

Presented To:	Operations Committee
Presented:	Monday, Jan 09, 2012
Report Date	Friday, Dec 23, 2011
Type:	Managers' Reports

## Request for Decision

### All-Way Stop Control - Various Intersections

#### Recommendation

That the current traffic control at the intersections of Bouchard Street at Marcel Street, Lansing Avenue at Melbourne Street, Hawthorne Drive at Westmount Avenue, Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street be maintained.

## Background

### 1. Bouchard Street at Marcel Street, Sudbury

At the March 21, 2011 Traffic Committee meeting, Staff presented a report regarding all-way stop control at the intersection of Bouchard Street and Marcel Street (**see Exhibit A2**). At the time, Staff reported higher than normal traffic volumes may have been a result of the ongoing construction on Regent Street. A decision to install all-way stop at this intersection was deferred until construction on Regent Street was completed and traffic volumes could be recounted. Subsequently, traffic volumes were recounted on October 4<sup>th</sup>, 2011.

Bouchard Street at Marcel Street is a cross intersection located west of Regent Street (**see Exhibit B2**). Currently this intersection is controlled with "Stop" signs facing northbound and southbound traffic on Marcel Street. This portion of Bouchard Street was also part of the Traffic Calming Pilot Project and had a median island installed on the east leg of this intersection.

Applying the data from the October 4<sup>th</sup>, 2011 turning movement count to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from the side street meets approximately 43 percent of the volume requirements. The traffic volume split is 91percent on Bouchard Street and 9 percent on Marcel Street. This is outside the ratio of 70/30 warrant for an all-way stop (**see Exhibit C2**).

Comparing the 2011 turning movement counts to the previous counts from 2010 and 2007, indicates that while volumes on Marcel Street at this intersection have increased from the 2007 volumes, they have

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##### Report Prepared By

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Engineering Services  
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##### Division Review

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Acting Director of Roads &  
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##### Recommended by the Department

Greg Clausen, P.Eng.  
General Manager of Infrastructure  
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##### Recommended by the C.A.O.

Doug Nadorozny  
Chief Administrative Officer  
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significantly decreased from the 2010 levels. The volumes are summarized below:

	2007	2010	2011
Southbound Traffic on Marcel Street	222	282	261
Northbound Traffic on Marcel Street	363	738	399

A review of the City's collision information from July 2008 to July 2011 revealed that there were two collisions that may be susceptible to relief through an all-way stop during this three year period. While all collisions are undesirable, the collision experience would not be considered high, and does not show a pattern that could be corrected with an all-way stop. For a major collector roadway, the Collision Warrant requires a minimum of four collisions per year over a three year period.

Councillor Cimino has also expressed concerns about the safety of pedestrians crossing Bouchard Street at this intersection to access Marcel Park. The existing median island on the east leg of this intersection was recommended by IBI Group during the Traffic Calming Pilot Project to "provide a pedestrian refuge that supports a two-stage crossing when traffic volumes make crossing difficult." During the count, we recorded 21 pedestrians crossing Bouchard Street (18 crossing the east leg and 3 crossing the west leg).

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Bouchard Street and Marcel Street is not warranted.

## **2. Lansing Avenue at Melbourne Street, Sudbury**

Councillor Belli requested that a peak hour traffic count be conducted to determine if an all-way stop is warranted at the intersection of Lansing Avenue at Melbourne Street. The Traffic Committee approved the request for a study at its meeting on June 17, 2011.

Lansing Avenue at Melbourne Street is a cross intersection located two blocks north of Lasalle Boulevard in Ward 8 (**see Exhibit D2**). The east and west approaches of Melbourne Street intersect Lansing Avenue on a skew angle of approximately 60 degrees. Currently this intersection is controlled with "Stop" signs facing eastbound and westbound traffic on Melbourne Street.

