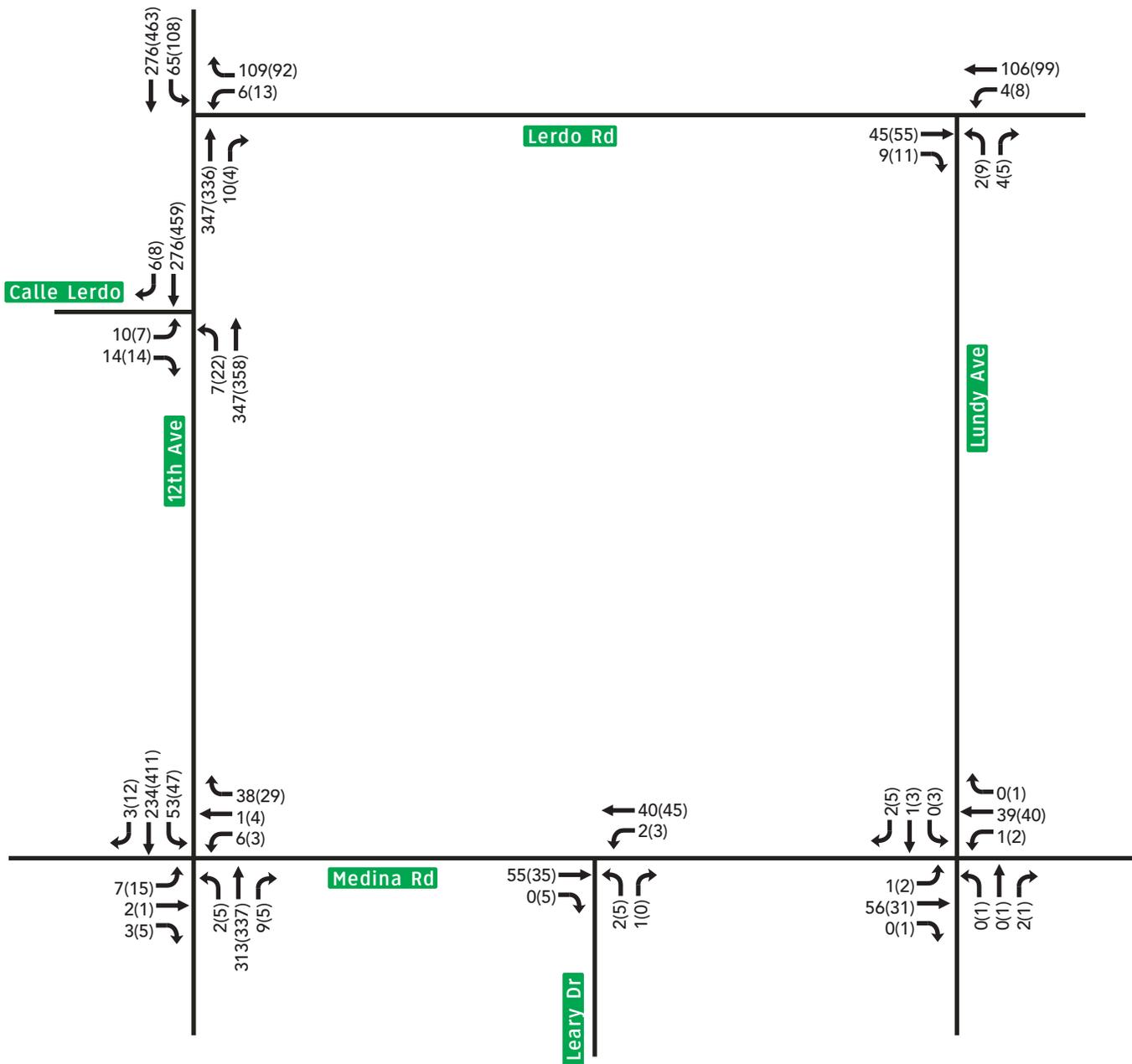
Capacity analyses at the existing study area intersections were performed for the forecasted background traffic utilizing the roadway geometries for the horizon year of the study (2026) as presented. **Table 3** presents the background levels of service at the study area intersections without the proposed development within the study area.

Table 3: 2026 Background Traffic Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot													
12th Avenue/Lerdo Road – One-Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	10.65 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	11.61 B*
12th Avenue/Calle Lerdo – One-Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	10.73 B*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	B	-	-	-	-	12.13 B*
12th Avenue/Calle Medina-Medina Road – Two-Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	B	C	A	B	C	C	A	B	13.70 B*
PM Peak Hour	A	A	A	A	A	A	A	A	C	C	B	C	C	C	A	B	17.25 C*
Leary Drive/Medina Road – One-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	8.90 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.01 A*
Lundy Avenue/Medina Road – Two-Way Yield Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	3.90 A*
PM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4.04 A*
Lundy Avenue/Lerdo Road – Two-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	8.87 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.31 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

In the background conditions, the study area intersections operate at a LOS C or better in the morning and evening peak hours.



LEGEND
 XX(XX) AM(PM) Peak Hour Traffic Volume



not to scale

Figure 5: Background Traffic - Year 2026



VII. SITE GENERATED TRAFFIC

A. Trip Generation

Estimates of the traffic volumes that will be generated by the proposed development were estimated using transportation planning data taken from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition, 2021*. The ITE rates are based on studies that measure trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type.

For the proposed development, the most similar land use ITE code was determined with the provided definitions per the Trip Generation Manual. Because there is no specific land use for Adult Daycare, the Day Care land use was used as the operates are similar with drop off in the morning and pick up in the afternoon.

Day Care (LUC 565) - A day care center is a facility where care for pre-school age 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.

Small Office (LUC 712) - A small office building is the same as a general office building (Land Use 710) but with less than or equal to 10,000 square feet of gross floor area. The building typically houses a single tenant. It is a location where affairs of a business, commercial or industrial organization, or professional person or firm are conducted.

Table 5 presents the forecasted daily and peak hour vehicle trips generated for the proposed development on a typical weekday upon full build out based on the methodologies of the Trip Generation Manual.

Table 5: Trip Generation Based on ITE Trip Generation

Land Use	Units	Size	Daily	AM Peak			PM Peak		
				total	in	out	total	in	out
Day Care	1,000 sqft	6.08	290	67	35	32	68	32	36
Small Office	1,000 sqft	2.90	42	5	4	1	6	2	4
TOTAL			332	72	39	33	74	34	40

The proposed small office and adult daycare are forecast to generate a total of 332 trips per day with 72 trips occurring in the morning peak hour and 74 trips occurring in the evening peak hour.

B. Trip Distribution

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the development in the study area. The assumed trip distribution percentages for the proposed development are shown in **Table 6**. These percentages are based on the land uses surrounding the site, existing traffic volumes and the associated street patterns outside the development.

Table 6: Trip Distribution Percentages

Direction	Trip Distribution Percentage	
	Arriving From and Departing To	
	the Site at Full Build-out	
Medina Road west of 12 th Avenue	5 %	
Medina Road east of Lundy Avenue	10 %	
12 th Avenue south of Medina Road	5 %	
Lerdo Road east of Lundy Road	10 %	
12 th Avenue north of Lerdo Road	70 %	

Figure 6 presents the assigned site generated traffic to and from the development for the proposed development.

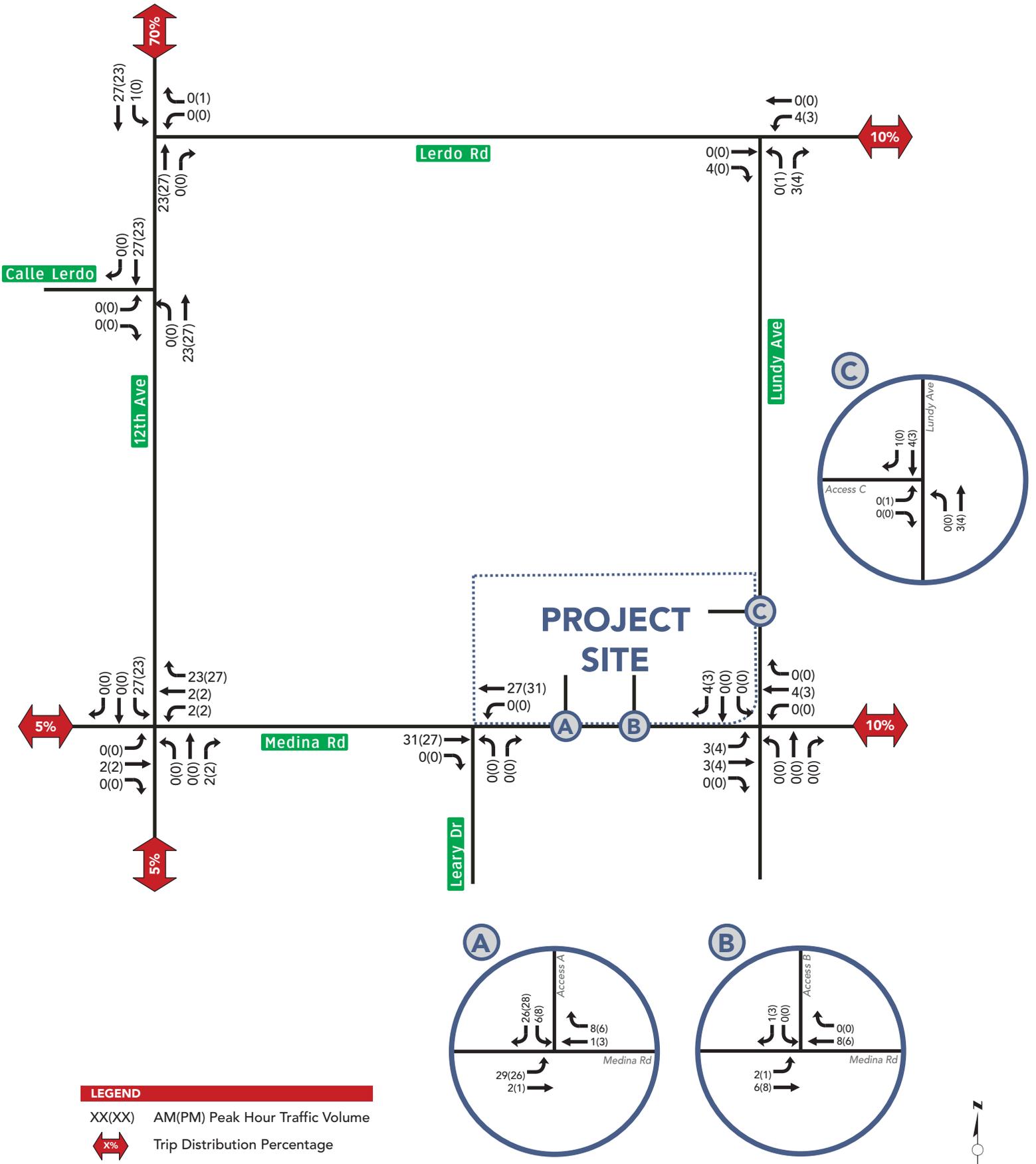


Figure 6: Site Generated Traffic and Trip Distribution

VIII. TRAFFIC AND IMPROVEMENT ANALYSIS

The purpose of this section is to show the relations between traffic operations and roadway geometrics; identify needs pertaining to progressive traffic flow and safety; and identify alternatives for further consideration, where applicable.

A. Total Traffic Volumes

Total traffic projections for the horizon years of the development were determined by adding the proposed development's site generated traffic to the forecasted horizon background traffic volumes for the full build-out horizon year. The total traffic volumes are presented in **Figure 7**.

B. Site Accessibility

Ingress to and egress from the planned developments include one access for the Adult Daycare on Medina Road and two accesses for the office, one on Medina Road and one on Lundy Avenue. The accesses are existing.

Access A – is existing and located on Medina Road is a full turning movement driveway and will provide access to the Adult Daycare. Access A is located approximately 75 feet east of Leary Drive and 110 feet west of Access B, measured from center of drive to center of drive.

Access B – is existing and located on Medina Road is a full turning movement driveway and will provide access to the office building. Access B is located approximately 110 feet east of Access A and 125 feet west of Lundy Avenue, measured from center of drive to center of drive.

Access C – is existing and located on Lundy Avenue. Access C provides full turning movements into and out of the site. Access C is approximately 140 feet north of Medina Road and 85 feet south of an existing driveway, measured from center of drive to center of drive.

Per the City of Tucson Access Management Guidelines, Figure 5-4 shows that driveway spacing should be a minimum of 80 feet from driveway edge to driveway edge. Because these accesses on the local roadways will be for commercial purposes, the driveway spacing of 80 feet should be accommodated, where possible.

Figure 3 illustrates the proposed driveway spacing for the site.

C. Turn Lane Analysis

Because Mundy Road and Medina Road are both classified as local roadways, turn lanes are not considered at the site accesses.

