

REPORT NO. 131-15031

KRAEMER SUBDIVISION - TOWN OF HANOVER

TRAFFIC ASSESSMENT STUDY
FINAL REPORT

OCTOBER 2015

KRAEMER SUBDIVISION - TOWN OF HANOVER

TRAFFIC ASSESSMENT STUDY

1786934 Ontario Ltd.

Project no: 131-15031
Date: October 2015

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131-15031

October 7, 2015

Mr. Tim Kraemer
1786934 Ontario Ltd.
P.O. Box 356
Hanover, ON N4N 3H6

**Subject: Kraemer Subdivision, Traffic Assessment Study – Final Report,
Town of Hanover**

Dear Mr. Kraemer,

Attached please find our Traffic Assessment Study for the proposed residential development on Grey County Road No. 28, north of 14th Street in the Town of Hanover, Ontario.

The Transportation Study is summarized as follows:

- The proposed development will consist of 38 single family detached dwelling units.
- The adjacent roads in the vicinity of the site are: Grey County Road No. 28 - 24th Avenue and 14th Street.
- The proposed development is expected to generate 37 trips (9 inbound trips and 28 outbound trips) during the weekday AM peak hour and 44 trips (28 inbound trips and 16 outbound trips) during the weekday PM peak hour.
- Results of the intersection capacity analysis for the future total conditions indicate that all intersections will operate at acceptable Levels of Service in the weekday AM and PM peak hours.
- Signal timings at the intersection of Grey County Road No. 28 – 24th Avenue and County Road No. 4 – 10th Street should be adjusted to optimize traffic operations and minimize vehicle delays.
- No further road and intersection improvements will be required to mitigate the new traffic volumes generated by the proposed development.
- Installation of an intersection warning sign with a hidden intersection tab (Wa-18t) on the southbound section of Grey County Road No. 28 ahead of the site access is recommended.
- According to our review the proposed intersection location can stay indefinitely at the proposed location (approximately 290m north of 14th Street intersection).

Should you have any questions, please feel free to contact the undersigned.

Yours truly,

WSP Canada Inc.

A handwritten signature in black ink, appearing to read 'Juan P. Perez'.

Juan P. Perez, P.Eng., MSCE
Senior Transportation Engineer, Transportation Planning

A handwritten signature in blue ink, appearing to read 'Mehemed Delibasic'.

Mehemed Delibasic, P.Eng. MSc.
Manager, Transportation Planning

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1 INTRODUCTION

WSP was retained by 1786934 Ontario Ltd. to complete a Traffic Assessment Study in support of the proposed residential development located on Grey County Road No. 28, north of 14th Street in the Town of Hanover, Ontario. The site location is shown in Figure 1-1.

The site will be accessed via a proposed driveway (Street A) connecting with Grey County Road No. 28 – 24th Avenue approximately 290m north of 14th Street. Additional accesses may be provided in the future as surrounding properties to the north and south of the site are developed. Road stubs are provided to the north and south to accommodate future access to those properties and subsequent intersections at Grey County Road No. 28. However, as these properties are not yet in a position to move forward, Grey County is allowing the Kraemer Subdivision to have the entrance on Grey County Road No. 28 where it is proposed, and subject to the outcome of this traffic assessment.

A Traffic Assessment (as opposed to a Traffic Impact Study) was deemed sufficient due to the small scale of the development and the expected small amount of generated trips. Consequently, a limited scope was defined, as described in the following tasks:

- field survey of the study area conditions: review and documentation of roadway cross-sections, lane widths, posted speed limits, signage and pavement markings
- assessment of the most current concept plan and relevant site statistics, including the number and type of units, access location and proposed internal street layout. The analysis contained in this report is based in the proposed subdivision concept plan prepared by WSP, dated January 19, 2015
- assessment of the existing traffic operation conditions for the weekday AM and PM peak hours at the following intersections:
 - Grey County Road No. 28 – 24th Avenue and Grey County Road No. 4 – 10th Street
 - Grey County Road No. 28 – 24th Avenue and 14th Street
 - Grey County Road No. 28 – 24th Avenue and Site Access Roadway
- assessment of the future background conditions to correspond with a five-year horizon
- estimation of the trip generation, trip distribution and trip assignment for the proposed site for the weekday AM and PM peak hours.
- analysis of future total traffic conditions for the weekday AM and PM peak hours
- review of the concept plan and recommendations on the appropriateness of the proposed site access, such as sightlines, roadway dimensions, horizontal curve radius and intersection spacing based on Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads.
- review of internal roads to ensure conformance with Town of Hanover Servicing Standards regarding right-of way and pavement width.

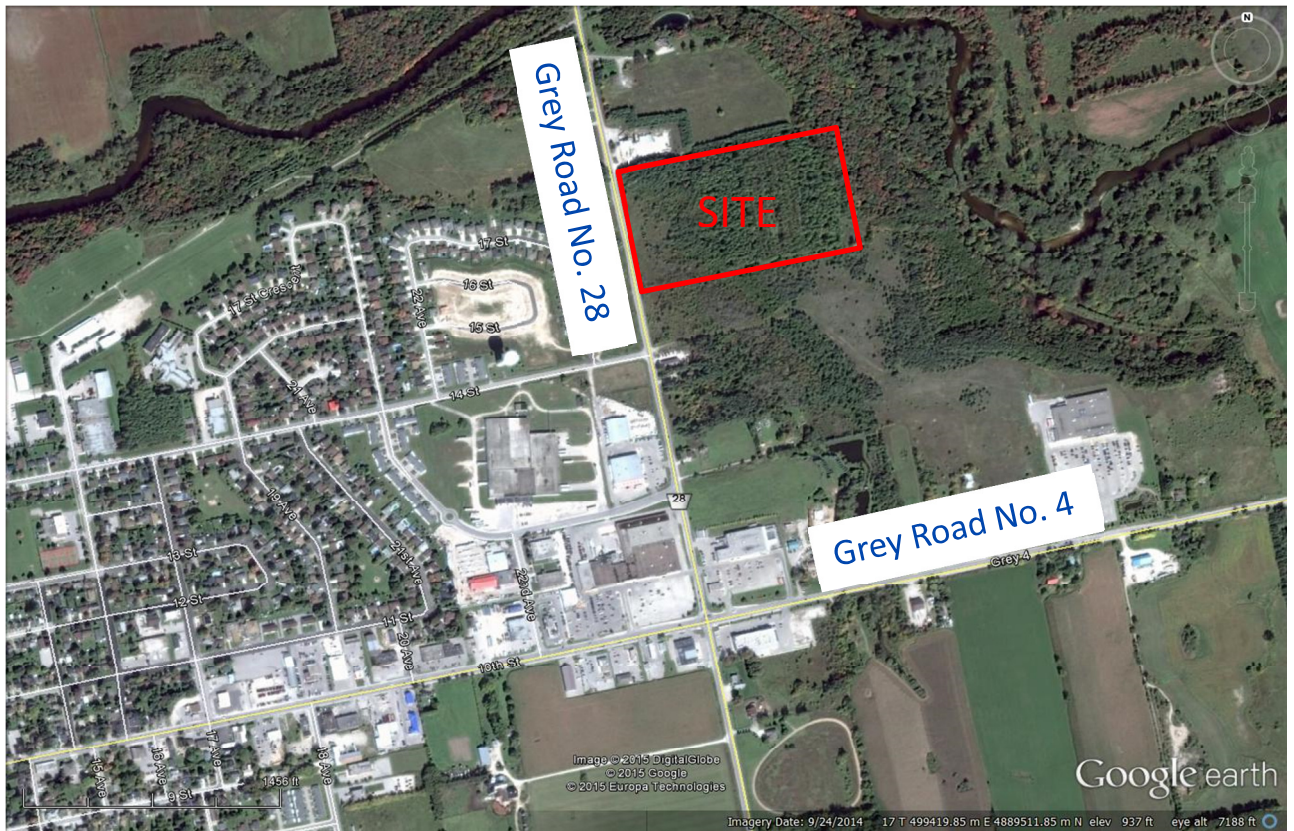
The following background information was used in the assessment of the proposed development:

- Concept subdivision plan by WSP provided on July 20, 2015
- Turning movement counts at the intersection of Grey County Road No. 28 – 24th Avenue and Grey County Road No. 4 – 10th Street, provided by the County of Grey

- Turning movement counts at the intersection of Grey County Road No. 28 – 24th Avenue and 14th Street, commissioned by WSP and completed on July 14, 2015
- County of Grey Traffic Counts – Average of 2 –Day Count per Location per Year (spreadsheet)
- County of Grey 2014 Traffic Count Spring/Fall (map)
- County of Grey signal phasing/timing plan for intersection of Grey County Road No. 28 – 24th Avenue and Grey County Road No. 4 – 10th Street, provided on September 10, 2015
- Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE)
- Geometric Design Guide for Canadian Roads, Transportation Association of Canada (TAC)
- Town of Hanover Servicing Standards
- Town of Hanover Planned and Proposed Development (map)
- Comments provided by the County of Grey and the Town of Hanover for development of this assessment

Intersection capacity analyses were completed using Synchro 8.0 software with application of the Highway Capacity Manual (HCM) 2000 methodologies.

Figure 1-1 – Site Location



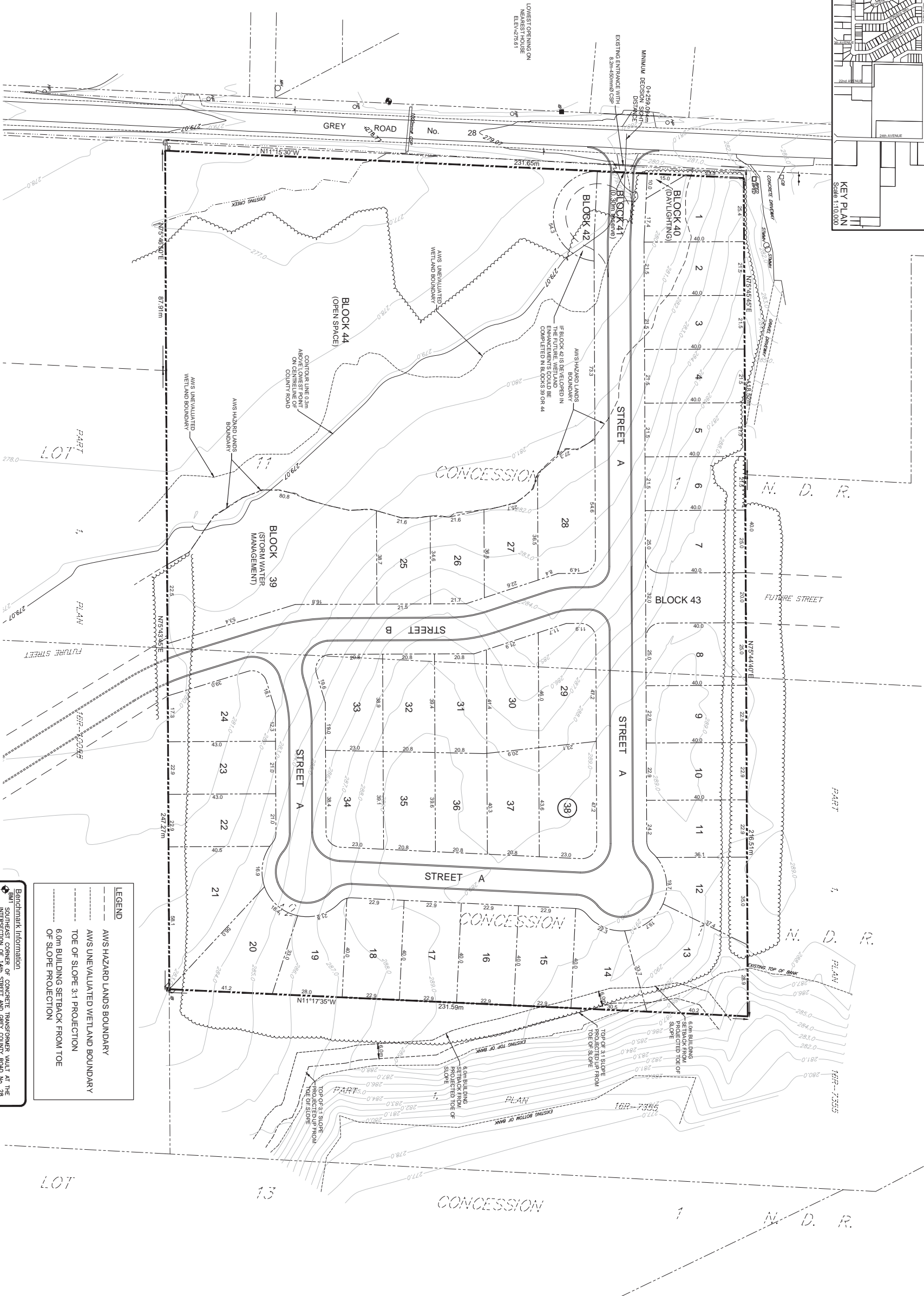
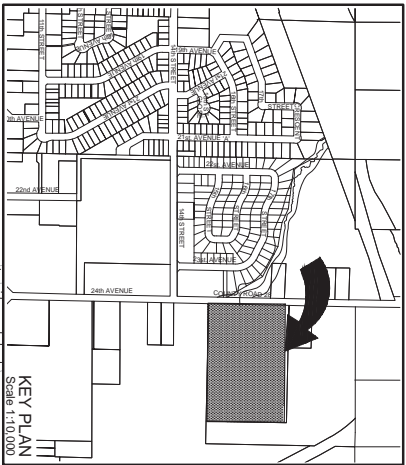
Source: Google Earth

2 PROPOSED DEVELOPMENT SITE PLAN

The proposed development consists of 38 single family detached dwelling units. The preliminary property subdivision drawing is shown in Figure 2-1.

2.1 SITE ACCESS

Site access will be through one driveway: Street A will connect to Grey County Road No. 28 approximately 290m north of 14th Street. This driveway is proposed as a full-moves access accommodating traffic for full-build out of the proposed development. In addition, road stubs are provided to the north and south to accommodate future access to potential surrounding developments to the north and south of the site and connecting to Grey County Road No. 28.



LEGEND

- AWS HAZARD LANDS BOUNDARY
- AWS UNEVALUATED WETLAND BOUNDARY
- TOE OF SLOPE 3:1 PROJECTION
- 6.0m BUILDING SETBACK FROM TOE OF SLOPE PROJECTION

Benchmark Information

BM SOUTHEAST CORNER OF CONCRETE TRANSFORMER WALL AT THE INTERSECTION OF 14th STREET AND GREY COUNTY ROAD No. 28, ELEVATION 289.18m

DRAFT PLAN OF SUBDIVISION

PART OF LOTS 11 & 12

CONCESSION 1

NORTH OF THE DURHAM ROAD

GEOGRAPHIC TOWNSHIP OF BENTINCK

TOWN OF HANOVER

COUNTY OF GREY

RELEVANT SITE INFORMATION

DETACHED RESIDENTIAL LOTS (LOTS 1 TO 24, 34 TO 38)	2,750 ha
SEMI-DETACHED RESIDENTIAL LOTS (LOTS 25 TO 33)	0,750 ha
MUNICIPAL STREET (STREETS A & B)	1,414 ha
STORMWATER MANAGEMENT (BLOCK 39)	0,353 ha
DRAINAGE BLOCK (40)	0,008 ha
POTENTIAL TURNING CIRCLE (BLOCK 42)	0,047 ha
FUTURE STREET (BLOCK 43)	0,082 ha
OPEN SPACE (BLOCK 44)	2,298 ha
TOTAL PROPOSED SUBDIVISION	7,735 ha

PROPOSED DENSITY

DETACHED RESIDENTIAL LOT AREA	3,553 ha
THREE RETENTION RESTORATION AREA	1,306 ha
NCL 1.5m CONSTRAINT ZONE	2,244 ha
TOTAL BUILDING LOT AREA	2,244 ha
DETACHED RESIDENTIAL LOTS (1-24, 29-38)	29
SEMI-DETACHED RESIDENTIAL DWELLINGS	18
TOTAL DETACHED RESIDENTIAL DWELLINGS	47
PROPOSED DEVELOPMENT LOT DENSITY	21.01/dw/ha

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51 OF THE PLANNING ACT

a. AS SHOWN	g. AS SHOWN
b. AS SHOWN	h. AS SHOWN
c. AS SHOWN	i. AS SHOWN
d. SINGLE FAMILY RESIDENTIAL	j. AS SHOWN
e. AS SHOWN	k. WATER, SANITARY SEWERS
f. AS SHOWN	l. AS SHOWN
g. AS SHOWN	m. AS SHOWN

SURVEYORS CERTIFICATE

I CERTIFY THAT:
THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED
AND THEIR RELATIONSHIP TO THE ADJACENT LANDS
ARE CORRECTLY SHOWN.

OWNERS CERTIFICATE

I, THE REGISTERED OWNER OF THESE LANDS, HEREBY
AUTHORIZE WSP CANADA INC. TO SUBMIT
THIS DRAFT PLAN FOR APPROVAL.

REVISION / ISSUE

No.	DATE	DESCRIPTION	BY	APPD
1	FEB 22/16	DRAFT PLAN SUBMISSION REVISION 1	JAH	S.C.
2	FEB 8/16	DRAFT PLAN SUBMISSION	JAH	S.C.

KRAEMER PROPERTY

DRAFT PLAN OF SUBDIVISION

Hanover, Ontario

M. TIM KRAEMER

SCALE: 1:750

DESIGN: JAH

DRAWN: JAF

CHECKED: JAH

DATE: MAY 2013

DRAFTING No. 131-15031-DP1

WSP

101 14th Avenue, Hanover, Ontario N4N 3W1
Telephone: (519) 364-5700 / FAX: (519) 364-6937
Toll Free: 1-800-585-0594

CAUTION: POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND UTILITIES AND OTHER UNDERGROUND STRUCTURES IS NOT NECESSARILY SHOWN ON THE DRAWINGS. AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. THE CONTRACTOR SHALL INFORM HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

3 EXISTING CONDITIONS

3.1 ROADWAY NETWORK

A description of the road characteristics in the study area is provided below:

- **Grey County Road No. 28 – 24th Avenue** is located along the western frontage of the subject site. County Road No. 28 – 24th Avenue is a two-lane, north-south arterial road under the jurisdiction of the County of Grey, and has a rural cross-section without sidewalks and a posted speed limit of 50 km/h in the vicinity of the site.
- **Grey County Road No. 4 – 10th Street** is located approximately 790m south of the driveway to the subject site. County Road No. 4 – 10th Street is a four-lane, east-west arterial road under the jurisdiction of the County of Grey, and has an urban cross-section with sidewalks on both sides of the road and a posted speed limit of 50 km/h in the vicinity of the intersection with Grey County Road No. 28 – 24th Avenue.
- **14th Street** is located approximately 290m south of the driveway to the subject site. 14th Street is a two-lane, east-west collector road under the jurisdiction of the Town of Hanover, and has a rural cross-section without sidewalks and a speed limit of 50 km/h in the vicinity of the site.

Please refer to Appendix A for survey sketches showing roadway cross sections, lane widths and pavement markings.

3.2 TRAFFIC VOLUMES

The following study intersections are included in this report:

- Grey County Road No. 28 – 24th Avenue and Grey County Road No. 4 – 10th Street
- Grey County Road No. 28 – 24th Avenue and 14th Street

Traffic assessment peak hours included the AM and PM weekday peak hours. Traffic counts for the study intersections were obtained from turning movement counts (TMC) commissioned by WSP and from data provided by the County of Grey as described in Table 3-1.