Applying the data from the turning movement count that was conducted on September 28<sup>th</sup>, 2011 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from Melbourne Street meets only 20 percent of the requirements. The traffic volume split is 92 percent on Lansing Avenue and 8 percent on Melbourne Street. This is also outside the ratio of 70/30 needed to warrant an all-way stop (**see Exhibit E2**). During the count, we recorded 10 pedestrians crossing Lansing Avenue at Melbourne Street.

A review of collision information showed this intersection has had two reported collisions in the last 3 years that may be susceptible to relief through an all-way stop. The all-way stop warrant for a major collector road (Lansing Avenue) requires there be a minimum of 4 collisions per year over a 3 year period. While the collision history does not warrant an all-way stop, review indicated that both collisions involved vehicles from the east leg of Melbourne Street not yielding to southbound traffic on Lansing Avenue. There is a private large bush in the northeast corner of the intersection which may be restricting visibility at the intersection. Staff have asked the By-law Department to review and have it trimmed if possible. A crosswalk and stop bar will be painted on the east leg of Melbourne Avenue. These measures will help improve safety at the intersection by highlighting the requirement to stop.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Lansing Avenue and Melbourne Street is not warranted.

### **3. Hawthorne Drive at Westmount Avenue, Sudbury**

Councillor Belli requested that a peak hour traffic count be conducted to determine if an all-way stop is warranted at the intersection of Hawthorne Drive and Westmount Avenue.

Hawthorne Drive at Westmount Avenue is a cross intersection located between Barry Downe Road and Auger Avenue in Ward 8 (**see Exhibit F2**). Currently this intersection is controlled with "Stop" signs facing northbound and southbound traffic on Westmount Avenue.

Applying the data from the turning movement count that was conducted on June 16<sup>th</sup>, 2011 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from Westmount Avenue meets only 25 percent of the requirements. The traffic volume split is 88 percent on Hawthorne Drive and 12 percent on Westmount Avenue. This is also outside the ratio of 70/30 needed to warrant an all-way stop (**see Exhibit G2**). During the count, we recorded 17 pedestrians crossing Hawthorne Drive at Westmount Avenue.

A review of our collision information showed this intersection has had three collisions in the last three years that may be susceptible to relief through an all-way stop. The all-way stop warrant for a major collector road (Hawthorne Avenue) requires there be a minimum of 4 collisions per year over a 3 year period. While the collision history does not warrant an all-way stop, our review indicated that the collisions involved vehicles from Westmount Avenue not yielding to traffic on Hawthorne Drive. A crosswalk and stop bar has been painted on the south leg of Westmount Avenue and a stop bar was also painted on the north leg of Westmount Avenue. These measures will help improve safety at the intersection by highlighting the requirement to stop.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Hawthorne Drive at Westmount Avenue is not recommended.

### **4. Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street, Sudbury**

Councillor Landry-Altman forwarded a petition dated February 16, 2011 from area residents requesting that All-Way Stops be installed at the intersections of Madeleine Avenue at Main Street and Madeleine Avenue at Alexander Street (**see Exhibit H2**) to slow traffic down.

These intersections are both T intersections located south of Lasalle Boulevard in Ward 12 (**see Exhibit I2**). Currently, both intersections are controlled with a stop sign facing eastbound traffic on Main Street and Alexander Street. Also, Ecole Felix-Ricard has a pedestrian access to its school yard on the east side of the Madeleine Avenue at Main Street entrance. Due to the proximity of the school, turning movement counts were conducted during the school year.

Applying the data from the turning movement count conducted at the Madeleine Avenue at Main Street intersection on June 27, 2011, to the City's new Minimum Vehicle Volume warrant indicates that the vehicle and pedestrian volume from the side street meets only 15 percent of the volume requirements. The traffic volume split is 76 percent on Madeleine Avenue and 24% on Main Street. This is outside the ratio of 70/30 needed to warrant an all-way stop (**see Exhibit J2**). During this count, we recorded 11 pedestrians crossing Madeleine Avenue at Main Street.