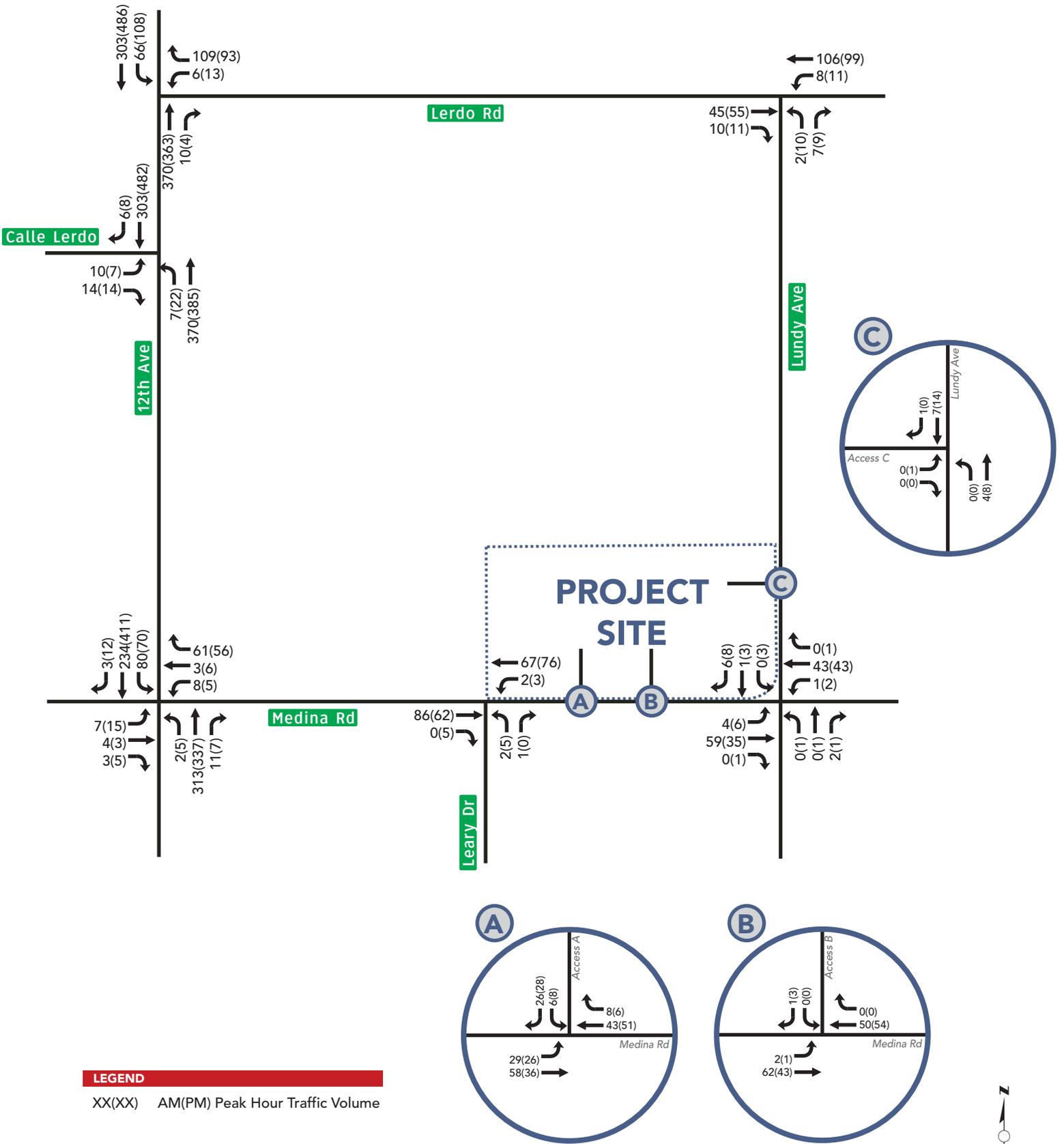


Figure 7: Total Traffic - Year 2026

D. Intersection Level of Service Analyses

Capacity analyses at the existing study area intersections and at the site accesses assumed as part of this TIA per initial conceptual planning were performed for the forecasted total traffic and recommended roadway geometries for the horizon years of the study, 2026. **Table 7** presents the total traffic levels of service at the study area intersections with the proposed development.

Table 7: 2028 Total Traffic Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	AvgDelay/LOS*												
12th Avenue/Lerdo Road – One-Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	10.81 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	11.89 B*
12th Avenue/Calle Lerdo – One-Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	11.00 B*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	B	-	-	-	-	12.44 B*
12th Avenue/Calle Medina-Medina Road – Two-Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	C	C	A	C	C	C	B	B	15.40 C*
PM Peak Hour	A	A	A	A	A	A	A	A	C	C	B	C	C	C	B	B	19.66 C*
Leary Drive/Medina Road – One-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.19 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.36 A*
Lundy Avenue/Medina Road – Two-Way Yield Controlled																	
AM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	3.74 A*
PM Peak Hour	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4.14 A*
Lundy Avenue/Lerdo Road – Two-Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	8.79 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	A	A	-	A	9.22 A*
Access A/Medina Road – One-Way Stop Controlled																	
AM Peak Hour	-	-	-	-	A	-	A	A	A	A	-	A	-	A	A	A	8.88 A*
PM Peak Hour	-	-	-	-	A	-	A	A	A	A	-	A	-	A	A	A	8.92 A*
Access B/Medina Road – One-Way Stop Controlled																	
AM Peak Hour	-	-	-	-	A	-	A	A	A	A	-	A	-	A	A	A	8.54 A*
PM Peak Hour	-	-	-	-	A	-	A	A	A	A	-	A	-	A	A	A	8.56 A*
Lundy Avenue/Access C – One-Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	8.46 A*
PM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	8.62 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

When the site is fully occupied, the study area intersections are anticipated to operate at an acceptable LOS of C or better during the morning and evening peak hours.

E. Intersection Sight Distance

Proper intersection sight distance and sight triangles shall be provided and maintained at the site accesses and intersections of the proposed development to give drivers exiting the accesses a clear view of oncoming traffic. The landscape and hardscape within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. To ensure adequate sight distances and sight distance triangles, AASHTO's *A Policy on Geometric Design of Highways and Streets* Section 9.5 and the City of Tucson Access Management Guidelines Section 5.2 should be followed as appropriate when designing the accesses and landscaping.

IX. CONCLUSIONS AND RECOMMENDATIONS

The northwest corner of Lundy Avenue and Medina Road is currently developed as a residence and a vacant lot. Once redeveloped, the site will consist of the existing house (office) of 1,700 square feet, an additional office structure of 12,00 feet, and an adult daycare of 6,000 square feet on approximately 1 acre of land in Tucson, Arizona. It is assumed that the redevelopment will occur in one phase and occupied by the year 2026.

The proposed small office and adult daycare are forecast to generate a total of 332 trips per day with 72 trips occurring in the morning peak hour and 74 trips occurring in the evening peak hour.

Ingress to and egress from the planned developments include one access for the Adult Daycare on Medina Road and two accesses for the office, one on Medina Road and one on Lundy Avenue. The accesses exist with full turning movements.

When the site is fully occupied, the study area intersections are anticipated to operate at an acceptable LOS of C or better during the morning and evening peak hours.

Proper intersection sight distance and sight triangles shall be provided and maintained at the site accesses and intersections of the proposed development to give drivers exiting the accesses a clear view of oncoming traffic. The landscape and hardscape within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. To ensure adequate sight distances and sight distance triangles, AASHTO's *A Policy on Geometric Design of Highways and Streets* Section 9.5 and The City of Tucson Access Management Guidelines Section 5.2 should be followed as appropriate when designing the accesses and landscaping.

Based on the findings of this TIA, the following recommendations apply:

- Provide adequate sight distances at the proposed site accesses.

X. LIMITATIONS

Our professional services have been performed using the degree of skill ordinarily exercised, under similar circumstances, by reputable transportation engineering firms practicing in this locality. No other warranty, expressed or implied, is made.

The contents of this report are intended for the sole use of the addressee and his/her designees. In completing this report, data was obtained from a variety of sources (i.e., City, County, State and Federal sources); United Civil Group has assumed these sources to be reliable and accurate. Should deviations from this report be noted, this firm should be contacted for review of the area of concern.

A reasonable attempt was made to acquire recent traffic impact studies, traffic projections and/or data that may be helpful in more accurately projecting traffic volumes. United Civil Group is not responsible for incorporating data made available after this document has been finalized.

This report is issued with the understanding that it is the responsibility of the owner to see that its provisions are carried out or brought to the attention of those concerned. If any changes of the proposed project are planned, the conclusions and recommendations contained in this report shall be reviewed and the report shall be modified or supplemented, as necessary.

XI. SOURCES

A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 7th Edition, 2019.

City of Chandler Engineering and Design Standards Manual, March 2023.

City of Chandler Scope of Work for Traffic Impact Studies, October 2023.

City of Chandler Transportation Master Plan 2019 Update.

Manual on Uniform Traffic Control Devices, Federal Highway Administration, MUTCD 2009.

Highway Capacity Manual, HCM, Transportation Research Board.

Trip Generation, 11th Edition, Institute of Transportation Engineers, 2021.

Appendix A



Turning Movement Count

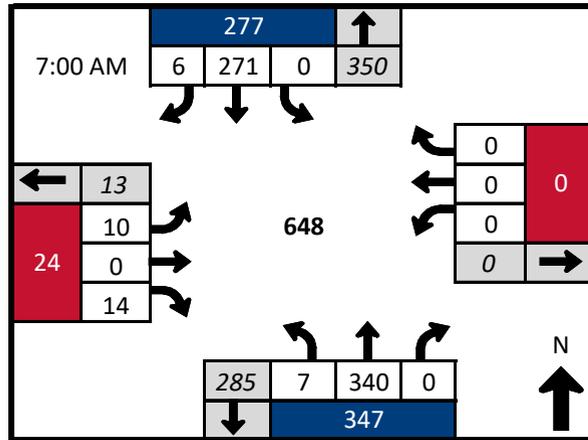
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	35	1		1	1			
Southbound	35	1		1	1			
Eastbound	25						1	
Westbound	25						1	

October 8, 2024 (Tuesday)

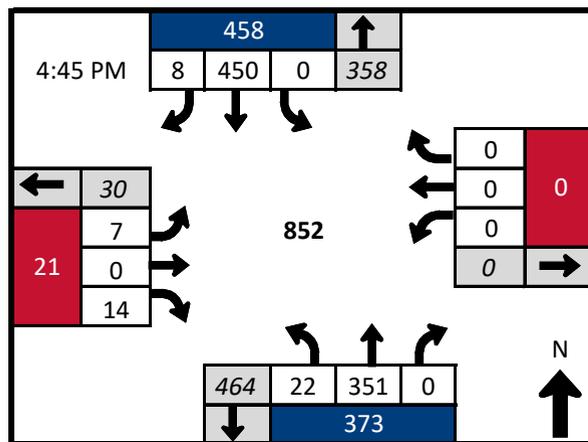
Project No: TR24104

Location: 12th Avenue
and Calle Lerdo

Intersection Configuration: Unsignalized



Start Time	12th Avenue Northbound				12th Avenue Southbound				Calle Lerdo Eastbound				Calle Lerdo Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	3	60	0	0	0	60	1	0	2	0	5	0	0	0	0	0	131	
7:15 AM	1	97	0	0	0	69	1	0	5	0	2	0	0	0	0	0	175	
7:30 AM	1	94	0	0	0	85	3	0	1	0	6	0	0	0	0	0	190	
7:45 AM	2	89	0	0	0	57	1	0	2	0	1	0	0	0	0	0	152	648
8:00 AM	6	61	0	0	0	58	0	0	2	0	1	0	0	0	0	0	128	645
8:15 AM	2	68	0	0	0	52	2	0	2	0	2	0	0	0	0	0	128	598
8:30 AM	0	58	0	0	0	65	1	0	1	0	2	0	0	0	0	0	127	535
8:45 AM	3	55	0	0	0	50	1	0	0	0	1	0	0	0	0	0	110	493
Peak Hour Total	7	340	0	0	0	271	6	0	10	0	14	0	0	0	0	0	648	



Start Time	12th Avenue Northbound				12th Avenue Southbound				Calle Lerdo Eastbound				Calle Lerdo Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	7	79	0	0	0	113	2	0	2	0	4	0	0	0	0	0	207	
4:15 PM	7	57	0	0	0	109	0	0	3	0	4	0	0	0	0	0	180	
4:30 PM	7	73	0	0	0	108	4	0	2	0	2	0	0	0	0	0	196	
4:45 PM	7	90	0	0	0	104	4	0	4	0	2	0	0	0	0	0	211	794
5:00 PM	4	72	0	0	0	117	1	0	1	0	4	0	0	0	0	0	199	786
5:15 PM	5	90	0	0	0	127	2	0	1	0	6	0	0	0	0	0	231	837
5:30 PM	6	99	0	0	0	102	1	0	1	0	2	0	0	0	0	0	211	852
5:45 PM	10	90	0	0	0	88	4	0	5	0	5	0	0	0	0	0	202	843
Peak Hour Total	22	351	0	0	0	450	8	0	7	0	14	0	0	0	0	0	852	



Turning Movement Count

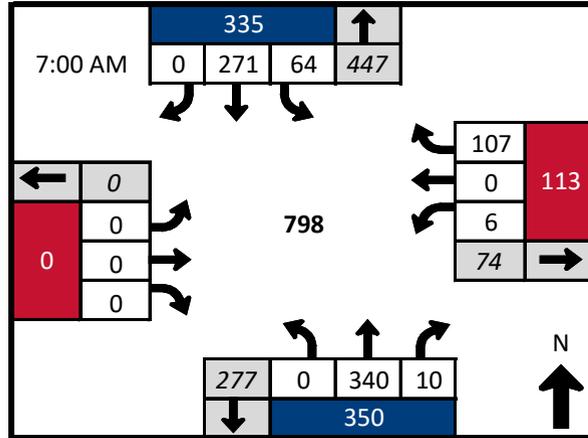
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	35	1		1	1			
Southbound	35	1		1	1			
Eastbound	25						1	
Westbound	25						1	

October 8, 2024 (Tuesday)

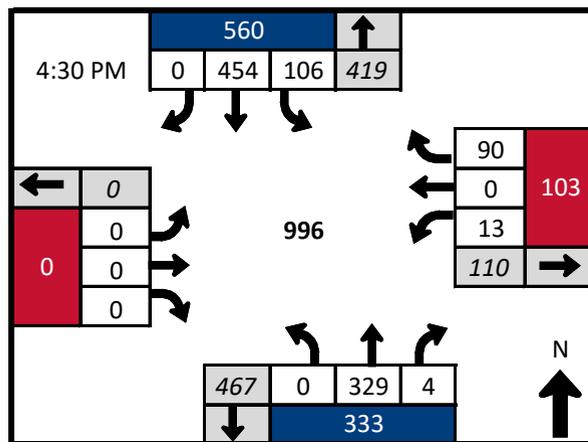
Project No: TR24104

Location: 12th Avenue
and Lerdo Road

Intersection Configuration: Unsignalized



Start Time	12th Avenue Northbound				12th Avenue Southbound				Lerdo Road Eastbound				Lerdo Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	62	0	0	16	59	0	0	0	0	0	0	2	0	17	0	156	
7:15 AM	0	98	4	0	21	69	0	0	0	0	0	0	1	0	41	0	234	
7:30 AM	0	94	1	0	16	86	0	0	0	0	0	0	2	0	39	0	238	
7:45 AM	0	86	5	0	11	57	0	0	0	0	0	0	1	0	10	0	170	798
8:00 AM	0	62	1	0	19	58	0	0	0	0	0	0	0	0	11	0	151	793
8:15 AM	0	70	0	0	15	53	0	0	0	0	0	0	1	0	8	0	147	706
8:30 AM	0	58	1	0	10	61	0	0	0	0	0	0	5	0	6	0	141	609
8:45 AM	0	54	1	0	10	51	0	0	0	0	0	0	0	0	6	0	122	561
Peak Hour Total	0	340	10	0	64	271	0	0	0	0	0	0	6	0	107	0	798	



