

Sri Lankan Buddhist Society Calgary

Master Site Development Plan

SW-7-26-1-W5M, being Plan 0010744; Lot 01, municipally known
as 15050 Parklane, Rocky View County, AB



Carswell Planning



"No Hurdle too high"

Submitted to Rocky View County, November 2021



Table of Contents

INTRODUCTION.....	1
Preamble	1
Scope of MSDP.....	1
Owners.....	1
Agent	1
Location.....	2
History.....	2
Legal Description.....	2
EVALUATION OF PLANNING POLICIES	3
Rocky View County Municipal Development Plan (County Plan).....	3
Land Use Bylaw.....	3
THE SITE.....	4
Aerial.....	4
Site Plan	4
Building Height and Architectural Appearance	5
Parking.....	6
Lighting	6
Landscaping for Visual Appearance and/or Mitigation Measures.....	6
Agricultural Boundary Design Guidelines	6
Traffic	6
Noise.....	7
Potable Water	7
Sanitary Sewage.....	7
Storm Water	7
Topographic Contours.....	7
Landscaping.....	7
Garbage Removal	8
Security	8
SLBSC OPERATIONS PLAN	8
Public Engagement.....	9
Conclusion.....	9

List of Figures

Figure 1: Location Map	2
Figure 2: Land Use ByLaw Map	3
Figure 3: RVC Mapping with Property Lines	4
Figure 4: Site Plan	5
Figure 5: Existing Buidling	5
Figure 6: Vegetation Buffer and Fencing	6
Figure 7: Street View of the Site	8



Project: Sri Lankan Buddhist Society Calgary Master Site Development Plan

Location: 15150 Park Lane in Rocky View County (RVC), T3P 1A6

Proposal: Amendment to the Land Use Bylaw to redesignate lands from Residential District to Public Service District for religious assembly land use.

INTRODUCTION

Preamble

The proposal is to formally recognize the Sri Lankan Buddhist Society Calgary temple as a religious assembly in the existing building and parking. This report is to satisfy Rocky View County's (RVC's) County Plan, Bylaw C-7280-2013 Section 29 and Appendix C, Section 3 that deals with Master Site Development Plans (MSDP). The County Plan requests an MSDP for a Public Service District redesignation.

Scope of MSDP

The MSDP emphasis is on site design with the intent to provide Council and the public with a clear idea of the final appearance of the development. More specifically, it is to address:

- a) Building plot plan and spacing
- b) building architectural design and height
- c) Parking and public lighting;
- d) Landscaping for visual appearance and/or mitigation measures;
- e) Agriculture boundary design guidelines
- f) Traffic; and
- g) Operational Plan

An **Operational Plan** forms part of the MSDP to fulfill criteria previously mentioned. This outlines the hours of operation and how the facility is looked after.

Owners

Sri Lankan Buddhist Society Calgary,

[REDACTED]

E-Mail: slbsc.yyc@gmail.com

[REDACTED]

Agent

Carswell Planning Inc: Bart Carswell

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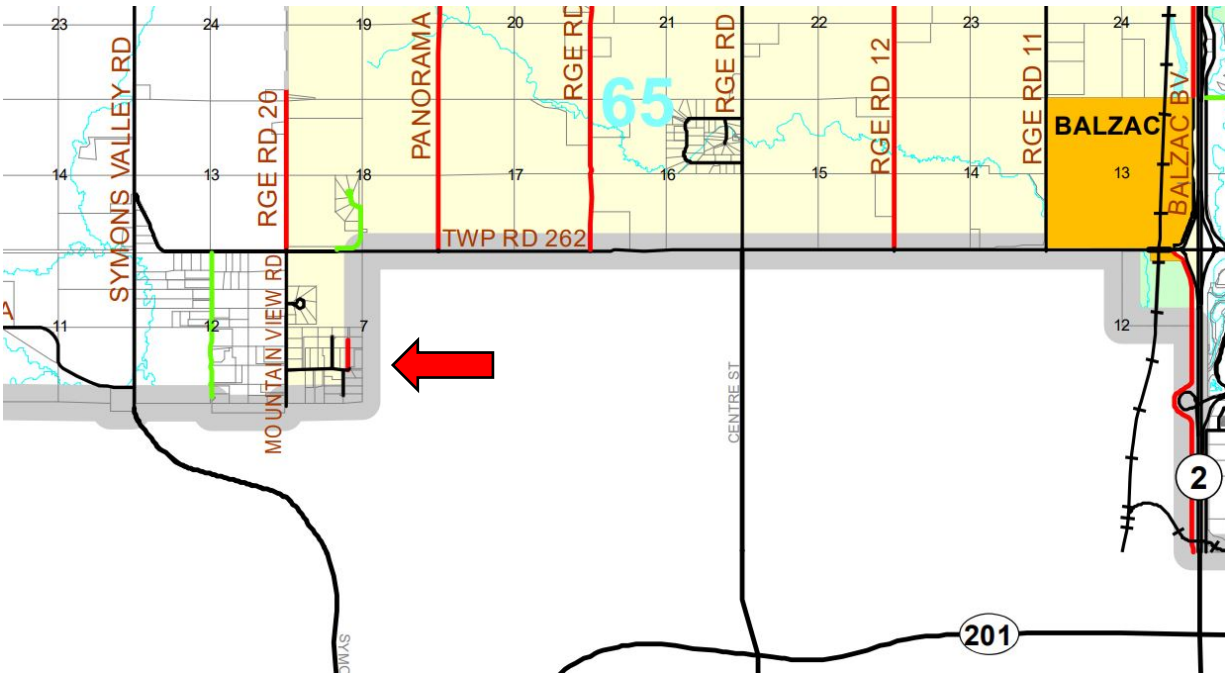
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Location

Figure 1: Location Map, shows the subject site near the boundary between RVC and the City of Calgary. Legal description is SW-7-26-1-W5M, being Plan 0010744; Lot 01, municipally known as 15050 Parklane, Rocky View County, AB.

Figure 1: Location Map



History

The Sri Lankan Buddhist Society Calgary (SLBSC) was established officially in 2004 with recognized charity status since 2005. The initial property for worship and dwelling was located in Calgary NE and the need for a bigger space grew as the following expanded. The site at 15150 Park Lane became the new location in July 2016 to accommodate the increasing community following. SLBSC's purpose is to serve the community by helping to improve their spiritual wellbeing by offering a place of worship (Temple). This provides an opportunity to practice with experienced Buddhist monks to hold mindfulness meditation and share Buddhist teachings. SLBSC has always welcomed the surrounding community to attend its events. In addition, SLBSC promotes the Sri Lankan Buddhist culture of peace and harmony through cultural events and special classes for kids. A monk lives at the temple full time who is looked after by the SLBSC committee.

Legal Description

The proposed temple site is 1.619 ha (4 acres), legal Description: Lot 1 Plan 0010744; being SE-7-25-1-W5M. The municipal address is 15150, Park Lane, Rocky View County, T3P 1A6. Figure 2: Aerial Images of Site, shows the 1322 sq. ft building and existing parking. There is no expansion planned in the foreseeable future.



EVALUATION OF PLANNING POLICIES

Rocky View County Municipal Development Plan (County Plan)

RVC's County Plan, Bylaw C-7280-2013 provides goals, policies and actions for development within the County. The use has existed integrated with the neighbours for a number of years and serves a religious need of the community.

This is an institutional land use that benefits residents and contributes to the community by serving the spiritual and religious needs. The County Plan supports institutional land uses that are appropriately located, well designed and enhance the local community, while being compatible with surrounding land uses.

Benefit is evident from the size of the congregation. Compatibility is evident from having a positive history with neighbours over the last 3.5 years.

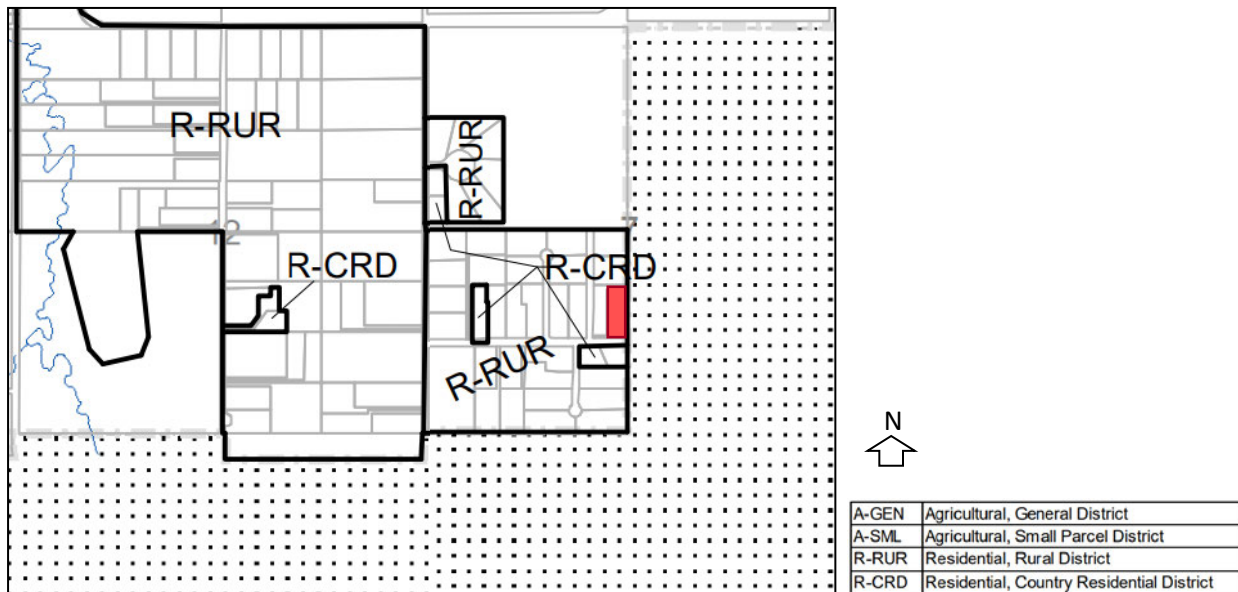
Land Use Bylaw

To meet the uses proposed redesignation from Residential, Rural (R-RUR) District to Special, Public Service (S-PUB) District is recommended. The land use definition that would best fit the use proposed would be Religious Assembly. This is a discretionary use in the S-PUB District.