Table 3-1 – Intersection Movement Counts

INTERSECTION	SURVEY DATE AND TIME	WEEKDAY PEAK HOUR	
		AM Peak Hour	PM Peak Hour
Grey County Road No. 28 – 24 th Avenue and Grey County Road No. 4 – 10 th Street	Wednesday, Dec. 22, 2010 7:00 AM – 6:00 PM	11:00 – 12:00	2:00 – 3:00
Grey County Road No. 28 – 24 th Avenue and 14 th Street	Tuesday, July 14, 2015 7:00-9:00 AM, 4:00-6:00 PM	7:45 – 8:45	4:30 – 5:30

Existing weekday traffic volumes in the AM and PM peak hours are provided in Figure 3-1. As turning movement counts for the intersection of Grey County Road No. 28 – 24th Avenue and Grey County Road No. 4 – 10th Street are from year 2010, annual growth rates were applied to project volumes to the base year 2015. For volumes on County Road No. 4 a growth factor of 0.5 per year was applied and for volumes on Grey County Road No. 28 a growth factor of 2.5 per year was applied. These growth factors were based on Average Daily Traffic information on County Roads as compared with TMC data and professional judgement.

3.3 EXISTING CONDITIONS TRAFFIC ANALYSIS

Traffic operation of the study intersections was conducted by using Highway Capacity Manual (HCM) methodology and Synchro 8.0 software. Queuing at intersections was analyzed using Synchro outputs. The analysis assumes existing lane configurations as described in Appendix A. Heavy vehicle percentages were determined from the turning movement counts and existing signal timing plans were obtained from the County of Grey.

The intersection turning movement count sheets and traffic signal plans are provided in Appendix B.

The levels of service (LOS) and volume –to-capacity ratios for the intersections analyzed are presented in Table 3-2 and Table 3-3. The queuing results are provided in Table 3-4. Synchro intersection capacity analysis and queue report sheets are provided in Appendix C.

Table 3-2 – Existing Traffic Conditions – Signalized Intersection

Intersection		AM Peak Hour			PM Peak Hour		
		V/C	Delay (sec.)	LOS	V/C	Delay (sec.)	LOS
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue		0.59	20	C	0.75	27	C
Eastbound Left	EBL	0.24	11	B	0.42	17	B
Eastbound Through+Right	EBTR	0.44	13	B	0.65	24	C
Westbound Left+Through+Right	WBLTR	0.44	22	C	0.55	32	C
Northbound Through+Left	NBLT	0.51	25	C	0.43	23	C
Northbound Right	NBR	0.01	20	C	0.01	19	B
Southbound Left+Through+Right	SBLTR	0.63	28	C	0.69	29	C

Table 3-3 – Existing Traffic Conditions – Unsignalized Intersection

Intersection		AM Peak Hour		PM Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS
Movement					
G.R. 28 - 24 th Avenue & 14th Street					
Eastbound Left+Through+Right	EBLTR	11	B	11	B
Westbound Left+Through+Right	WBLTR	11	B	12	B
Northbound Left+Through+Right	NBLTR	2	A	2	A
Southbound Left+Through+Right	SBLTR	0	A	0	A

The capacity analysis shows that all assessed intersections operate below capacity and with acceptable levels of service during both peak hours.

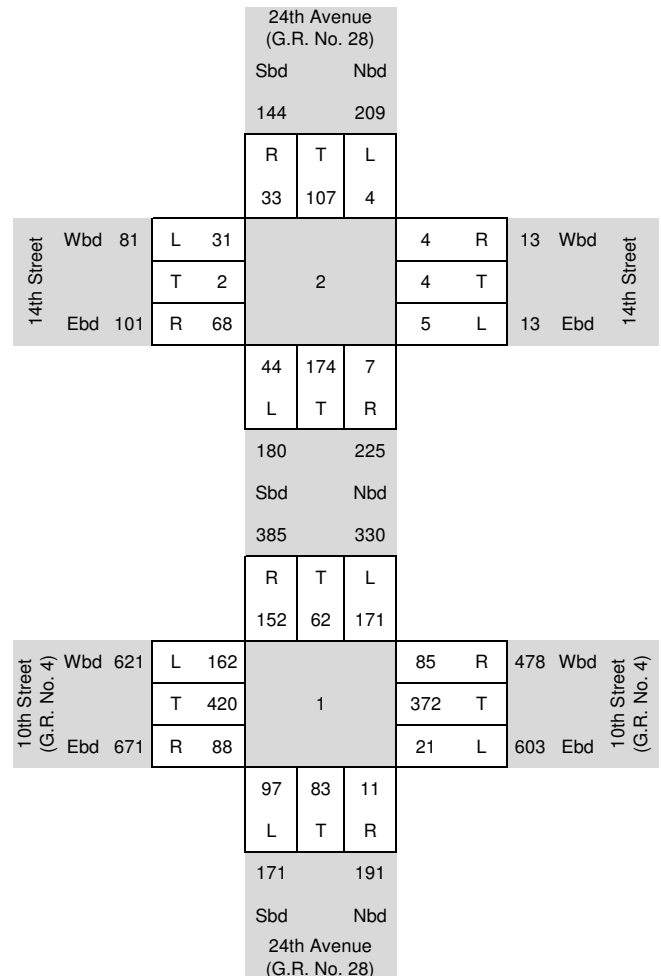
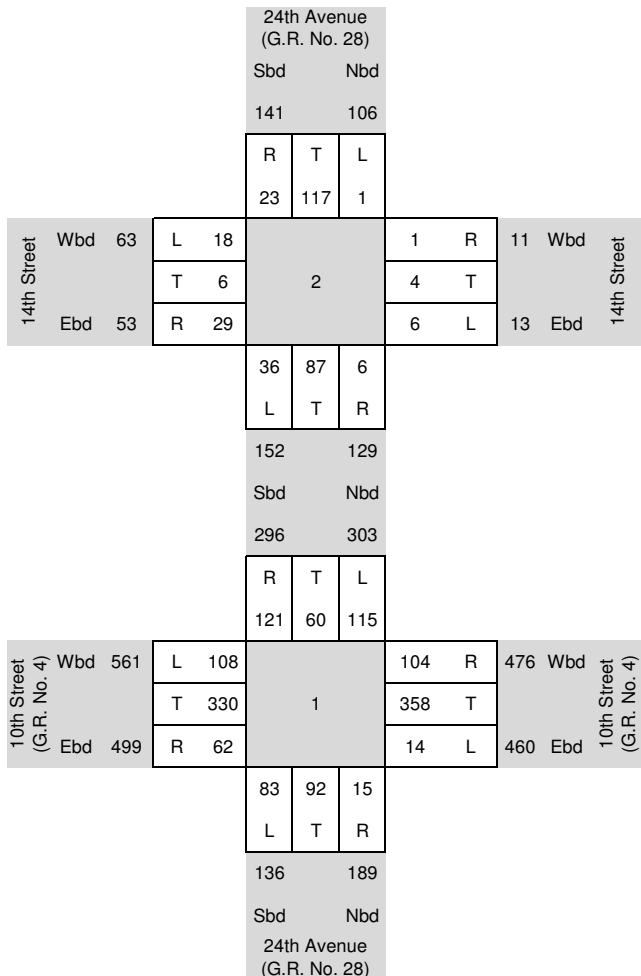
Table 3-4 – Existing Traffic Conditions - Queue Lengths

Intersection	Movement	Available	AM Peak Hour		PM Peak Hour		
		Storage (m)	50th Percentile Queue (m)	95th Percentile Queue (m)	50th Percentile Queue (m)	95th Percentile Queue (m)	
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue							
	Eastbound Left	EBL	95	8	23	20	40
	Northbound Right	NBR	42	0	0	0	0

The queue analysis indicates that all queues can be accommodated in the available storage length.

Existing Traffic Volumes, AM Peak Hour

Existing Traffic Volumes, PM Peak Hour



Schematic

Figure 3-1
Existing Traffic Volumes, Weekday AM and PM Peak Hour
Kraemer Subdivision - Transportation Studies



4 2020 BACKGROUND CONDITIONS

It is anticipated that the proposed development will be fully built within five years, thus occupancy is assumed for 2020.

4.1 OTHER AREA DEVELOPMENTS

Review of planned and proposed development material provided by the Town indicates that there are two proposed developments that may have an impact in the study area traffic operations. These two developments are described below:

- west side of Grey County Road No. 28 – 24th Avenue at 20th Street (closest to the Saugeen River): 14 single family dwelling development
- west side of Grey County Road No. 28 – 24th Avenue between 20th Street and water course: 80 single family dwelling development

There are other tentative developments adjacent to the study area. However, specific details regarding land use, development size, and access location were not available at time of report preparation, consequently their trip generation values were not considered in this assessment.

WSP estimated trip generation, distribution and assignment for the two adjacent sites. Trip generation estimates during the weekday AM and PM peak hours were obtained from the ITE Trip Generation Manual, 9th Edition (ITE land use code – 210).

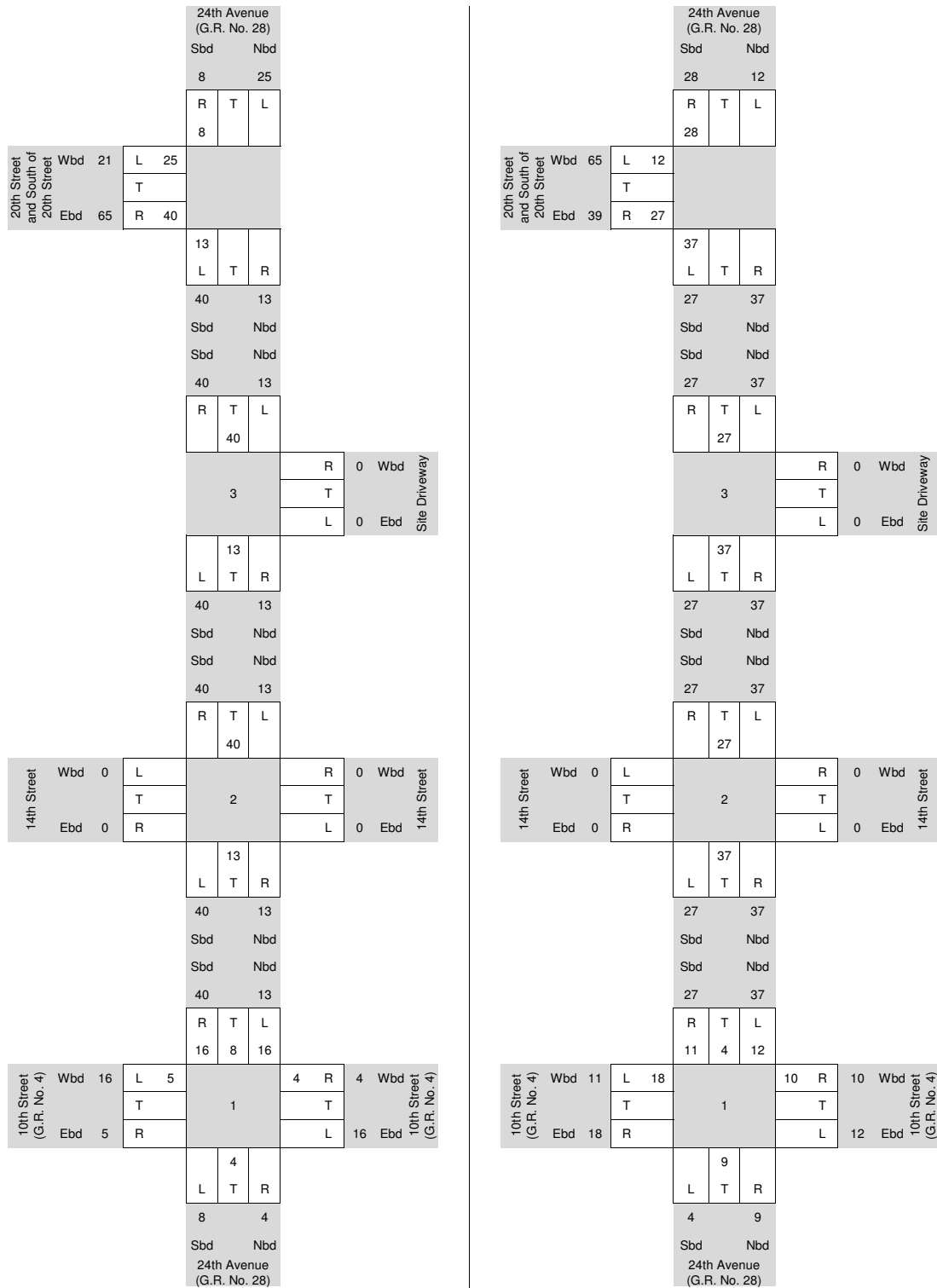
The trip generation from the two new adjacent developments is summarized in Table 4-1. The summary indicates that the sites will generate 86 trips (21 inbound trips and 65 outbound trips) during the weekday AM peak hour and 104 trips (65 inbound trips and 39 outbound trips) during the weekday PM peak hour.

Table 4-1 – Area Developments Trip Generation

Site Component	Units	ITE Code	Item	AM			PM		
				In 25%	Out 75%	Total 100%	In 63%	Out 37%	Total 100%
Single Family Dwelling - 20th Street Proposal - West of G.R. 28	14	Single-Family Detached Housing (210)	(Fitted Curve Equation) Trips	T=0.70(x)+9.74 5	15	20	Ln(T)=0.90 Ln(X)+0.51 11	7	18
Single Family Dwelling - South of 20th Street Proposal - West of G.R. 28	80	Single-Family Detached Housing (210)	(Fitted Curve Equation) Trips	T=0.70(x)+9.74 16	50	66	Ln(T)=0.90 Ln(X)+0.51 54	32	86
Total Trips - Two Other Developments West of G.R. 28				21	65	86	65	39	104

Distribution of vehicular trips generated by the two adjacent developments was derived from local surveys (2015 turning movement counts at intersection of Grey County Road No. 28 – 24th Avenue and 14th Street). Trip distribution of the two adjacent site trips is summarized in Figure 4-1.

Traffic generated by the two adjacent proposed developments was assigned to the existing boundary roads in accordance with the trip distribution in Table 4-1. Their assigned trips during the AM and PM peak hours are presented in Table 4-2.



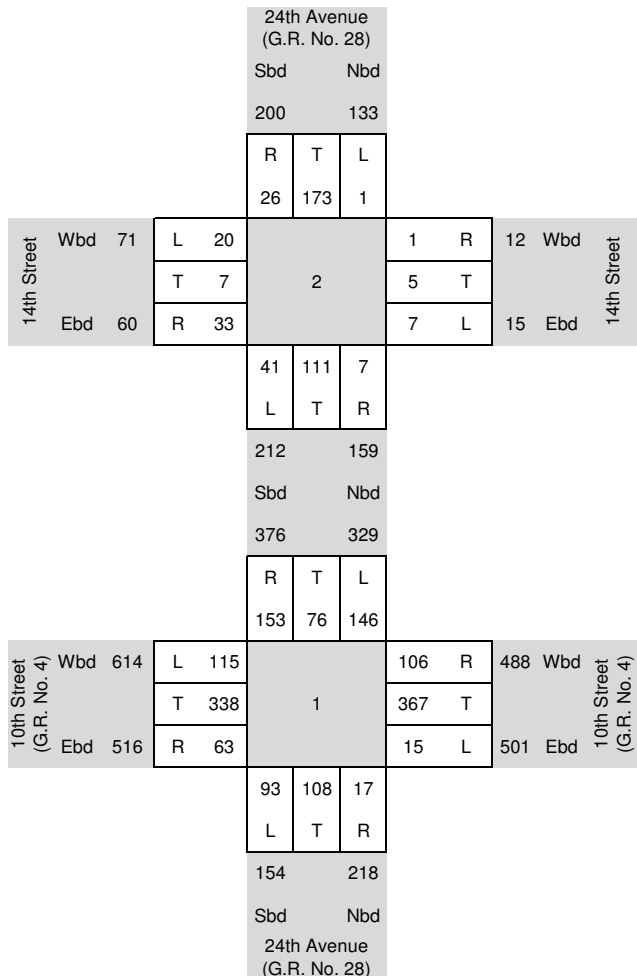
4.2 GROWTH RATES

WSP reviewed Average Daily Traffic (ADT) data on County Roads, Turning Movement Counts (TMC) on study area intersections and travel patterns to determine appropriate annual growth rates for through traffic on arterial roadways to year 2020. Based on this review, a negative growth was identified on Grey County Road No. 4 – 10th Avenue; however for traffic assessment purposes a nominal annual rate of 0.5 percent was used for traffic volume projections. For Grey County Road No. 28 – 24th Avenue an annual growth rate of 8.6 percent was calculated from 2014 to 2015, however since the data period is very limited and there are some recent residential developments adjacent to County Road No. 28, a lower rate of 2.5 percent was assumed.

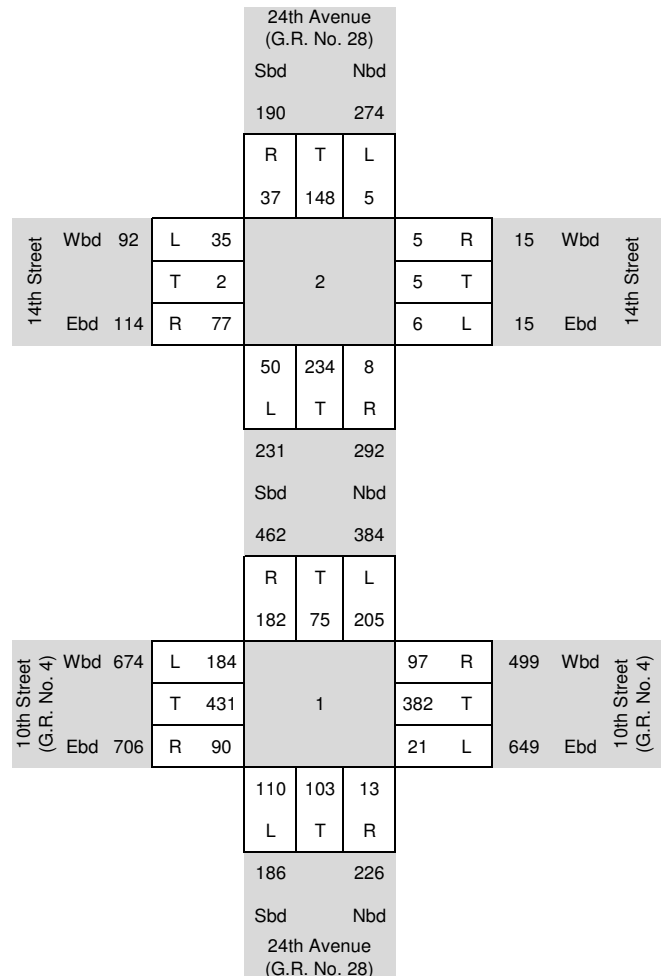
4.3 BACKGROUND TRAFFIC

The 2020 background traffic volumes combine the existing traffic volumes plus the traffic generated by the two adjacent developments identified in Section 4.1. The 2020 background AM and PM peak hour turning volumes are shown in Figure 4-3.

Background Traffic Volumes, AM Peak Hour



Background Traffic Volumes, PM Peak Hour



Schematic

Figure 4-3
Future (2020) Background Traffic Volumes, Weekday AM and PM Peak Hour
Kraemer Subdivision - Transportation Studies



4.4 FUTURE BACKGROUND TRAFFIC ANALYSIS

Synchro analysis of future background conditions was undertaken as part of this study and the results are presented in Table 4-2 for the signalized intersection and Table 4-3 for the unsignalized intersection. The queuing results are provided in Table 4-4. Synchro intersection capacity analysis and queue report sheets are provided in Appendix C.

Signal phasing timings were optimized in order to minimize traffic delays while maintaining the existing cycle length of 120 seconds.