Start Time	12th Avenue Northbound				12th Avenue Southbound				Lerdo Road Eastbound				Lerdo Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	79	2	0	34	111	0	0	0	0	0	0	4	0	31	0	261	
4:15 PM	0	58	2	0	17	105	0	0	0	0	0	0	4	0	22	0	208	
4:30 PM	0	73	2	0	26	109	0	0	0	0	0	0	3	0	24	0	237	
4:45 PM	0	92	2	0	30	106	0	0	0	0	0	0	2	0	22	0	254	960
5:00 PM	0	73	0	0	23	113	0	0	0	0	0	0	5	0	25	0	239	938
5:15 PM	0	91	0	0	27	126	0	0	0	0	0	0	3	0	19	0	266	996
5:30 PM	0	100	0	0	17	103	0	0	0	0	0	0	0	0	13	0	233	992
5:45 PM	0	94	1	0	32	91	0	0	0	0	0	0	1	0	10	0	229	967
Peak Hour Total	0	329	4	0	106	454	0	0	0	0	0	0	13	0	90	0	996	



Turning Movement Count

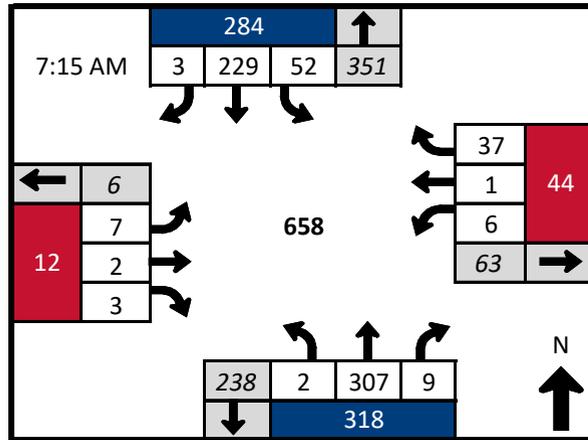
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	35	1		1	1			
Southbound	35	1		1	1			
Eastbound	25						1	
Westbound	25						1	

October 8, 2024 (Tuesday)

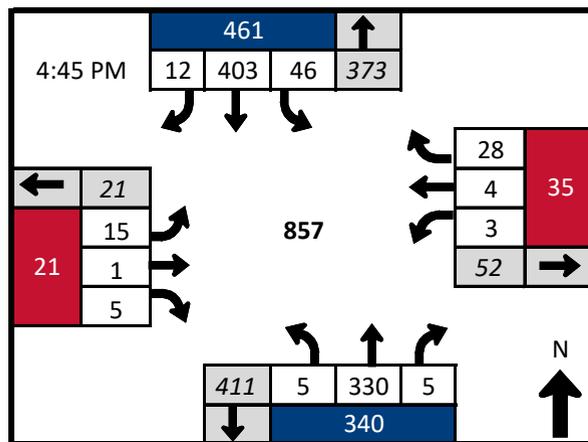
Project No: TR24104

Location: 12th Avenue
and Medina Road-Calle Medina

Intersection Configuration: Unsignalized



Start Time	12th Avenue Northbound				12th Avenue Southbound				Calle Medina Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	55	0	0	6	55	2	0	4	0	0	0	0	0	4	0	126	
7:15 AM	1	83	3	0	20	51	0	0	1	2	1	0	2	0	14	0	178	
7:30 AM	0	84	5	0	21	73	1	0	4	0	1	0	2	0	7	0	198	
7:45 AM	1	79	1	0	6	51	2	0	1	0	1	0	2	0	11	0	155	657
8:00 AM	0	61	0	0	5	54	0	0	1	0	0	0	0	1	5	0	127	658
8:15 AM	1	65	1	0	3	50	0	0	1	3	3	0	0	0	4	0	131	611
8:30 AM	1	54	0	0	8	58	1	0	0	0	1	0	0	2	4	0	129	542
8:45 AM	0	50	2	0	5	48	0	0	4	0	0	0	1	0	4	0	114	501
Peak Hour Total	2	307	9	0	52	229	3	0	7	2	3	0	6	1	37	0	658	



Start Time	12th Avenue Northbound				12th Avenue Southbound				Calle Medina Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	71	0	0	10	101	5	0	4	1	0	0	2	1	11	0	206	
4:15 PM	0	53	1	0	14	98	3	0	1	0	0	0	2	0	10	0	182	
4:30 PM	1	67	1	0	9	97	4	0	3	0	0	0	1	0	10	0	193	
4:45 PM	1	84	2	0	10	93	2	0	4	0	1	0	1	2	9	0	209	790
5:00 PM	1	63	3	0	13	102	6	0	3	0	1	0	2	0	10	0	204	788
5:15 PM	1	86	0	0	12	116	3	0	3	1	1	0	0	0	6	0	229	835
5:30 PM	2	97	0	0	11	92	1	0	5	0	2	0	0	2	3	0	215	857
5:45 PM	0	87	0	0	4	86	6	0	4	0	2	0	2	1	9	0	201	849
Peak Hour Total	5	330	5	0	46	403	12	0	15	1	5	0	3	4	28	0	857	



Turning Movement Count

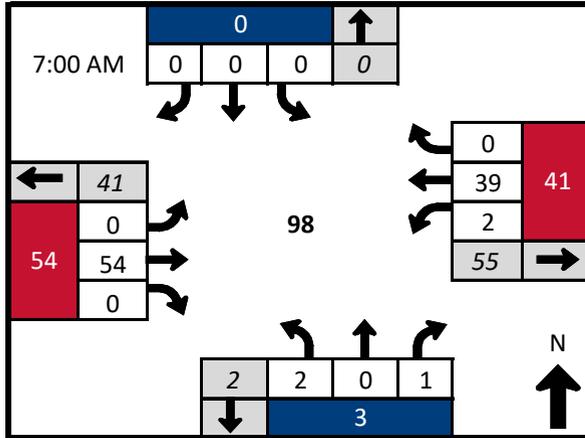
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Southbound								
Eastbound	25				1			
Westbound	25		1					

October 8, 2024 (Tuesday)

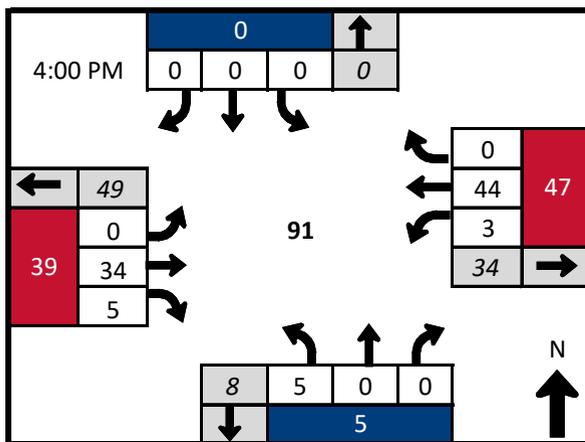
Project No: TR24104

Location: Leary Drive
and Medina Road

Intersection Configuration: Unsignalized



Start Time	Leary Drive Northbound				Leary Drive Southbound				Medina Road Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	0	0	0	0	0	0	0	5	0	0	1	5	0	0	11	
7:15 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	15	0	0	37	
7:30 AM	2	0	0	0	0	0	0	0	0	23	0	0	0	8	0	0	33	
7:45 AM	0	0	1	0	0	0	0	0	0	4	0	0	1	11	0	0	17	98
8:00 AM	0	0	0	0	0	0	0	0	0	2	2	0	0	6	0	0	10	97
8:15 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10	70
8:30 AM	0	0	1	0	0	0	0	0	0	7	0	0	0	6	0	0	14	51
8:45 AM	0	0	1	0	0	0	0	0	0	5	0	0	2	5	0	0	13	47
Peak Hour Total	2	0	1	0	0	0	0	0	0	54	0	0	2	39	0	0	98	



Start Time	Leary Drive Northbound				Leary Drive Southbound				Medina Road Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	0	0	0	0	0	0	0	0	10	1	0	0	14	0	0	25	
4:15 PM	0	0	0	0	0	0	0	0	0	11	2	0	3	12	0	0	28	
4:30 PM	4	0	0	0	0	0	0	0	0	3	1	0	0	7	0	0	15	
4:45 PM	1	0	0	0	0	0	0	0	0	10	1	0	0	11	0	0	23	91
5:00 PM	0	0	0	0	0	0	0	0	0	10	3	0	0	11	0	0	24	90
5:15 PM	0	0	0	0	0	0	0	0	0	11	1	0	0	6	0	0	18	80
5:30 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	0	10	75
5:45 PM	2	0	0	0	0	0	0	0	0	2	0	0	1	11	0	0	16	68
Peak Hour Total	5	0	0	0	0	0	0	0	0	34	5	0	3	44	0	0	91	



Turning Movement Count

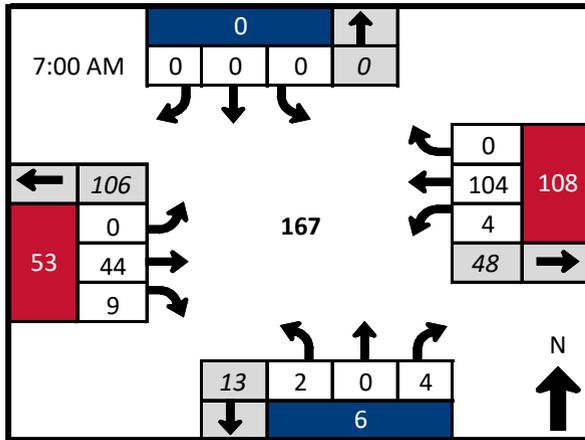
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25							1
Southbound								
Eastbound	25				1			
Westbound	25		1					

October 8, 2024 (Tuesday)

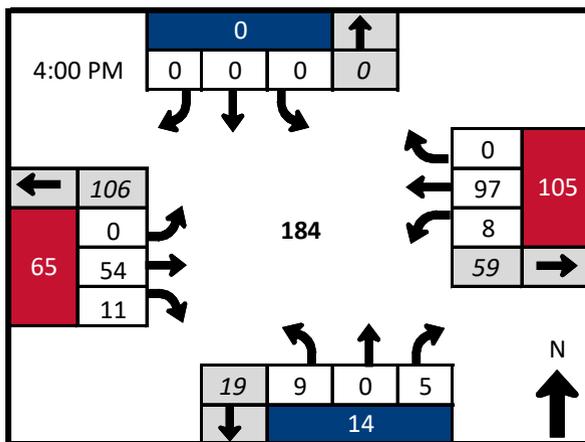
Project No: TR24104

Location: Lundy Avenue
and Lerdo Road

Intersection Configuration: Unsignalized



Start Time	Lundy Avenue Northbound				Lundy Avenue Southbound				Lerdo Road Eastbound				Lerdo Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	1	0	0	0	0	0	0	11	0	0	1	12	0	0	25	
7:15 AM	0	0	1	0	0	0	0	0	0	14	2	0	0	48	0	0	65	
7:30 AM	2	0	0	0	0	0	0	0	0	13	1	0	2	37	0	0	55	
7:45 AM	0	0	2	0	0	0	0	0	0	6	6	0	1	7	0	0	22	167
8:00 AM	2	0	2	0	0	0	0	0	0	6	5	0	1	9	0	0	25	167
8:15 AM	5	0	0	0	0	0	0	0	0	1	5	0	1	4	0	0	16	118
8:30 AM	4	0	0	0	0	0	0	0	0	2	2	0	0	5	0	0	13	76
8:45 AM	2	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	7	61
Peak Hour Total	2	0	4	0	0	0	0	0	0	44	9	0	4	104	0	0	167	



Start Time	Lundy Avenue Northbound				Lundy Avenue Southbound				Lerdo Road Eastbound				Lerdo Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	2	0	0	0	0	0	0	0	0	15	1	0	3	28	0	0	49	
4:15 PM	1	0	3	0	0	0	0	0	0	8	3	0	4	26	0	0	45	
4:30 PM	3	0	1	0	0	0	0	0	0	13	5	0	1	24	0	0	47	
4:45 PM	3	0	1	0	0	0	0	0	0	18	2	0	0	19	0	0	43	184
5:00 PM	0	0	1	0	0	0	0	0	0	8	1	0	1	28	0	0	39	174
5:15 PM	2	0	1	0	0	0	0	0	0	8	1	0	3	16	0	0	31	160
5:30 PM	0	0	1	0	0	0	0	0	0	4	2	0	1	13	0	0	21	134
5:45 PM	0	0	0	0	0	0	0	0	0	12	3	0	3	12	0	0	30	121
Peak Hour Total	9	0	5	0	0	0	0	0	0	54	11	0	8	97	0	0	184	



Turning Movement Count

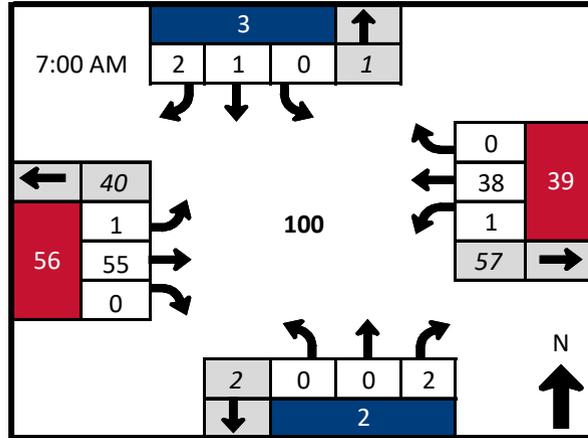
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	25						1	
Southbound	25						1	
Eastbound	25						1	
Westbound	25						1	

October 8, 2024 (Tuesday)