"Religious Assembly means a development owned by a religious organization used for worship and related religious, philanthropic, or social activities and includes accessory rectories, manses, meeting rooms, classrooms, dormitories, and other buildings. Typical facilities would include churches, chapels, mosques, temples, synagogues, parish halls, convents, and monasteries."

Minimum parcel size for a S-PUB District is 0.50 hectares (1.24 acres). The site is 1.619 ha (4 acres) and easily meets this requirement. Maximum building height is 14.0 m (22.97 ft.). Additionally, a minimum of 10% of the site area shall be landscaped; this requirement is met.

Figure 2: Land Use ByLaw Map





THE SITE

Aerial

Figure 3: RVC Mapping with Property Lines shows the aerial imagery of the site. Surrounding agricultural lands can be seen to the east of the subject site.

Figure 3: RVC Mapping with Property Lines



Site Plan

Figure 4: Site Plan, shows the existing 1322 sq. ft. building on the site. The existing building is shown towards the east end of the property, meeting the appropriate setbacks. There are no plans for altering the existing building after the redesignation.

Site Plan

R-RUR to S-PUB

Property Area
1.819 ha (4.00 acres)

Lot 1
Plan 001
Title No. 071 0744
SW-7-26-1-WSM

Municipality known as
15050 PARKLANE
Rocky View County, AB

CAUTION!
Buried Also
Gas Line
(Not Located)

Firm Name and Address
Carswell Planning Inc.
Bart.Carswell@carswellplanning.ca
887-437-4760

Project Name and Address
Sri Lankan Buddhist Society-
Calgary

Project
Date: May, 2021
Drawn By:

Figure 5: Existing Building, shows the building height and architectural appearance will remain the same as the surrounding country residential dwellings. The building height is under 14.0 meters meeting the requirement for S-PUB District in the Land Use ByLaw.



Parking

Parking is provided in the gravel area in front of the existing building. Overflow parking areas are proposed on grassed areas adjacent to the driveway. The site currently provides 10 parking stalls on both the driveway and grassed areas. This is more than enough to accommodate the 10-20 members of the congregation who use the building for a monthly ceremony.

Lighting

Lighting is dark sky friendly using LED lighting in keeping with the character of its country setting.

Landscaping for Visual Appearance and/or Mitigation Measures

Landscaping is already well established on the property with manicured gardens maintained by the monks and members of the congregation. SLBSC has planted over 100 aspen and poplar trees since 2016. SLBSC also has a vegetable garden that the neighbours have shown an interest being part of as a community garden.

Agricultural Boundary Design Guidelines

The principal use of lands in the area is residential to the west and agricultural to the east. Agricultural Boundary Design Guidelines (ABDG) apply to the boundaries of the proposal. This is satisfied with the existing mature treed buffers. Figure: 6 Vegetation Buffer and Fencing, shows the ABDG applied to the subject property.

Figure 6: Vegetation Buffer and Fencing



Traffic

Jason Dunn of Bunt & Associates Engineering Ltd. prepared *Ehipassiko Buddhist Center – Traffic Impact Assessment*. The purpose of this study, with the concurrence of RVC administration, was to cover these areas:

- Trip Generation – Gather development trips for vehicles during Saturday AM & PM peak hours based on expected attendance and distribute traffic based on expected draw.
- Traffic Analysis – Complete intersection capacity and warrant analysis for Existing and After Development horizons at the intersection of Mountain View Road & Park Lane.
- Daily Volume Analysis – Develop daily link volumes to confirm the impact of site traffic on classifications of Mountain View Road and Park Lane.
- Parking Supply – Confirm the parking supply will be sufficient for attendees.



Based on the proposed re-designation and the current use of the site, "Analysis confirms that no road network or intersection changes are required to the support development traffic. The study intersection will continue to operate acceptably and the roadways near the site will remain within their environmental guidelines."

Traffic is expected once a month throughout the year. Depending on the Buddhist calendar, the congregation meets on a Saturday and occasionally on Sunday 8:00 am to 3:30 pm. Typically, peak attendance is 15-20 people with about 10 vehicles that flow into the parking lot up to an hour before and after the ceremony. There is no line-up of vehicles observed entering or exiting the site. Winter months usually anticipate 10-15 people accounting for about 10 vehicles. Post ceremony exits are varied with some staying to help cleanup or to chat with monks before leaving. Currently, larger functions such as the Buddhist New Year in April are held at a rented hall in Calgary.

The study concluded that no improvements to the intersection, or changes Mountain View Road and Park Lane are required. The congregation travels mostly from Calgary (90 % of members) and Airdrie using the Symons Valley Road and TWP 262/AB 772. Parking is more than enough to accommodate attendees.

Noise

As a Buddhist society, noise is kept to a minimum and well contained within the property. There have been no noise complaints received over the last 4 years when it was first used by SLBSC.

Potable Water

Currently, potable use is similar to a residential property and not expected to change significantly after redesignation due to the low number of regular attendees. The Water Co-op has not raised any concerns over water usage.

Sanitary Sewage

The private sewage treatment system is designed to handle the capacity of the existing residential use and could be verified to handle a future institutional use, based on the small congregation and infrequent use. Typically, a holding tank is used for institutional sewage for subsequent removal and transport to an approved treatment and disposal site.

Storm Water

There are no physical changes to the site planned which would warrant a storm water management report.

Topographic Contours

The topographic nature of the site is mostly flat with a gentle slope towards the north east.

Landscaping

Figure 7: Street View of the Site, shows tree plantings and shrubs along most of the perimeter of the site. Policy suggests 10% of the site shall be landscaped. The gardens on the site have been maintained by monks. The car parking area and landscape maintenance is currently conducted by officials/volunteers.



Figure 7: Street View of the Site



Garbage Removal

Waste/garbage collection and disposal is already contracted out to a local contractor.

Security

Outdoor and indoor video surveillance with a 24/7 third party response service is installed with sensor operated outside lighting.

SLBSC OPERATIONS PLAN

1. This facility will operate every day from 6am to 9pm when the Buddhist monk is present on site. The facility is open to all who wish to worship, seek advice from the monks and learn about the Theravada Buddhist practices regardless of ethnicity, political ideology and religion.
2. This facility will be used for the Theravada Buddhist ceremony once a month. This ceremony usually takes place on Saturday from 8 AM to 3:30 PM.
3. Any gathering or event used at this facility will not include gambling and/or any unlawful activities. The officials and the resident monks will ensure compliance with these conditions.
4. This facility is opened for anyone to donate/provide breakfast and lunch to the monks. Monks have to consume food before noon.
5. The SLBSC board members will use this facility for meetings.
6. Outdoor (parking lot, snow removal and landscape) maintenance is taken care by local contractors and volunteers.
7. Liquid effluent and garbage collection and disposal are contracted out to local contractors.
8. Currently, the facility is equipped with video surveillance security system with a third-party response service, outside sensor lights and fire extinguishers.



9. Noise is kept to a minimum and well contained within the property. Over the last 3.5 years there have been no noise complaints or concerns mentioned during community engagements.
10. Traffic is expected once a month, usually on a Saturday. Events typically last from 8 AM to 3:30 PM so inbound traffic would be in the Saturday AM Peak Hour and outbound traffic would be in the PM Peak Hour.

Public Engagement

SLBSC members and the monks have engaged with the neighbours over the last 3.5 years. Further to this, mailouts including an information brief and survey were distributed to the neighbouring landowners in May, 2021. The package also included a current Operations Plan provided by the Sri Lankan Buddhist Society Calgary. 10 families meet once a month for services.

On November 13, 2021, the agent conducted door-to-door meetings with neighbours seeking letters of support. Where they weren't home, letters were left. Two letters of support were signed by neighbours that were home at the time. The transportation study was left explaining that there were no changes to the building or parking, and that it would not have an impact on traffic. It was just for recognition of the religious assembly which have been present for 3.5 years without any concerns. It is feared that if they aren't recognized that they may have to leave. Some of the neighbours have enjoyed their presence and hope that they stay.