Applying the data from the turning movement count conducted at the Madeleine Avenue at Alexander Street intersection on June 28, 2011, to the City's new Minimum Vehicle Volume warrant indicates that the vehicle and pedestrian volume from the side street meets only 12 percent of the volume requirements. The traffic volume split is 68 percent on Madeleine Avenue and 32 percent on Main Street. This is within the ratio of 70/30 needed to warrant an all-way stop **(see Exhibit K2)**. During this count, we recorded 4 pedestrians crossing Madeleine Avenue.

A review of collision information showed that both intersections had no reported collisions in the last three years. The all-way stop warrant for a minor collector road requires there be a minimum of 3 collisions per year over a 3 year period.

Based on the traffic volumes, pedestrian volume and collision history, installing an all-way stop at the intersection of Madeleine Avenue at Main Street or Madeleine Avenue at Alexander Street is not warranted.



## Request for Decision

**All Way Stop Control - 1) Bouchard Street at Marcel Street, Sudbury and 2) Balsam Street at Garrow Road and Power Street, Copper Cliff**

Presented To: Traffic Committee

Presented: Monday, Mar 21, 2011

Report Date Thursday, Mar 10, 2011

Type: Managers' Reports

## Recommendation

That the intersection of Balsam Street at Garrow Road at Power Street be controlled by an all-way-stop, and;

That a by-law be passed by City Council to amend Traffic and Parking By-Law 2010-1 in the City of Greater Sudbury to implement the recommended change all in accordance with the report from the General Manager of Infrastructure Services dated March 10, 2011.

## Background

### 1) Bouchard Street at Marcel Street

On August 4<sup>th</sup>, 2010, Councillor Cimino requested that a turning movement count be conducted to determine if an all-way stop would be warranted at the intersection of Bouchard Street and Marcel Street.

Bouchard Street at Marcel Street is a cross intersection located west of Regent Street ( **see Exhibit "A"**). There is also a playground located in the southeast corner of the intersection. Currently this intersection is controlled with "stop" signs facing northbound and southbound traffic on Marcel Street. This portion of Bouchard Street was also part of the Traffic Calming Pilot Project, and had a median island installed on the east leg of this intersection.

Applying the data from the turning movement count that was conducted on August 25<sup>th</sup>, 2010 to the City's new Minimum Volume Warrant indicates that the vehicle and pedestrian volume from the side street meets approximately 75 percent of the volume requirements. The traffic volume split is 80 percent on Bouchard Street and 20 percent on Marcel Street. This is outside the ratio of 70/30 needed to warrant an "all-way" stop ( **see Exhibit "B"**).

Comparing the 2010 turning movement count to a previous count conduct in 2007, indicates that volumes at this intersection may be artificially high due to the ongoing construction on Regent Street. Southbound traffic

### Signed By

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Engineering Services  
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#### Division Review

Robert Falcioni, P.Eng.  
Director of Roads and Transportation  
Services  
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#### Recommended by the Department

Greg Clausen, P.Eng.  
General Manager of Infrastructure  
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#### Recommended by the C.A.O.

Doug Nadorozny  
Chief Administrative Officer  
*Digitally Signed Mar 10, 11*

from Marcel Street has increased by 27 percent (222 in 2007 vs. 282 in 2010) while northbound traffic from Marcel Street has more than doubled (363 in 2007 vs. 738 in 2010).

A review of the City's collision information from 2008 to 2010 revealed that there were no collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Major Collector roadway, the Collision Warrant requires a minimum of four (4) collisions per year over a three (3) year period.

Councillor Cimino also expressed concerns about the safety of pedestrians while crossing Bouchard Street at this intersection. The existing median island on the east leg of this intersection was recommended by the IBI Group as part of the Traffic Calming Pilot Project in order to "provide a pedestrian refuge that supports a two-stage crossing for times when traffic volumes make crossing difficult". During the seven (7) hour count, we recorded a total of five (5) pedestrians crossing Bouchard Street at this intersection (four (4) crossing the east leg and one (1) crossing the west leg).