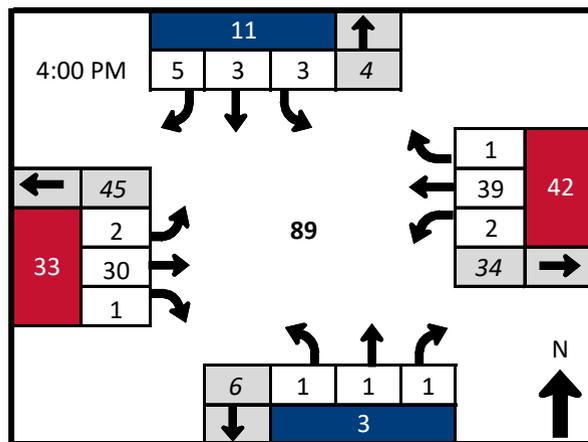
Project No: TR24104

Location: Lundy Avenue
and Medina Road

Intersection Configuration: Unsignalized



Start Time	Lundy Avenue Northbound				Lundy Avenue Southbound				Medina Road Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	0	1	0	0	0	1	0	0	5	0	0	0	6	0	0	13	
7:15 AM	0	0	0	0	0	0	0	0	0	20	0	0	0	15	0	0	35	
7:30 AM	0	0	1	0	0	1	1	0	1	24	0	0	1	7	0	0	36	
7:45 AM	0	0	0	0	0	0	0	0	0	6	0	0	0	10	0	0	16	100
8:00 AM	1	0	0	0	0	0	1	0	1	1	0	0	0	3	1	0	8	95
8:15 AM	0	0	0	0	0	1	0	0	1	5	0	0	1	4	1	0	13	73
8:30 AM	1	0	2	0	0	0	0	0	0	8	0	0	0	4	1	0	16	53
8:45 AM	1	0	1	0	0	1	0	0	1	5	0	0	0	6	0	0	15	52
Peak Hour Total	0	0	2	0	0	1	2	0	1	55	0	0	1	38	0	0	100	



Start Time	Lundy Avenue Northbound				Lundy Avenue Southbound				Medina Road Eastbound				Medina Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	1	0	0	0	0	2	2	0	1	9	0	0	0	11	0	0	26	
4:15 PM	0	1	0	0	1	0	2	0	0	10	0	0	0	12	0	0	26	
4:30 PM	0	0	1	0	2	1	1	0	1	2	0	0	1	6	1	0	16	
4:45 PM	0	0	0	0	0	0	0	0	0	9	1	0	1	10	0	0	21	89
5:00 PM	1	0	0	0	0	1	1	0	1	8	1	0	0	7	0	0	20	83
5:15 PM	0	0	0	0	0	0	0	0	0	9	2	0	2	6	0	0	19	76
5:30 PM	1	0	0	0	0	1	0	0	0	5	1	0	0	3	0	0	11	71
5:45 PM	1	0	1	0	0	0	1	0	0	2	0	0	0	10	0	0	15	65
Peak Hour Total	1	1	1	0	3	3	5	0	2	30	1	0	2	39	1	0	89	

Appendix B

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	340	10	64	271	6	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	10	64	271	6	107
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	3	17	74	2	29
Total Analysis Volume [veh/h]	370	11	70	295	7	116
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.02	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	8.26	0.00	15.60	10.29
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.19	0.00	0.57	0.57
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.75	0.00	14.24	14.24
d_A, Approach Delay [s/veh]	0.00		1.58		10.59	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.16					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	7	340	271	6	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	340	271	6	10	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	92	74	2	3	4
Total Analysis Volume [veh/h]	8	370	295	7	11	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	7.89	0.00	0.00	0.00	12.46	9.37
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.48	0.00	0.00	0.00	3.07	3.07
d_A, Approach Delay [s/veh]	0.17		0.00		10.68	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	2	307	9	52	229	3	7	2	3	6	1	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	307	9	52	229	3	7	2	3	6	1	37
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	83	2	14	62	1	2	1	1	2	0	10
Total Analysis Volume [veh/h]	2	334	10	57	249	3	8	2	3	7	1	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	0.02	0.00	0.05
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	8.12	0.00	0.00	14.57	15.89	9.25	15.02	15.97	9.66
Movement LOS	A	A	A	A	A	A	B	C	A	C	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.15	0.00	0.00	0.09	0.09	0.09	0.22	0.22	0.22
95th-Percentile Queue Length [ft/ln]	0.11	0.00	0.00	3.70	0.00	0.00	2.31	2.31	2.31	5.56	5.56	5.56
d_A, Approach Delay [s/veh]	0.04			1.50			13.55			10.58		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.62											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	2	1	54	0	2	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	54	0	2	39
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	15	0	1	11
Total Analysis Volume [veh/h]	2	1	59	0	2	42
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.05	8.59	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	8.90		0.00		0.33	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.39					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	0	0	2	0	1	2	1	55	0	1	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	0	1	2	1	55	0	1	38	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	1	0	15	0	0	10	0
Total Analysis Volume [veh/h]	0	0	2	0	1	2	1	60	0	1	41	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.16	4.61	3.60	4.16	4.62	3.52	2.30	0.00	0.00	2.34	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.15	0.15	0.15	0.24	0.24	0.24	0.04	0.04	0.04	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	3.60			3.89			0.04			0.06		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.22											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	2	4	44	9	4	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	4	44	9	4	104
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	12	2	1	28
Total Analysis Volume [veh/h]	2	4	48	10	4	113
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.45	8.57	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.48	0.48	0.00	0.00	0.17	0.17
d_A, Approach Delay [s/veh]	8.87		0.00		0.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	329	4	106	454	13	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	329	4	106	454	13	90
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	29	123	4	24
Total Analysis Volume [veh/h]	358	4	115	493	14	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.00	0.05	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	8.34	0.00	19.14	10.43
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.32	0.00	0.60	0.60
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.98	0.00	15.09	15.09
d_A, Approach Delay [s/veh]	0.00		1.58		11.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo

Control Type:	Two-way stop	Delay (sec / veh):	15.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↑	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	22	351	450	8	7	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	351	450	8	7	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	95	122	2	2	4
Total Analysis Volume [veh/h]	24	382	489	9	8	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	8.47	0.00	0.00	0.00	15.64	10.10
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	1.73	0.00	0.00	0.00	3.36	3.36
d_A, Approach Delay [s/veh]	0.50		0.00		12.03	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.52					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	5	330	5	46	403	12	15	1	5	3	4	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	330	5	46	403	12	15	1	5	3	4	28
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	90	1	13	110	3	4	0	1	1	1	8
Total Analysis Volume [veh/h]	5	359	5	50	438	13	16	1	5	3	4	30
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.06	0.00	0.01	0.01	0.02	0.04
d_M, Delay for Movement [s/veh]	8.27	0.00	0.00	8.15	0.00	0.00	18.75	19.79	10.44	16.91	19.45	9.73
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	A
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.13	0.00	0.00	0.22	0.22	0.22	0.20	0.20	0.20
95th-Percentile Queue Length [ft/ln]	0.34	0.00	0.00	3.28	0.00	0.00	5.43	5.43	5.43	4.89	4.89	4.89
d_A, Approach Delay [s/veh]	0.11			0.81			16.91			11.36		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	1.34											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration	↔		↗		↖	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	5	0	34	5	3	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	34	5	3	44
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	9	1	1	12
Total Analysis Volume [veh/h]	5	0	37	5	3	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.00	8.51	0.00	0.00	7.30	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.42	0.42	0.00	0.00	0.13	0.13
d_A, Approach Delay [s/veh]	9.00		0.00		0.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	1	1	1	3	3	5	2	30	1	2	39	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	1	3	3	5	2	30	1	2	39	1
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	1	1	1	8	0	1	11	0
Total Analysis Volume [veh/h]	1	1	1	3	3	5	2	33	1	2	42	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.09	4.51	3.49	4.12	4.59	3.61	2.31	0.00	0.00	2.29	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.25	0.91	0.91	0.91	0.08	0.08	0.08	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	4.03			4.01			0.13			0.10		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.69											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	9	5	54	11	8	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	54	11	8	97
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	15	3	2	26
Total Analysis Volume [veh/h]	10	5	59	12	9	105
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.60	8.68	0.00	0.00	7.36	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.34	1.34	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	9.29		0.00		0.58	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	15.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		←↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	340	10	64	271	6	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	347	10	65	276	6	109
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	3	18	75	2	30
Total Analysis Volume [veh/h]	377	11	71	300	7	118
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.02	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	8.28	0.00	15.81	10.34
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.19	0.00	0.58	0.58
95th-Percentile Queue Length [ft/ln]	0.00	0.00	4.85	0.00	14.61	14.61
d_A, Approach Delay [s/veh]	0.00		1.59		10.65	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.17					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo**

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.022

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↑	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	7	340	271	6	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	347	276	6	10	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	94	75	2	3	4
Total Analysis Volume [veh/h]	8	377	300	7	11	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	7.90	0.00	0.00	0.00	12.56	9.39
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.48	0.00	0.00	0.00	3.10	3.10
d_A, Approach Delay [s/veh]	0.16		0.00		10.73	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	2	307	9	52	229	3	7	2	3	6	1	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	313	9	53	234	3	7	2	3	6	1	38
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	85	2	14	64	1	2	1	1	2	0	10
Total Analysis Volume [veh/h]	2	340	10	58	254	3	8	2	3	7	1	41
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.05	0.00	0.00	0.02	0.01	0.00	0.02	0.00	0.05
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	8.14	0.00	0.00	14.76	16.09	9.28	15.22	16.18	9.69
Movement LOS	A	A	A	A	A	A	B	C	A	C	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.15	0.00	0.00	0.09	0.09	0.09	0.23	0.23	0.23
95th-Percentile Queue Length [ft/ln]	0.12	0.00	0.00	3.79	0.00	0.00	2.35	2.35	2.35	5.72	5.72	5.72
d_A, Approach Delay [s/veh]	0.04			1.50			13.70			10.62		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.63											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	2	1	54	0	2	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	55	0	2	40
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	15	0	1	11
Total Analysis Volume [veh/h]	2	1	60	0	2	43
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.06	8.59	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.24	0.24	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	8.90		0.00		0.33	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.38					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	0	0	2	0	1	2	1	55	0	1	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	0	1	2	1	56	0	1	39	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	1	0	15	0	0	11	0
Total Analysis Volume [veh/h]	0	0	2	0	1	2	1	61	0	1	42	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.17	4.62	3.60	4.18	4.63	3.53	2.30	0.00	0.00	2.34	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.15	0.15	0.15	0.24	0.24	0.24	0.04	0.04	0.04	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	3.60			3.90			0.04			0.05		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.21											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	2	4	44	9	4	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	4	45	9	4	106
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	12	2	1	29
Total Analysis Volume [veh/h]	2	4	49	10	4	115
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.47	8.58	0.00	0.00	7.33	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.48	0.48	0.00	0.00	0.17	0.17
d_A, Approach Delay [s/veh]	8.87		0.00		0.25	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	19.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.052

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		←↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	329	4	106	454	13	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	336	4	108	463	13	92
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	1	29	126	4	25
Total Analysis Volume [veh/h]	365	4	117	503	14	100
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.01	0.05	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	8.37	0.00	19.52	10.50
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.33	0.00	0.62	0.62
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.19	0.00	15.56	15.56
d_A, Approach Delay [s/veh]	0.00		1.58		11.61	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.09					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo

Control Type:	Two-way stop	Delay (sec / veh):	15.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↑	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	22	351	450	8	7	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	358	459	8	7	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	97	125	2	2	4
Total Analysis Volume [veh/h]	24	389	499	9	8	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	8.50	0.00	0.00	0.00	15.86	10.14
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.75	0.00	0.00	0.00	3.41	3.41
d_A, Approach Delay [s/veh]	0.49		0.00		12.13	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	20.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	5	330	5	46	403	12	15	1	5	3	4	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	337	5	47	411	12	15	1	5	3	4	29
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	92	1	13	112	3	4	0	1	1	1	8
Total Analysis Volume [veh/h]	5	366	5	51	447	13	16	1	5	3	4	32
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.04	0.00	0.00	0.06	0.00	0.01	0.01	0.02	0.04
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	8.18	0.00	0.00	19.17	20.20	10.51	17.21	19.84	9.78
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	A
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.13	0.00	0.00	0.22	0.22	0.22	0.21	0.21	0.21
95th-Percentile Queue Length [ft/ln]	0.34	0.00	0.00	3.37	0.00	0.00	5.58	5.58	5.58	5.17	5.17	5.17
d_A, Approach Delay [s/veh]	0.11			0.82			17.25			11.38		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	1.35											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	5	0	34	5	3	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	35	5	3	45
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	10	1	1	12
Total Analysis Volume [veh/h]	5	0	38	5	3	49
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	8.52	0.00	0.00	7.30	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.42	0.42	0.00	0.00	0.13	0.13
d_A, Approach Delay [s/veh]	9.01		0.00		0.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.67					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	1	1	1	3	3	5	2	30	1	2	39	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	1	3	3	5	2	31	1	2	40	1
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	1	1	1	8	0	1	11	0
Total Analysis Volume [veh/h]	1	1	1	3	3	5	2	34	1	2	43	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.10	4.52	3.50	4.13	4.60	3.61	2.31	0.00	0.00	2.29	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.04	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.25	0.25	0.25	0.91	0.91	0.91	0.08	0.08	0.08	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	4.04			4.02			0.12			0.10		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.68											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	9	5	54	11	8	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	5	55	11	8	99
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	15	3	2	27
Total Analysis Volume [veh/h]	10	5	60	12	9	108
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.62	8.68	0.00	0.00	7.37	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.35	1.35	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	9.31		0.00		0.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.01					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	340	10	64	271	6	107
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	23	0	1	27	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	370	10	66	303	6	109
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	101	3	18	82	2	30
Total Analysis Volume [veh/h]	402	11	72	329	7	118
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.06	0.00	0.02	0.15
d_M, Delay for Movement [s/veh]	0.00	0.00	8.36	0.00	16.50	10.48
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.20	0.00	0.60	0.60
95th-Percentile Queue Length [ft/ln]	0.00	0.00	5.04	0.00	15.03	15.03
d_A, Approach Delay [s/veh]	0.00		1.50		10.81	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↑	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	7	340	271	6	10	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	27	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	370	303	6	10	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	101	82	2	3	4
Total Analysis Volume [veh/h]	8	402	329	7	11	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	7.97	0.00	0.00	0.00	13.04	9.50
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.49	0.00	0.00	0.00	3.24	3.24
d_A, Approach Delay [s/veh]	0.16		0.00		11.00	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	17.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	2	307	9	52	229	3	7	2	3	6	1	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	27	0	0	0	2	0	2	2	23
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	313	11	80	234	3	7	4	3	8	3	61
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	85	3	22	64	1	2	1	1	2	1	17
Total Analysis Volume [veh/h]	2	340	12	87	254	3	8	4	3	9	3	66
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.07	0.00	0.00	0.02	0.01	0.00	0.03	0.01	0.08
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	8.22	0.00	0.00	16.59	17.47	9.44	16.92	17.68	10.01
Movement LOS	A	A	A	A	A	A	C	C	A	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.23	0.00	0.00	0.13	0.13	0.13	0.39	0.39	0.39
95th-Percentile Queue Length [ft/ln]	0.12	0.00	0.00	5.83	0.00	0.00	3.24	3.24	3.24	9.87	9.87	9.87
d_A, Approach Delay [s/veh]	0.04			2.08			15.40			11.11		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	2.31											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	2	1	54	0	2	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	31	0	0	27
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	86	0	2	67
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	23	0	1	18
Total Analysis Volume [veh/h]	2	1	93	0	2	73
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.41	8.75	0.00	0.00	7.40	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	9.19		0.00		0.20	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	0	0	2	0	1	2	1	55	0	1	38	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	4	3	3	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	2	0	1	6	4	59	0	1	43	0
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	0	0	2	1	16	0	0	12	0
Total Analysis Volume [veh/h]	0	0	2	0	1	7	4	64	0	1	47	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.31	4.71	3.62	4.31	4.77	3.59	2.32	0.00	0.00	2.34	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.15	0.15	0.15	0.62	0.62	0.62	0.17	0.17	0.17	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	3.62			3.74			0.14			0.05		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.39											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	2	4	44	9	4	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	0	1	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	7	45	10	8	106
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	12	3	2	29
Total Analysis Volume [veh/h]	2	8	49	11	9	115
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.56	8.60	0.00	0.00	7.34	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.79	0.79	0.00	0.00	0.38	0.38
d_A, Approach Delay [s/veh]	8.79		0.00		0.53	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.79					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Access A & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Access A		Medina Road		Medina Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access A		Medina Road		Medina Road	
Base Volume Input [veh/h]	0	0	0	55	41	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0200	1.0200	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	26	29	2	1	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	26	29	58	43	8
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	7	8	16	12	2
Total Analysis Volume [veh/h]	7	28	32	63	47	9
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.68	8.68	7.36	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.11	0.11	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	2.83	2.83	1.36	1.36	0.00	0.00
d_A, Approach Delay [s/veh]	8.88		2.48		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.94					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 9: Access B & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Access B		Medina Road		Medina Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access B		Medina Road		Medina Road	
Base Volume Input [veh/h]	0	0	0	55	41	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0200	1.0200	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	2	6	8	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	2	62	50	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	1	16	13	0
Total Analysis Volume [veh/h]	0	1	2	62	50	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.10	8.54	7.32	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.07	0.07	0.08	0.08	0.00	0.00
d_A, Approach Delay [s/veh]	8.54		0.23		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Lundy Avenue & Access C