Conclusion

After careful consideration of policies, meetings with RVC staff, findings of studies, and public engagement. Carswell Planning Inc. supports the proposed Land Use Redesignation to S-PUB recognizing the temple (resembling a residential home) as a religious assembly.

[Redacted signature]

[Redacted signature]

Carswell Planning Inc.



"No hurdle too high"

[Redacted signature]

Ben Dore, MPlan Candidate
Carswell Planning Inc.

[Redacted signature]

SITE PLAN

MUNICIPAL ADDRESS:

15050 PARKLANE,
ROCKY VIEW, AB.

LEGAL DESCRIPTION:

Lot 1, Plan 001 0744

(C. of T.:161 112 127)

Within

S.W.1/4 Sec.7 Twp.26 Rge.1 W.5M.

ROCKY VIEW COUNTY

ALBERTA

2016

BENCHMARK COORDINATES

ID #	NORTHING	EASTING	ELEVATION	DESCRIPTION
15009	5676131.46	700448.20	1149.12	BM#1
15010	5676190.23	700497.27	1145.45	BM#2
15011	5676230.13	700451.67	1147.25	BM#3

AREA= 1.619ha (4.00 Ac.)



SCALE 1:500 UNLESS OTHERWISE NOTED

LEGEND

Lot/Block Boundaries:
Buildings:
Eaves / Overhangs / Deck:
Power Lines:
Fences:
Curbs / Sidewalks / Road Edge
Utility R/W
Buried Pipes:
Gas Lines:
Bush Lines:

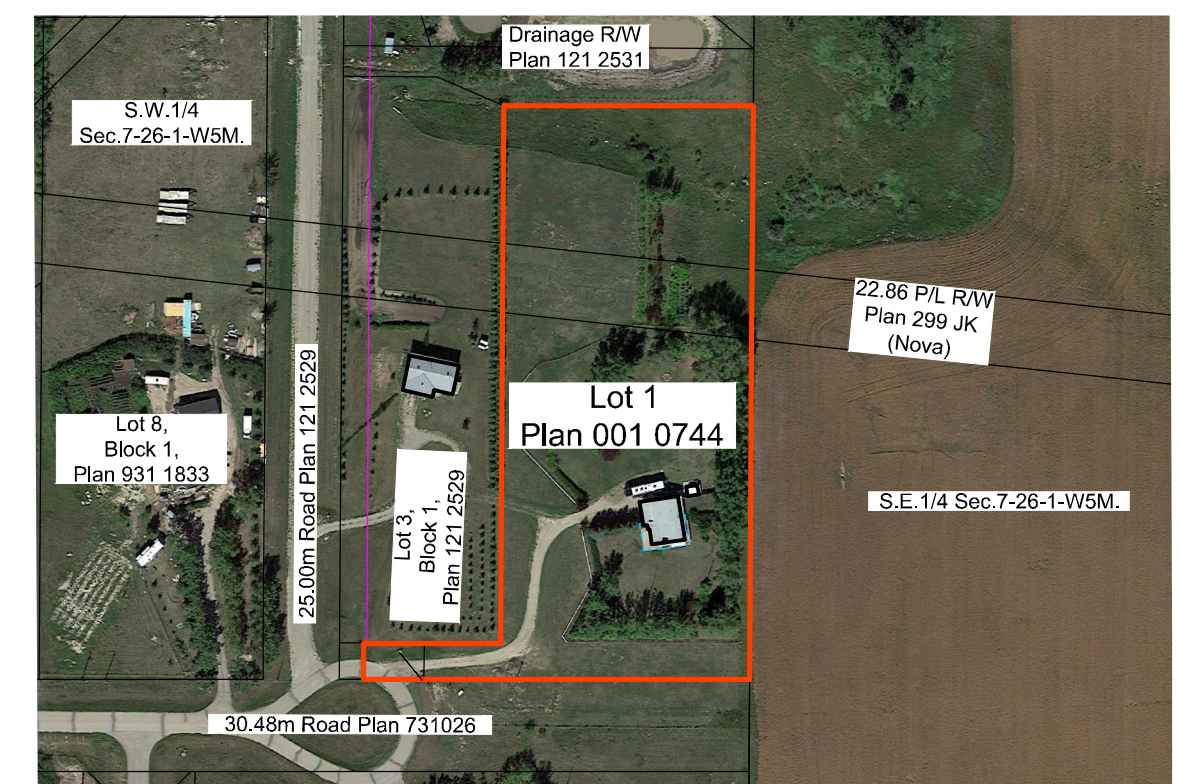
Statutory Iron Posts found:
Temporary GNSS Point:
Water Well:
Established Benchmarks
Electrical Box:
Power Pole:

Major Contour:
Minor Contour:
Note: Contour Interval 0.25m

Fd. Found
c.s. Counter Sunk
R/W Right-of-Way
Mk. Mark
Pos. Position
Re-est. Re-established
BOW Back of Walk
LOG Lip of Gutter

NOTE

Bearings are Grid, UTM, derived by GNSS.
Reference Meridian is 117° West Longitude.
Datum NAD83 (Original).
Elevations are geodetic derived from ASCM 494815.
Distances are horizontal, at ground level in metres.
Combined Scale Factor is 0.999916.
Title information is based on a Title search dated August 4th, 2016.
Survey was performed on the date of August 6th, 2016.
Contour Interval 0.25m

LOCATION PLAN
Scale = 1:2500

REV.	DATE	ISSUED	DESCRIPTION	ARA	RBD	JK
0	Aug.15/16					
				DRAF	CHKD	SURV

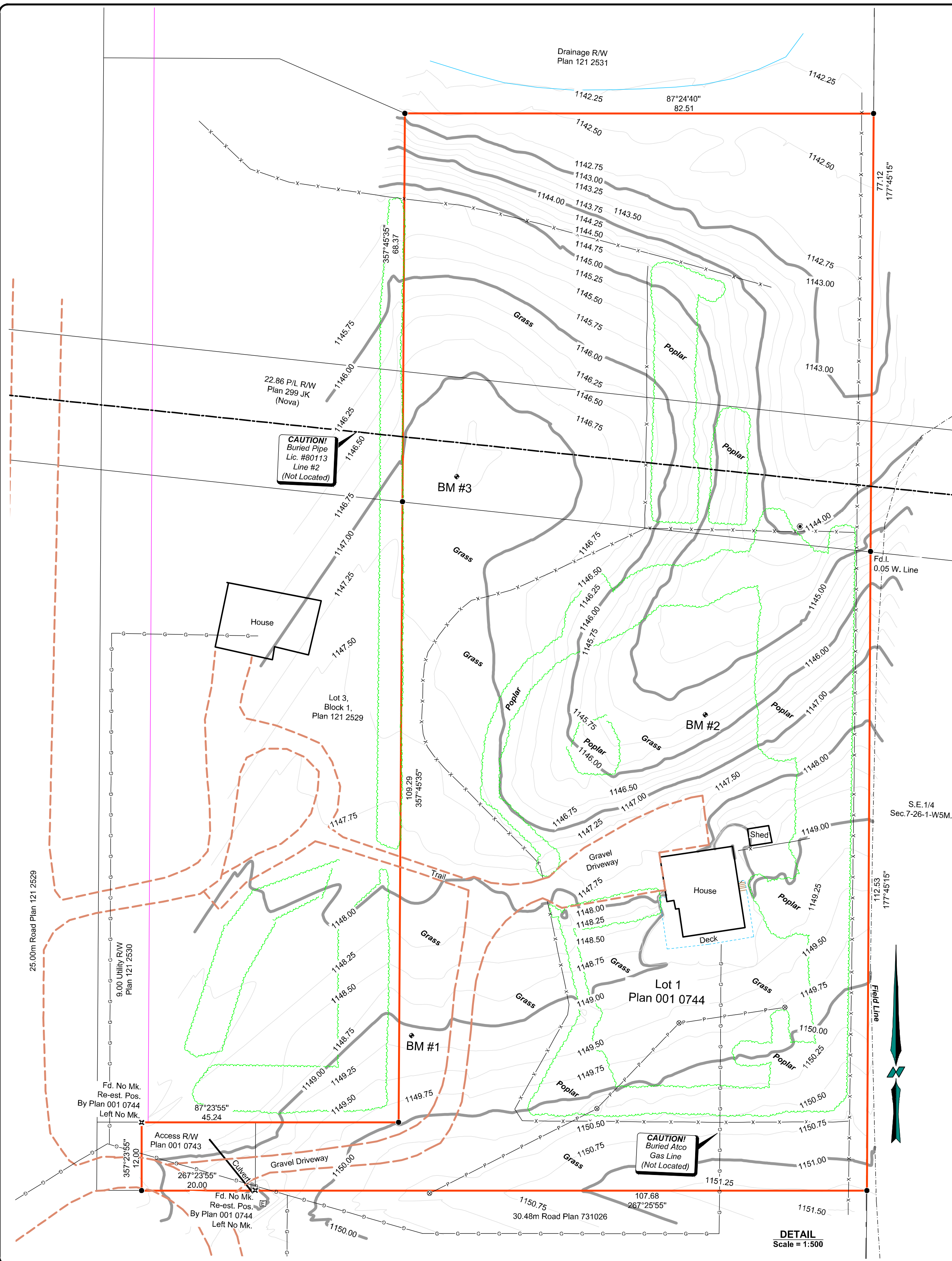
REVISIONS

McElhanney
McElhanney Land Surveys (Alta.) Ltd.
450, 999-8th Street S.W.
Calgary, Alberta T2R 1J5
T(403)245-4711 F(403)229-9160