Table 4-2 – 2020 Background Traffic Conditions – Signalized Intersection

Intersection		AM Peak Hour			PM Peak Hour		
		V/C	Delay	LOS	V/C	Delay	LOS
Movement	(sec.)		(sec.)				
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue		0.65	25	C	0.84	31	C
Eastbound Left	EBL	0.29	14	B	0.57	23	C
Eastbound Through+Right	EBTR	0.46	18	B	0.69	30	C
Westbound Left+Through+Right	WBLTR	0.43	25	C	0.51	32	C
Northbound Through+Left	NBLT	0.53	28	C	0.49	25	C
Northbound Right	NBR	0.01	22	C	0.01	19	B
Southbound Left+Through+Right	SBLTR	0.75	35	D	0.83	39	D

Table 4-3 – 2020 Background Traffic Conditions – Unsignalized Intersection

Intersection		AM Peak Hour		PM Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS
Movement					
G.R. 28 - 24 th Avenue & 14th Street					
Eastbound Left+Through+Right	EBLTR	11	B	12	B
Westbound Left+Through+Right	WBLTR	12	B	14	B
Northbound Left+Through+Right	NBLTR	2	A	2	A
Southbound Left+Through+Right	SBLTR	0	A	0	A

The capacity analysis shows that all assessed intersections operate below capacity and with acceptable levels of service during both peak hours.

Table 4-4 – 2020 Background Traffic Conditions – Queue Lengths

Intersection	Available	AM Peak Hour		PM Peak Hour	
		50th Percentile Queue (m)	95th Percentile Queue (m)	50th Percentile Queue (m)	95th Percentile Queue (m)
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue					
Eastbound Left EBL	95	12	29	29	45
Northbound Right NBR	42	0	0	0	0

The queue analysis indicates that all queues can be accommodated in the available storage length.

5

2020 TOTAL CONDITIONS

5.1 SITE TRAFFIC GENERATION

Trip generation estimates for the site during the weekday AM and PM peak hours were obtained from the ITE Trip Generation Manual, 9th Edition. The proposed development will include 38 single family detached dwellings (ITE land use code – 210).

The trip generation from the new proposed development is summarized in Table 5-1. The summary indicates that the site will generate 37 trips (9 inbound trips and 28 outbound trips) during the weekday AM peak hour and 44 trips (28 inbound trips and 16 outbound trips) during the weekday PM peak hour.

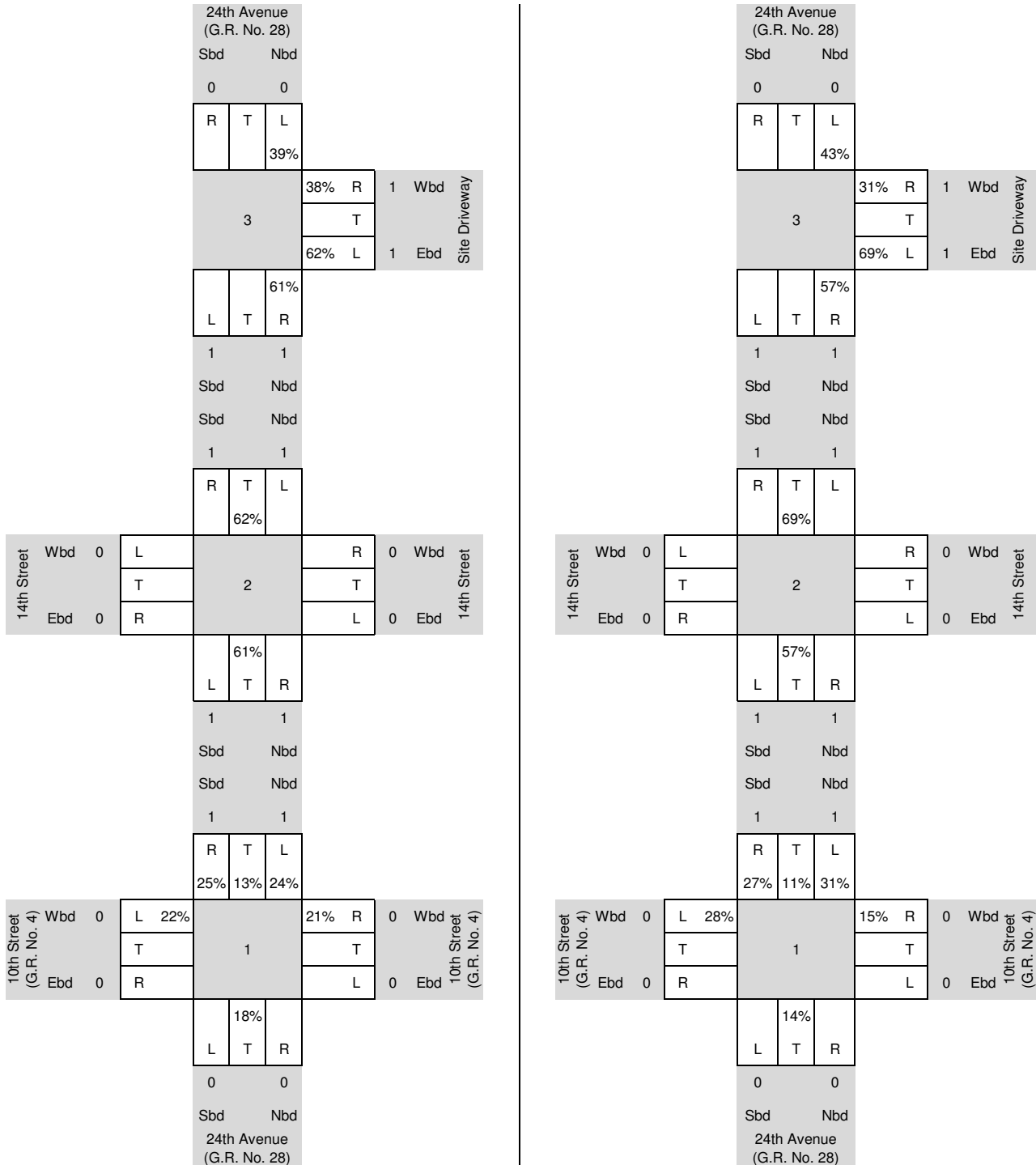
Table 5-1 – Estimated Total Trip Generation, Weekday AM and PM Peak Hours

Site Component	Units	ITE Code	Item	AM			PM		
				In	Out	Total	In	Out	Total
			Directional Distribution	25%	75%	100%	63%	37%	100%
Single Family Dwelling - Kraemer Subdivision	38	Single-Family Detached Housing (210)	(Fitted Curve Equation) Trips	$T=0.70(x)+9.74$			$\ln(T)=0.90$ $\ln(X)+0.51$		
				9	28	37	28	16	44
Total Trips				9	28	37	28	16	44

5.2 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution of vehicular trips generated by the proposed development was derived from local surveys (2015 turning movement counts at intersection of Grey County Road No. 28 – 24th Avenue and 14th Street). Site Trip Distribution is summarized in Figure 5-1.

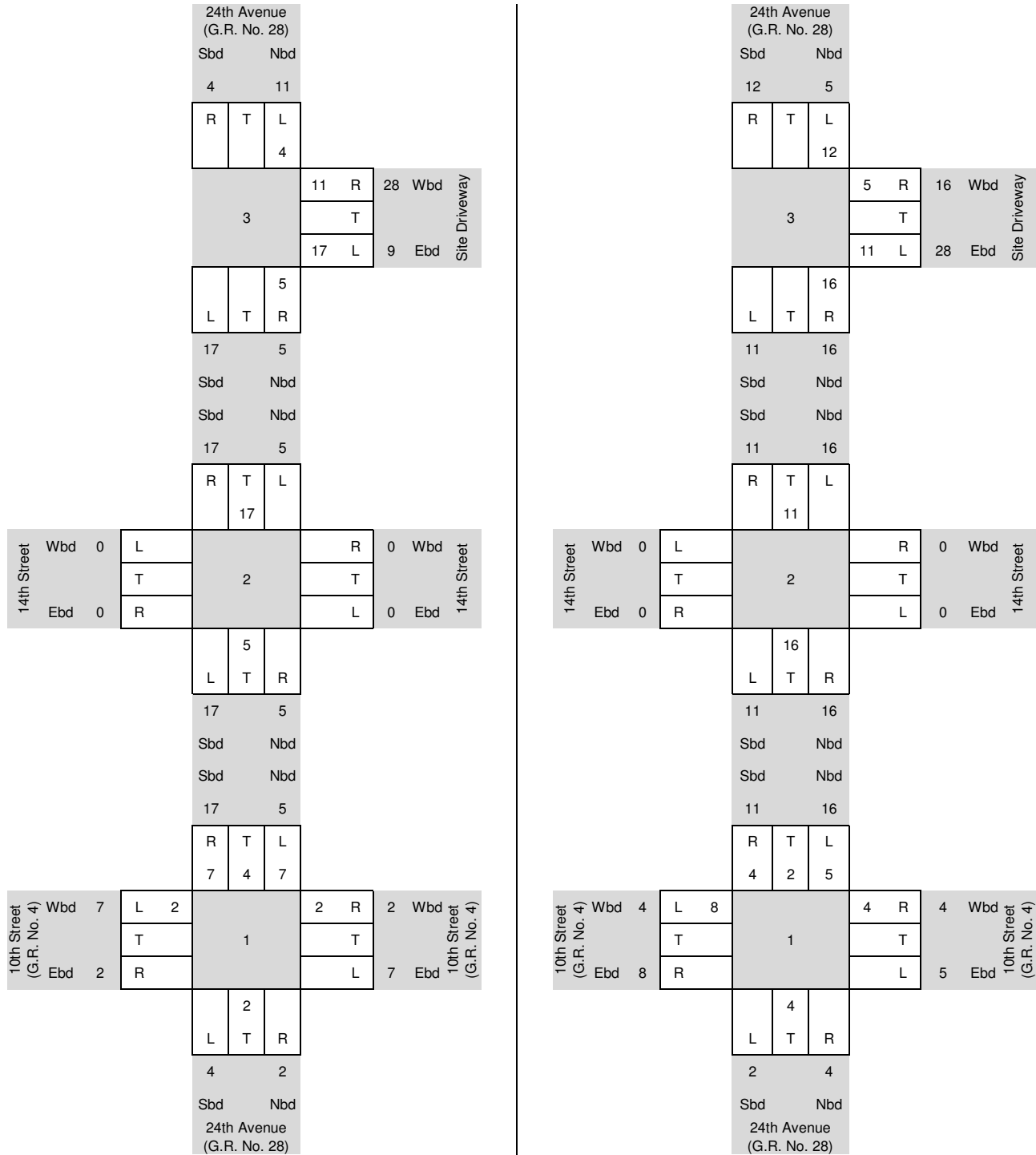
Traffic generated by the proposed development was assigned to the existing boundary roads. Trip assignments for vehicle trips generated by the proposed development during the weekday AM and PM peak hours are presented in Figure 5-2.



Schematic

Figure 5-1
Site Generated Trip Distribution, Weekday AM and PM Peak Hour
Kraemer Subdivision - Transportation Studies





Schematic

Figure 5-2
Total Site Generated Traffic Volumes, Weekday AM and PM Peak Hour
Kraemer Subdivision - Transportation Studies



5.3 FUTURE (2020) TOTAL TRAFFIC VOLUMES

Future (2020) total traffic conditions include the addition of future (2020) background traffic volumes and site generated traffic from the proposed development. The site driveway was assessed as full move operation. The future (2020) total traffic volumes in AM and PM peak hours are presented in Figure 5-3.

Total Traffic Volumes, PM Peak Hour

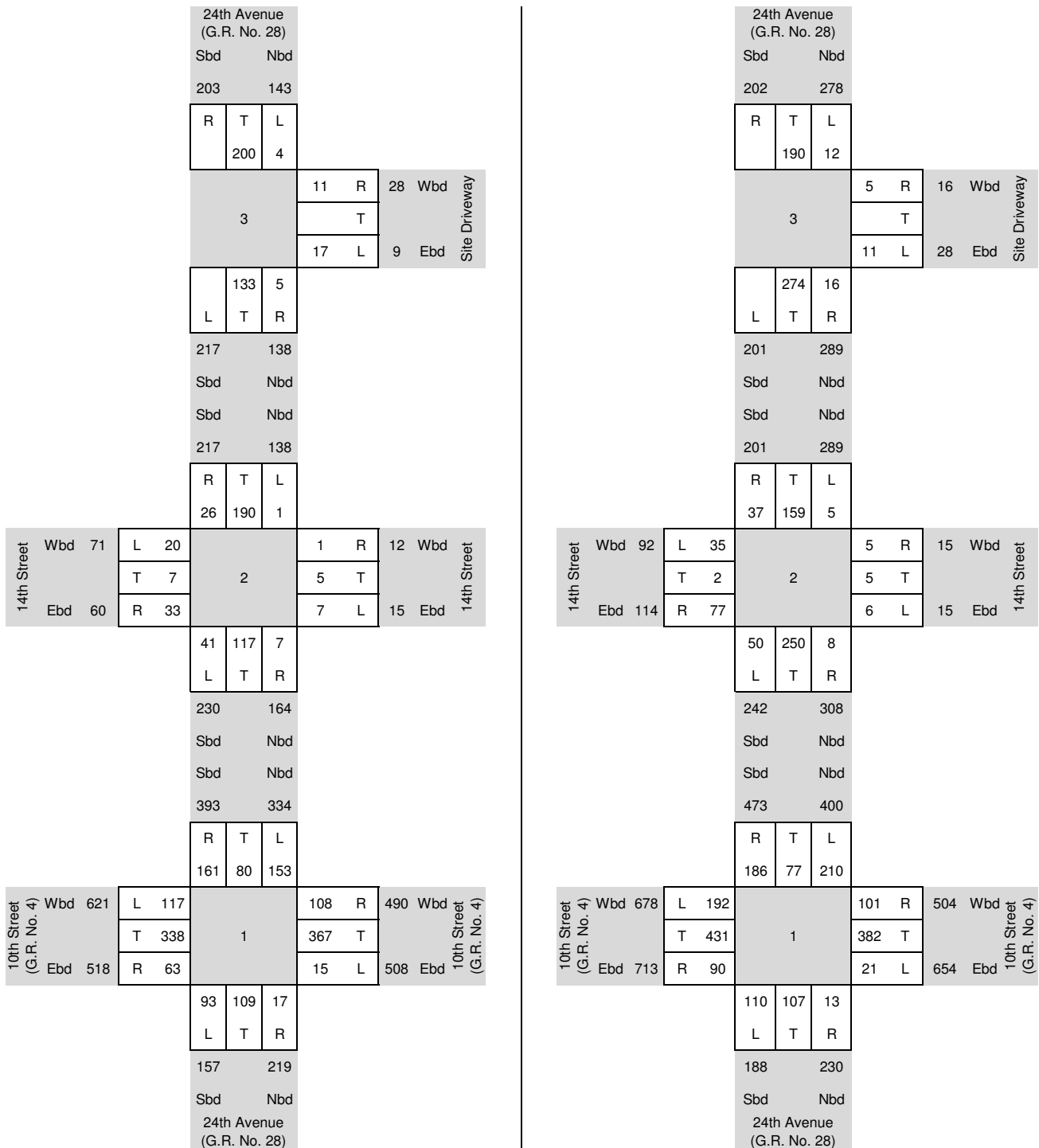


Figure 5-3
Future (2020) Total Traffic Volumes, Weekday AM and PM Peak Hour
Kraemer Subdivision - Transportation Studies



5.4 FUTURE (2020) TOTAL TRAFFIC ANALYSIS

Synchro analysis of future total conditions was undertaken as part of this study and the results are presented in Table 5-2 for the signalized intersection and Table 5-3 for the unsignalized intersections. The queuing results are provided in Table 5-4. Synchro intersection capacity analysis and queue report sheets are provided in Appendix C.

Signal phasing timings were optimized in order to minimize traffic delays while maintaining the existing cycle length of 120 seconds.

Table 5-2 – 2020 Total Traffic Conditions – Signalized Intersection

Intersection Movement		AM Peak Hour			PM Peak Hour		
		V/C	Delay (sec.)	LOS	V/C	Delay (sec.)	LOS
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue		0.67	25	C	0.85	32	C
Eastbound Left	EBL	0.30	15	B	0.59	24	C
Eastbound Through+Right	EBTR	0.47	19	B	0.70	31	C
Westbound Left+Through+Right	WBLTR	0.45	26	C	0.55	34	C
Northbound Through+Left	NBLT	0.51	27	C	0.49	24	C
Northbound Right	NBR	0.01	21	C	0.01	19	B
Southbound Left+Through+Right	SBLTR	0.76	35	C	0.84	39	D

Table 5-3 – 2020 Total Traffic Conditions – Unsignalized Intersections

Intersection Movement		AM Peak Hour		PM Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS
G.R. 28 - 24 th Avenue & 14th Street					
Eastbound Left+Through+Right	EBLTR	12	B	13	B
Westbound Left+Through+Right	WBLTR	13	B	14	B
Northbound Left+Through+Right	NBLTR	2	A	2	A
Southbound Left+Through+Right	SBLTR	0	A	0	A
G.R. 28 - 24 th Avenue & Site Drieway					
Westbound Left+Through+Right	WBLTR	10	B	12	B
Northbound Left+Through+Right	NBLTR	0	A	0	A
Southbound Left+Through+Right	SBLTR	0	A	1	A

The capacity analysis shows that all assessed intersections operate below capacity and with acceptable levels of service during both peak hours.

Table 5-4 – 2020 Total Traffic Conditions – Queue Lengths

Intersection	Available	AM Peak Hour		PM Peak Hour	
		50th Percentile Queue (m)	95th Percentile Queue (m)	50th Percentile Queue (m)	95th Percentile Queue (m)
Movement	Storage (m)				
G.R. 4 - 10 th Street & G.R. 28 - 24 th Avenue					
Eastbound Left EBL	95	13	30	30	47
Northbound Right NBR	42	0	0	0	0

The queue analysis indicates that all queues can be accommodated in the available storage length.

6

SITE ACCESS REVIEW

Site access for the site is proposed from Grey County Road No. 28 – 24th Avenue via a full-moves access onto the proposed driveway (Street A). This section reviews this access in accordance with TAC's Geometric Design Guide for Canadian Roads.