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Lundy Avenue		Lundy Avenue		Access C	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lundy Avenue		Access C	
Base Volume Input [veh/h]	0	1	3	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	4	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	4	7	1	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	0	0	0
Total Analysis Volume [veh/h]	0	4	7	1	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	0.00	8.57	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		8.46	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: 12th Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.056

Intersection Setup

Name	12th Avenue		12th Avenue		Lerdo Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		←↑↑		↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Lerdo Road	
Base Volume Input [veh/h]	329	4	106	454	13	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	27	0	0	23	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	363	4	108	486	13	93
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	1	29	132	4	25
Total Analysis Volume [veh/h]	395	4	117	528	14	101
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.01	0.06	0.12
d_M, Delay for Movement [s/veh]	0.00	0.00	8.46	0.00	20.53	10.70
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.34	0.00	0.65	0.65
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.42	0.00	16.36	16.36
d_A, Approach Delay [s/veh]	0.00		1.54		11.89	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.03					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: 12th Avenue & Calle Lerdo

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	12th Avenue		12th Avenue		Calle Lerdo	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↩		↑	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	12th Avenue		12th Avenue		Calle Lerdo	
Base Volume Input [veh/h]	22	351	450	8	7	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	27	23	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	22	385	482	8	7	14
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	105	131	2	2	4
Total Analysis Volume [veh/h]	24	418	524	9	8	15
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.02	0.02
d_M, Delay for Movement [s/veh]	8.58	0.00	0.00	0.00	16.53	10.26
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	1.79	0.00	0.00	0.00	3.56	3.56
d_A, Approach Delay [s/veh]	0.47		0.00		12.44	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.49					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 3: 12th Avenue & Calle Medina-Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	22.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	12th Avenue			12th Avenue			Calle Medina			Medina Road		
Base Volume Input [veh/h]	5	330	5	46	403	12	15	1	5	3	4	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	2	23	0	0	0	2	0	2	2	27
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	337	7	70	411	12	15	3	5	5	6	56
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	92	2	19	112	3	4	1	1	1	2	15
Total Analysis Volume [veh/h]	5	366	8	76	447	13	16	3	5	5	7	61
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.06	0.00	0.00	0.07	0.01	0.01	0.02	0.03	0.07
d_M, Delay for Movement [s/veh]	8.30	0.00	0.00	8.26	0.00	0.00	21.93	22.07	10.96	19.14	21.67	10.23
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.21	0.00	0.00	0.29	0.29	0.29	0.42	0.42	0.42
95th-Percentile Queue Length [ft/ln]	0.34	0.00	0.00	5.15	0.00	0.00	7.26	7.26	7.26	10.48	10.48	10.48
d_A, Approach Delay [s/veh]	0.11			1.17			19.66			11.93		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	1.99											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 4: Leary Drive & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Leary Drive		Medina Road		Medina Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Leary Drive		Medina Road		Medina Road	
Base Volume Input [veh/h]	5	0	34	5	3	44
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	27	0	0	31
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	62	5	3	76
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	17	1	1	21
Total Analysis Volume [veh/h]	5	0	67	5	3	83
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.36	8.65	0.00	0.00	7.36	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.45	0.45	0.00	0.00	0.13	0.13
d_A, Approach Delay [s/veh]	9.36		0.00		0.26	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.42					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Lundy Avenue & Medina Road

Control Type:	Two-way yield	Delay (sec / veh):	4.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Lundy Avenue			Lundy Avenue			Medina Road			Medina Road		
Base Volume Input [veh/h]	1	1	1	3	3	5	2	30	1	2	39	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	3	4	4	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1	1	3	3	8	6	35	1	2	43	1
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	1	1	2	2	10	0	1	12	0
Total Analysis Volume [veh/h]	1	1	1	3	3	9	7	38	1	2	47	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	4.26	4.64	3.52	4.29	4.75	3.67	2.34	0.00	0.00	2.30	0.00	0.00
Movement LOS	A	A	A	A	A	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.05	0.05	0.05	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.26	0.26	0.26	1.23	1.23	1.23	0.29	0.29	0.29	0.08	0.08	0.08
d_A, Approach Delay [s/veh]	4.14			4.01			0.36			0.09		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	0.82											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 6: Lundy Avenue & Lerdo Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lerdo Road		Lerdo Road	
Base Volume Input [veh/h]	9	5	54	11	8	97
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0200	1.0200	1.0200	1.0200	1.0200	1.0200
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	4	0	0	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	9	55	11	11	99
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	15	3	3	27
Total Analysis Volume [veh/h]	11	10	60	12	12	108
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	9.69	8.71	0.00	0.00	7.37	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.07	0.07	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.85	1.85	0.00	0.00	0.50	0.50
d_A, Approach Delay [s/veh]	9.22		0.00		0.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Access A & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Access A		Medina Road		Medina Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access A		Medina Road		Medina Road	
Base Volume Input [veh/h]	0	0	0	34	47	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0200	1.0200	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	28	26	1	3	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	28	26	36	51	6
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	8	7	10	14	2
Total Analysis Volume [veh/h]	9	30	28	39	55	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.03	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.54	8.73	7.37	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.13	0.13	0.05	0.05	0.00	0.00
95th-Percentile Queue Length [ft/ln]	3.18	3.18	1.18	1.18	0.00	0.00
d_A, Approach Delay [s/veh]	8.92		3.08		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.30					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 9: Access B & Medina Road

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Access B		Medina Road		Medina Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access B		Medina Road		Medina Road	
Base Volume Input [veh/h]	0	0	0	34	47	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0200	1.0200	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	3	1	8	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	1	43	54	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	11	14	0
Total Analysis Volume [veh/h]	0	3	1	43	54	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane	No		
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.01	8.56	7.32	0.00	0.00	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.22	0.22	0.04	0.04	0.00	0.00
d_A, Approach Delay [s/veh]	8.56		0.17		0.00	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.33					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 10: Lundy Avenue & Access C

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Lundy Avenue		Lundy Avenue		Access C	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Lundy Avenue		Lundy Avenue		Access C	
Base Volume Input [veh/h]	0	4	11	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0200	1.0200	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	3	0	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	8	14	0	1	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	4	0	0	0
Total Analysis Volume [veh/h]	0	8	14	0	1	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.62	8.38
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.08	0.08
d_A, Approach Delay [s/veh]	0.00		0.00		8.62	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	A					

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

STORMWATER HARVESTING SPREADSHEET

Worksheet to Input the Watershed & Stormwater Harvesting Basin Characteristics, & Calculate First Flush & Peak Q Reduction



Rev.11/2014

402 W. MEDINA RD, TUCSON, AZ
Ivan Leon
WS-01
Wednesday, November 10, 2021
pc-lid-V3-BEST ONE Revised.xls

Project Address
Data Sheet Preparer
Watershed
Run Date
Program File Name

GOVERNING EQUATIONS:

$$A_T = A_G - A_{NC}$$

$$W_A = A_S / A_T$$

$$X_{ip} = \text{MIN}(V_{bas} / V_{post-rip}, W_A)$$

$$V_{sw-rip} = V_{post-rip} * (1 - X_{ip})$$

$$H_{ip} = -0.3843 * X_{ip}^2 + 1.4618 * X_{ip} - 0.133$$

$$Q_{sw-rip} = Q_{post-rip} * (1 - H_{ip})$$

$$V = H/3 * (A_{top} + A_{bot} + \text{SQRT}(A_{top} * A_{bot}))$$

VARIABLES:

A_S	acres	area of the watershed that will flow to or through the stormwater harvesting basins
A_T	acres	total contributing watershed area
A_G	acres	gross area of watershed
A_{NC}	acres	area of non contributing stormwater harvesting basins within a watershed
CBF	dim	critical drainage basin factor; CBF = 0.9 if project is within a critical drainage basin, otherwise CBF = 1
W_A	dim	percent watershed area draining to stormwater harvesting basins
V_{bas}	acre-ft	stormwater harvesting basin volume
$V_{post-rip}$	acre-ft	post development watershed runoff volume
X_{ip}	dim	ratio of stormwater harvesting basin volume to watershed post-development runoff volume per return period
V_{sw-rip}	acre-ft	runoff volume reaching the outlet of the watershed with stormwater harvesting basins, for each return period
Q_{sw-rip}	cfs	post development peak discharge with stormwater harvesting basins, for each return period
H_{ip}	dim	stormwater harvesting factor

1. INPUT WATERSHED IDs & OTHER CHARACTERISTICS:

	Pre-Developed Watershed	Post-Developed Watershed(s)			
		FIRST WS	SECOND WS	THIRD WS	FOURTH WS
Watershed ID:	Pre-01	Pos-01			
Gross Watershed Area (A_G , ac):	0.6	0.6000			
Critical Drainage Basin ? (Y/N):	N				
Non-Contributing Basin Area (A_{NC} , ac):		0.092			
Watershed Area to Stormwater Harvesting Basins (A_S , ac):		0.508			
First Flush Retention Provided in Detention Basin (ac-ft):		0.007			

2. INPUT PEAK DISCHARGES AND RUNOFF VOLUMES:

Return Period	Pre-Developed Watershed	Post-Developed Watershed(s)									
		Pre-01		FIRST WS		SECOND WS		THIRD WS		FOURTH WS	
		$Q_{pre-rip}$ (cfs)	$Q_{pre-rip} * CBF$ (cfs)	$Q_{post-rip}$ (cfs)	$V_{post-rip}$ (ac-ft)						
2-yr	1.3	1.3	1.9	0.043							
10-yr	2.6	2.6	3.4	0.072							
100-yr	4.6	4.6	5.5	0.119							

3. INPUT IMPERVIOUS & DISTURBED AREAS BASED ON PRE-DEVELOPED WATERSHED, & CALCULATE FIRST FLUSH REQUIREMENT:

Classification of Watershed vs Proposed Use	First Flush Volume ft^3/ac Table 2.1	Area of Proposed Use (ac)	First Flush Required Volume (ft^3)
Riparian/High Permeability, Proposed Impervious Area	1815	0.000	0
Nonriparian/Low Permeability, Proposed Impervious Area	1440	0.060	86
Riparian/High Permeability, Proposed Disturbed Area	245	0.000	0
NonRiparian/Low)Permeability, Proposed Disturbed Area	140	0.540	76
Remaining Undisturbed Area, Pre-Developed Watershed (Info Only)		0.000	
Total Required First Flush Volume			162

4. INPUT INDIVIDUAL STORMWATER HARVESTING BASIN CHARACTERISTICS:											
Equation for Basin Volume by Conic Projection Method	Post Developed Watershed	Stormwater Harvesting Basin ID	Bottom Area of Basin (A _{bot} , ft ²)	Allowable Ponding Depth (H, ft)	Top Area of Basin (A _{top} , ft ²)	Basin Vol by Conic Method or as Entered (ft ³)	Non-Contributing Basin? (Y/N)				
							Basin ID	Volume (ft ³)			
$V = H/3 * (A_{top} + A_{bot} + \text{SQRT}(A_{top} * A_{bot}))$	1	Pos-01	1	2523	0.50	2525	1262	N			
	2	Pos-01	2	1496	0.50	1500	749	N			
	3							N			
	4							N			
	5							N			
	6							N			
	7							N			
	8							N			
	9							N			
	10							N			
	11							N			
	12							N			

5. ACCUMULATE STORMWATER HARVESTING BASIN VOLUMES BY POST-DEVELOPED WATERSHED:									
Watershed ID:	Post-Developed Watershed(s)								
	FIRST WS		SECOND WS		THIRD WS		FOURTH WS		
	Basin ID	Volume (ft ³)	Basin ID	Volume (ft ³)	Basin ID	Volume (ft ³)	Basin ID	Volume (ft ³)	
	1	1262							
	2	749							
	V _{bas} , (ft ³)		0		0		0		
	V _{bas} , (ac-ft)		0.000		0.000		0.000		