Irwin S. Natt
ALBERTA LAND SURVEYOR

JOB No. **331123630**

PLAN ID. **C23630ST1**





MEMO

Date: May 17, 2021
Project: Ehipassiko Buddhist Centre
Subject: Transportation Impact Assessment

Project #: 02-21-0059

To: [REDACTED]
[REDACTED]

1. INTRODUCTION

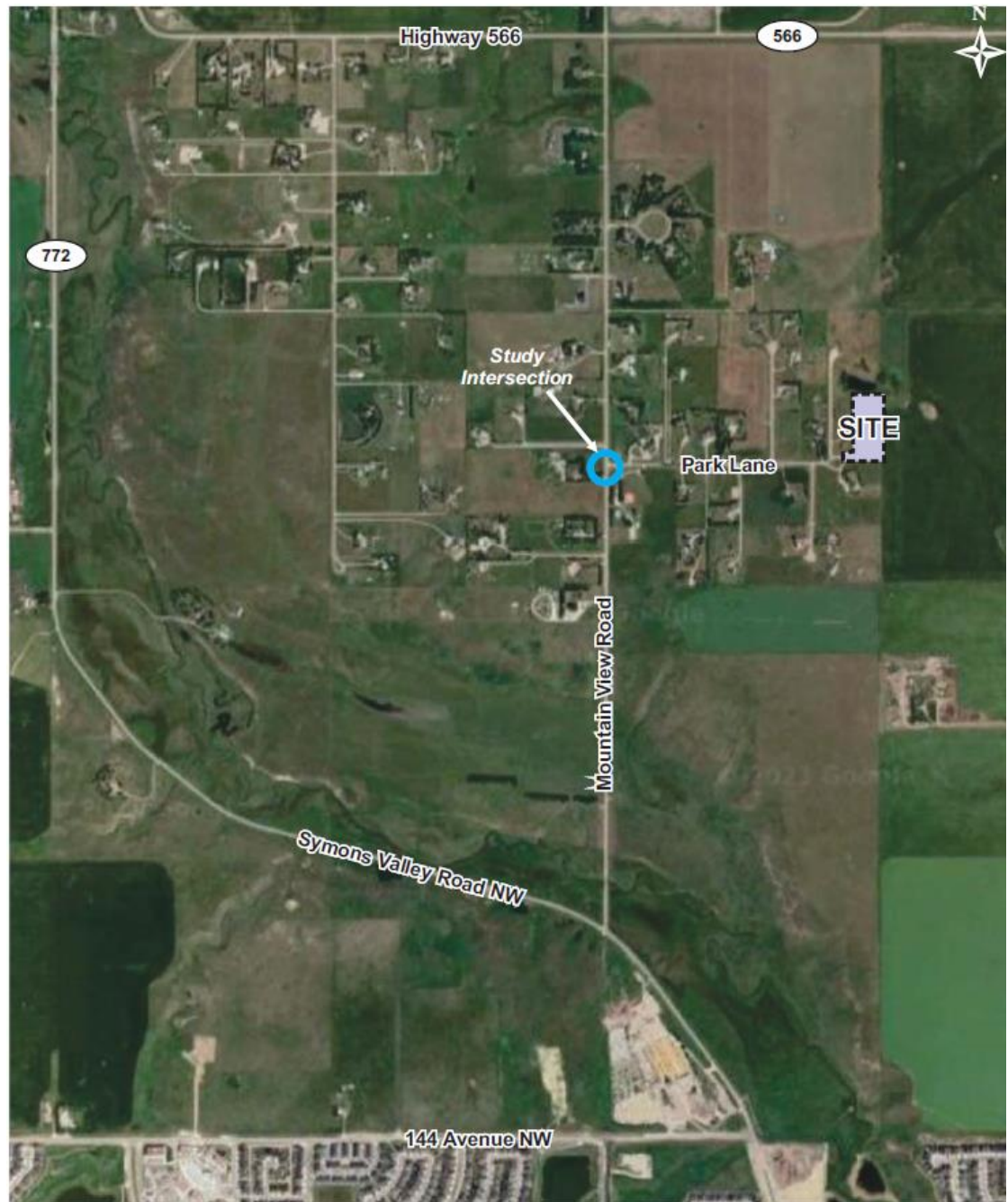
1.1 Background

The Sri Lankan Buddhist Society Calgary is seeking a land use redesignation for a site located at 15150 Park Lane in Rocky View County, AB. The proposed development will be used for religious assembly. In support of the land use redesignation, this Transportation Impact Assessment (TIA) was created to review the traffic impacts of the proposed development.

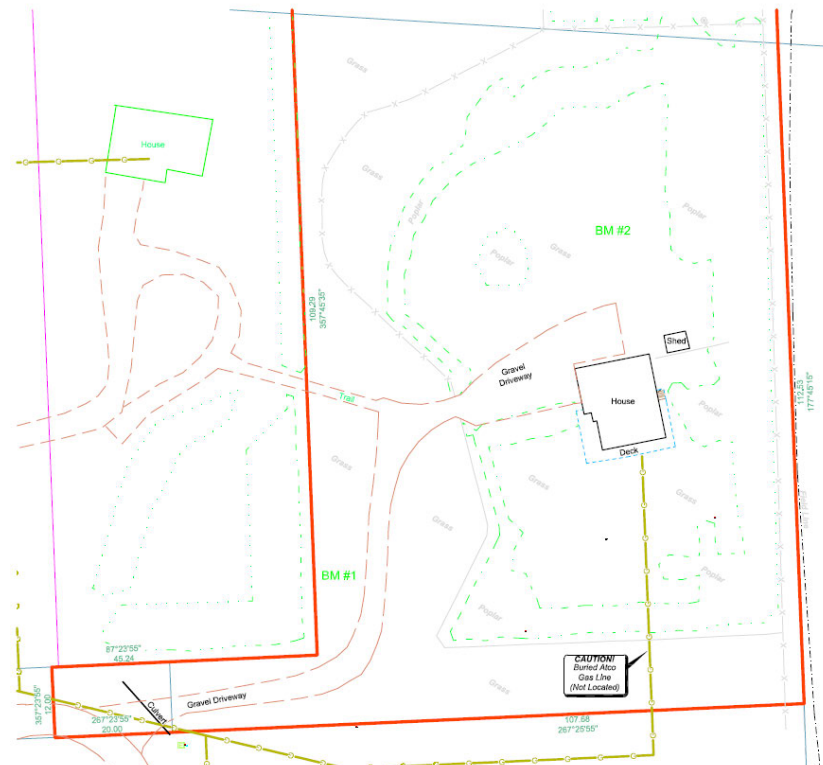
1.2 Site Context

The site is located just north of Calgary, AB in Rocky View County (RVC) and is bounded by residential uses to the west and south, and undeveloped lands to the north and east. The current site zoning is R-2, with the proposed land use being PS (Public Service). The site context is illustrated in **Figure 1.1**. The site borders and plan are illustrated in **Figure 1.2**.

Figure 1.1: Site Context



Base Map Source: Google Maps

Figure 1.2: Site Plan

1.3 Scope of Work

Based on discussions with RVC, the scope of this study was confirmed to include:

- *Trip Generation* – Gather development trips for vehicles during Saturday AM & PM peak hours based on expected attendance and distribute traffic based on expected draw.
- *Traffic Analysis* – Complete intersection capacity and warrant analysis for Existing and After Development horizons at the intersection of Mountain View Road & Park Lane.
- *Daily Volume Analysis* – Develop daily link volumes to confirm the impact of site traffic on classifications of Mountain View Road and Park Lane.
- *Parking Supply* – Confirm the parking supply will be sufficient for attendees.

2. DEVELOPMENT

2.1 Density

The building is currently 1,322 ft² and there are no proposed changes as part of the land use redesignation.

2.2 Trip Generation and Distribution

Traffic is expected once a month, usually on a Saturday. Events typically last from 8:00 AM – 3:30 PM, so inbound traffic would be in the Saturday AM Peak Hour and outbound traffic would in the PM Peak Hour. From information provided by the developer, the expected additional trip generation is summarized in **Table 2.1**.

Table 2.1: New Vehicle Trip Generation

USE	AM PEAK HOUR TRIPS			PM PEAK HOUR TRIPS		
	Total	In	Out	Total	In	Out
Religious Assembly	10	10	0	10	0	10

It is also expected that 90% of vehicle trips will be to/from the south on Mountain View Road and 10% will be to/from the north on Mountain View Road. Access to the development is provided via a driveway on Park Lane.