Based on the traffic volumes, pedestrian volume and collision history, staff does not recommend installing an all-way stop at the intersection of Bouchard Street and Marcel Street. Staff will arrange to recount this intersection once construction is completed on Regent Street to ensure that traffic volumes on Marcel Street do not remain high.

## 2) Balsam Street at Garrow Road at Power Street

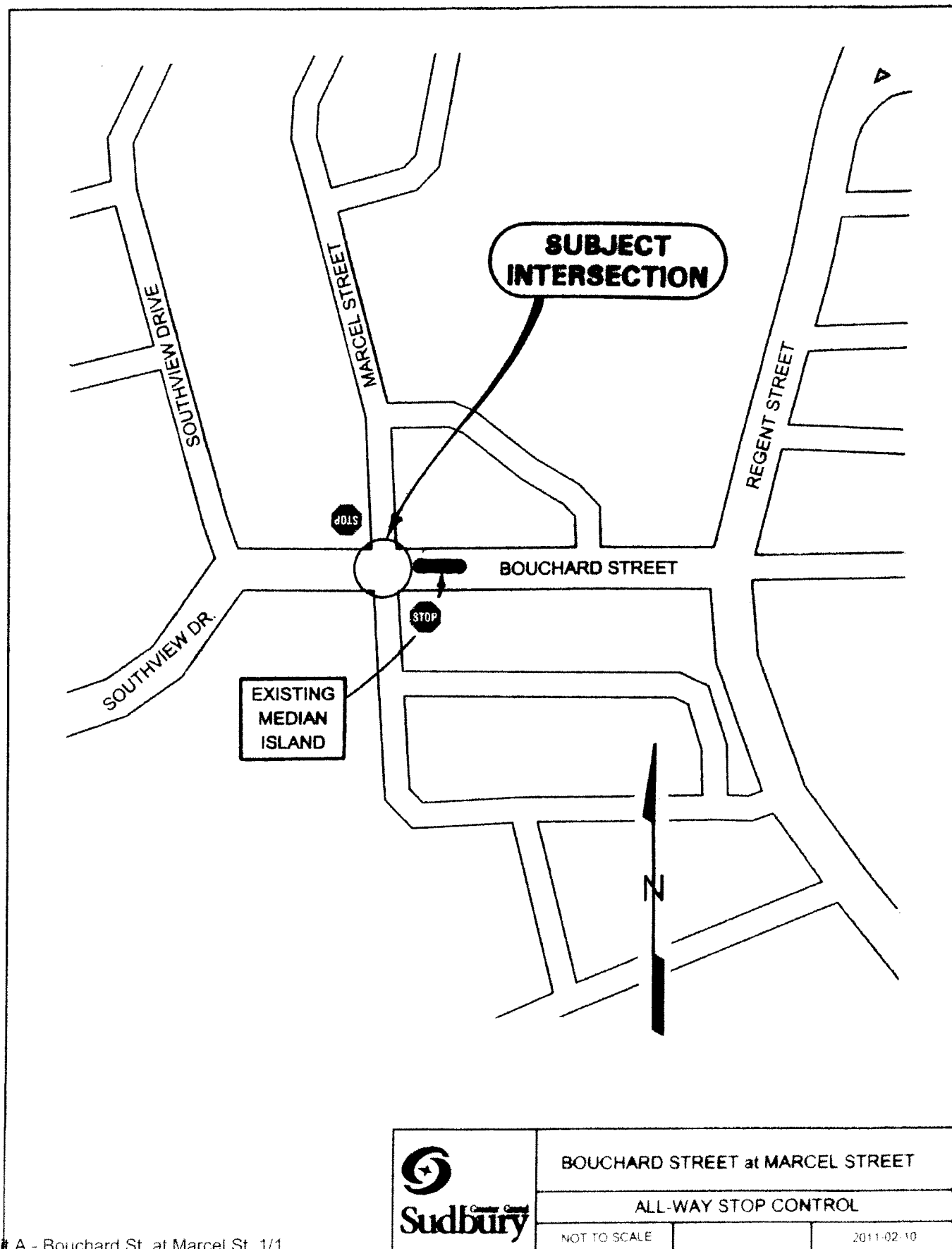
Councillor Barbeau requested that a turning movement count be conducted to determine if an all-way stop is warranted at the intersection of Balsam Street at Garrow Road/Power Street.