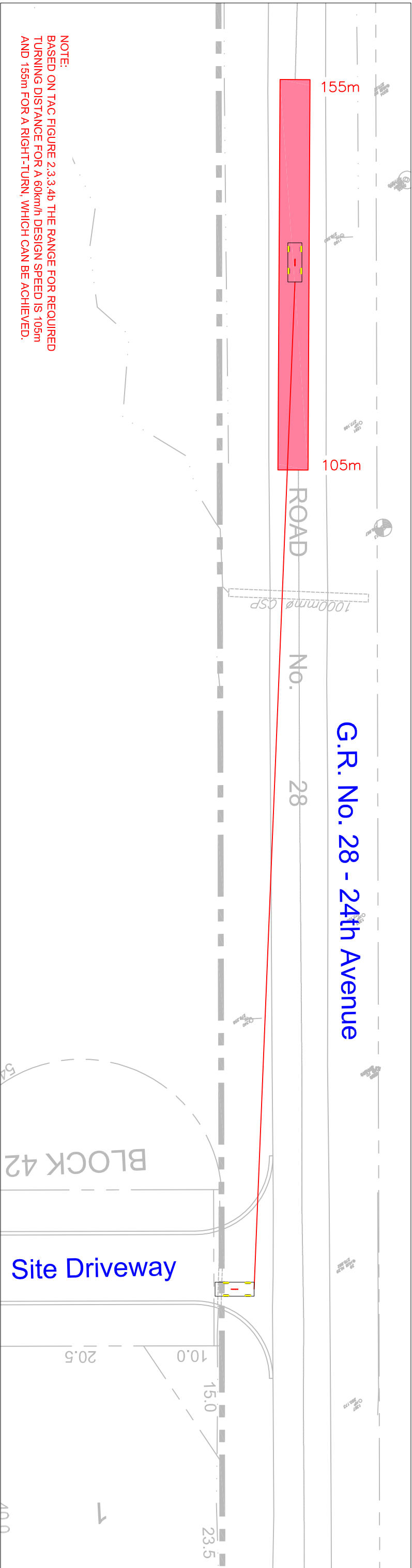
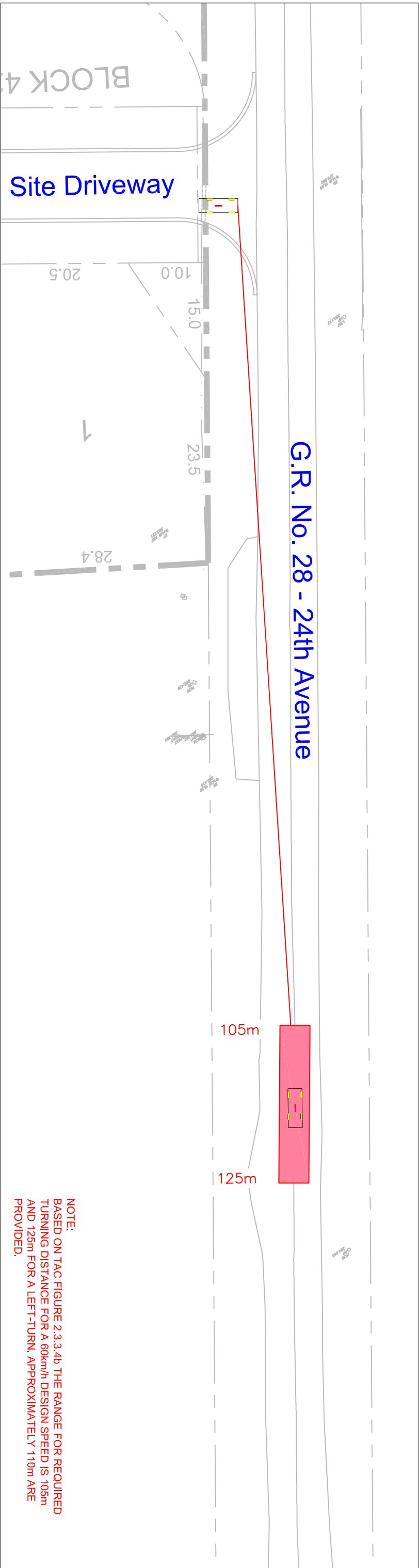
6.1 SIGHT DISTANCE

The sight distance review at the Grey County Road No. 28 access was based on TAC figure 2.3.3.4b using a design speed of 60 km/h (posted speed of 50 km/h). Please refer to Appendix D. A minimum sight distance for right turning movements onto Grey County Road No. 28 of 105m is required, which has been met. A minimum sight distance for left turning movements onto Grey County Road No. 28 of 125m is required. As available stopping distance is approximately 110m, it is recommended to install an intersection warning sign with a hidden intersection tab (Wa-18t) on the southbound section of Grey County Road No. 28. The sight distance review at the Grey County Road No. 28 access is provided in Figure 6-1.

6.2 SITE ACCESS DRIVEWAY DIMENSIONS

Based on the Town of Hanover Service Standards for road cross sections, a two-way road should have a width of 8.50m, with 4.25m lanes in each direction. Street A and Street B within the proposed development have a width of 8.50m, and 4.25m lanes in each direction, which meet the Town's standard.

The road typical section from the Town Service Standards is included in Appendix E. The site access dimension review is provided in Figure 6-2.

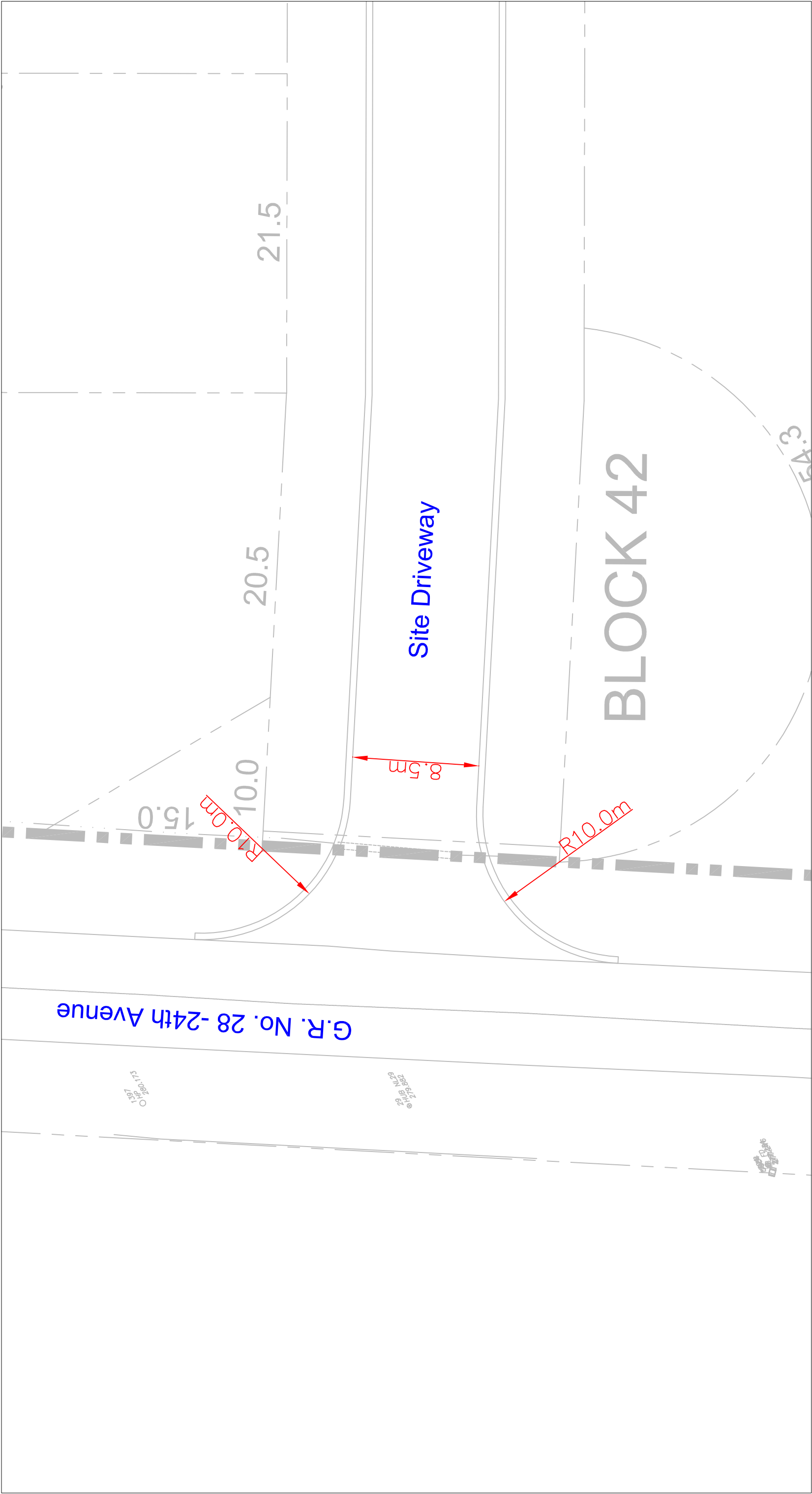


Source: 131-15031 DP1 Rev Jan 19-15dwg received from WSP (Hanover) on July 20, 2015.

Scale: 1:600

Figure 6-1
Turning Sight Distance Review at Site Driveway
Kraemer Subdivision - Traffic Study





Source: 131-15031 DP1 Rev Jan 19-15dwg received from WSP (Hanover) on July 20, 2015.

Scale: 1:1200

Figure 6-2
Site Access Dimension Review
Kraemer Subdivision - Traffic Study



7

SUMMARY AND CONCLUSIONS

The Traffic Assessment Study for the proposed residential development is summarized as follows:

1. The site is located along Grey County Road No. 28 - 24th Avenue with proposed driveway approximately 290 metres north of 14th Street, in the Town of Hanover.
2. The proposed development will consist of 38 single family detached dwelling units.
3. The adjacent roads in the vicinity of the site are: Grey County Road No. 28 - 24th Avenue and 14th Street.
4. The proposed development is expected to generate 37 trips (9 inbound trips and 28 outbound trips) during the weekday AM peak hour and 44 trips (28 inbound trips and 16 outbound trips) during the weekday PM peak hour.
5. Results of the intersection capacity analysis for the future total conditions indicate that all intersections will operate at acceptable Levels of Service in the weekday AM and PM peak hours.
6. Signal timings at the intersection of Grey County Road No. 28 – 24th Avenue and County Road No. 4 – 10th Street should be adjusted to optimize traffic operations and minimize vehicle delays.
7. No further road and intersection improvements will be required to mitigate the new traffic volumes generated by the proposed development.
8. According to our review the proposed intersection location can stay indefinitely at the proposed location (approximately 290m north of 14th Street intersection).
9. A minimum sight distance for right turning movements onto Grey County Road No. 28 of 105m is required, which has been met. A minimum sight distance for left turning movements onto Grey County Road No. 28 of 125m is required. As available stopping distance is approximately 110m, it is recommended to install an intersection warning sign with a hidden intersection tab (Wa-18t) on the southbound section of Grey County Road No. 28, ahead of the site access driveway (Street A).
10. Based on the Town of Hanover Service Standards for road cross sections, a two-way road should have a width of 8.50m, with 4.25m lanes in each direction. Street A and Street B within the proposed development have a width of 8.50m, and 4.25m lanes in each direction, which meet the Town's standard.
11. The traffic volumes generated by the proposed development can be accommodated in the study area roads and intersections.

Appendices

Appendix A – Intersection Survey Sketches with Lane Configurations

Appendix B – Intersection Turning Movement Count Sheets and Signal Timing Plans

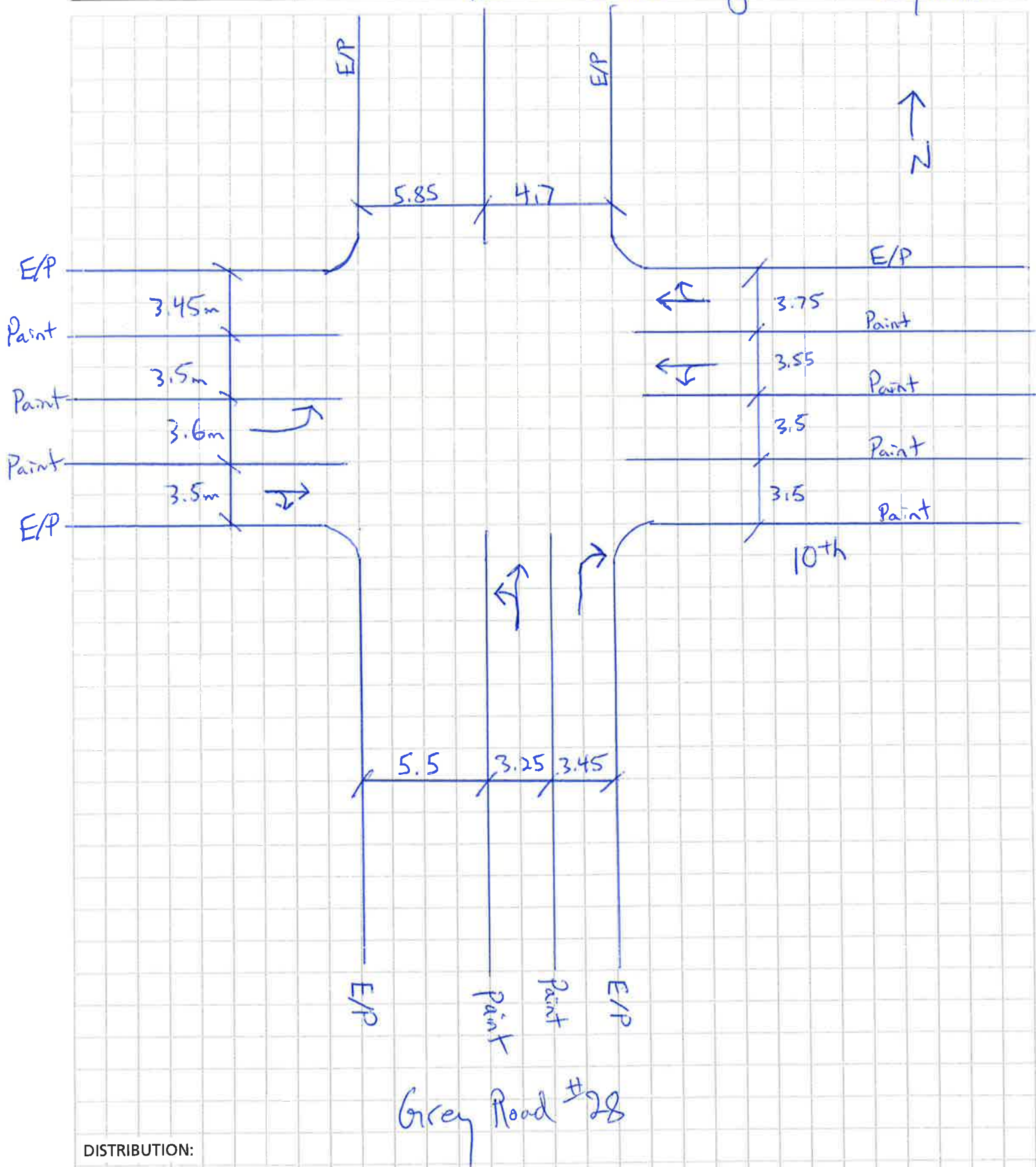
Appendix C – HCM Intersection Capacity Analysis and Queue Analysis Reports

**Appendix D – Sight Distance for Turning Movements with Vehicles approaching in the
Intended Direction of Travel - TAC figure 2.3.3.4b**

Appendix E – Town of Hanover Service Standards – Typical Section

Appendix A

**INTERSECTION SURVEY SKETCHES WITH LANE
CONFIGURATIONS**





GENIVAR

PROJECT:

Kraemer Subdivision

No.:

13175031-00

Sheet no. 2 of 3

Date

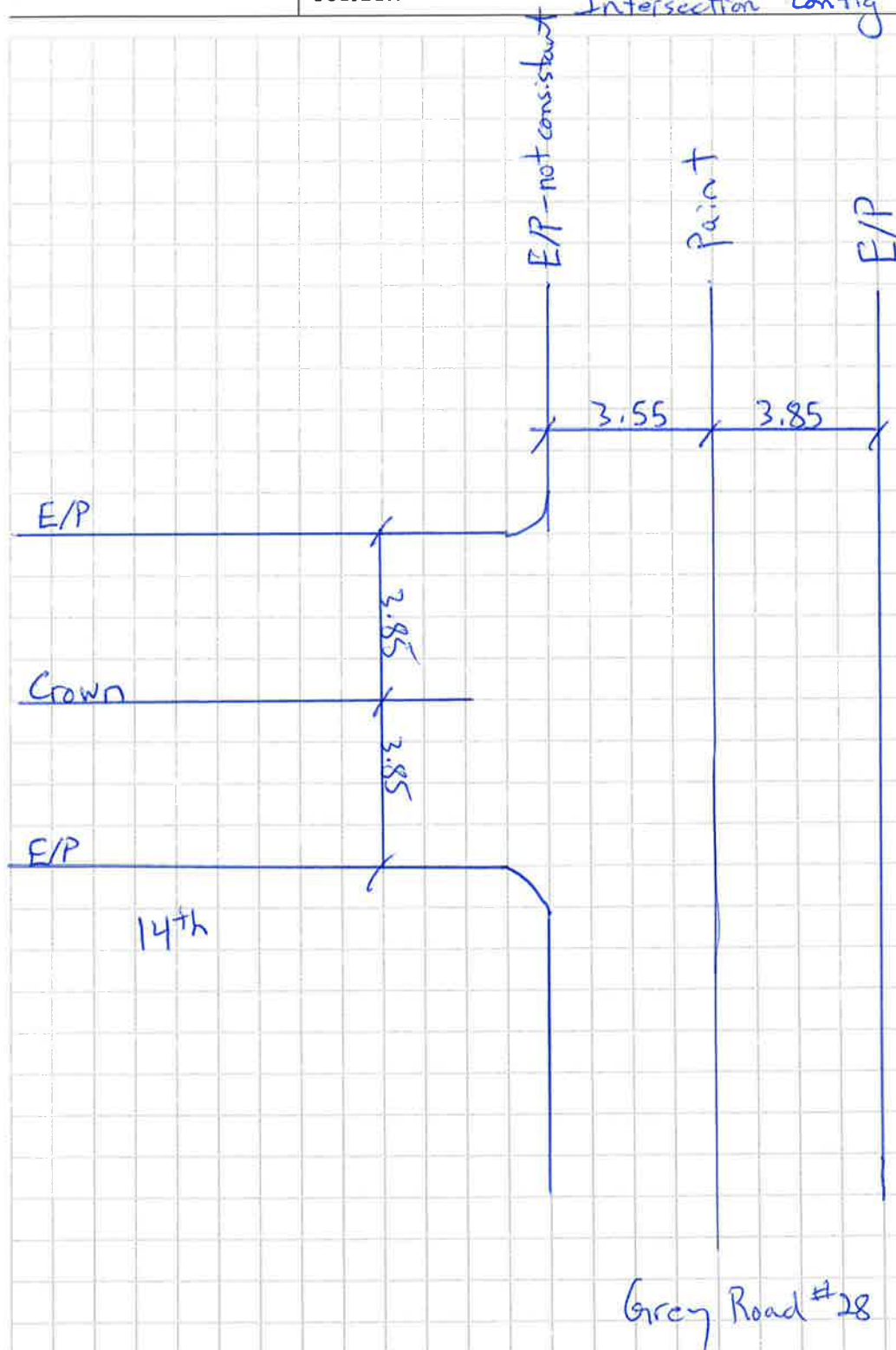
Aug 25/15

By

Jerry Haan

SUBJECT:

Intersection Config



DISTRIBUTION:



GENIVAR

PROJECT:

Kraemer Subdivision

No.:

131-15031-00

Sheet no. 3 of 3

Date

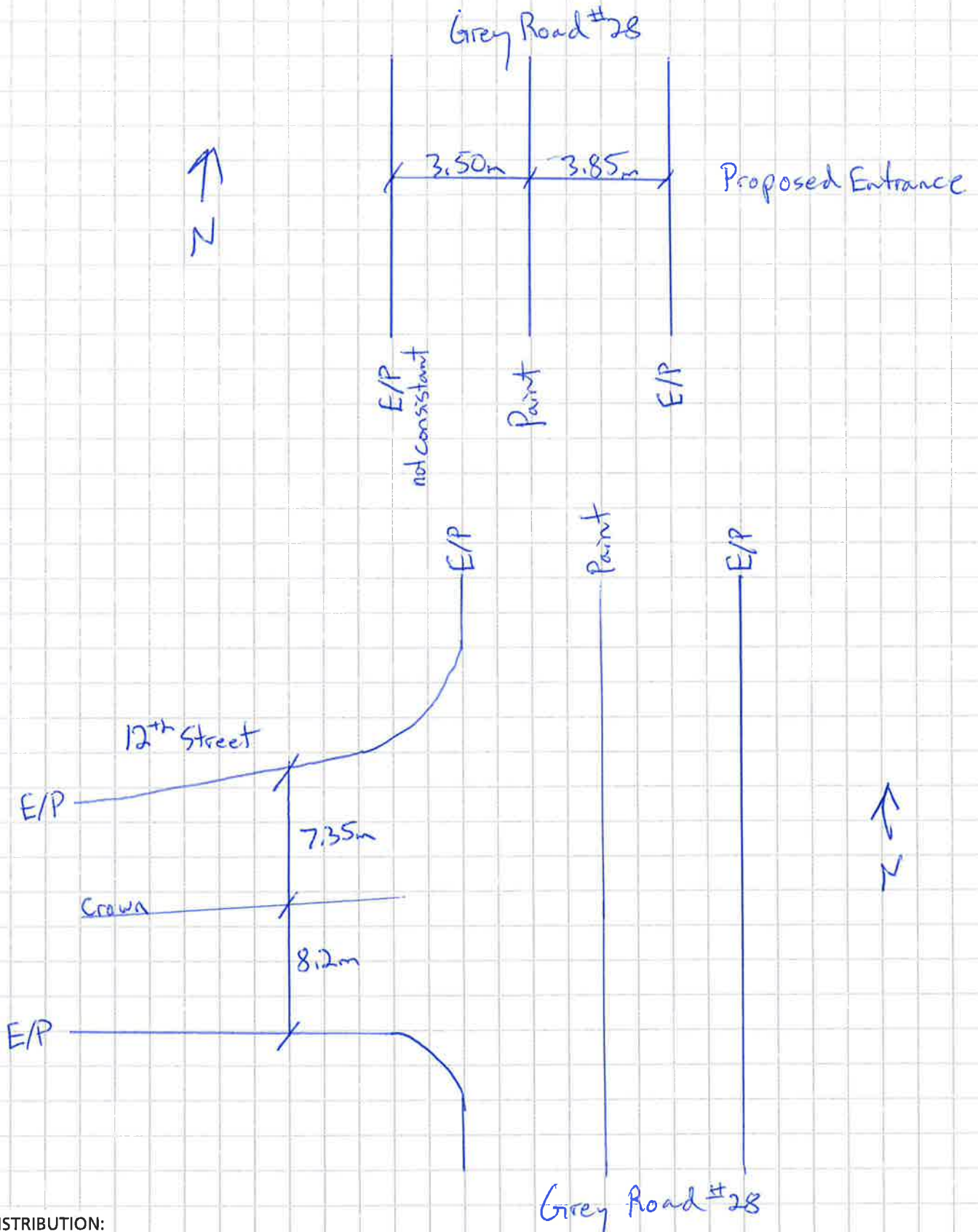
Aug 25/15

SUBJECT:

Intersection Config

By

Jeff Haan



DISTRIBUTION:

Appendix B

**INTERSECTION TURNING MOVEMENT COUNT SHEETS AND
SIGNAL TIMING PLANS**

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00

To: 9:00:00

One Hour Peak

From: 7:45:00

To: 8:45:00

Municipality: Hanover

Site #: 1508700001

Intersection: Gray Road No. 28 & 14th Street

TFR File #: 1

Count date: 14-Jul-15

Weather conditions:

Person counted:

Person prepared:

Person checked:

**** Non-Signalized Intersection ****

Major Road: Gray Road No. 28 runs N/S

North Leg Total: 247

North Entering: 141

North Peds: 0

Peds Cross: 

Heavys	5	1	0	6
Trucks	0	3	0	3
Cars	18	113	1	132
Totals	23	117	1	



Heavys 7

Trucks 5

Cars 94

Totals 106

East Leg Total: 24

East Entering: 11

East Peds: 1

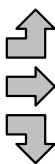
Peds Cross: 

Heavys	Trucks	Cars	Totals
5	0	58	63

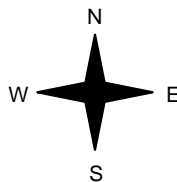


14th Street

Heavys	Trucks	Cars	Totals
4	0	14	18
0	0	6	6
0	2	27	29
4	2	47	

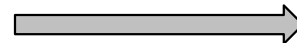


Gray Road No. 28




Cars	Trucks	Heavys	Totals
1	0	0	1
4	0	0	4
6	0	0	6
11	0	0	

Driveway



Cars	Trucks	Heavys	Totals
13	0	0	13

Peds Cross: 


West Peds: 0

West Entering: 53

West Leg Total: 116

Cars	146	Cars	36	79	6	121
Trucks	5	Trucks	0	5	0	5
Heavys	1	Heavys	0	3	0	3
Totals	152	Totals	36	87	6	



Peds Cross: 

South Peds: 0

South Entering: 129

South Leg Total: 281

Comments

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Hanover

Site #: 1508700001

Intersection: Gray Road No. 28 & 14th Street

TFR File #: 1

Count date: 14-Jul-15

Weather conditions:

Person counted:

Person prepared:

Person checked:

**** Non-Signalized Intersection ****

Major Road: Gray Road No. 28 runs N/S

North Leg Total: 353

North Entering: 144

North Peds: 0

Peds Cross: 

Heavys	1	3	0	4
Trucks	1	4	1	6
Cars	31	100	3	134
Totals	33	107	4	



Heavys 4

Trucks 7

Cars 198

Totals 209

East Leg Total: 26

East Entering: 13

East Peds: 0

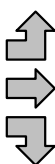
Peds Cross: 

Heavys	Trucks	Cars	Totals
2	2	77	81

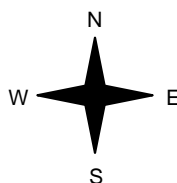


14th Street

Heavys	Trucks	Cars	Totals
2	2	27	31
0	0	2	2
0	1	67	68
2	3	96	

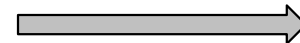


Gray Road No. 28



Cars	Trucks	Heavys	Totals
3	1	0	4
4	0	0	4
5	0	0	5
12	1	0	

Driveway



Cars	Trucks	Heavys	Totals
12	1	0	13

Peds Cross: 

West Peds: 0

West Entering: 101

West Leg Total: 182

Cars	172	Cars	42	168	7	217
Trucks	5	Trucks	1	4	0	5
Heavys	3	Heavys	1	2	0	3
Totals	180	Totals	44	174	7	



Peds Cross: 

South Peds: 0

South Entering: 225

South Leg Total: 405

Comments

Accu-Traffic Inc.

Total Count Diagram

Municipality: Hanover

Site #: 1508700001

Intersection: Gray Road No. 28 & 14th Street

TFR File #: 1

Count date: 14-Jul-15

Weather conditions:

Person counted:

Person prepared:

Person checked:


**** Non-Signalized Intersection ****

Major Road: Gray Road No. 28 runs N/S

North Leg Total: 1074

North Entering: 508

North Peds: 0

Peds Cross: 

	Heavys	Trucks	Cars	Totals
North	10	8	0	18
East	2	18	1	21
South	78	383	8	469
Totals	90	409	9	



Heavys 22

Trucks 18


Cars 526

Totals 566

East Leg Total: 67

East Entering: 31

East Peds: 1

Peds Cross: 

Heavys	Trucks	Cars	Totals
13	3	229	245

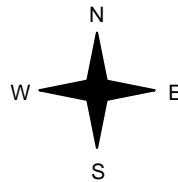


14th Street

Heavys	Trucks	Cars	Totals
10	3	73	86
0	0	11	11
0	6	168	174
10	9	252	



Gray Road No. 28




Cars	Trucks	Heavys	Totals
8	1	0	9
9	0	0	9
13	0	0	13
30	1	0	

Driveway



Cars	Trucks	Heavys	Totals
35	1	0	36

Peds Cross: 


West Peds: 0

West Entering: 271

West Leg Total: 516

Cars	Trucks	Heavys	Totals
564	24	8	596
142	1	3	146
445	14	12	471
16	0	0	16
603	15	15	



Peds Cross: 

South Peds: 1

South Entering: 633

South Leg Total: 1229

Comments

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Gray Road No. 28 & 14th Street					Count Date: 14-Jul-15			Municipality: Hanover				
North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	1	0	1	0	1	7:00:00	0	0	0	0	0
8:00:00	0	83	15	98	0	205	8:00:00	28	73	6	107	0
9:00:00	2	120	21	143	0	257	9:00:00	30	81	3	114	1
16:00:00	0	3	0	3	0	10	16:00:00	2	5	0	7	0
17:00:00	4	113	25	142	0	342	17:00:00	49	145	6	200	0
18:00:00	3	88	28	119	0	321	18:00:00	36	165	1	202	0

TABLE 2

TABULAR SUMMARY OF VEHICLE COUNTS

Observer: Dave Wilcox DATE: Dec. 22nd 2010 Day: Wednesday City: Hanover

Jim Stevenson

INTERSECTION OF Grey Road #4 AND Grey Road #28

R = Right turn
S = Straight
L = Left turn

CARS										TRUCKS										TOTALS										
TIME BEGINS	From NORTH			From SOUTH			CARS NORTH- SOUTH	From EAST			From WEST			CARS EAST- WEST	From NORTH			From SOUTH			From EAST			From WEST			TRUCKS EAST - WEST	TOTAL NORTH- SOUTH	TOTAL EAST- WEST	
	L	S	R	L	S	R		L	S	R	L	S	R		L	S	R	L	S	R	L	S	R	L	S	R				
7:00 AM	16	8	47	35	16	11	133	3	133	20	56	125	24	361	0	0	2	2	0	0	4	1	4	0	1	15	3	24	137	385
8:00 AM	51	22	90	52	27	20	262	1	197	34	80	126	41	479	0	0	1	0	2	2	5	2	6	5	2	5	2	22	267	501
9:00 AM	65	27	88	61	30	14	285	2	218	60	94	222	45	641	3	3	4	0	2	2	14	2	9	6	4	14	1	36	299	677
10:00 AM	97	30	149	64	65	25	430	14	280	73	123	321	74	885	4	3	1	1	2	1	12	1	9	8	0	11	2	31	442	916
11:00 AM	101	52	106	70	80	11	420	14	337	96	104	318	57	926	1	1	1	3	1	2	9	0	12	5	1	4	3	25	429	951
12:00 PM	134	57	114	82	63	11	461	9	376	89	123	355	82	1034	6	2	3	0	2	1	14	3	6	3	2	9	1	24	475	1058
13:00 PM	120	46	134	74	79	8	461	16	388	77	166	318	83	1048	0	1	4	2	3	1	11	0	11	9	2	16	0	38	472	1086
14:00 PM	147	49	130	86	70	9	491	18	353	78	153	399	83	1084	4	6	4	0	3	1	18	2	10	5	5	11	3	36	509	1120
15:00 PM	156	56	110	67	55	13	457	23	393	93	152	384	83	1128	2	6	0	5	1	1	15	1	8	3	2	7	2	23	472	1151
16:00 PM	140	76	121	95	55	9	496	17	357	73	173	382	96	1098	0	2	0	1	2	0	5	1	7	4	1	12	3	28	501	1126
17:00 PM	124	43	97	66	35	17	382	25	348	66	123	334	98	994	2	0	1	1	0	0	4	0	3	2	2	9	1	17	386	1011
18:00 PM	98	38	80	55	45	12	328	10	258	55	72	276	70	741	0	3	0	0	1	1	5	0	8	0	0	3	1	12	333	753
							4606							10419							116						316	4722	10735	

20. EPAC300 PROGRAM LOG

Prepared By: Joel Merswolke_

Date: Jan 30 2013

Approved By.....: _____

Date: ____ / ____ / ____

Intersection Name: Hanover Grey rd 28 @ Grey rd 4_

UTILITIES - ACCESS

Access Code: _____ Codes: Four Digits (0000 - 9999)

PHASE DATA - VEHICLE TIMINGS

Basic Times	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green.....		5	30	___	10	10	15	10	15	___	___	___	___	___	___	___	___
Passage Time		40	50	___	30	40	50	40	50	___	___	___	___	___	___	___	___
Maximum No 1		25	35	___	18	25	35	25	35	___	___	___	___	___	___	___	___
Maximum No 2		30	50	___	18	30	50	30	50	___	___	___	___	___	___	___	___
Yellow Change		3.0	5.0	___	4.0	4.0	4.0	4.0	4.0	___	___	___	___	___	___	___	___
Red Clearance		___	2.0	___	2.0	2.0	2.0	1.0	2.0	___	___	___	___	___	___	___	___
Density Times	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Maximum Initial		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Time B4 Reduction.....		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Cars B4 Reduction		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Time To Reduce.....		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Minimum Gap		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___

PHASE DATA - PEDESTRIAN TIMINGS & CONTROL

Pedestrian Times	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk		___	15	___	13	___	7	___	7	___	___	___	___	___	___	___	___
Pedestrian Clearance.....		___	5	___	5	___	8	___	8	___	___	___	___	___	___	___	___
Pedestrian Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Extended Pedestrian Clear		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Act Rest In Walk.....		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___

Pedestrian Control Entry: "1" = Yes & "0" = No

PHASE DATA - VEHICLE CONTROL

Veh Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory		1	1	1	1	___	___	___	___	___	___	___	___	___	___	___	___
Dual Entry		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Last Car Passage		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
Conditional Service		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___
No Simultaneous Gap		___	___	___	___	___	___	___	___	___	___	___	___	___	___	___	___

Vehicle Control Entry: "1" = Yes & "0" = No

PHASE DATA - GENERAL CONTROL

General Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization		1	3	1	1	0	0	0	0	—	—	—	—	—	—	—	—
Non-Act Response		—	1	—	2	—	1	—	2	—	—	—	—	—	—	—	—
Vehicle Recall		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pedestrian Recall		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Recall Delay		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Codes		0				1				2				3			
Initialization		NONE				INACTIVE				RED				YELLOW			
Non-Act Response		NONE				TO NA I				TO NA II				TO BOTH			
Vehicle Recall		NONE				1 CALL				MINIMUM				MAXIMUM			
Pedestrian Recall		NONE				1 CALL				PED				NA			
														SOFT			
														NA+			

PHASE DATA - SEQUENCE CONTROL

Sequence Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase - Yellow		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase Omit Call		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Codes		0				01 TO 16 (# - PHASE)											
Phase Omit		NONE				Phase Is Omitted By # - Phase On											
Phase - Yellow		NONE				Phase Yellow Is Omitted By # - Phase Yellow											
Phase Omit Call		NONE				When Omitted, Dets Call # Phase											

PHASE DATA - VEH DETECTOR CONTROL

<u>Control</u>	Detector:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Assigned Phase		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	—	—	—	—	—	—	—	—				
Operation Mode		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Switch.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Extend Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Delay Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
<u>Control</u>	Detector:	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32				
Assigned Phase		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Operation Mode		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Switch.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Extend Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
Delay Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—				
<u>Codes</u>		0				1				2				3				4			
Operation Mode		NORM VEH				NORM PED				ONE CALL				ST BAR A				ST BAR B			
Assigned Phase		NONE				Detector Is Assigned To # - Phase															
Switch.....		NONE				Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green															

PHASE DATA - VEH DETECTOR CONTROL

<u>Control</u>	Detector:	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Assigned Phase		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Operation Mode.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Switch.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extend Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Delay Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>Control</u>	Detector:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Assigned Phase		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Operation Mode.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Switch.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extend Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Delay Time		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>Codes</u>		0				1				2				3			4
Operation Mode.....		NORM VEH				NORM PED				ONE CALL				ST BAR A			ST BAR B
Assigned Phase		NONE				Detector Is Assigned To # - Phase											
Switch.....		NONE				Detector Is Switched To # - Phase When The Assigned											
						Phase Is Yellow / Red & # - Phase Is Green											

PHASE DATA - PED DETECTOR CONTROL

<u>Control</u>	Detector:	1	2	3	4	5	6	7	8
Assigned Phase	:	1	2	3	4	5	6	7	8
Operation Mode.....	:	1	1	1	1	1	1	1	1
Switch.....	:	—	—	—	—	—	—	—	—
Extend Time	:	—	—	—	—	—	—	—	—
Delay Time	:	—	—	—	—	—	—	—	—
<u>Codes</u>	:	0	1			2		3	4
Operation Mode.....	:	NORM VEH	NORM PED			ONE CALL	ST BAR A	ST BAR B	
Assigned Phase	:	NONE	Detector Is Assigned To # - Phase						
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned						
			Phase Is Yellow / Red & # - Phase Is Green						

PHASE DATA - SPC DETECTOR CONTROL

<u>Control</u>	Detector:	1	2	3	4	5	6	7	8	
Assigned Phase	:	—	—	—	—	—	—	—	—	
Operation Mode.....	:	—	—	—	—	—	—	—	—	
Switch.....	:	—	—	—	—	—	—	—	—	
Extend Time	:	—	—	—	—	—	—	—	—	
Delay Time	:	—	—	—	—	—	—	—	—	
<u>Codes</u>	:	0				1		2	3	4
Operation Mode.....	:	NORM VEH				NORM PED	ONE CALL	ST BAR A		ST BAR B
Assigned Phase	:	NONE				Detector Is Assigned To # - Phase				
Switch.....	:	NONE				Detector Is Switched To # - Phase When The Assigned				
						Phase Is Yellow / Red & # - Phase Is Green				

UNIT DATA - STARTUP & MISC

Startup Time..... : 5 Time In Seconds
 Startup State : 0-Flash 1-Red
 Red Revert..... : 40 Time In Tenth Second
 Auto Pedestrian Clear : 0-No 1-Yes
 Stop Time Reset : 0-No 1-Yes
 Alternate Sequence..... : 00-15 Alt Sequence ##

UNIT DATA - AUTOMATIC FLASH

TST A = Flash : 0 - NO / 1 - YES For TEST A Input For An Automatic Flash Input

Control	Channel:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
Alt Flash		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	

Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flash Entry Phase.....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Flash Exit Phase		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Codes		0	1	2	
Flash		NO	RED	YEL	All = 0 Then Voltage Monitor Flash
Alt Flash		NO	YES	--	Used To Provide Wig-Wag Flashing
Flash Entry Phase.....		NO	YES	--	Phase(s) To Precede Automatic Flash
Flash Exit Phase		NO	YES	--	Phase(s) To Follow Automatic Flash

UNIT DATA - OVERLAP

Control	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
OL A Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL B Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL C Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL D Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL E Phase(s).....		<u> 1 </u>	<u> 1 </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL F Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL G Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> 1 </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL H Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL I Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL J Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL K Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL L Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL M Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL N Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL O Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
OL P Phase(s).....		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Codes:		0 - NO				1 - YES				Phase Is Included In Overlap							

UNIT DATA - OVERLAP

Control	Channel:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
OL A Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL B Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL C Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL D Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL E Channel(s).....		1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL F Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL G Channel(s).....		—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL H Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL I Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL J Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL K Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL L Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL M Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL N Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL O Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OL P Channel(s).....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Codes: 0 – NO 1 - YES Overlap Outputs To Channel

Overlap Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned To Hardware Output Pins.

UNIT DATA – OVERLAP

Control	:	TRL GRN	TRL YEL	TRL RED	-GRN/YEL	+GRN
Overlap A		—	—	—	—	—
Overlap B		—	—	—	—	—
Overlap C		—	—	—	—	—
Overlap D		—	—	—	—	—
Overlap E		—	—	—	—	—
Overlap F		—	—	—	—	—
Overlap G		—	—	—	—	—
Overlap H		—	—	—	—	—
Overlap I		—	—	—	—	—
Overlap J		—	—	—	—	—
Overlap K		—	—	—	—	—
Overlap L		—	—	—	—	—
Overlap M		—	—	—	—	—
Overlap N		—	—	—	—	—
Overlap O		—	—	—	—	—
Overlap P		—	—	—	—	—

Codes

TRL GRN..... Time In Seconds

TRL YEL..... Time In Tenth Seconds

TRL RED..... Time In Tenth Seconds

-GRN / YEL

+GRN

UNIT DATA - RING STRUCTURE

Control	Channel:	RING	NXT	CONCUR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase 1		1	2		—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Phase 2		1	3		—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—
Phase 3		1	4		—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—
Phase 4		1	1		—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—
Phase 5		2	6		1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 6		2	7		1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 7		2	8		—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Phase 8		2	5		—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Phase 11		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 12		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 13		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 14		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 15		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Phase 16		—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Codes

RING Ring Number For Phase (1-4)
 PH NXT Phase Next In Ring (1-16)
 CONCUR PH Phase(s) To Run Concurrent (0-NO / 1-YES)

UNIT DATA - RING STRUCTURE

Control	Channel:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 01 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 01 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 02 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 02 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 03 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 03 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 04 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 04 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 05 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 05 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 06 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 06 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 07 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 07 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 08 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 08 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 09 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 09 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 10 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 10 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

UNIT DATA - RING STRUCTURE

Control	Channel:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 12 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 13 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 13 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 14 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 14 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 15 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 15 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 16 Veh Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 16 Ped Channel(s)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Codes: 0 – NO 1 - YES Phase Vehicle / Pedest Outputs To Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned To Hardware Output Pins.