3. VEHICLES

3.1 Road Network and Intersections

The characteristics of roadways near the site are summarized in **Table 3.1**.

Table 3.1: Existing Roadway Characteristics

ROADWAY	CLASSIFICATION	CROSS-SECTION		POSTED SPEED	FACILITIES		
		# Lanes	Median		Parking	Shoulder	Lighting
Mountain View Road	Regional Collector	2	No	60 km/h	No	No	No
Park Lane	Country Collector	2	No	N/A	No	No	No

It is noted Park Lane has a loop at the eastern edge near the site which is not signed. While Park Lane remains a very low volume road, no signage is required at this time. However, as the area develops and the road carries higher traffic volumes, signage ensuring one-way operation of the loop is suggested.

The existing intersection control at Mountain View Road & Park Lane is westbound yield-controlled.

3.2 Volumes

3.2.1 Existing

Traffic counts used in this study are summarized in **Table 3.2**.

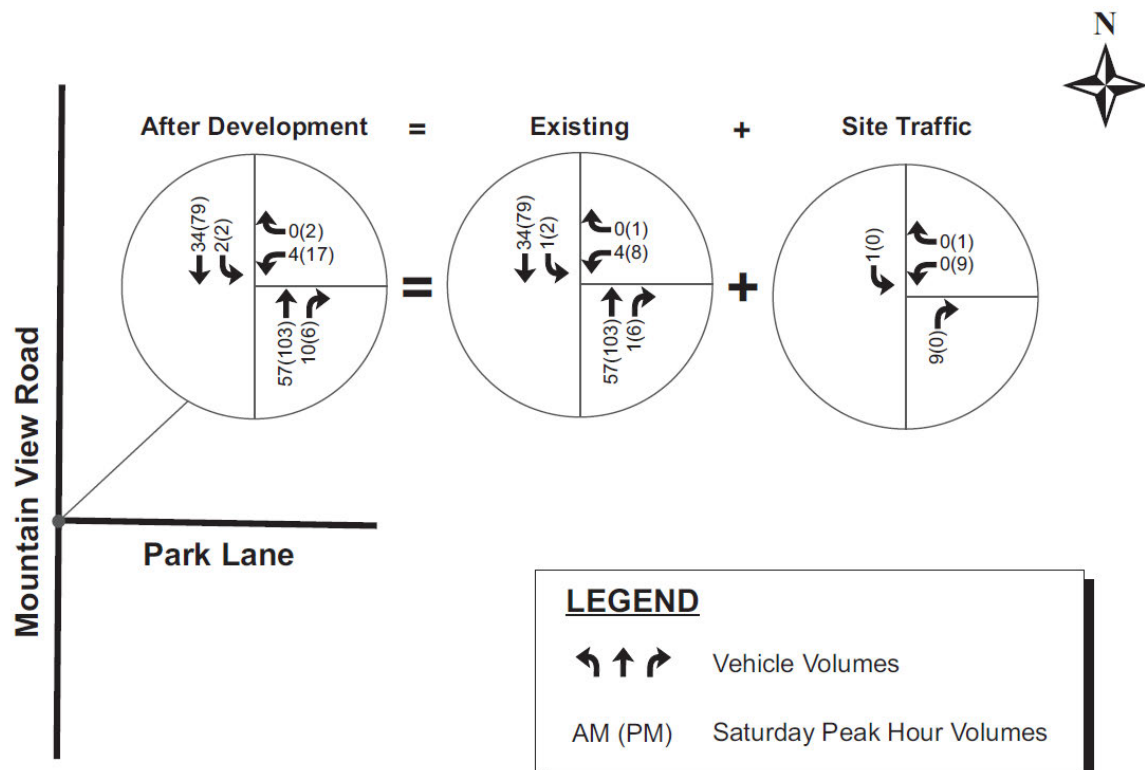
Table 3.2: Data Collection Summary

INTERSECTION	COUNT DATE	DAY OF WEEK	SOURCE
Mountain View Road & Park Lane	2021/04/24	Saturday	Bunt & Associates

3.2.2 After Development

The new site traffic volumes, 10 trips inbound in the AM and 10 trips outbound in the PM, are added to the existing traffic counts to generate After Development traffic. The volumes are illustrated below in **Figure 3.1**.

Figure 3.1: Saturday Peak Hour Volumes



3.2.3 Daily Volumes

To review roadway classifications and capacities, daily vehicle traffic volumes were calculated and compared to RVC environmental guidelines as listed in the 2013 County Servicing Standards. Environmental guidelines represent the desired daily volume range for a roadway, whereas the actual physical capacity can be higher.

Daily volumes are calculated based on the Saturday PM peak hour trip generation multiplied by a standard factor of 10. The resulting daily volume analysis is summarized in **Table 3.3**.

Table 3.3: Daily Volume Analysis

ROADWAY	SECTION	CLASSIFICATION	DAILY VOLUMES		
			Guideline	Existing	After Dev.
Mountain View Road	North of Park Ln	Regional Collector	501 – 2,500	1,900	1,900
	South of Park Ln			2,000	2,100
Park Lane	East of Mountain View Rd	Country Collector	200 – 2,000	170	190

All roadways will remain within their respective guidelines after the addition of site traffic and no adjustments to roadway classifications are required to accommodate the development.

3.3 Intersection Capacity Analysis

Synchro 10 traffic analysis software was used to review intersection operational conditions based on the methods outlined in the Highway Capacity Manual. This includes using a peak hour factor of 1.00 as suggested by RVC and a minimum of 5 vehicles per movement. Intersection capacity analysis results are summarized in **Table 3.4**.

Table 3.4: Saturday Intersection Capacity Analysis

INTERSECTION	HORIZON	MOVEMENT & LANES		SATURDAY AM PEAK HOUR				SATURDAY PM PEAK HOUR			
				v/c	LOS	Delay	Queue	v/c	LOS	Delay	Queue
Mountain View Road & Park Lane (WB Yield)	Existing	WB	1	<0.02	A	9	<5	0.02	A	9	<5
		NB	1	0.04	A	0	<5	0.06	A	0	<5
		SB	1	<0.02	A	1	<5	<0.02	A	1	<5
		Overall		-	A	1.1	-	-	A	0.8	-
	After Development	WB	1	<0.02	A	9	<5	0.03	A	10	<5
		NB	1	0.05	A	0	<5	0.06	A	0	<5
		SB	1	<0.02	A	1	<5	<0.02	A	1	<5
		Overall		-	A	1.1	-	-	A	1.2	-

Intersection capacity analysis indicates the study intersection currently operates with LOS A and minimal delays. The intersection will continue to operate with LOS A and minimal delays with the addition of site traffic.

3.4 Intersection Turn Warrants

Intersection type warrants were performed at Mountain View Road & Park Lane for the Existing and After Development horizons following the AT *Highway Geometric Design Guide*. The AT intersection warrant analysis is used at unsignalized at-grade intersections to determine if a left turn is required to eliminate interference caused by standing vehicles waiting to turn or a right turn lane is required to reduce obstruction to through movements. Alberta Transportation intersection turning warrants are attached to the memo.

The results of the turn warrants are summarized in **Table 3.5**.

Table 3.5: Intersection Turn Warrant Summary

HORIZON	DESIGN SPEED	RIGHT TURN WARRANT		LEFT TURN WARRANT	
		Northbound	Southbound	Northbound	Southbound
Existing	60 km/h	Not warranted	Not warranted	N/A	Type IIa
After Dev.		Not warranted	Not warranted	N/A	Type IIa

While the intersection is currently built as Type Ia intersection, it does warrant treatment as a Type IIa intersection in the existing horizon. This is due to the daily traffic on Mountain View Road being greater than 1,000 vehicles a day. However, the addition of site traffic does not trigger any new intersection improvements.

3.5 Illumination Warrants

An illumination warrant was completed at Mountain View Road & Park Lane based on the Transportation Association of Canada (TAC) *Illumination of Isolated Rural Intersections* guide. The warrant for illumination is used to determine if lighting at an intersection is required based on several different factors such as geometrics, operations, environmental issues, and collision history. Currently, the intersection is not illuminated.

TAC guidelines state full illumination is warranted at unsignalized intersections where a total score of 240 or more points is achieved, and partial illumination at a score of 120+ points. The illumination warrant results are summarized in **Table 3.6** and are attached to the memo.

Table 3.6: Illumination Warrant Summary

INTERSECTION	HORIZON	ILLUMINATION SCORE	COMMENT
Mountain View Rd & Park Lane	Existing	43/240	Not warranted
	After Development	43/240	Not warranted

The lighting analysis confirms that street light illumination will not be warranted.

3.6 Parking

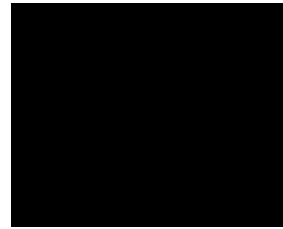
The site will provide 54 parking stalls on-site along driveways and grass areas on the site, as shown in **Figure 1.2**. This will be sufficient to support the expected vehicles on site.