Balsam Street at Garrow Road/Power Street is a cross intersection located in Copper Cliff (**see Exhibit "C"**). The Copper Cliff Library is located on the northwest corner of the intersection and the McClelland Arena and R.G. Dow Pool are located northeast of the intersection. Currently this intersection is controlled with "stop" signs facing northeast bound traffic on Power Street and southwest bound traffic on Garrow Road.

Applying the data from the turning movement count that was conducted on May 25<sup>th</sup>, 2010 to the City's new Minimum Volume Warrant indicates that the traffic volume at this intersection meets the minimum vehicle volume requirements ( **see Exhibit "D"**). A review of the City's collision information from 2008 to 2010 revealed that there were three (3) collisions that may be susceptible to relief through an all-way stop during this three (3) year period. For a Minor Collector roadway, the Collision Warrant requires a minimum of three (3) collisions per year over a three (3) year period.

Since the traffic volume meets the minimum vehicle volume warrant, staff recommends installing an all-way stop at the intersection of Balsam Street at Garrow Road/Power Street. Also, staff recommends that physical changes be made to the intersection to better define the approaches and to improve safety for pedestrians. These changes will be funded from the 2011 Capital Roads budget.

# EXHIBIT: A





# EXHIBIT: B

## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	<u>Bouchard Street at Marcel Street</u>	Date:	<u>March 3, 2011</u>
Date of TM Count:	<u>August 25, 2010</u>	Analyst:	<u>JR</u>
Type of Intersection:	<u>Cross</u>		
Roadway Type	<u>Arterial/Major Collector</u>		
AADT of Main Road:	<u>10500</u>		

### All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>63.3</u>	%
Warrant #2	Collision History	<u>0.0</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

**All-Way Stop Warranted?** **No** Y/N

Warrant #1 - Minimum Vehicle Volume					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	780	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	146	73.2%
Traffic Split	70/30	70/30	70/30	81 / 19	63.3%