UNIT DATA - ALTERNATE SEQUENCE

Control	REVERSE PHASES							
Alternate Sequence 00	NONE							
Alternate Sequence 01	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 02	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 03	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 04	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 05	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 06	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 07	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 08	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 09	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 10	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 11	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 12	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 13	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 14	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—
Alternate Sequence 15	—/—	—/—	—/—	—/—	—/—	—/—	—/—	—/—

Reverse Phases Must Be In The Same Ring And Next To Each Other

UNIT DATA - PORT 1

[illegible]

UNIT DATA - I/O MISC

Ring I/O	Ring:	1	2	3	4	
Input Response	:	___	___	___	___	Ring # (1-4)
Output Select	:	___	___	___	___	Ring # (1-4)
I/O Modes	:	INPUT	OUTPUT			
"ABC" Connector	:	___	___			
"D" Connector	:	___	___			

UNIT DATA - SIGNAL DRIVER OUTPUTS

SIGNAL DRIVER GROUP	CHN	HARDWARE OUTPUT PIN	SET	Reference SET ## Function
_____	01	_____	___	01 - Ph 1 Red/Yel/Grn
_____	02	_____	___	02 - Ph 2 Red/Yel/Grn
_____	03	_____	___	03 - Ph 3 Red/Yel/Grn
_____	04	_____	___	04 - Ph 4 Red/Yel/Grn
_____	05	_____	___	05 - Ph 5 Red/Yel/Grn
_____	06	_____	___	06 - Ph 6 Red/Yel/Grn
_____	07	_____	___	07 - Ph 7 Red/Yel/Grn
_____	08	_____	___	08 - Ph 8 Red/Yel/Grn
_____	09	_____	___	09 - Ph 1 DW/PC/WK
_____	10	_____	___	10 - Ph 2 DW/PC/WK
_____	11	_____	___	11 - Ph 3 DW/PC/WK
_____	12	_____	___	12 - Ph 4 DW/PC/WK
_____	13	_____	___	13 - Ph 5 DW/PC/WK
_____	14	_____	___	14 - Ph 6 DW/PC/WK
_____	15	_____	___	15 - Ph 7 DW/PC/WK
_____	16	_____	___	16 - Ph 8 DW/PC/WK
_____	17	_____	___	17 - OL A Red/Yel/Grn
_____	18	_____	___	18 - OL B Red/Yel/Grn
_____	19	_____	___	19 - OL C Red/Yel/Grn
_____	20	_____	___	20 - OL D Red/Yel/Grn
_____	21	_____	___	21 - Ph 1 On/Nxt/Chk
_____	22	_____	___	22 - Ph 2 On/Nxt/Chk
_____	23	_____	___	23 - Ph 3 On/Nxt/Chk
_____	24	_____	___	24 - Ph 4 On/Nxt/Chk
	X			25 - Ph 5 On/Nxt/Chk
	X			26 - Ph 6 On/Nxt/Chk
	X			27 - Ph 7 On/Nxt/Chk
	X			28 - Ph 8 On/Nxt/Chk

SIGNAL DRIVER GROUP column is automatic & indicates the assigned Channels in Ring Structure & Overlap database.

CHN column is a list of the available channels 01-24 in numerical order.

HARDWARE OUTPUT PIN column is automatic & indicates the assigned SET entered here.

SET column is for user entry of the hardware outputs to receive a channels outputs.

COORD DATA – MODE

Control		Codes:	0	1	2	3	4	5
Operation	_____		FRE	AUT	MAN	---	---	---
Mode	_____		PRM	YLD	PYL	POM	SOM	FAC
Maximum	_____		INH	MX1	MX2	---	---	---
Correction	_____		DW	MDW	SWY	SW+	---	---
Offset (?? Of Green)	_____		BEGIN	END OF GREEN				
Force	_____		PLAN	CYCLE TIME				
Max Dwell Time	_____		Time In Seconds					
Yield Period	_____		Time In Seconds					
Manual Pattern (Dial/Split/Offset)	___/___/___							

COORD DATA - TIMING PLANS

Control	Timing Plan:	D1/S1	D1/S2	D1/S3	D1/S4	D2/S1	D2/S2	D2/S3	D2/S4
Cycle Length		___	___	___	___	___	___	___	___
Phase 01 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1		___	___	___	___	___	___	___	___
Offset 1 Alt Sequence		___	___	___	___	___	___	___	___
Offset 1 Pattern Mode		___	___	___	___	___	___	___	___
Offset 1 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 1 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 1 Ring 4 Lag		___	___	___	___	___	___	___	___
Offset 2		___	___	___	___	___	___	___	___
Offset 2 Alt Sequence		___	___	___	___	___	___	___	___
Offset 2 Pattern Mode		___	___	___	___	___	___	___	___
Offset 2 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 2 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 2 Ring 4 Lag		___	___	___	___	___	___	___	___
Offset 3		___	___	___	___	___	___	___	___
Offset 3 Alt Sequence		___	___	___	___	___	___	___	___
Offset 3 Pattern Mode		___	___	___	___	___	___	___	___
Offset 3 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 3 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 3 Ring 4 Lag		___	___	___	___	___	___	___	___

COORD DATA - TIMING PLANS

Control	Timing Plan:	D3/S1	D3/S2	D3/S3	D3/S4	D4/S1	D4/S2	D4/S3	D4/S4
Cycle Length		___	___	___	___	___	___	___	___
Phase 01 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode		___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1 Time		___	___	___	___	___	___	___	___
Offset 1 Alt Sequence		___	___	___	___	___	___	___	___
Offset 1 Pattern Mode		___	___	___	___	___	___	___	___
Offset 1 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 1 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 1 Ring 4 Lag		___	___	___	___	___	___	___	___
Offset 2		___	___	___	___	___	___	___	___
Offset 2 Alt Sequence		___	___	___	___	___	___	___	___
Offset 2 Pattern Mode		___	___	___	___	___	___	___	___
Offset 2 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 2 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 2 Ring 4 Lag		___	___	___	___	___	___	___	___
Offset 3		___	___	___	___	___	___	___	___
Offset 3 Alt Sequence		___	___	___	___	___	___	___	___
Offset 3 Pattern Mode		___	___	___	___	___	___	___	___
Offset 3 Ring 2 Lag		___	___	___	___	___	___	___	___
Offset 3 Ring 3 Lag		___	___	___	___	___	___	___	___
Offset 3 Ring 4 Lag		___	___	___	___	___	___	___	___

Codes	
Phase Mode	0-Actuated 1-Coord Phase 2-Min Rec 3-Max Rec 4-Ped Rec 5-Max+Ped Recall 6-Phase Omitted 7-Dual Coord Phase
Pattern Mode	00-15 (Unit Data Has Definition)
Alternate Sequence	0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act
R# LAG	Time In Seconds Of The Ring Offset To Lcl Cycle 0 When Not Barrier Locked To Ring 1

DST: BEGIN:	MONTH	<u>02</u>	WEEK	<u>03</u>	DST: Daylight Savings Time
DST: END:	MONTH	<u>11</u>	WEEK	<u>01</u>	Month = 01 to 12 (Begin < End)
					Week = 1 to 5 (5 = Last Week)
COORD CYCLE ZERO		<u> </u> : <u> </u>			CYCLE ZERO: Time (HH:MM) Sets Reference For Coord Sync
					00:00 = Event Time / Other = That HH:MM

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. Result Will Be A Day Without Events To Run.

[illegible][illegible]

[illegible]

REFERENCE DATA:
 PDAY - 01-99 Program Day
 HH:MM - 24 Hour Clock
 A.123 - Auxiliary Output
 D.123 - Detector
 1 - Det Diag Vaule
 2 - Enables Report
 3 - Rep Multiplier
 DIM - Dimming Enable
 S.1>8 - Special Function Output
 ALL - 0-OFF / 1-ON

[illegible]

Reference Data:
Special Day - Any Program Day 00-99
Special Week -
 Week 0 = Program Day 01-07
 Week 1 = Program Day 11-17
 Week 2 = Program Day 21-27
 | | |
 Week 9 = Program Day 91-97

TIME BASE DATA - DIMMING

DIM OUTPUTS	Channel:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Channel Red		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Channel Yellow		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Channel Green		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dim Alternate		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

CODES: 0-NO DIMMING / 1-DIMMING

TIME BASE DATA - PHASE FUNCTION MAPPING

FUNCTION NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHS 01 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 02 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 03 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 04 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 05 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 06 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 07 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 08 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 09 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 10 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 11 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 12 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 13 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 14 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 15 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 16 MAX # 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 01 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 02 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 03 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 04 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 05 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 06 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 07 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 08 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 09 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 10 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 11 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 12 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 13 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 14 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 15 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 16 PHS OMIT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																

TIME BASE DATA - PHASE FUNCTION MAPPING

FUNCTION NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHS 03 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 04 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 05 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 06 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 07 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 08 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 09 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 10 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 11 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 12 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 13 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 14 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 15 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 16 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 01 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 02 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 03 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 04 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 05 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 06 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 07 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 08 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																
PHS 09 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 10 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 11 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 12 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 13 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 14 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 15 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PHS 16 PED RECALL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CODES: 0-OFF / 1-ON																

TIME BASE DATA - SPECIAL FUNCTION MAPPING

FUNCTION NAME	1	2	3	4	5	6	7	8	CODES:
Special Function 1	—	—	—	—	—	—	—	—	0-OFF
Special Function 2	—	—	—	—	—	—	—	—	1-ON
Special Function 3	—	—	—	—	—	—	—	—	
Special Function 4	—	—	—	—	—	—	—	—	
Special Function 5	—	—	—	—	—	—	—	—	
Special Function 6	—	—	—	—	—	—	—	—	
Special Function 7	—	—	—	—	—	—	—	—	
Special Function 8	—	—	—	—	—	—	—	—	
PAS3+MAX3=VEH 33-48 TIME:	—	—	—	—	—	—	—	—	
PAS4+MAX4=VEH 49-64 TIME:	—	—	—	—	—	—	—	—	
PAS5+MAX5=SPC+PED TIME:	—	—	—	—	—	—	—	—	
DYNA MAX3=VEH 33-48 TIME:	—	—	—	—	—	—	—	—	
DYNA MAX4=VEH 49-64 TIME:	—	—	—	—	—	—	—	—	
DYNA MAX5=SPC+PED TIME:	—	—	—	—	—	—	—	—	
DISABLE PROT/PERM OMIT:	—	—	—	—	—	—	—	—	
PHASE 2 SIGN CONTROL	—	—	—	—	—	—	—	—	
PHASE 4 SIGN CONTROL	—	—	—	—	—	—	—	—	

TIME BASE DATA - SPECIAL FUNCTION MAPPING

FUNCTION NAME	1	2	3	4	5	6	7	8	CODES:
PHASE 6 SIGN CONTROL.....:	___	___	___	___	___	___	___	___	
PHASE 8 SIGN CONTROL.....:	___	___	___	___	___	___	___	___	
TX DIAMOND - 4 PHASE	___	___	___	___	___	___	___	___	
TX DIAMOND - 3 PHASE	___	___	___	___	___	___	___	___	
TX DIAMOND -SEPARATE	___	___	___	___	___	___	___	___	
QUE1/LVL1 CONTROLS	___	___	___	___	___	___	___	___	
QUE1/LVL2 CONTROLS	___	___	___	___	___	___	___	___	
QUE2/LVL1 CONTROLS	___	___	___	___	___	___	___	___	
QUE2/LVL2 CONTROLS	___	___	___	___	___	___	___	___	
AS8-15=OLI-P FL G PHS	___	___	___	___	___	___	___	___	
AS8-15=OLI-P FL R PHS.....:	___	___	___	___	___	___	___	___	

PREEMPTION DATA – MISCELLANEOUS

Ring:	1	2	3	4	
Minimum Green / Walk Time	___10	___10	___10	___10	Time In Seconds

PRIORITIES

Preemption > Automatic Flash :	___1
Preempt 1 > Preempt 2	___1
Preempt 2 > Preempt 3	___1
Preempt 3 > Preempt 4	___1
Preempt 4 > Preempt 5	___1
Preempt 5 > Preempt 6	___1

PRIORITY: 0-NO (Equal Priority)

1-1st Has Priority

When A Function Has Priority Over Another,
The Function Of Lower Priority Will Terminate
And The Higher Priority Will Assume Control.

PREEMPT DATA - PREEMPT 1**CONTROL**

Non-Lock: 1 0-NO / 1-YES

Link PE #: 0-6 Preempt #

Delay: 0-999 Seconds

Extend: 0-999 Seconds

Duration: 0-999 Seconds

Max Call: 0-999 Seconds

Lock Out: 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: 0-999 Seconds

Selective Yel Chg: 0-99.9 Seconds

Selective Red Clear: 0-99.9 Seconds

Track Green: 0-999 Seconds

Track Ped Clear: 0-999 Seconds

Track Yel Chg: 0-99.9 Seconds

Track Red Clear: 0-99.9 Seconds

Dwell Green: 10 0-999 Seconds

Return Ped Clear: 0 0-999 Seconds

Return Yel Chg: 40 0-99.9 Seconds

Return Red Clear: 20 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)					1												
Exit Call(s)		1		1													
Codes		0		1													
Non-Lock		NO		YES													
Exit Phase(s)		NO		YES													
Exit Call(s)		NO		YES													

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 1 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status																	
Dwell Status		1															
Cycle																	
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status																	
Dwell Status																	
Cycle																	
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status																	
Dwell Status																	
Cycle																	
Codes		0		1		2		3		4							
Vehicle		RED		GRN		FL R		FL Y		DARK							
Pedest		DT WK		WALK		FL WK		DARK		----							
Cycle Vehicle		NO		ACT'D		MIN REC		MAX REC		----							
Cycle Pedest		NO		ACT'D		REC		----		----							
Cycle Overlap		NO		ACT'D		----		----		----							

PREEMPT 1 - LOW PRIORITY ROUTINE

Non-Lock: 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: 0-999 Seconds Dwell Phases

Extend: 0-999 Seconds - Set Max Call = 0 To Disable

Duration: 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: 0-999 Seconds

Lock Out: 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)																	
Exit Call(s)																	

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

PREEMPT DATA - PREEMPT 2**CONTROL**

Non-Lock: 1 0-NO / 1-YES

Link PE #: 0-6 Preempt #

Delay: 0-999 Seconds

Extend: 0-999 Seconds

Duration: 0-999 Seconds

Max Call: 0-999 Seconds

Lock Out: 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: 0-999 Seconds

Selective Yel Chg: 0-99.9 Seconds

Selective Red Clear: 0-99.9 Seconds

Track Green: 0-999 Seconds

Track Ped Clear: 0-999 Seconds

Track Yel Chg: 0-99.9 Seconds

Track Red Clear: 0-99.9 Seconds

Dwell Green: 10 0-999 Seconds

Return Ped Clear: 0-999 Seconds

Return Yel Chg: 40 0-99.9 Seconds

Return Red Clear: 20 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)		<u> 1 </u>															
Exit Call(s)		<u> 1 </u>			<u> 1 </u>												
Codes		<u> 0 </u>			<u> 1 </u>												
Non-Lock			NO		YES												
Exit Phase(s)			NO		YES												
Exit Call(s)			NO		YES												

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 2 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status					<u> 1 </u>												
Dwell Status																	
Cycle																	
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status																	
Dwell Status																	
Cycle																	
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status																	
Dwell Status											<u> 1 </u>						
Cycle																	
Codes		<u> 0 </u>			<u> 1 </u>		<u> 2 </u>			<u> 3 </u>		<u> 4 </u>					
Vehicle		RED			GRN		FL R			FL Y		DARK					
Pedest		DT WK			WALK		FL WK			DARK		----					
Cycle Vehicle		NO			ACT'D		MIN REC			MAX REC		----					
Cycle Pedest		NO			ACT'D		REC			----		----					
Cycle Overlap		NO			ACT'D		----			----		----					

PREEMPT 2 - LOW PRIORITY ROUTINE

Non-Lock: 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: 0-999 Seconds Dwell Phases

Extend: 0-999 Seconds - Set Max Call = 0 To Disable

Duration: 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: 0-999 Seconds

Lock Out: 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)																	
Exit Call(s)																	

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

PREEMPT DATA - PREEMPT 3**CONTROL**

Non-Lock: _____ 0-NO / 1-YES

Link PE #: _____ 0-6 Preempt #

Delay: _____ 0-999 Seconds

Extend: _____ 0-999 Seconds

Duration: _____ 0-999 Seconds

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: _____ 0-999 Seconds

Selective Yel Chg: _____ 0-99.9 Seconds

Selective Red Clear: _____ 0-99.9 Seconds

Track Green: _____ 0-999 Seconds

Track Ped Clear: _____ 0-999 Seconds

Track Yel Chg: _____ 0-99.9 Seconds

Track Red Clear: _____ 0-99.9 Seconds

Dwell Green: _____ 0-999 Seconds

Return Ped Clear: _____ 0-999 Seconds

Return Yel Chg: _____ 0-99.9 Seconds

Return Red Clear: _____ 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0			1												
Non-Lock		NO			YES												
Exit Phase(s)		NO			YES												
Exit Call(s)		NO			YES												

Preempt Memory To Be Non-Locking

Phase(s) To Be Serviced First Following Preempt

Phase(s) To Receive Calls On Preempt Exit

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 3 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0			1				2		3		4				
Vehicle		RED			GRN				FL R		FL Y		DARK				
Pedest		DT WK			WALK				FL WK		DARK		----				
Cycle Vehicle		NO			ACT'D				MIN REC		MAX REC		----				
Cycle Pedest		NO			ACT'D				REC		----		----				
Cycle Overlap		NO			ACT'D				----		----		----				

PREEMPT 3 - LOW PRIORITY ROUTINE

Non-Lock: _____ 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: _____ 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: _____ 0-999 Seconds Dwell Phases

Extend: _____ 0-999 Seconds - Set Max Call = 0 To Disable

Duration: _____ 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: _____ 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

PREEMPT DATA - PREEMPT 4**CONTROL**

Non-Lock: _____ 0-NO / 1-YES

Link PE #: _____ 0-6 Preempt #

Delay: _____ 0-999 Seconds

Extend: _____ 0-999 Seconds

Duration: _____ 0-999 Seconds

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: _____ 0-999 Seconds

Selective Yel Chg: _____ 0-99.9 Seconds

Selective Red Clear: _____ 0-99.9 Seconds

Track Green: _____ 0-999 Seconds

Track Ped Clear: _____ 0-999 Seconds

Track Yel Chg: _____ 0-99.9 Seconds

Track Red Clear: _____ 0-99.9 Seconds

Dwell Green: _____ 0-999 Seconds

Return Ped Clear: _____ 0-999 Seconds

Return Yel Chg: _____ 0-99.9 Seconds

Return Red Clear: _____ 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0		1													
Non-Lock		NO		YES													
Exit Phase(s)		NO		YES													
Exit Call(s)		NO		YES													

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 4 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0		1		2		3		4							
Vehicle		RED		GRN		FL R		FL Y		DARK							
Pedest		DT WK		WALK		FL WK		DARK		----							
Cycle Vehicle		NO		ACT'D		MIN REC		MAX REC		----							
Cycle Pedest		NO		ACT'D		REC		----		----							
Cycle Overlap		NO		ACT'D		----		----		----							

PREEMPT 4 - LOW PRIORITY ROUTINE

Non-Lock: _____ 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: _____ 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: _____ 0-999 Seconds Dwell Phases

Extend: _____ 0-999 Seconds - Set Max Call = 0 To Disable

Duration: _____ 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: _____ 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

PREEMPT DATA - PREEMPT 5**CONTROL**

Non-Lock: _____ 0-NO / 1-YES

Link PE #: _____ 0-6 Preempt #

Delay: _____ 0-999 Seconds

Extend: _____ 0-999 Seconds

Duration: _____ 0-999 Seconds

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: _____ 0-999 Seconds

Selective Yel Chg: _____ 0-99.9 Seconds

Selective Red Clear: _____ 0-99.9 Seconds

Track Green: _____ 0-999 Seconds

Track Ped Clear: _____ 0-999 Seconds

Track Yel Chg: _____ 0-99.9 Seconds

Track Red Clear: _____ 0-99.9 Seconds

Dwell Green: _____ 0-999 Seconds

Return Ped Clear: _____ 0-999 Seconds

Return Yel Chg: _____ 0-99.9 Seconds

Return Red Clear: _____ 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0			1												
Non-Lock		NO			YES												
Exit Phase(s)		NO			YES												
Exit Call(s)		NO			YES												

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 5 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0			1		2			3		4					
Vehicle		RED			GRN		FL R			FL Y		DARK					
Pedest		DT WK			WALK		FL WK			DARK		----					
Cycle Vehicle		NO			ACT'D		MIN REC			MAX REC		----					
Cycle Pedest		NO			ACT'D		REC			----		----					
Cycle Overlap		NO			ACT'D		----			----		----					

PREEMPT 5 - LOW PRIORITY ROUTINE

Non-Lock: _____ 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: _____ 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: _____ 0-999 Seconds Dwell Phases

Extend: _____ 0-999 Seconds - Set Max Call = 0 To Disable

Duration: _____ 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: _____ 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

PREEMPT DATA - PREEMPT 6**CONTROL**

Non-Lock: _____ 0-NO / 1-YES

Link PE #: _____ 0-6 Preempt #

Delay: _____ 0-999 Seconds

Extend: _____ 0-999 Seconds

Duration: _____ 0-999 Seconds

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

INTERVAL TIMES

Selective Ped Clear: _____ 0-999 Seconds

Selective Yel Chg: _____ 0-99.9 Seconds

Selective Red Clear: _____ 0-99.9 Seconds

Track Green: _____ 0-999 Seconds

Track Ped Clear: _____ 0-999 Seconds

Track Yel Chg: _____ 0-99.9 Seconds

Track Red Clear: _____ 0-99.9 Seconds

Dwell Green: _____ 0-999 Seconds

Return Ped Clear: _____ 0-999 Seconds

Return Yel Chg: _____ 0-99.9 Seconds

Return Red Clear: _____ 0-99.9 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Exit Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0		1													
Non-Lock		NO		YES													
Exit Phase(s)		NO		YES													
Exit Call(s)		NO		YES													

Notes:

If Track Green Time = 0, Then All Track Intervals Are Omitted.