4. CONCLUSION

This analysis confirms that no road network or intersection changes are required to the support development traffic. The study intersection will continue to operate acceptably and the roadways near the site will remain within their environmental guidelines.

Attachments

1. Traffic Count Data
2. Synchro Outputs
3. Intersection and Illumination Warrants



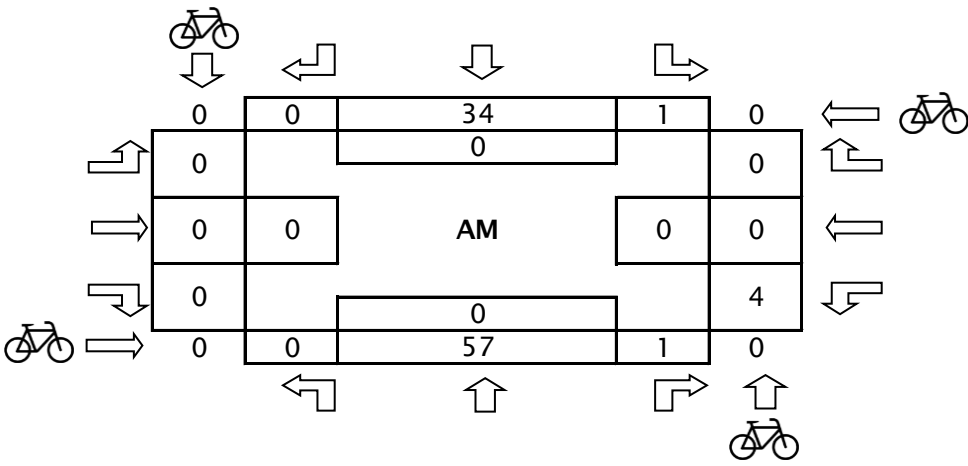
Mountain View Road & Park Lane

AM Peak Hr:	8:45 AM	to	9:45 AM	PHF (AM Peak Hr) 0.66
PM Peak Hr:	3:00 PM	to	4:00 PM	PHF (PM Peak Hr) 0.82

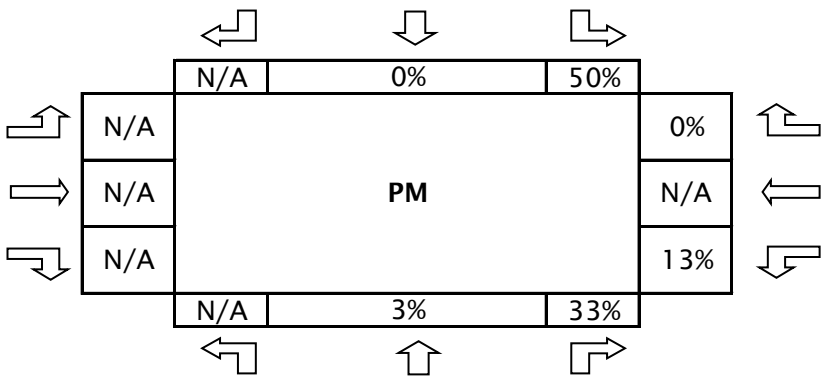
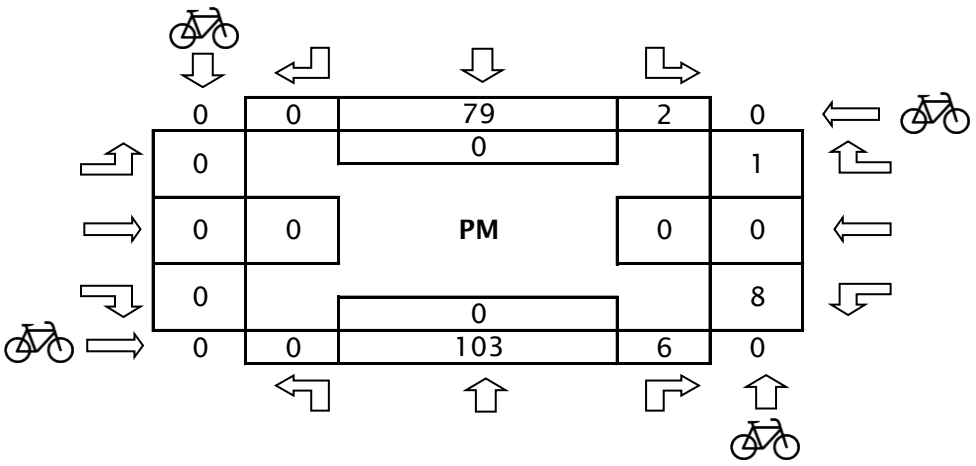
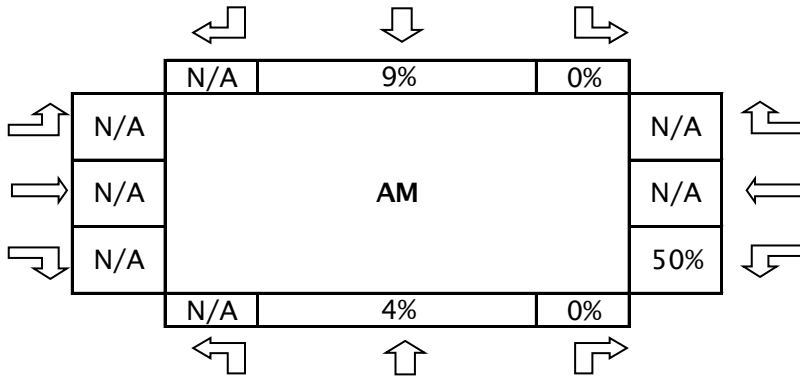


	Mountain View Road												Park Lane																							
	Northbound (South Leg)						Southbound (North Leg)						Eastbound (West Leg)						Westbound (East Leg)								Pedestrians				Cyclists					
Time Starting	Left		Through		Right		Left		Through		Right		Left		Through		Right		Left		Through		Right		Total		West Side	East Side	North Side	South Side	NB	SB	WB	EB		
	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	Car	Truck	15	Hour										
	7:00	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0		
	7:15	0	0	4	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	1	0	0	0	12	20	0	0	0	0	0	0	0	0		
	7:30	0	0	9	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	13	33	0	0	0	0	0	0	0	0	0		
	7:45	0	0	3	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	9	42	0	0	0	0	0	0	0	0	0		
	8:00	0	0	7	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	11	45	0	0	0	0	0	0	0	0	0		
	8:15	0	0	14	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	0	20	53	0	0	0	0	0	0	0	0	0		
	8:30	0	0	5	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	11	51	0	0	0	0	0	0	0	0	0		
	8:45	0	0	12	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	19	61	0	0	0	0	0	0	0	0	0		
	9:00	0	0	10	0	1	0	0	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	24	74	0	0	0	0	0	0	0	0	0		
	9:15	0	0	9	1	0	0	1	0	5	0	0	0	0	0	0	0	0	0	2	1	0	0	19	73	0	0	0	0	0	0	0	0	0		
	9:30	0	0	24	1	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	1	0	0	38	100	0	0	0	0	0	0	0	0	0		
	9:45	0	0	12	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	16	97	0	0	0	0	0	0	0	0	0		
4 hr Total		0	0	113	3	4	1	1	0	63	4	0	0	0	0	0	0	0	0	9	2	0	0				0	0	0	0	0	0	0	0	0	
Peak hr Total		0		116		5		1		67		0		0		0		0		11		0		200												
		0	0	55	2	1	0	1	0	31	3	0	0	0	0	0	0	0	0	2	2	0	0	0			0	0	0	0	0	0	0	0	0	
		0		57		1		1		34		0		0		0		0		4		0		0		100										
	14:00	0	0	20	0	0	0	0	0	19	2	0	0	0	0	0	0	0	0	0	0	0	0	42			0	0	0	0	0	0	0	0	0	
	14:15	0	0	20	1	1	0	0	0	19	1	0	0	0	0	0	0	0	0	2	0	0	0	46			0	0	0	0	0	0	0	0	0	
	14:30	0	0	24	0	3	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	47			0	0	0	0	0	0	0	0	0	
	14:45	0	0	24	0	1	0	1	0	8	1	0	0	0	0	0	0	0	0	0	0	0	1	36	171		0	0	0	0	0	0	0	0	0	
	15:00	0	0	30	1	2	1	0	0	24	0	0	0	0	0	0	0	0	3	0	0	0	0	61	190		0	0	0	0	0	0	0	0	0	
	15:15	0	0	20	0	0	0	0	0	21	0	0	0	0	0	0	0	0	2	1	0	0	0	44	188		0	0	0	0	0	0	0	0	0	
	15:30	0	0	20	1	1	1	0	1	10	0	0	0	0	0	0	0	0	2	0	0	0	1	37	178		0	0	0	0	0	0	0	0	0	
	15:45	0	0	30	1	1	0	1	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	57	199		0	0	0	0	0	0	0	0	0	
	16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	138			0	0	0	0	0	0	0	0	0	
	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94			0	0	0	0	0	0	0	0	0	
	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57			0	0	0	0	0	0	0	0	0	
4 hr Total		0	0	188	4	9	2	2	1	145	4	0	0	0	0	0	0	0	9	1	0	0	5	0				0	0	0	0	0	0	0	0	0
Peak hr Total		0		192		11		3		149		0		0		0		0		10		0		370												
		0	0	100	3	4	2	1	1	79	0	0	0	0	0	0	0	0	7	1	0	0	1	0			0	0	0	0	0	0	0	0	0	0
		0		103		6		2		79		0		0		0		0		8		0		1		199										