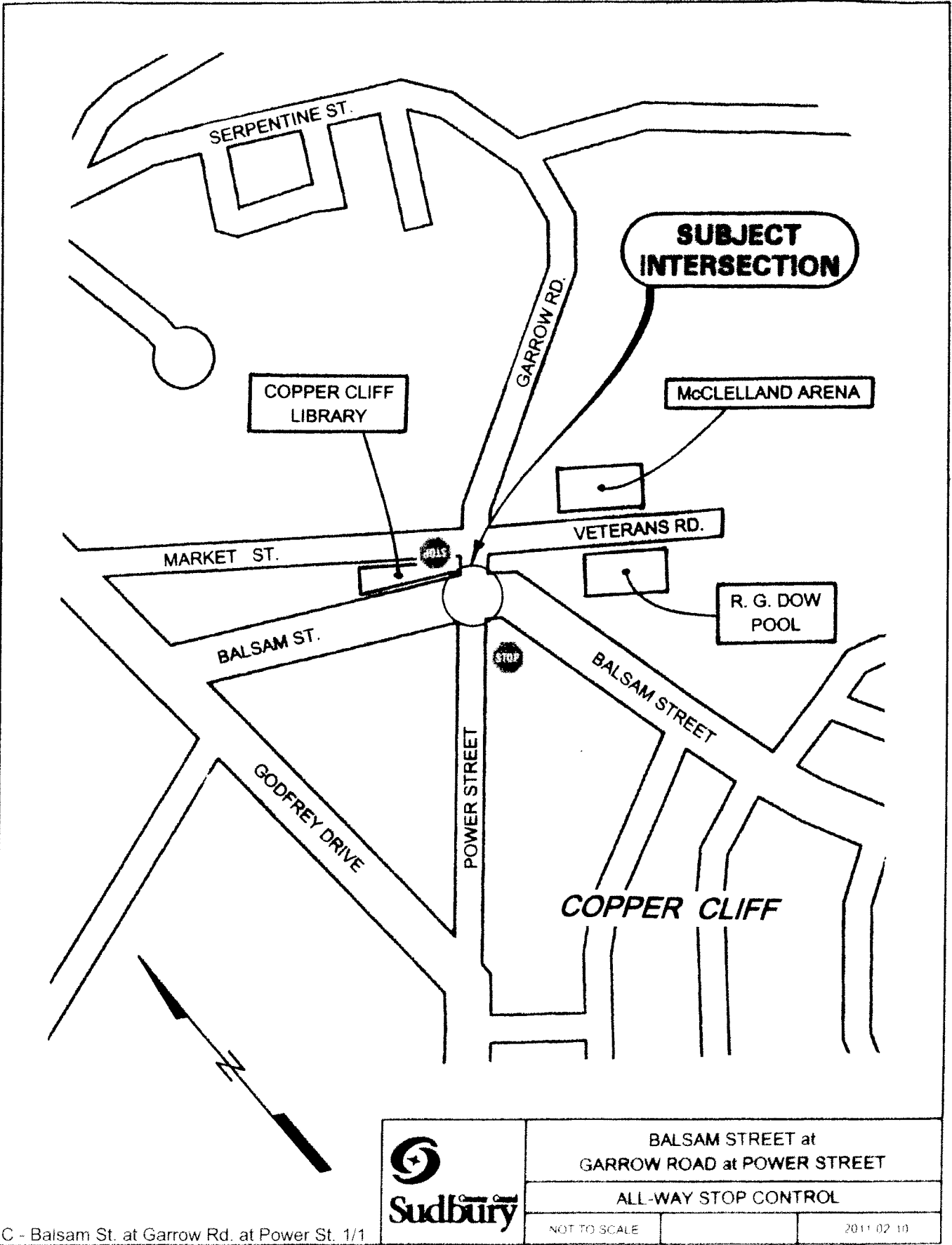
Warrant #2 - Collision History					
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%
Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.				<span style="border: 1px solid black; padding: 2px;"><b>No</b></span>	Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.



EXHIBIT: C





# EXHIBIT: D

## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	<u>Balsam Street at Power Street</u>	Date:	<u>March 3, 2011</u>
Date of TM Count:	<u>May 25, 2010</u>	Analyst:	<u>JR</u>
Type of Intersection:	<u>Cross</u>		
Roadway Type	<u>Minor Collector</u>		
AADT of Main Road:	<u>3998</u>		

### All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>100.0</u>	%
Warrant #2	Collision History	<u>33.3</u>	%
Warrant #3	Traffic Control Signals	<u>No</u>	Y/N

**All-Way Stop Warranted?** **Yes** Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	461	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	185	100.0%
Traffic Split	70/30	70/30	70/30	62 / 38	100.0%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	1	33.3%