6. CALCULATE PEAK DISCHARGE AND RUNOFF VOLUME REDUCTION FACTORS due to STORMWATER HARVESTING BASINS:									
Watershed ID:	Post-Developed Watershed(s)								
	FIRST WS		SECOND WS		THIRD WS		FOURTH WS		
	Contributing Watershed Area (A _T = A _G - A _{NC} , ac):	0.5	0.0	0.0	0.0	0.0	0.0		
	% Runoff Available for SWH (W _r = A _S / A _T , dim):	1.000	0.000	0.000	0.000	0.000	0.000		
Equations:	Return Period	X _{rp}	H _{rp}						
X _{rp} = MIN(V _{bas} / V _{post-rp} , W _A)	2-yr	1.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00
H _{rp} = -0.3843 * X _{rp} ² + 1.4618 * X _{rp} - 0.133	10-yr	0.64	0.65	0.00	0.00	0.00	0.00	0.00	0.00
	100-yr	0.39	0.38	0.00	0.00	0.00	0.00	0.00	0.00

7. CALCULATE PEAK DISCHARGE AND RUNOFF VOLUME with STORMWATER HARVESTING BASINS BY POST-DEVELOPED WATERSHED:									
Watershed ID:	Post-Developed Watershed(s)								
	FIRST WS		SECOND WS		THIRD WS		FOURTH WS		
	Q _{sw-h-rp} (cfs)	V _{sw-h-rp} (ac-ft)	Q _{sw-h-rp} (cfs)	V _{sw-h-rp} (ac-ft)	Q _{sw-h-rp} (cfs)	V _{sw-h-rp} (ac-ft)	Q _{sw-h-rp} (cfs)	V _{sw-h-rp} (ac-ft)	
Equations:	Return Period	Q _{sw-h-rp} = Q _{post-rp} * (1 - H _{rp})	V _{sw-h-rp} = V _{post-rp} * (1 - X _{rp})						
	2-yr	0.1	0.000	0.0	0.000	0.0	0.000	0.0	0.000
	10-yr	1.2	0.026	0.0	0.000	0.0	0.000	0.0	0.000
	100-yr	3.4	0.073	0.0	0.000	0.0	0.000	0.0	0.000

8. RESULTS due to placing STORMWATER HARVESTING BASINS WITHIN, and DEVELOPING WATERSHED: Pre-01									
PEAK DISCHARGE:					FIRST FLUSH RETENTION VOLUME:				
	Pre-Developed Watershed	Post-Developed Watershed with Stormwater Harvesting		Attenuation Excess (cfs) (neg = need more)	Required First Flush Retention:				Volume (ft ³)
Return Period	Q _{pre-rp} * CBF (cfs)	ΣQ _{sw-h-rp} (cfs)	ΣV _{sw-h-rp} (ac-ft)		Provided by Stormwater Harvesting Basins:	162.0			
2-yr	1.3	0.1	0.000	1.2	Provided by a Detention Basin:	304.9			
10-yr	2.6	1.2	0.026	1.4	Total First Flush Retention Provided:	2315.9			
100-yr	4.6	3.4	0.073	1.2	Excess First Flush Vol (neg = need more):	2153.9			

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT
STORMWATER HARVESTING SPREADSHEET

Worksheet to Develop Runoff Hydrograph from Developed Watershed with Stormwater Harvesting Basins

402 W. MEDINA RD, TUCSON, AZ
Ivan Leon
WS-01
Monday, October 7, 2013
Ver1_AS.xls

Project Address
Data Sheet Preparer
Watershed
Run Date
Program File Name



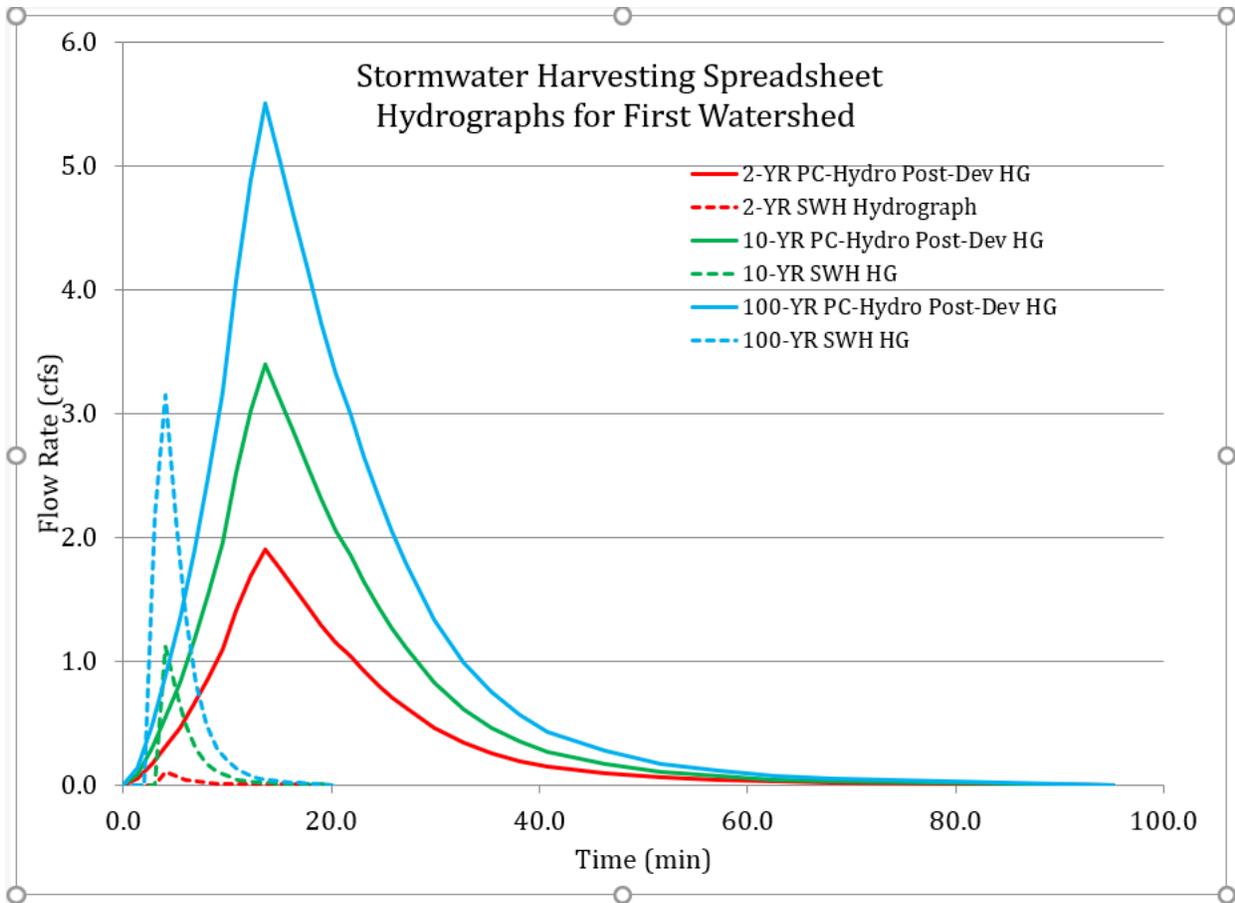
Rev. 11/2014

1. PC-HYDRO POST-DEV RESULTS			
FIRST WS			
Watershed ID:	Pos-01		
	2-yr	10-yr	100-yr
Peak Q (Q _{post}):	1.9	3.4	5.5
Runoff Vol (V _{post}):	0.04	0.07	0.12
	af		
HG Rise Time (T _R):	13.6 min		

CALCULATE STORMWATER HARVESTING VARIABLES			
FIRST WS			
Watershed ID:	Pos-01		
SWH Basin Vol (V _{bas}):	0.05	af	
% Watershed flow to SWH Basin (W _A):	1.00	dim	
	2-yr	10-yr	100-yr
Basin Vol/Post-Dev Vol (X _{ip} , dim)	1.00	0.64	0.39
SWH Factor (H _{ip} , dim)	0.94	0.65	0.38
Peak with SWH Basins (Q _{sw} , cfs)	0.1	1.2	3.4
Vol with SWH Basins (V _{sw} , af)	0.00	0.03	0.07

2. CALCULATE STORMWATER HARVESTING HYDROGRAPH and STATISTICS										
Watershed ID:		FIRST WS			FIRST WS			FIRST WS		
		Pos-01			Pos-01			Pos-01		
2-year SWH HG CHARACTERISTICS		10-year SWH HG CHARACTERISTICS			100-year SWH HG CHARACTERISTICS					
5.0	Hydrograph ΔT	5.0	min	5.0						
0.1	Q _{SWH}	1.1	cfs	3.1						
0.00	V _{SWH}	0.02	af	0.08						
94.9%	Peak Q Rctdn:	67.3%		42.7%						
95.6%	Runoff Vol Rctdn:	70.2%		36.4%						
0 cfs	Q _p ε:	-0.1 cfs	-7.9%	-0.3 cfs	-7.8%					
0 af	Vol ε:	0 af	-17.3%	0 af	4.2%					
2-year RUNOFF HYDROGRAPH using STORMWATER HARVESTING		10-year RUNOFF HYDROGRAPH using STORMWATER HARVESTING			100-year RUNOFF HYDROGRAPH using STORMWATER HARVESTING					
T (min)	Q (cfs)	Vol (af)	T (min)	Q (cfs)	Vol (af)	T (min)	Q (cfs)	Vol (af)	T (min)	
0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00	0.0	
0.1	0.0	0.00	5.0	0.0	0.00	5.0	0.0	0.00	5.0	
0.2	0.0	0.00	10.0	0.0	0.00	10.0	0.0	0.00	10.0	
0.3	0.0	0.00	15.0	0.1	0.00	15.0	1.1	0.00	15.0	
0.4	0.0	0.00	20.0	0.1	0.00	20.0	0.8	0.01	20.0	
0.5	0.0	0.00	25.0	0.0	0.00	25.0	0.5	0.01	25.0	
0.6	0.0	0.00	30.0	0.0	0.00	30.0	0.3	0.02	30.0	
0.7	0.0	0.00	35.0	0.0	0.00	35.0	0.2	0.02	35.0	
0.8	0.0	0.00	40.0	0.0	0.00	40.0	0.1	0.02	40.0	
0.9	0.0	0.00	45.0	0.0	0.00	45.0	0.1	0.02	45.0	
1.0	0.0	0.00	50.0	0.0	0.00	50.0	0.0	0.02	50.0	
1.1	0.0	0.00	55.0	0.0	0.00	55.0	0.0	0.02	55.0	
1.2	0.0	0.00	60.0	0.0	0.00	60.0	0.0	0.02	60.0	
1.3	0.0	0.00	65.0	0.0	0.00	65.0	0.0	0.02	65.0	
1.4	0.0	0.00	70.0	0.0	0.00	70.0	0.0	0.02	70.0	
1.5	0.0	0.00	75.0	0.0	0.00	75.0	0.0	0.02	75.0	
1.6	0.0	0.00	80.0	0.0	0.00	80.0	0.0	0.02	80.0	
1.7	0.0	0.00	85.0	0.0	0.00	85.0	0.0	0.02	85.0	
1.8	0.0	0.00	90.0	0.0	0.00	90.0	0.0	0.02	90.0	
1.9	0.0	0.00	95.0	0.0	0.00	95.0	0.0	0.02	95.0	

Pima County Synthetic Flood Hydrograph		Post-Developed Flood Hydrograph				Intermediate Flood Hydrograph									
		2-yr		10-yr		2-yr		10-yr		100-yr					
V/T	q/Q _p	T (min)	Q (cfs)	T (min)	Q (cfs)	T (min)	Q (cfs)	Vol (af)	T (min)	Q (cfs)	Vol (af)	T (min)	Q (cfs)	Vol (af)	T (min)
0.0	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.00	0.0	0.0	0.00	0.0
0.1	0.025	1.4	0.0	0.1	0.1	1.4	0.0	0.00	0.0	0.0	0.01	1.4	0.0	0.00	1.4
0.2	0.087	2.7	0.2	0.3	0.5	2.7	0.0	0.00	0.1	0.00	0.3	2.7	0.0	0.00	2.7
0.3	0.160	4.1	0.3	0.5	0.9	4.1	0.0	0.00	0.2	0.00	0.5	4.1	0.0	0.00	4.1
0.4	0.243	5.4	0.5	0.8	1.3	5.4	0.0	0.00	0.3	0.00	0.8	5.4	0.0	0.00	5.4
0.5	0.346	6.8	0.7	1.2	1.9	6.8	0.0	0.00	0.4	0.00	1.2	6.8	0.0	0.00	6.8
0.6	0.451	8.2	0.9	1.5	2.5	8.2	0.0	0.00	0.5	0.00	1.5	8.2	0.0	0.01	8.2
0.7	0.576	9.5	1.1	2.0	3.2	9.5	0.1	0.00	0.7	0.00	2.0	9.5	0.0	0.01	9.5
0.8	0.738	10.9	1.4	2.5	4.1	10.9	0.1	0.00	0.9	0.01	2.5	10.9	0.1	0.01	10.9
0.9	0.887	12.2	1.7	3.0	4.9	12.2	0.1	0.00	1.1	0.01	3.0	12.2	0.1	0.02	12.2
1.0	1.000	13.6	1.9	3.4	5.5	13.6	0.1	0.00	1.2	0.01	3.4	13.6	0.1	0.03	13.6
1.1	0.924	15.0	1.8	3.1	5.1	15.0	0.1	0.00	1.1	0.01	3.2	15.0	0.1	0.03	15.0
1.2	0.839	16.3	1.6	2.9	4.6	16.3	0.1	0.00	1.0	0.01	2.9	16.3	0.1	0.04	16.3
1.3	0.756	17.7	1.4	2.6	4.2	17.7	0.1	0.00	0.9	0.02	2.6	17.7	0.1	0.04	17.7
1.4	0.678	19.0	1.3	2.3	3.7	19.0	0.1	0.00	0.8	0.02	2.3	19.0	0.1	0.05	19.0
1.5	0.604	20.4	1.1	2.1	3.3	20.4	0.1	0.00	0.7	0.02	2.1	20.4	0.1	0.05	20.4
1.6	0.545	21.8	1.0	1.9	3.0	21.8	0.1	0.00	0.7	0.02	1.9	21.8	0.1	0.05	21.8
1.7	0.482	23.1	0.9	1.6	2.7	23.1	0.1	0.00	0.6	0.02	1.6	23.1	0.1	0.06	23.1
1.8	0.424	24.5	0.8	1.4	2.3	24.5	0.0	0.00	0.5	0.02	1.4	24.5	0.0	0.06	24.5
1.9	0.372	25.8	0.7	1.3	2.0	25.8	0.0	0.00	0.4	0.02	1.3	25.8	0.0	0.06	25.8
2.0	0.323	27.2	0.6	1.1	1.8	27.2	0.0	0.00	0.4	0.02	1.1	27.2	0.0	0.07	27.2
2.2	0.241	29.9	0.5	0.8	1.3	29.9	0.0	0.00	0.3	0.02	0.8	29.9	0.0	0.07	29.9
2.4	0.179	32.6	0.3	0.6	1.0	32.6	0.0	0.00	0.2	0.03	0.6	32.6	0.0	0.07	32.6
2.6	0.136	35.4	0.3	0.5	0.7	35.4	0.0	0.00	0.2	0.03	0.5	35.4	0.0	0.07	35.4
2.8	0.102	38.1	0.2	0.3	0.6	38.1	0.0	0.00	0.1	0.03	0.3	38.1	0.0	0.08	38.1
3.0	0.078	40.8	0.1	0.3	0.4	40.8	0.0	0.00	0.1	0.03	0.3	40.8	0.0	0.08	40.8
3.4	0.049	46.2	0.1	0.2	0.3	46.2	0.0	0.00	0.1	0.03	0.2	46.2	0.0	0.08	46.2
3.8	0.030	51.7	0.1	0.1	0.2	51.7	0.0	0.00	0.0	0.03	0.1	51.7	0.0	0.08	51.7
4.2	0.020	57.1	0.0	0.1	0.1	57.1	0.0	0.00	0.0	0.03	0.1	57.1	0.0	0.08	57.1
4.6	0.012	62.6	0.0	0.0	0.1	62.6	0.0	0.00	0.0	0.03	0.0	62.6	0.0	0.08	62.6
5.0	0.008	68.0	0.0	0.0	0.0	68.0	0.0	0.00	0.0	0.03	0.0	68.0	0.0	0.08	68.0
7.0	0.000	95.2	0.0	0.0	0.0	95.2	0.0	0.00	0.0	0.03	0.0	95.2	0.0	0.08	95.2