Peak Hour Volumes



Heavy Vehicle Percentage












1: Mountain View Road & Park Lane

AM Peak Hour

05-06-2021

Existing










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	5	57	5	5	34
Future Volume (Veh/h)	5	5	57	5	5	34
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	5	57	5	5	34
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	104	60			62	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104	60			62	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	884	1006			1541	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	10	62	39			
Volume Left	5	0	5			
Volume Right	5	5	0			
cSH	941	1700	1541			
Volume to Capacity	0.01	0.04	0.00			
Queue Length 95th (m)	0.3	0.0	0.1			
Control Delay (s)	8.9	0.0	1.0			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	1.0			
Approach LOS	A					
Intersection Summary						
Average Delay		1.1				
Intersection Capacity Utilization		16.0%		ICU Level of Service		A
Analysis Period (min)		15				

1: Mountain View Road & Park Lane

PM Peak Hour

05-06-2021

Existing










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	8	5	103	6	5	79
Future Volume (Veh/h)	8	5	103	6	5	79
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	8	5	103	6	5	79
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	195	106			109	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	195	106			109	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	99			100	
cM capacity (veh/h)	784	948			1469	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	13	109	84			
Volume Left	8	0	5			
Volume Right	5	6	0			
cSH	840	1700	1469			
Volume to Capacity	0.02	0.06	0.00			
Queue Length 95th (m)	0.4	0.0	0.1			
Control Delay (s)	9.4	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.4	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay		0.8				
Intersection Capacity Utilization		18.3%		ICU Level of Service		A
Analysis Period (min)		15				

1: Mountain View Road & Park Lane

AM Peak Hour

05-17-2021

After Development










						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	5	57	10	5	34
Future Volume (Veh/h)	5	5	57	10	5	34
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	5	57	10	5	34
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	106	62			67	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	62			67	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	882	1003			1535	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	10	67	39			
Volume Left	5	0	5			
Volume Right	5	10	0			
cSH	938	1700	1535			
Volume to Capacity	0.01	0.04	0.00			
Queue Length 95th (m)	0.3	0.0	0.1			
Control Delay (s)	8.9	0.0	1.0			
Lane LOS	A		A			
Approach Delay (s)	8.9	0.0	1.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		16.0%		ICU Level of Service		A
Analysis Period (min)			15			

1: Mountain View Road & Park Lane

PM Peak Hour

05-17-2021

After Development

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	5	103	6	5	79
Future Volume (Veh/h)	17	5	103	6	5	79
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	5	103	6	5	79
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	195	106			109	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	195	106			109	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			100	
cM capacity (veh/h)	784	948			1469	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	22	109	84			
Volume Left	17	0	5			
Volume Right	5	6	0			
cSH	816	1700	1469			
Volume to Capacity	0.03	0.06	0.00			
Queue Length 95th (m)	0.7	0.0	0.1			
Control Delay (s)	9.5	0.0	0.5			
Lane LOS	A		A			
Approach Delay (s)	9.5	0.0	0.5			
Approach LOS	A					
Intersection Summary						
Average Delay		1.2				
Intersection Capacity Utilization		18.3%		ICU Level of Service		A
Analysis Period (min)		15				

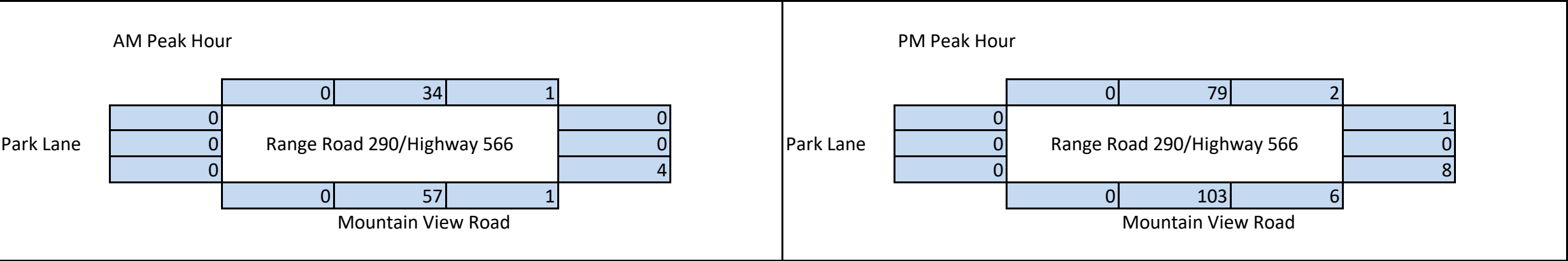
Alberta Transportation Left and Right Turn Treatment Warrant
From Alberta Highway Geometric Design Guide - D-140

Project Name: Ehipassiko Buddhist Centre
Project Number: 02-21-0059
Analysis Date: 06-May-21
Analyst: DB

Analysis Horizon: Existing

Main Street: Mountain View Road
Side Street: Park Lane
Main Street Direction: North-South
Design Speed: 60
% Trucks: 3 If greater than 10%, see table D.7.6a in Design Guide

Hourly Intersection Volumes



Left Turn Warrant Calculations

NB	Mountain View Road	NB	Mountain View Road
AM Peak Hour		PM Peak Hour	
0 VI (number of left turning vehicles per hour in the advancing volume)		0 VI (number of left turning vehicles per hour in the advancing volume)	
58 Va (Advancing Volume)		109 Va (Advancing Volume)	
0% L (Proportion of Left Turns in Va)		0% L (Proportion of Left Turns in Va)	
35 Vo (Opposing Volume)		81 Vo (Opposing Volume)	

Treatment warranted based on chart: Vo < 100

Treatment warranted based on chart: Vo < 100

SB	Mountain View Road	SB	Mountain View Road
AM Peak Hour		PM Peak Hour	
1 VI (number of left turning vehicles per hour in the advancing volume)		2 VI (number of left turning vehicles per hour in the advancing volume)	
35 Va (Advancing Volume)		81 Va (Advancing Volume)	
3% L (Proportion of Left Turns in Va)		2% L (Proportion of Left Turns in Va)	
58 Vo (Opposing Volume)		109 Vo (Opposing Volume)	

Treatment warranted based on chart: Vo < 100

Treatment warranted based on chart: Type IIa

Exclusive Right Turn Lane Warrant

AADT Conversion Factor: 10 x PM Peak Hour

NB
Main Road AADT: 1960 ≥1800 Warrant condition is met
Intersecting Road AADT: 170 ≥900 Warrant condition is not met
Right Turn Daily Traffic: 60 ≥360 Warrant condition is not met
All three conditions must be met for a right turn lane to be warranted
Right Turn Warrant Right turn lane is not warranted

SB
Main Road AADT: 1960 ≥1800 Warrant condition is met
Intersecting Road AADT: 170 ≥900 Warrant condition is not met
Right Turn Daily Traffic: 0 ≥360 Warrant condition is not met
All three conditions must be met for a right turn lane to be warranted
Right Turn Warrant Right turn lane is not warranted

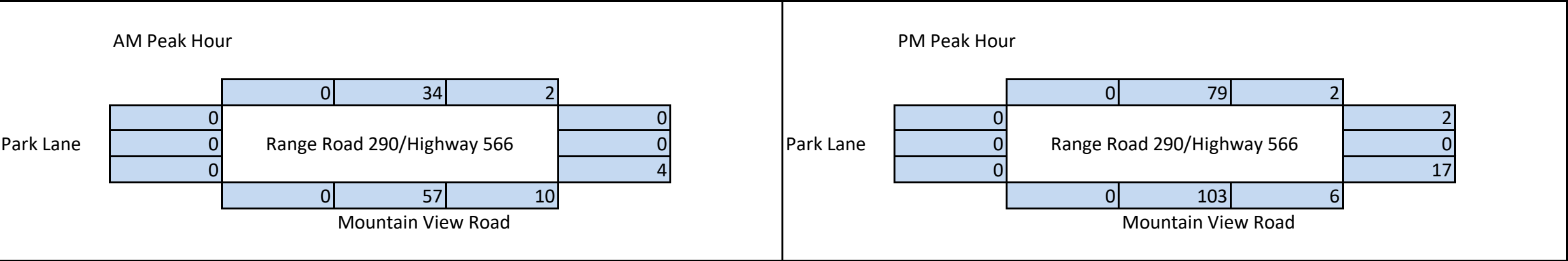
Alberta Transportation Left and Right Turn Treatment Warrant
From Alberta Highway Geometric Design Guide - D-140

Project Name: Ehipassiko Buddhist Centre
Project Number: 02-21-0059
Analysis Date: 06-May-21
Analyst: DB