Set Max Call = 0 To Disable

Lock Out Duration Will Be Dependent On Calls If = 0

PREEMPT 6 - OUTPUT STATUS

Phase Vehicle	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Phase Pedest	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Overlap Vehicle	Overlap:	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Dwell Status	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Cycle	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Codes		0		1		2		3		4							
Vehicle		RED		GRN		FL R		FL Y		DARK							
Pedest		DT WK		WALK		FL WK		DARK		----							
Cycle Vehicle		NO		ACT'D		MIN REC		MAX REC		----							
Cycle Pedest		NO		ACT'D		REC		----		----							
Cycle Overlap		NO		ACT'D		----		----		----							

PREEMPT 6 - LOW PRIORITY ROUTINE

Non-Lock: _____ 0-NO / 1-YES - When No Dwell Phases Are Set, This Routine Is Disabled.

Skip: _____ 0-NO / 1-YES - Skip (Yes) Will Allow Phases To Be Skipped To Service The

Delay: _____ 0-999 Seconds Dwell Phases

Extend: _____ 0-999 Seconds - Set Max Call = 0 To Disable

Duration: _____ 0-999 Seconds - Lock Out Duration Will Be Dependent On Calls If = 0

Dwell: _____ 0-999 Seconds - Calls (Yes) Will Place A Ped Call On Exit From Routine

Max Call: _____ 0-999 Seconds

Lock Out: _____ 0-999 Seconds

	Phase:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Dwell Phase(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
Exit Call(s)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

Dwell Phase(s) & Exit Call(s) Control Entry: "1" = Yes & "0" = No

SYSTEM DATA - GENERAL

Local Address : _____ Three Digits (000 - 032)
 Revert To Backup : _____ Time In Minutes (000- 255)
 1) An Address Other Than "000" Transfers Local "D" Connector I/O To It's System Definition
 2) On Loss Of Communications, The Local Will Revert To It's Time Base Events After The Revert To Backup Time

SYSTEM DATA - SYSTEM DETECTORS

ASSIGN	System Detector	1	2	3	4	5	6	7	8	
Assigned Detector		_____	_____	_____	_____	_____	_____	_____	_____	
To Assign : VEH 01-64 Enter 01-64 / SPC 01-08 Enter 65-72 / PED 01-08 Enter 73-80										
V+O	System Detector	1	2	3	4	5	6	7	8	V+O PARAMETERS:
VPHR X 100		_____	_____	_____	_____	_____	_____	_____	_____	VPHR - Lane Capacity
AVGT (Minutes)		_____	_____	_____	_____	_____	_____	_____	_____	AVGT - Averaging Time
CTFC / 10		_____	_____	_____	_____	_____	_____	_____	_____	CTFC - Correct Factor
MVOL		_____	_____	_____	_____	_____	_____	_____	_____	MVOL - Min Vol b4 Occ Add

Report Interval..... : _____ Time In Minutes (00- 99) / Time Base Aux D2 Starts A Report

SYSTEM DATA - QUEUE ROUTINES

QUEUE 1 ASSIGN Detector: 1 2 3 4 System Detector.....: _____ WTFC Factor.....: _____ Input Select.....: _____ Failed Level.....: _____					QUEUE 2 ASSIGN Detector: 1 2 3 4 System Detector.....: _____ WTFC Factor.....: _____ Input Select.....: _____ Failed Level.....: _____					Det # 1 To 8 Factor 1 To 100 0-AVG / 1-HIGH # To Fail Channel
SELECT Level: A B Enter (UP).....: _____ Leave (DN).....: _____					SELECT Level: A B Enter (UP).....: _____ Leave (DN).....: _____					
PATTERN D / S / O D / S / O Called.....: _/_/_ _/_/_					PATTERN D / S / O D / S / O Pattern Called.....: _/_/_ _/_/_					

Queue Pattern or Partial Pattern Selection Is Made When The V+O Of Assigned System Detectors Exceeds The Level To Enter.

SYSTEM DATA - VEH DETECTOR DIAGNOSTICS

<u>VALUE 0</u>	Detector:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 1</u>	Detector:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 0</u>	Detector:	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 1</u>	Detector:	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 0</u>	Detector:	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 1</u>	Detector:	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 0</u>	Detector:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<u>VALUE 1</u>	Detector:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
Max Presence		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erratic Counts.....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Time Base Auxiliary "D1" Enables Value 1 diagnostic Parameters

SYSTEM DATA - PED DETECTOR DIAGNOSTICS

<u>VALUE 0</u>	Detector:	1	2	3	4	5	6	7	8
Max Presence		—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—
Erratic Counts		—	—	—	—	—	—	—	—
<u>VALUE 1</u>	Detector:	1	2	3	4	5	6	7	8
Max Presence		—	—	—	—	—	—	—	—
No Activity		—	—	—	—	—	—	—	—
Erratic Counts		—	—	—	—	—	—	—	—

Time Base Auxiliary "D1" Enables Value 1 diagnostic Parameters

SYSTEM DATA - SPC DETECTOR DIAGNOSTICS

VALUE 0 Detector: 1 2 3 4 5 6 7 8
 Max Presence: — — — — — — — —
 No Activity: — — — — — — — —
 Erratic Counts: — — — — — — — —

VALUE 1 Detector: 1 2 3 4 5 6 7 8
 Max Presence: — — — — — — — —
 No Activity: — — — — — — — —
 Erratic Counts: — — — — — — — —

Time Base Auxiliary "D1" Enables Value 1 diagnostic Parameters

SYSTEM DATA - SPEED

Measurement: — 0-Miles Per Hour / 1-Kilometers Per Hour

SPEED TRAP 1		SPEED TRAP 2	
Detector:	1 2	Detector:	1 2
Assigned Detector.....:	— —	Assigned Detector.....:	— —
Distance.....:	—	Distance.....:	—

1) Each Speed Trap Needs Two Detectors Assigned, Any Vehicle, Special, or Pedestrian Detector May Be Assigned.

To Assign : VEH 01-64 Enter 01-64 / SPC 01-08 Enter 65-72 / PED 01-08 Enter 73-80

2) The Distance Between Det 1 and Det 2 May Be Either 11 Feet or 22 Feet. Enter '1' For 11 Ft or '2' for 22 Ft.

RANGES / PATTERN

PATTERN		OFFSET 1		OFFSET 2		OFFSET 3	
Dial	Split	Low	High	Low	High	Low	High
1	1	—	—	—	—	—	—
1	2	—	—	—	—	—	—
1	3	—	—	—	—	—	—
1	4	—	—	—	—	—	—
2	1	—	—	—	—	—	—
2	2	—	—	—	—	—	—
2	3	—	—	—	—	—	—
2	4	—	—	—	—	—	—
3	1	—	—	—	—	—	—
3	2	—	—	—	—	—	—
3	3	—	—	—	—	—	—
3	4	—	—	—	—	—	—
4	1	—	—	—	—	—	—
4	2	—	—	—	—	—	—
4	3	—	—	—	—	—	—
4	4	—	—	—	—	—	—

RANGES:

Enter The Low & High Speed
 In MPH or KPH For Each Pattern
 To Enable A Report Of % Lower,
 Within, & Above It

Appendix C





















**HCM INTERSECTION CAPACITY ANALYSIS AND QUEUE
ANALYSIS REPORTS**

HCM Signalized Intersection Capacity Analysis

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

<Existing> - AM Peak Hour

10/2/2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	330	62	14	358	104	83	92	15	115	60	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.98			0.97			1.00	0.85		0.94	
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.98	
Satd. Flow (prot)	1787	1805			3411			1752	1373		1972	
Flt Permitted	0.33	1.00			0.94			0.68	1.00		0.76	
Satd. Flow (perm)	620	1805			3200			1213	1373		1534	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	117	359	67	15	389	113	90	100	16	125	65	132
RTOR Reduction (vph)	0	3	0	0	23	0	0	0	11	0	26	0
Lane Group Flow (vph)	117	423	0	0	494	0	0	190	5	0	296	0
Heavy Vehicles (%)	1%	1%	5%	0%	3%	5%	4%	1%	15%	1%	2%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	45.6	45.6			29.5			26.2	26.2		26.2	
Effective Green, g (s)	45.6	45.6			29.5			26.2	26.2		26.2	
Actuated g/C Ratio	0.54	0.54			0.35			0.31	0.31		0.31	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	486	970			1113			374	424		473	
v/s Ratio Prot	0.03	c0.23										
v/s Ratio Perm	0.10				0.15			0.16	0.00		c0.19	
v/c Ratio	0.24	0.44			0.44			0.51	0.01		0.63	
Uniform Delay, d1	10.4	11.8			21.3			24.0	20.3		25.1	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.3	1.4			0.3			1.1	0.0		2.6	
Delay (s)	10.6	13.3			21.6			25.1	20.3		27.7	
Level of Service	B	B			C			C	C		C	
Approach Delay (s)		12.7			21.6			24.7			27.7	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			20.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			84.8			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			78.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: G.R. 28 - 24th Avenue & 14th Street

<Existing> - AM Peak Hour

10/2/2015





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	18	6	29	6	4	1	36	87	6	1	117	23
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	7	32	7	4	1	39	95	7	1	127	25
Pedestrians					1							
Lane Width (m)					3.7							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	321	322	140	354	331	99	152			102		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	321	322	140	354	331	99	152			102		
tC, single (s)	7.3	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	97	99	96	99	99	100	97			100		
cM capacity (veh/h)	578	581	895	566	574	962	1441			1501		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	58	12	140	153								
Volume Left	20	7	39	1								
Volume Right	32	1	7	25								
cSH	717	591	1441	1501								
Volume to Capacity	0.08	0.02	0.03	0.00								
Queue Length 95th (m)	2.0	0.5	0.6	0.0								
Control Delay (s)	10.5	11.2	2.3	0.1								
Lane LOS	B	B	A	A								
Approach Delay (s)	10.5	11.2	2.3	0.1								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.9									
Intersection Capacity Utilization			28.1%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

















<Existing> - PM Peak Hour

10/2/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	162	420	88	21	372	85	97	83	11	171	62	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.97			0.97			1.00	0.85		0.95	
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1752	1777			3414			1756	1436		1912	
Flt Permitted	0.29	1.00			0.91			0.63	1.00		0.74	
Satd. Flow (perm)	531	1777			3118			1141	1436		1440	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	176	457	96	23	404	92	105	90	12	186	67	165
RTOR Reduction (vph)	0	4	0	0	18	0	0	0	7	0	22	0
Lane Group Flow (vph)	176	549	0	0	501	0	0	195	5	0	396	0
Heavy Vehicles (%)	3%	3%	3%	10%	3%	6%	0%	4%	10%	3%	11%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	48.8	48.8			29.8			40.7	40.7		40.7	
Effective Green, g (s)	48.8	48.8			29.8			40.7	40.7		40.7	
Actuated g/C Ratio	0.48	0.48			0.29			0.40	0.40		0.40	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	419	846			906			453	570		571	
v/s Ratio Prot	0.06	c0.31										
v/s Ratio Perm	0.14				0.16			0.17	0.00		c0.28	
v/c Ratio	0.42	0.65			0.55			0.43	0.01		0.69	
Uniform Delay, d1	16.7	20.4			30.7			22.5	18.7		25.7	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.7	3.8			0.7			0.7	0.0		3.7	
Delay (s)	17.4	24.2			31.5			23.1	18.7		29.4	
Level of Service	B	C			C			C	B		C	
Approach Delay (s)		22.5			31.5			22.9			29.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			102.5			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			85.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 2: G.R. 28 - 24th Avenue & 14th Street

<Existing> - PM Peak Hour
10/2/2015




















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	31	2	68	5	4	4	44	174	7	4	107	33
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	2	74	5	4	4	48	189	8	4	116	36
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	438	435	134	507	449	193	152			197		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	438	435	134	507	449	193	152			197		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.4		
p0 queue free %	93	100	92	99	99	99	97			100		
cM capacity (veh/h)	490	498	917	427	489	793	1410			1250		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	110	14	245	157								
Volume Left	34	5	48	4								
Volume Right	74	4	8	36								
cSH	714	521	1410	1250								
Volume to Capacity	0.15	0.03	0.03	0.00								
Queue Length 95th (m)	4.1	0.6	0.8	0.1								
Control Delay (s)	11.0	12.1	1.7	0.2								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.0	12.1	1.7	0.2								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utilization			37.1%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

<Background 2020> - AM Peak Hour

10/2/2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	115	338	63	15	367	106	93	108	17	146	76	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.98			0.97			1.00	0.85		0.95	
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.98	
Satd. Flow (prot)	1787	1805			3412			1753	1373		1972	
Flt Permitted	0.33	1.00			0.94			0.65	1.00		0.71	
Satd. Flow (perm)	621	1805			3195			1160	1373		1431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	367	68	16	399	115	101	117	18	159	83	166
RTOR Reduction (vph)	0	4	0	0	20	0	0	0	12	0	24	0
Lane Group Flow (vph)	125	431	0	0	510	0	0	218	6	0	384	0
Heavy Vehicles (%)	1%	1%	5%	0%	3%	5%	4%	1%	15%	1%	2%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	53.6	53.6			38.5			37.1	37.1		37.1	
Effective Green, g (s)	53.6	53.6			38.5			37.1	37.1		37.1	
Actuated g/C Ratio	0.52	0.52			0.37			0.36	0.36		0.36	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	434	932			1186			415	491		511	
v/s Ratio Prot	0.03	c0.24										
v/s Ratio Perm	0.12				0.16			0.19	0.00		c0.27	
v/c Ratio	0.29	0.46			0.43			0.53	0.01		0.75	
Uniform Delay, d1	13.8	15.9			24.4			26.3	21.5		29.3	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.4	1.6			0.3			1.2	0.0		6.2	
Delay (s)	14.2	17.5			24.6			27.5	21.5		35.4	
Level of Service	B	B			C			C	C		D	
Approach Delay (s)		16.8			24.6			27.1			35.4	
Approach LOS		B			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			25.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			103.7			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			82.9%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: G.R. 28 - 24th Avenue & 14th Street

<Background 2020> - AM Peak Hour





















10/2/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	7	33	7	5	1	41	111	7	1	173	26
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	8	36	8	5	1	45	121	8	1	188	28
Pedestrians					1							
Lane Width (m)					3.7							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	422	423	202	459	433	125	216			129		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	422	423	202	459	433	125	216			129		
tC, single (s)	7.3	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	96	98	99	100	97			100		
cM capacity (veh/h)	491	508	826	475	501	930	1365			1468		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	65	14	173	217								
Volume Left	22	8	45	1								
Volume Right	36	1	8	28								
cSH	635	504	1365	1468								
Volume to Capacity	0.10	0.03	0.03	0.00								
Queue Length 95th (m)	2.6	0.7	0.8	0.0								
Control Delay (s)	11.3	12.3	2.2	0.0								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.3	12.3	2.2	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.8									
Intersection Capacity Utilization			33.2%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

<Background 2020> - PM Peak Hour

10/2/2015

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	184	431	90	21	382	97	110	103	13	205	75	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.97			0.97			1.00	0.85		0.95	
Flt Protected	0.95	1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1752	1777			3405			1756	1436		1912	
Flt Permitted	0.30	1.00			0.91			0.61	1.00		0.69	
Satd. Flow (perm)	546	1777			3112			1093	1436		1354	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	200	468	98	23	415	105	120	112	14	223	82	198
RTOR Reduction (vph)	0	5	0	0	17	0	0	0	8	0	20	0
Lane Group Flow (vph)	200	561	0	0	526	0	0	232	6	0	483	0
Heavy Vehicles (%)	3%	3%	3%	10%	3%	6%	0%	4%	10%	3%	11%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	53.2	53.2			38.2			50.2	50.2		50.2	
Effective Green, g (s)	53.2	53.2			38.2			50.2	50.2		50.2	
Actuated g/C Ratio	0.46	0.46			0.33			0.43	0.43		0.43	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	353	812			1021			471	619		583	
v/s Ratio Prot	0.05	c0.32										
v/s Ratio Perm	0.21				0.17			0.21	0.00		c0.36	
v/c Ratio	0.57	0.69			0.51			0.49	0.01		0.83	
Uniform Delay, d1	20.6	25.1			31.6			23.9	18.9		29.3	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.1	4.8			0.4			0.8	0.0		9.5	
Delay (s)	22.7	29.8			32.0			24.7	18.9		38.8	
Level of Service	C	C			C			C	B		D	
Approach Delay (s)		28.0			32.0			24.4			38.8	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			31.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			116.4			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			91.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

2: G.R. 28 - 24th Avenue & 14th Street

<Background 2020> - PM Peak Hour

10/2/2015





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	2	77	6	5	5	50	234	8	5	148	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	2	84	7	5	5	54	254	9	5	161	40
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	567	564	181	644	579	259	201			263		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	567	564	181	644	579	259	201			263		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.4		
p0 queue free %	90	99	90	98	99	99	96			100		
cM capacity (veh/h)	397	418	864	338	410	727	1353			1179		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	124	17	317	207								
Volume Left	38	7	54	5								
Volume Right	84	5	9	40								
cSH	626	434	1353	1179								
Volume to Capacity	0.20	0.04	0.04	0.00								
Queue Length 95th (m)	5.6	0.9	1.0	0.1								
Control Delay (s)	12.2	13.6	1.6	0.3								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.2	13.6	1.6	0.3								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.5									
Intersection Capacity Utilization			44.1%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

