LifeBridge
433 W. Lerdo Rd.
Tucson, AZ. 85756
520-294-9675

August 1, 2025

To Mike Gibson:

Our church, LifeBridge, would like to endorse the proposal to rezone the property at 402 W Medina and 430 W Medina.

Both N1 Electric and Sunshine Adult Training have been assets to our community. N1 has provided services to our church and is a great neighbor. Sunshine provides a service to our community that is desperately needed.

These businesses, and the soon addition of the Assisted Living facility have improved the neighborhood. We have struggled for years with homeless encampments in the area, but these businesses have upgraded the entire community.

Please change the zoning designation in order that these businesses continue their ability to serve our community.

Sincerely,

Vance W. Wood

Vance W. Wood
Pastor

Pima County, Arizona, Eastern Part

11—Cave soils and urban land, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 1sxl
Elevation: 2,300 to 3,250 feet
Mean annual precipitation: 10 to 12 inches
Mean annual air temperature: 64 to 70 degrees F
Frost-free period: 220 to 280 days
Farmland classification: Not prime farmland

Map Unit Composition

Cave and similar soils: 41 percent
Urban land: 40 percent
Minor components: 19 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cave

Setting

Landform: Fan terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Mixed alluvium

Typical profile

A/Bk - 0 to 7 inches: gravelly fine sandy loam
2Bkm - 7 to 20 inches: cemented material
C - 20 to 60 inches: gravelly loamy sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 4 to 20 inches to petrocalcic
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Very low (about 0.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R040XA111AZ - Limy Upland 10-13" p.z.
Hydric soil rating: No

Description of Urban Land

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

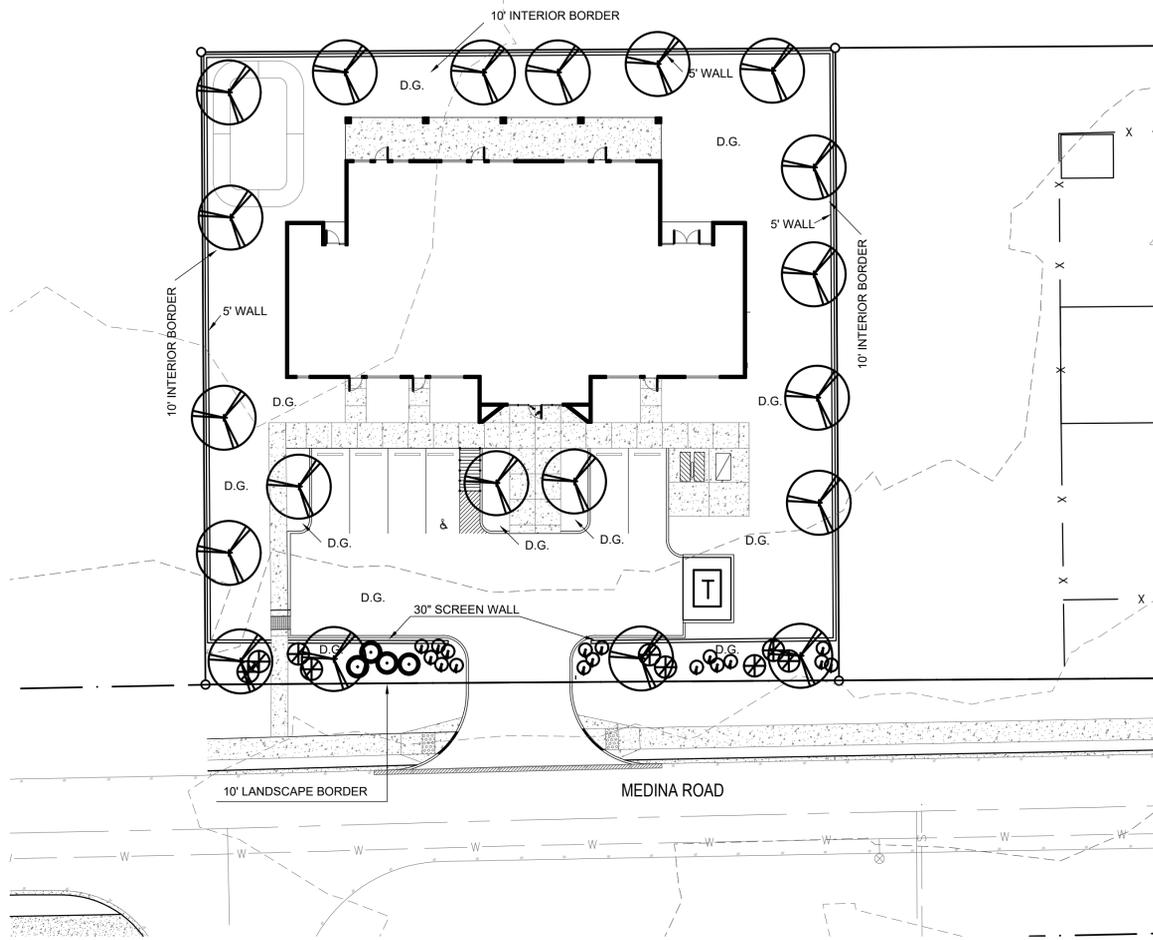
Unnamed soils

Percent of map unit: 19 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Pima County, Arizona, Eastern Part

Survey Area Data: Version 18, Jun 5, 2020

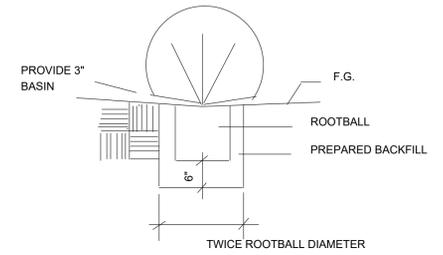


LANDSCAPE PLAN

SCALE: 1" = 20'



PLANT LIST					
KEY	BOTANICAL NAME	COMMON NAME	REMARKS	SIZE	QTY.
	CERCIDIUM HYBRID	DESERT MUSEUM HYBRID		15 G.C.	20
	DASYLIION WHEELERI	DESERT SPOON		5 G.C.	9
	LANTANA	GOLD MOUND		1 G.C.	17
	LEUCOPHYLLUM LANGMANIAE	RIO BRAVO SAGE		5 G.C.	4
D.G.	DECOMPOSED GRANITE	D.G.	APACHE BROWN	3/4" SCREENED NO FINES	



1 SHRUB PLANTING DETAIL
NTS

LANDSCAPE NOTES

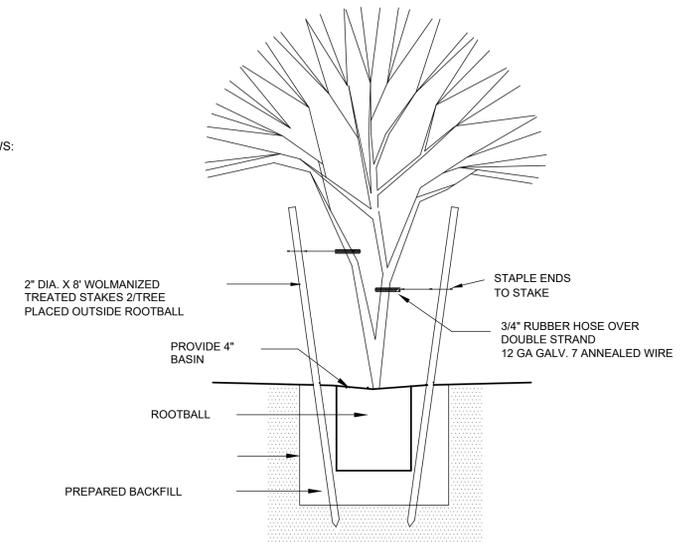
- ALL MAINTENANCE SHALL BE PERFORMED PER APPROVED CODE SECTION #3.7.6.
- MAINTENANCE SHALL BE PERFORMED ON A MONTHLY BASIS AS FOLLOWS:
 - PRUNING AND CLIPPING FOR PEDESTRIAN VEHICULAR ACCESS.
 - REPLACEMENT OF DEAD AND UNHEALTHY PLANTS WITH PLANTS OF THE SAME SIZE AND TYPE.
 - REPLACEMENT OF ERODED OR WASHEDOUT D.G. WITH SAME.
 - MAINTENANCE OF IRRIGATION SYSTEM.
- DECOMPOSED GRANITE (D.G.) SHALL BE INSTALLED TO A 2" DEPTH OVER ALL PLANTERS AND DISTURBED AREAS INCLUDING ADJACENT RIGHTS OF WAY.
- MATERIALS WITHIN SITE VISIBILITY TRIANGLES SHALL BE PLACED AND MAINTAINED SO AS NOT TO INTERFERE WITH A VISIBILITY PLANE DESCRIBED BY 2 HORIZONTAL LINES 30 INCHES AND 72 INCHES ABOVE FINISHED GRADE OF THE ROADWAY SURFACE.
- 6" DEPRESS LANDSCAPE AREAS FOR STORMWATER HARVESTING SEE CIVIL.

TABULATIONS

TOTAL SITE AREA - 0.52 ACRES

LANDSCAPE BORDERS:

MEDINA ROAD - LANDSCAPE BORDER 96' X 10'
 TREES: -125' / 33' = 4 TREES REQUIRED 4 PROVIDED.
 LANDSCAPE BORDER AREA 1250 SF
 VEGETATIVE COVER REQ'D 625 SF PROVIDED 625 SF
 NORTH BOUNDARY - INTERIOR BORDER 149' X 10'
 TREES: -149' / 33' = 5 TREES REQUIRED 5 PROVIDED.
 EAST BOUNDARY - INTERIOR BORDER 149' X 10'
 TREES: -149' / 33' = 5 TREES REQUIRED 5 PROVIDED.
 WEST BOUNDARY - INTERIOR BORDER 149' X 10'
 TREES: -149' / 33' = 5 TREES REQUIRED 5 PROVIDED.



2 TREE PLANTING DETAIL
NTS

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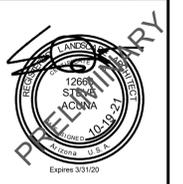
LANDSCAPE

DRAWN BY: SA
 CHECKED BY: SA
 DATE: 10/19/21
 SCALE:
 PROJECT #: 7521076
 PURPOSE:

FOR
**SUNSHINE DTA ADULT DAY
 CARE FACILITY**
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 TUCSON, ARIZONA

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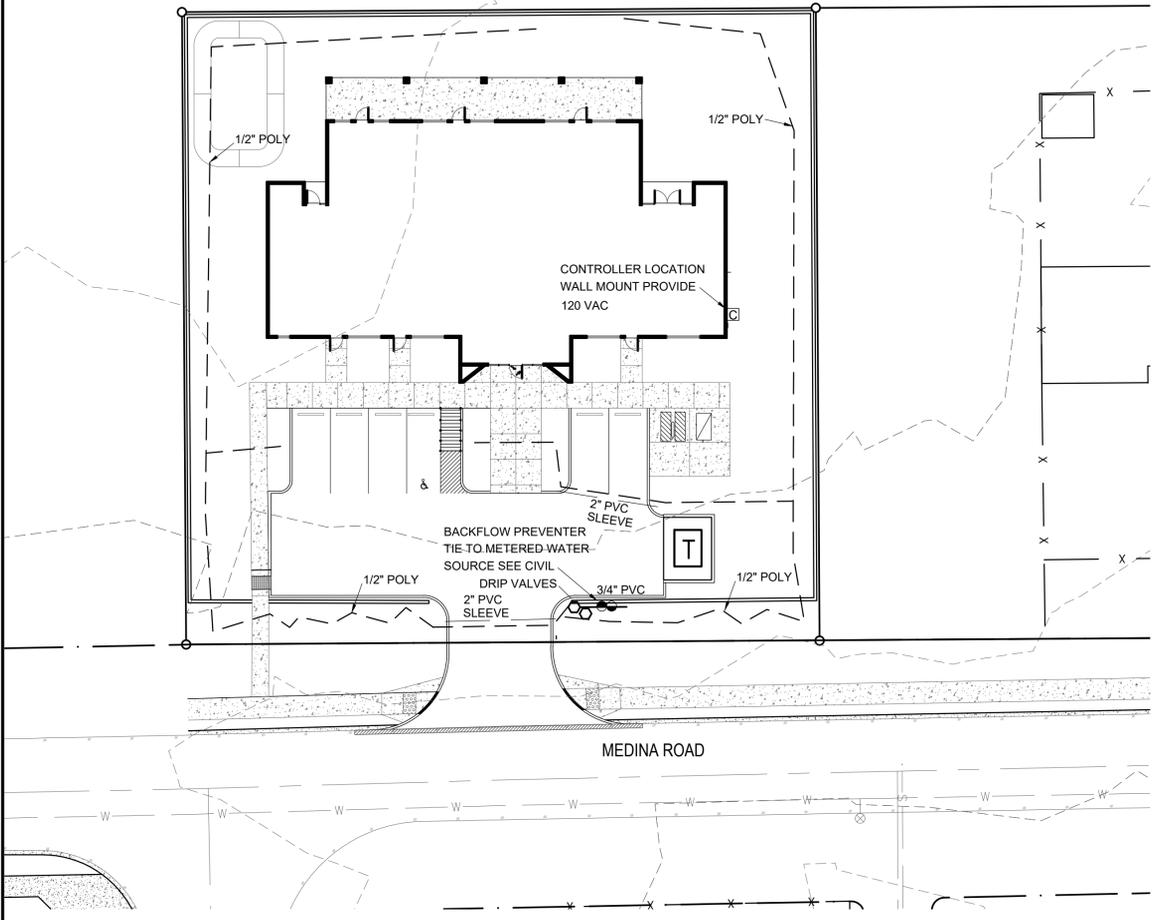
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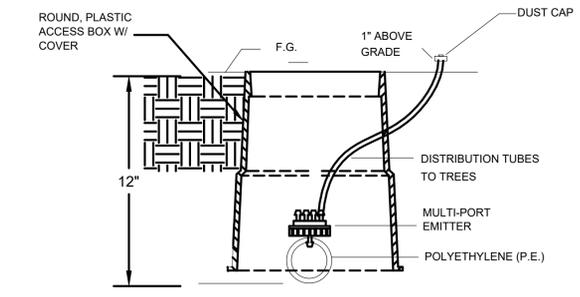
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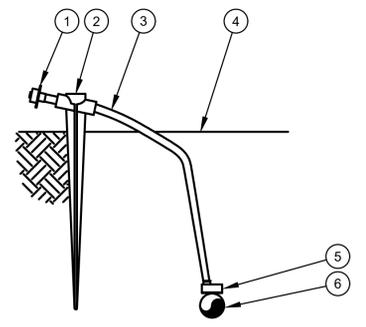
IRRIGATION EQUIPMENT SCHEDULE			
SYMBOL	DESCRIPTION	SPECIFICATION	QUANTITY
☐	CONTROLLER	RAINBIRD ESP-SMT - WALL MOUNT	4 STA. 1
⊗	BACKFLOW PREVEVTER	FEBCO 825Y 3/4"	1
○	DRIP VALVE ASSEMBLY	VALVE: RAINBIRD PEB 1" FILTER: RAINBIRD RBY 075 PRESSURE REGULATOR: RAINBIRD PSI-LX30	2
	SHRUB EMITTER	RAINBIRD XB-10	30
	TREE EMITTER	RAINBIRD XB-10-6	20



IRRIGATION PLAN
SCALE: 1" = 20'

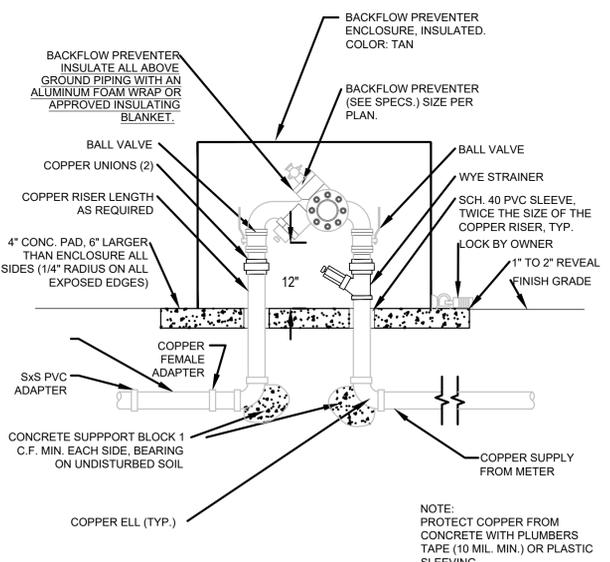


MULTI OUTLET EMITTER DETAIL
NTS

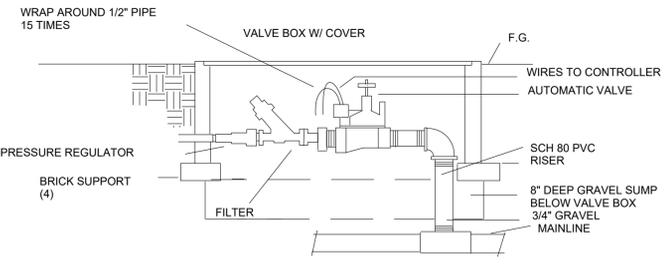


SINGLE OUTLET EMITTER DETAIL
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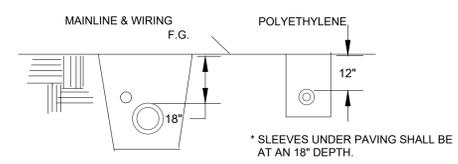
- 1 DIFFUSER BUG CAP: RAIN BIRD DBC-025
- 2 UNIVERSAL 1/2" TUBING STAKE: RAIN BIRD TS-025
- 3 1/2" DISTRIBUTION TUBING: RAIN BIRD XQ TUBING (LENGTH AS REQUIRED)
- 4 FINISH GRADE
- 5 SINGLE-OUTLET BARB INLET X BARB OUTLET EMITTER: RAIN BIRD XERI-BUG EMITTER
- 6 1/2" POLYETHYLENE TUBING: RAIN BIRD XF SERIES TUBING OR RAIN BIRD XT-700 XERI-TUBE OR RAIN BIRD XBS BLACK STRIPE TUBING



BACKFLOW PREVENTER DETAIL
NTS

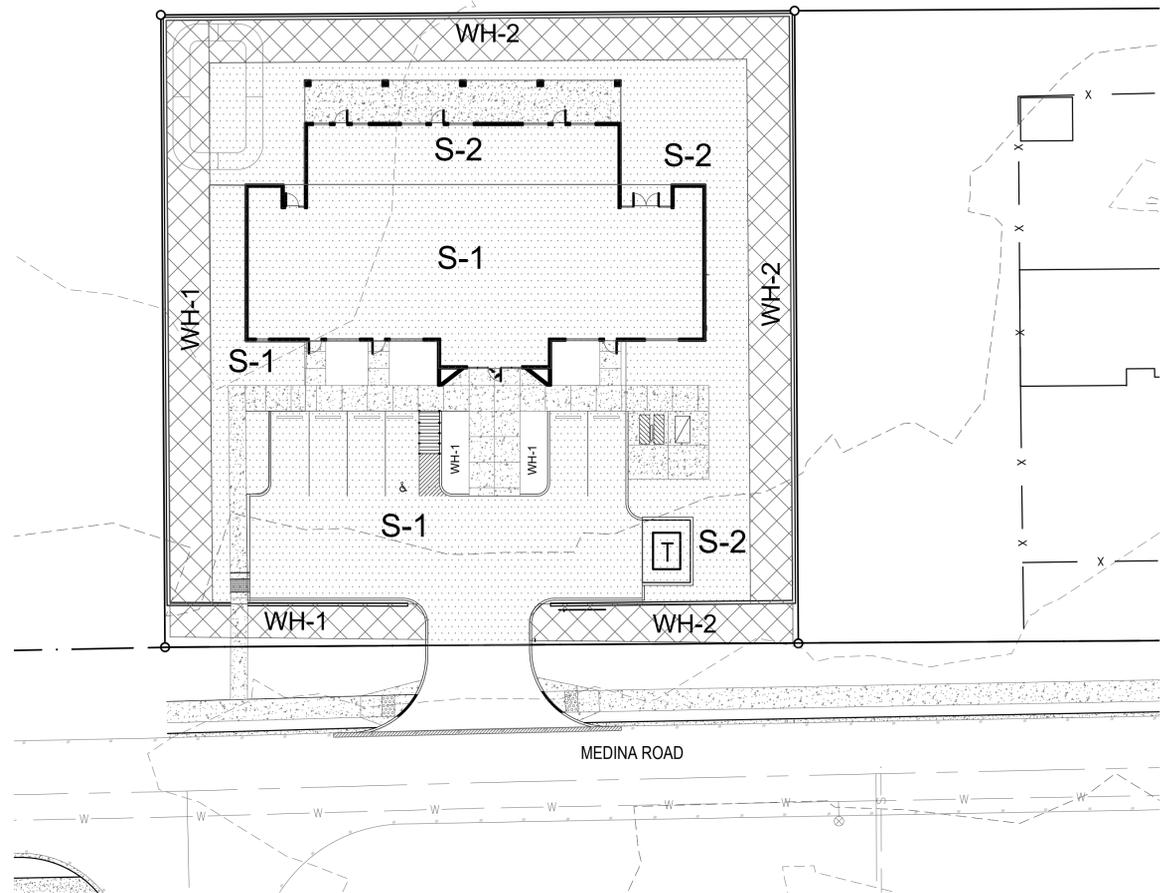


VALVE ASSEMBLY
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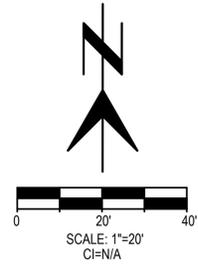
TRENCHING DETAIL
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RAINWATER HARVESTING PLAN

SCALE: 1" = 20'



PASSIVE RAINWATER HARVESTING SYSTEM

1. THE SITE UTILIZES A PASSIVE RAINWATER HARVESTING SYSTEM THAT DIRECTS RAINWATER FROM THE PARKING, SIDEWALK, AND UNPAVED AREAS OF THE SITE THROUGH THE USE OF CURB CUTS AND COLLECTS THE WATER IN 6" MINIMUM DEPRESSIONS WITHIN THE PLANTING AREAS AS INDICATED ON THE GRADING AND PAVING PLANS. OVERFLOW OF DEPRESSIONS ARE DIRECTED OFF SITE.
2. A RAINBIRD ESP-SMT SMART MODULAR CONTROLLER WITH WEATHER BASED PROGRAMMING AND TIPPING RAIN GAUGE LOCATED AT THE BUILDING ROOFLINE CAPABLE OF TURNING OFF IRRIGATION DURING RAIN STORMS.
3. MONTHLY RAIN DATA WILL BE MONITORED BY THE ESP-SMT SMART MODULAR CONTROLLER
4. SEE PLANTING DETAIL (SHT 16) FOR SPECIFIC SOIL PRETREATMENT MEASURES FOR THIS SITE.
5. MONTHLY IRRIGATION DATA WILL BE RECORDED ON A SEPARATE WATER METER AND OBTAINED BY TUCSON WATER.

RAINWATER HARVESTING CALCULATIONS

RAINWATER HARVESTING CALCULATIONS

1. CALCULATIONS ARE BASED ON INFORMATION OBTAINED FROM THE COT OFFICE OF CONSERVATION AND DEVELOPMENT. CATCHMENT RATIO CALCULATIONS WERE DONE WITH NUMBERS FROM TABLE Y OF THE COMMERCIAL RAINWATER HARVESTING DEVELOPMENT STANDARD.
2. CALCULATIONS WERE BASED ON FIGURES FOR THE MONTH OF MARCH:

WATER HARVESTING LEGEND

- SUBWATERSHED IDENTIFIER (S-1 S-2& S-3)
- WATER HARVESTING INFILTRATION AREA (WHIA) (WH-1 THROUGH WH-3)

Line		Column A Individual Water Harvesting Infiltration Area (WHIA)	Column B Individual Water Harvesting Infiltration Area (WHA)	Column C Total for all Water Harvesting Infiltration Areas at the Site
1	Individual WHIA Identifier	WH-1	WH-2	
2	Plant water demand category for this WHIA	medium	medium	
3	Plant canopy area (square feet) for this WHIA. Add the canopies of understory, midstory and overstory plant areas to get total canopy area for each WHIA	4,000	4837	8,837
4	Plant water demand per year (vertical feet of water per year per square foot of canopy) for this WHIA	2.9	2.9	
5	CALCULATE: Annual plant water demand for this WHIA based on plant canopy area (gallons)	86,788	104,924	191,692
6	OVERALL WATER HARVESTING SUPPLY			
7	WHIA area (square feet)	2523	1496	
8	WHIA average depth (feet)	0.5	0.5	
9	CALCULATE: WHIA capacity (gallons)	9,436	5,995	
10	If Passive water harvesting is used:			
11	Subwatershed identifier	S-1	S-2	
12	Ratio of subwatershed area to plant canopy area needed to meet plant water demand in July through March (use March plant water demand as the indicator month, and effective rainfall in March of 0.41 inches, as shown on Table 3) (no units)	6.7	6.7	
13	CALCULATE: Total catchment area ideally needed to meet plant water demand in March (square feet)	26,800	32,408	
14	Actual total catchment area designed for this WHIA including the WHIA area itself (square feet)	11,097	8966	
15	CALCULATE: Actual catchment ratio for this WHIA based on actual catchment area	2.77	1.85	
16	CALCULATE: Actual percent of plant water demand that will be met for this WHIA	27%	18%	
17	If Active water harvesting is used:			
18	Tank identifier			
19	above or below ground?			
20	tank height (feet)			
21	tank diameter (feet)			
22	tank capacity (gallons)			
23	tank location			
24	CALCULATE: Percent of plant water demand for this WHIA met by this tank	0%	0%	
25	CALCULATE: Percent of plant water demand for this WHIA met using harvested rainwater from passive systems and active systems (as applicable)	27%	18%	
26	TOTAL SITE INFORMATION			
27	Percent to total site annual landscape demand met using harvested water			22%
28	Water harvesting capacity offsetting retention basin size capacity			
29	Projected annual metered water use for the site if 50% of annual water use is provided by metered irrigation water (gallons) [50% is the allowed metered water use per the Commercial Rainwater Harvesting Ordinance]			95,846

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