Analysis Horizon: After Development

Main Street: Mountain View Road
Side Street: Park Lane
Main Street Direction: North-South
Design Speed: 60
% Trucks: 3 If greater than 10%, see table D.7.6a in Design Guide

Hourly Intersection Volumes



Left Turn Warrant Calculations

NB	Mountain View Road	NB	Mountain View Road
AM Peak Hour		PM Peak Hour	
0 VI (number of left turning vehicles per hour in the advancing volume)		0 VI (number of left turning vehicles per hour in the advancing volume)	
67 Va (Advancing Volume)		109 Va (Advancing Volume)	
0% L (Proportion of Left Turns in Va)		0% L (Proportion of Left Turns in Va)	
36 Vo (Opposing Volume)		81 Vo (Opposing Volume)	

Treatment warranted based on chart: Vo < 100

Treatment warranted based on chart: Vo < 100

SB	Mountain View Road	SB	Mountain View Road
AM Peak Hour		PM Peak Hour	
2 VI (number of left turning vehicles per hour in the advancing volume)		2 VI (number of left turning vehicles per hour in the advancing volume)	
36 Va (Advancing Volume)		81 Va (Advancing Volume)	
6% L (Proportion of Left Turns in Va)		2% L (Proportion of Left Turns in Va)	
67 Vo (Opposing Volume)		109 Vo (Opposing Volume)	

Treatment warranted based on chart: Vo < 100

Treatment warranted based on chart: Type IIa

Exclusive Right Turn Lane Warrant

AADT Conversion Factor: 10 x PM Peak Hour

NB
Main Road AADT: 2050 ≥1800 Warrant condition is met
Intersecting Road AADT: 270 ≥900 Warrant condition is not met
Right Turn Daily Traffic: 60 ≥360 Warrant condition is not met
All three conditions must be met for a right turn lane to be warranted
Right Turn Warrant Right turn lane is not warranted

SB
Main Road AADT: 2050 ≥1800 Warrant condition is met
Intersecting Road AADT: 270 ≥900 Warrant condition is not met
Right Turn Daily Traffic: 0 ≥360 Warrant condition is not met
All three conditions must be met for a right turn lane to be warranted
Right Turn Warrant Right turn lane is not warranted

Illumination of Isolated Rural Intersections
LIGHTING WARRANT SPREADSHEET

This spreadsheet is to be used in conjunction with *Illumination of Isolated Rural Intersections*, Transportation Association of Canada, February 2001.

Please enter information in the cells with yellow background

INTERSECTION CHARACTERISTICS

Mountain View Road	Main Road
Park Lane	Minor Road
Rocky View County	City/Town

Date

May 6, 2021

Other

Existing Horizon

GEOMETRIC FACTORS

	Value	Rating	Weight	Comments	Check	Score
Channelization Rating	Descriptive	0		Refer to Table 1(A) to determine rating value	OK	
Presence of raised channelization? (Y / N)	N				OK	
Highest operating speed on raised, channelized approach (km/h)	0		5		OK	
Channelization Factor					OK	0
Approach Sight Distance on most constrained approach (%)	100	0	10	Relative to the recommended minimum sight distance	OK	0
Posted Speed limit (in 10's of km/h)	60				OK	
Radius of Horizontal Curve (m)	T			Enter "T" for tangent (no horizontal curve at the intersection)	OK	
		0				
		0				
		0				
Horizontal Curvature Factor	D	0	5		OK	0
		0				
Angle of Intersection (10's of Degrees)	90	0	5		OK	0
Downhill Approach Grade (x.x%)	0.0	0	3	Rounded to nearest tenth of a percent	OK	0
Number of Intersection Legs	3	1	3	Number of legs = 3 or more	OK	3
Geometric Factors Subtotal						3

OPERATIONAL FACTORS

Is the intersection signalized ? (Y/ N)	N			Calculate the Signalization Warrant Factor		
AADT on Major Road (2-way)	2000	2	10		OK	20
AADT on Minor Road (2-way)	170	0	20	Either Use the two AADT inputs OR the Descriptive Signalization Warrant (Unused values should be set to Zero) Refer to Table 1(B) for description and rating values for signalization warrant.	OK	0
Signalization Warrant	Descriptive		30		OK	0
						OK
Night-Time Hourly Pedestrian Volume	0	0	10	Refer to Table 1(B), note #2, to account for children and seniors	OK	0
Intersecting Roadway Classification	Descriptive	1	5	Refer to Table 1(B) for ratings.	OK	5
Operating Speed or Posted Speed on Major Road (km/h)	60	1	5	Refer to Table 1(B), note #3	OK	5
Operating Speed on Minor Road (km/h)	50	0	5	Refer to Table 1(B), note #3	OK	0
Operational Factors Subtotal						30

ENVIRONMENTAL FACTOR

Lighted Developments within 150 m radius of intersection	2	2	5	Maximum of 4 quadrants	OK	10
Environmental Factor Subtotal						10

COLLISION HISTORY

Average Annual night-time collision frequency due to inadequate lighting (collisions/yr, rounded to nearest whole #)	0.0	0	0	Enter either the annual frequency (See Table 1(C), note #4)	OK	0
OR				OR the number of collisions / MEV		
Collision Rate over last 3 years, due to inadequate lighting (/MEV)	0	0	0	(Unused values should be set to Zero)	OK	0
Is the average ratio of all night to day collisions >= 1.5 (Y/N)	N	0			OK	
						OK
Collision History Subtotal						0

Check Intersection Signalization:
Intersection is not Signalized

LIGHTING IS NOT WARRANTED

SUMMARY

Geometric Factors Subtotal	3
Operational Factor Subtotal	30
Environmental Factor Subtotal	10
Collision History Subtotal	0
TOTAL POINTS	43

Illumination of Isolated Rural Intersections LIGHTING WARRANT SPREADSHEET

This spreadsheet is to be used in conjunction with *Illumination of Isolated Rural Intersections*, Transportation Association of Canada, February 2001.

Please enter information in the cells with yellow background

INTERSECTION CHARACTERISTICS

Mountain View Road	Main Road
Park Lane	Minor Road
Rocky View County	City/Town

Date

May 6, 2021

Other

After Development Horizon

GEOMETRIC FACTORS

	Value	Rating	Weight	Comments	Check	Score
Channelization Rating	Descriptive	0		Refer to Table 1(A) to determine rating value	OK	
Presence of raised channelization? (Y / N)	N				OK	
Highest operating speed on raised, channelized approach (km/h)	0		5		OK	
Channelization Factor					OK	0
Approach Sight Distance on most constrained approach (%)	100	0	10	Relative to the recommended minimum sight distance	OK	0
Posted Speed limit (in 10's of km/h)	60				OK	
Radius of Horizontal Curve (m)	T			Enter "T" for tangent (no horizontal curve at the intersection)	OK	
		0				
		0				
		0				
Horizontal Curvature Factor	D	0	5		OK	0
Angle of Intersection (10's of Degrees)	90	0	5		OK	0
Downhill Approach Grade (x.x%)	0.0	0	3	Rounded to nearest tenth of a percent	OK	0
Number of Intersection Legs	3	1	3	Number of legs = 3 or more	OK	3
Geometric Factors Subtotal						3

OPERATIONAL FACTORS

Is the intersection signalized ? (Y/ N)	N			Calculate the Signalization Warrant Factor		
AADT on Major Road (2-way)	2100	2	10		OK	20
AADT on Minor Road (2-way)	190	0	20	Either Use the two AADT inputs OR the Descriptive Signalization Warrant (Unused values should be set to Zero) Refer to Table 1(B) for description and rating values for signalization warrant.	OK	0
Signalization Warrant	Descriptive		30		OK	0
						OK
Night-Time Hourly Pedestrian Volume	0	0	10	Refer to Table 1(B), note #2, to account for children and seniors	OK	0
Intersecting Roadway Classification	Descriptive	1	5	Refer to Table 1(B) for ratings.	OK	5
Operating Speed or Posted Speed on Major Road (km/h)	60	1	5	Refer to Table 1(B), note #3	OK	5
Operating Speed on Minor Road (km/h)	50	0	5	Refer to Table 1(B), note #3	OK	0
Operational Factors Subtotal						30

ENVIRONMENTAL FACTOR

Lighted Developments within 150 m radius of intersection	2	2	5	Maximum of 4 quadrants	OK	10
Environmental Factor Subtotal						10

COLLISION HISTORY

Average Annual night-time collision frequency due to inadequate lighting (collisions/yr, rounded to nearest whole #)	0.0	0	0	Enter either the annual frequency (See Table 1(C), note #4)	OK	0
OR				OR the number of collisions / MEV		
Collision Rate over last 3 years, due to inadequate lighting (/MEV)	0	0	0	(Unused values should be set to Zero)	OK	0
Is the average ratio of all night to day collisions >= 1.5 (Y/N)	N	0			OK	
						OK
Collision History Subtotal						0

Check Intersection Signalization:
Intersection is not Signalized

LIGHTING IS NOT WARRANTED

SUMMARY

Geometric Factors Subtotal	3
Operational Factor Subtotal	30
Environmental Factor Subtotal	10
Collision History Subtotal	0
TOTAL POINTS	43