<Total 2020> - AM Peak Hour

10/2/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	117	338	63	15	367	108	93	109	17	153	80	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.98			0.97			1.00	0.85		0.94	
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.98	
Satd. Flow (prot)	1787	1805			3410			1753	1373		1972	
Flt Permitted	0.32	1.00			0.93			0.64	1.00		0.72	
Satd. Flow (perm)	608	1805			3193			1155	1373		1441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	367	68	16	399	117	101	118	18	166	87	175
RTOR Reduction (vph)	0	4	0	0	20	0	0	0	11	0	24	0
Lane Group Flow (vph)	127	431	0	0	512	0	0	219	7	0	404	0
Heavy Vehicles (%)	1%	1%	5%	0%	3%	5%	4%	1%	15%	1%	2%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	52.6	52.6			37.5			38.6	38.6		38.6	
Effective Green, g (s)	52.6	52.6			37.5			38.6	38.6		38.6	
Actuated g/C Ratio	0.50	0.50			0.36			0.37	0.37		0.37	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	421	911			1149			427	508		533	
v/s Ratio Prot	0.03	c0.24										
v/s Ratio Perm	0.12				0.16			0.19	0.00		c0.28	
v/c Ratio	0.30	0.47			0.45			0.51	0.01		0.76	
Uniform Delay, d1	14.6	16.8			25.4			25.5	20.8		28.7	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.4	1.8			0.3			1.0	0.0		6.1	
Delay (s)	15.0	18.5			25.7			26.5	20.8		34.8	
Level of Service	B	B			C			C	C		C	
Approach Delay (s)		17.7			25.7			26.1			34.8	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			104.2			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			84.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 2: G.R. 28 - 24th Avenue & 14th Street

<Total 2020> - AM Peak Hour
10/2/2015










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	20	7	33	7	5	1	41	117	7	1	190	26
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	8	36	8	5	1	45	127	8	1	207	28
Pedestrians					1							
Lane Width (m)					3.7							
Walking Speed (m/s)					1.2							
Percent Blockage					0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	447	448	221	484	458	132	235			136		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	447	448	221	484	458	132	235			136		
tC, single (s)	7.3	6.5	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	98	96	98	99	100	97			100		
cM capacity (veh/h)	472	491	807	456	485	922	1344			1460		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	65	14	179	236								
Volume Left	22	8	45	1								
Volume Right	36	1	8	28								
cSH	615	486	1344	1460								
Volume to Capacity	0.11	0.03	0.03	0.00								
Queue Length 95th (m)	2.7	0.7	0.8	0.0								
Control Delay (s)	11.5	12.6	2.1	0.0								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.5	12.6	2.1	0.0								
Approach LOS	B	B										
Intersection Summary												
Average Delay			2.7									
Intersection Capacity Utilization			34.4%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: G.R. 28 - 24th Avenue & Site Driveway

<Total 2020> - AM Peak Hour

10/2/2015





















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	17	11	133	5	4	200
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	18	12	145	5	4	217
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	373	147			150	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373	147			150	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	99			100	
cM capacity (veh/h)	626	900			1431	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	30	150	222			
Volume Left	18	0	4			
Volume Right	12	5	0			
cSH	711	1700	1431			
Volume to Capacity	0.04	0.09	0.00			
Queue Length 95th (m)	1.0	0.0	0.1			
Control Delay (s)	10.3	0.0	0.2			
Lane LOS	B		A			
Approach Delay (s)	10.3	0.0	0.2			
Approach LOS	B					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		23.7%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Signalized Intersection Capacity Analysis

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

















<Total 2020> - PM Peak Hour

10/2/2015

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	192	431	90	21	382	101	110	107	13	210	77	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.6	3.5	3.7	3.5	3.7	3.7	3.7	3.3	3.4	3.7	4.8	3.7
Total Lost time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Lane Util. Factor	1.00	1.00			0.95			1.00	1.00		1.00	
Frt	1.00	0.97			0.97			1.00	0.85		0.95	
Flt Protected	0.95	1.00			1.00			0.98	1.00		0.98	
Satd. Flow (prot)	1752	1777			3400			1757	1436		1912	
Flt Permitted	0.28	1.00			0.91			0.61	1.00		0.69	
Satd. Flow (perm)	516	1777			3107			1095	1436		1349	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	209	468	98	23	415	110	120	116	14	228	84	202
RTOR Reduction (vph)	0	5	0	0	19	0	0	0	8	0	20	0
Lane Group Flow (vph)	209	561	0	0	529	0	0	236	6	0	494	0
Heavy Vehicles (%)	3%	3%	3%	10%	3%	6%	0%	4%	10%	3%	11%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	52.7	52.7			36.1			51.1	51.1		51.1	
Effective Green, g (s)	52.7	52.7			36.1			51.1	51.1		51.1	
Actuated g/C Ratio	0.45	0.45			0.31			0.44	0.44		0.44	
Clearance Time (s)	6.0	7.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	355	801			960			479	628		590	
v/s Ratio Prot	0.06	c0.32										
v/s Ratio Perm	0.21				0.17			0.22	0.00		c0.37	
v/c Ratio	0.59	0.70			0.55			0.49	0.01		0.84	
Uniform Delay, d1	21.3	25.7			33.6			23.6	18.6		29.2	
Progression Factor	1.00	1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2	2.5	5.0			0.7			0.8	0.0		10.1	
Delay (s)	23.8	30.8			34.3			24.4	18.6		39.3	
Level of Service	C	C			C			C	B		D	
Approach Delay (s)		28.9			34.3			24.0			39.3	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			116.8			Sum of lost time (s)			23.0			
Intersection Capacity Utilization			92.1%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 2: G.R. 28 - 24th Avenue & 14th Street

<Total 2020> - PM Peak Hour
10/2/2015










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	2	77	6	5	5	50	250	8	5	159	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	2	84	7	5	5	54	272	9	5	173	40
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	597	593	193	673	609	276	213			280		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	597	593	193	673	609	276	213			280		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.5	4.1			4.3		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.5	2.2			2.4		
p0 queue free %	90	99	90	98	99	99	96			100		
cM capacity (veh/h)	379	402	851	322	394	711	1340			1161		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	124	17	335	218								
Volume Left	38	7	54	5								
Volume Right	84	5	9	40								
cSH	607	417	1340	1161								
Volume to Capacity	0.20	0.04	0.04	0.00								
Queue Length 95th (m)	5.8	1.0	1.0	0.1								
Control Delay (s)	12.5	14.0	1.6	0.2								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.5	14.0	1.6	0.2								
Approach LOS	B	B										
Intersection Summary												
Average Delay			3.4									
Intersection Capacity Utilization			45.6%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

3: G.R. 28 - 24th Avenue & Site Driveway

<Total 2020> - PM Peak Hour

10/2/2015

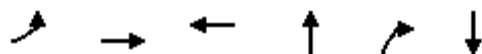
									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Volume (veh/h)	11	5	274	16	12	190			
Sign Control	Stop		Free			Free			
Grade	0%		0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Hourly flow rate (vph)	12	5	298	17	13	207			
Pedestrians									
Lane Width (m)									
Walking 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	539	307			315				
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	539	307			315				
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			99				
cM capacity (veh/h)	498	733			1245				
Direction, Lane #	WB 1	NB 1	SB 1						
Volume Total	17	315	220						
Volume Left	12	0	13						
Volume Right	5	17	0						
cSH	554	1700	1245						
Volume to Capacity	0.03	0.19	0.01						
Queue Length 95th (m)	0.7	0.0	0.2						
Control Delay (s)	11.7	0.0	0.6						
Lane LOS	B		A						
Approach Delay (s)	11.7	0.0	0.6						
Approach LOS	B								
Intersection Summary									
Average Delay		0.6							
Intersection Capacity Utilization		29.8%	ICU Level of Service	A					
Analysis Period (min)		15							

Queues

<Existing> - AM Peak Hour

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

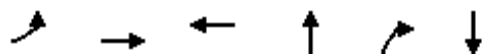
10/2/2015



Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	117	426	517	190	16	322
v/c Ratio	0.24	0.44	0.46	0.51	0.03	0.65
Control Delay	12.8	15.3	23.5	28.6	0.1	28.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	15.3	23.5	28.6	0.1	28.1
Queue Length 50th (m)	8.3	37.6	30.1	24.3	0.0	38.1
Queue Length 95th (m)	22.5	82.7	59.5	45.0	0.0	66.9
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	604	971	1131	455	584	1003
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.44	0.46	0.42	0.03	0.32
Intersection Summary						

Queues
1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

<Existing> - PM Peak Hour
10/2/2015



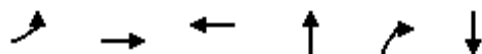
Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	176	553	519	195	12	418
v/c Ratio	0.42	0.65	0.57	0.43	0.02	0.71
Control Delay	20.8	27.0	35.2	25.5	0.1	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	27.0	35.2	25.5	0.1	30.4
Queue Length 50th (m)	20.2	83.2	45.1	27.3	0.0	61.8
Queue Length 95th (m)	39.7	143.3	74.6	49.0	0.0	102.0
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	488	847	916	467	652	790
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.65	0.57	0.42	0.02	0.53
Intersection Summary						

Queues

<Background 2020> - AM Peak Hour

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

10/2/2015



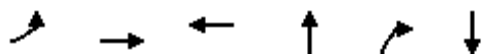
Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	125	435	530	218	18	408
v/c Ratio	0.28	0.46	0.44	0.53	0.03	0.76
Control Delay	17.1	20.0	26.3	30.4	0.1	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	20.0	26.3	30.4	0.1	35.9
Queue Length 50th (m)	12.3	52.5	39.1	34.0	0.0	65.1
Queue Length 95th (m)	29.0	103.0	66.9	55.1	0.0	98.7
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	440	936	1201	482	667	770
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.46	0.44	0.45	0.03	0.53

Intersection Summary

Queues
1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

<Background 2020> - PM Peak Hour

10/2/2015



Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	200	566	543	232	14	503
v/c Ratio	0.56	0.69	0.52	0.49	0.02	0.83
Control Delay	26.7	31.1	33.1	27.9	0.1	40.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	31.1	33.1	27.9	0.1	40.5
Queue Length 50th (m)	28.6	104.9	52.6	37.3	0.0	93.6
Queue Length 95th (m)	44.8	147.2	70.1	60.5	0.0	#145.1
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	358	817	1036	473	715	649
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.69	0.52	0.49	0.02	0.78

Intersection Summary

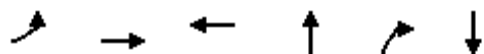
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

<Total 2020> - AM Peak Hour

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

10/2/2015



Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	127	435	532	219	18	428
v/c Ratio	0.30	0.48	0.46	0.51	0.03	0.77
Control Delay	18.0	21.0	27.5	29.2	0.1	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	21.0	27.5	29.2	0.1	35.4
Queue Length 50th (m)	13.0	54.3	40.3	33.7	0.0	68.5
Queue Length 95th (m)	30.0	104.7	68.2	54.4	0.0	103.3
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	426	914	1165	493	680	786
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.48	0.46	0.44	0.03	0.54

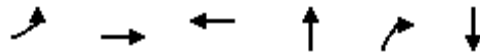
Intersection Summary

Queues

<Total 2020> - PM Peak Hour

1: G.R. 4 - 10th Street & G.R. 28 - 24th Avenue

10/2/2015



Lane Group	EBL	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	209	566	548	236	14	514
v/c Ratio	0.58	0.70	0.56	0.49	0.02	0.84
Control Delay	27.3	31.7	35.3	27.7	0.1	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	31.7	35.3	27.7	0.1	41.4
Queue Length 50th (m)	30.1	104.9	54.5	38.1	0.0	97.3
Queue Length 95th (m)	46.8	147.2	72.6	61.7	0.0	#158.4
Internal Link Dist (m)		162.5	170.0	100.8		476.6
Turn Bay Length (m)					45.0	
Base Capacity (vph)	365	807	979	478	720	644
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.70	0.56	0.49	0.02	0.80

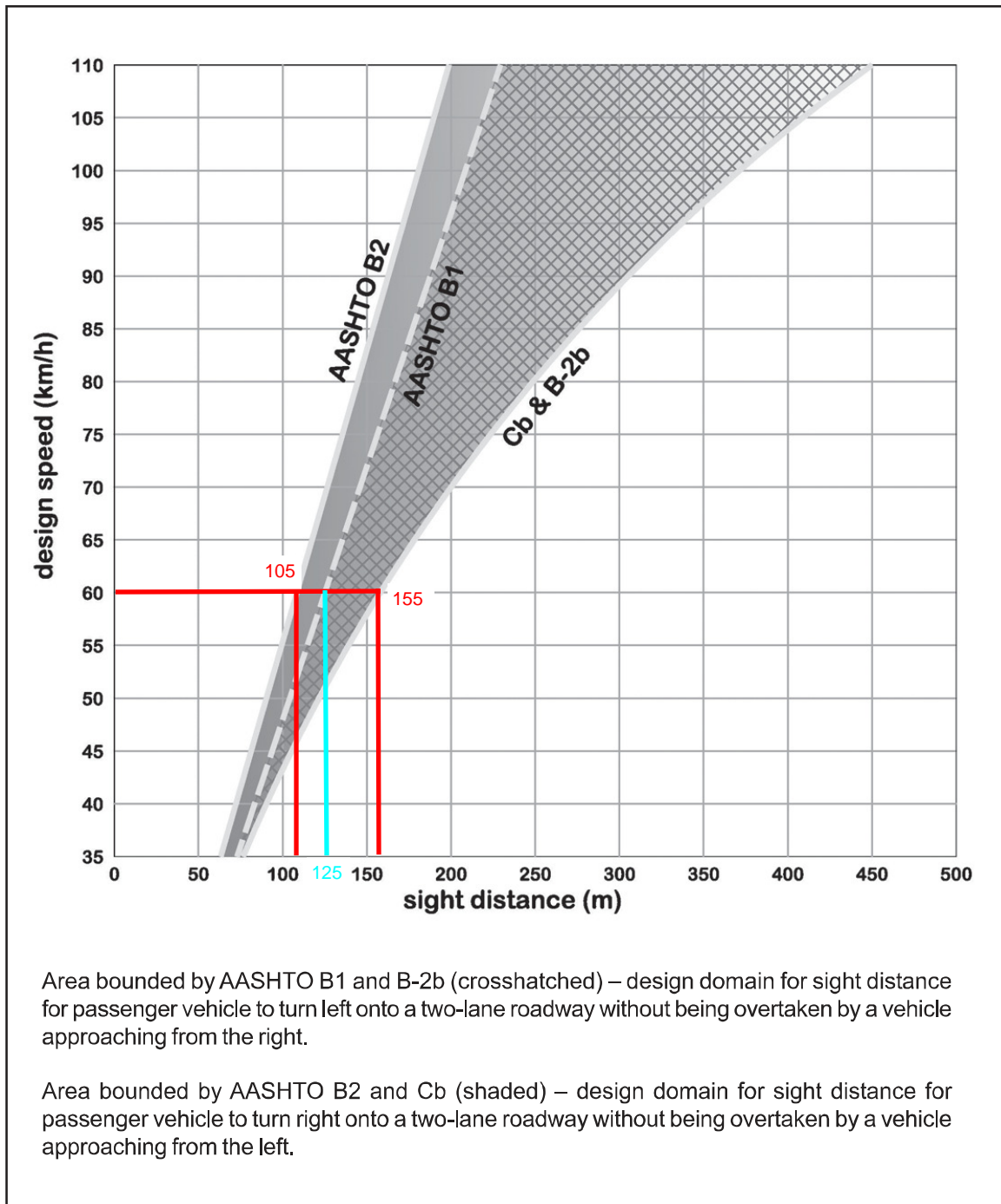
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Appendix D

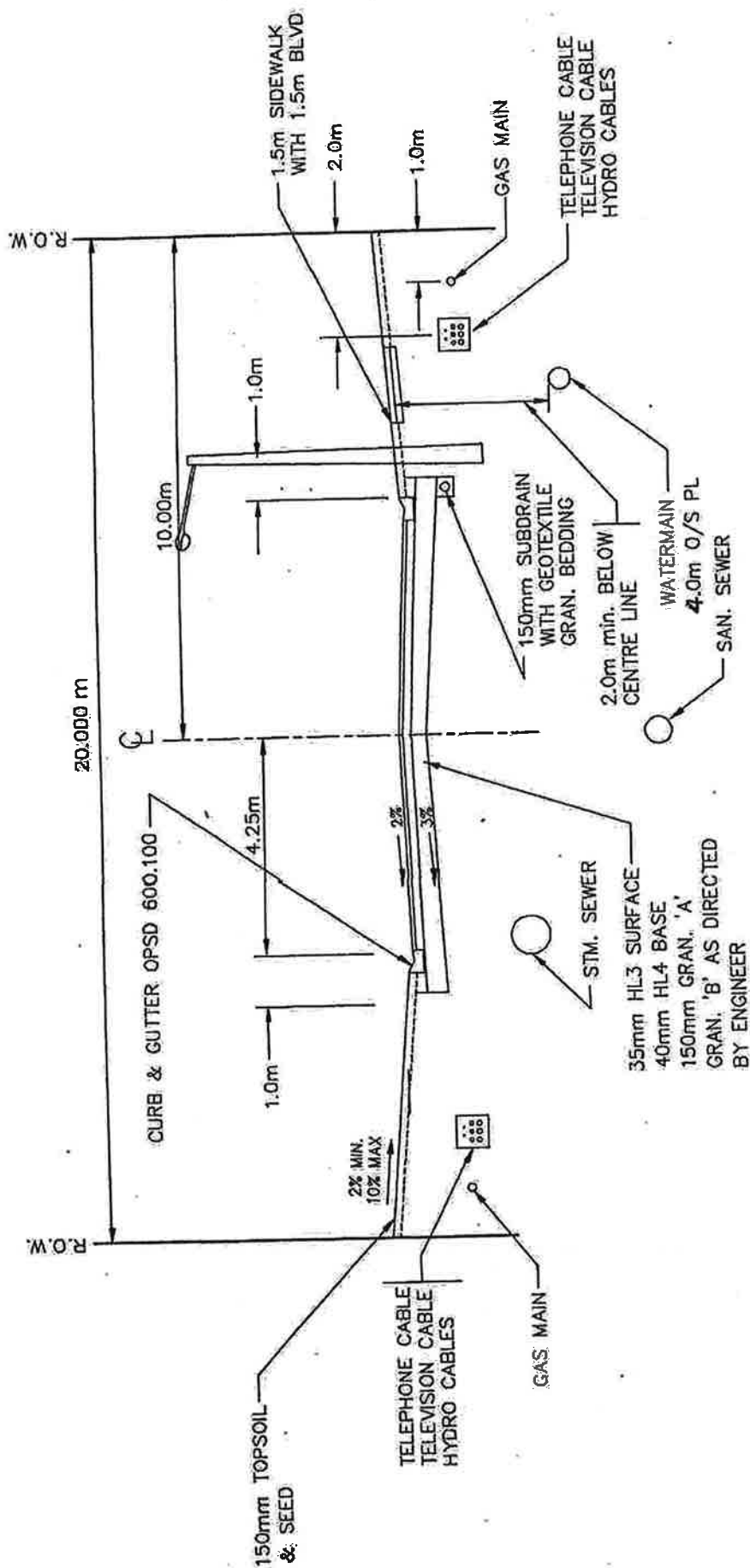
**SIGHT DISTANCE FOR TURNING MOVEMENTS WITH VEHICLES
APPROACHING IN THE INTENDED DIRECTION OF TRAVEL -
TAC FIGURE 2.3.3.4B**

Figure 2.3.3.4b Sight Distance for Turning Movements with Vehicles approaching in the Intended Direction of Travel



Appendix E

**TOWN OF HANOVER SERVICE STANDARDS – TYPICAL
SECTION**



TYPICAL SECTION

SCALE N.T.S.

Town of Hanover