**Warrant #3** Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.

**No**

Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: B2

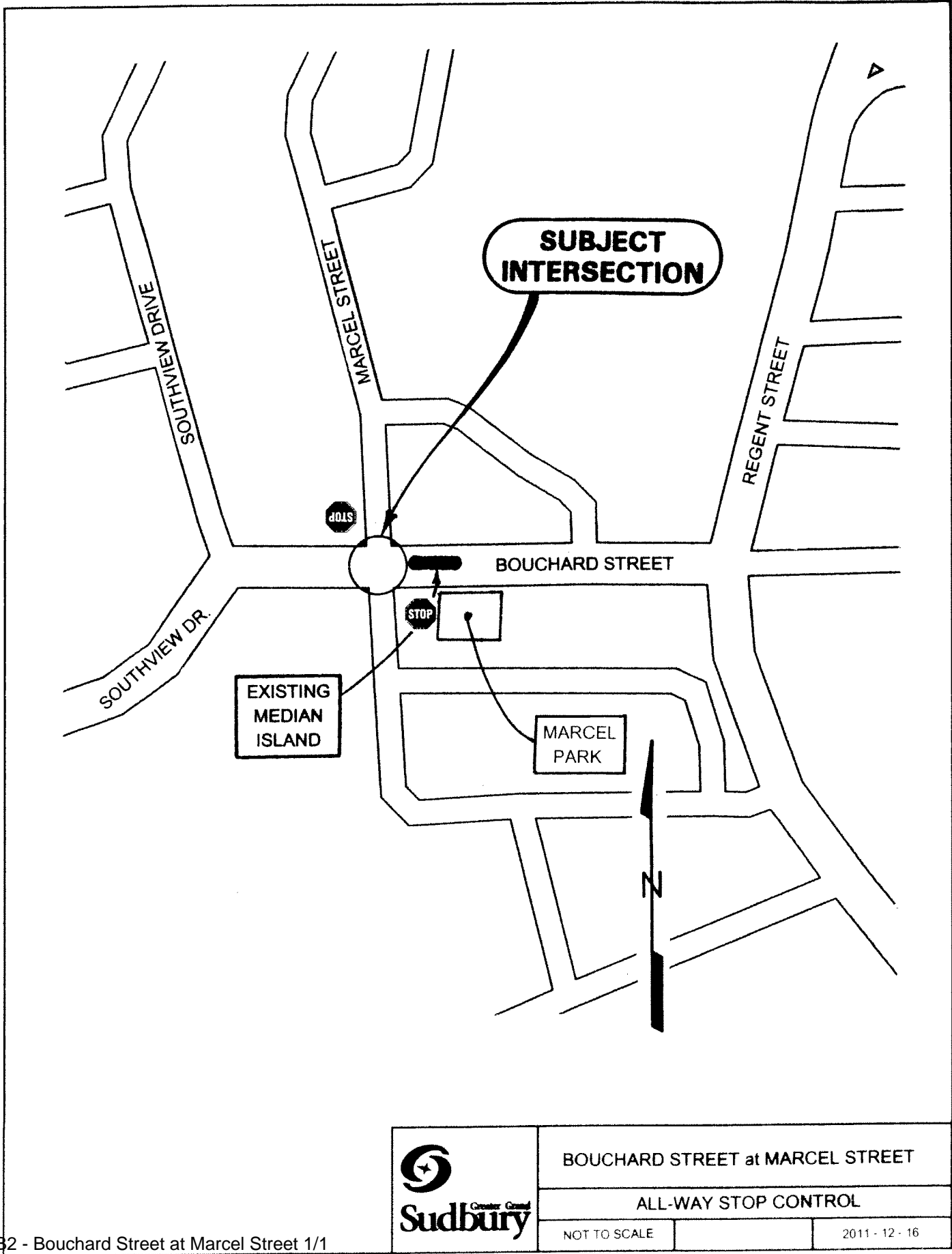


Exhibit B2 - Bouchard Street at Marcel Street 1/1

# EXHIBIT: C2



## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Bouchard Street at Marcel Street Date: October 25, 2011  
 Date of TM Count: 10/04/2011 Analyst: JR  
 Type of Intersection: Cross  
 Roadway Type: Arterial/Major Collector  
 AADT of Main Road: 10000

### All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 30.0 %  
 Warrant #2 Collision History 16.7 %  
 Warrant #3 Traffic Control Signals No Y/N

**All-Way Stop Warranted?** No Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	930	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	87	43.4%
Traffic Split	70/30	70/30	70/30	91 / 9	30.0%

#### Warrant #2 - Collision History

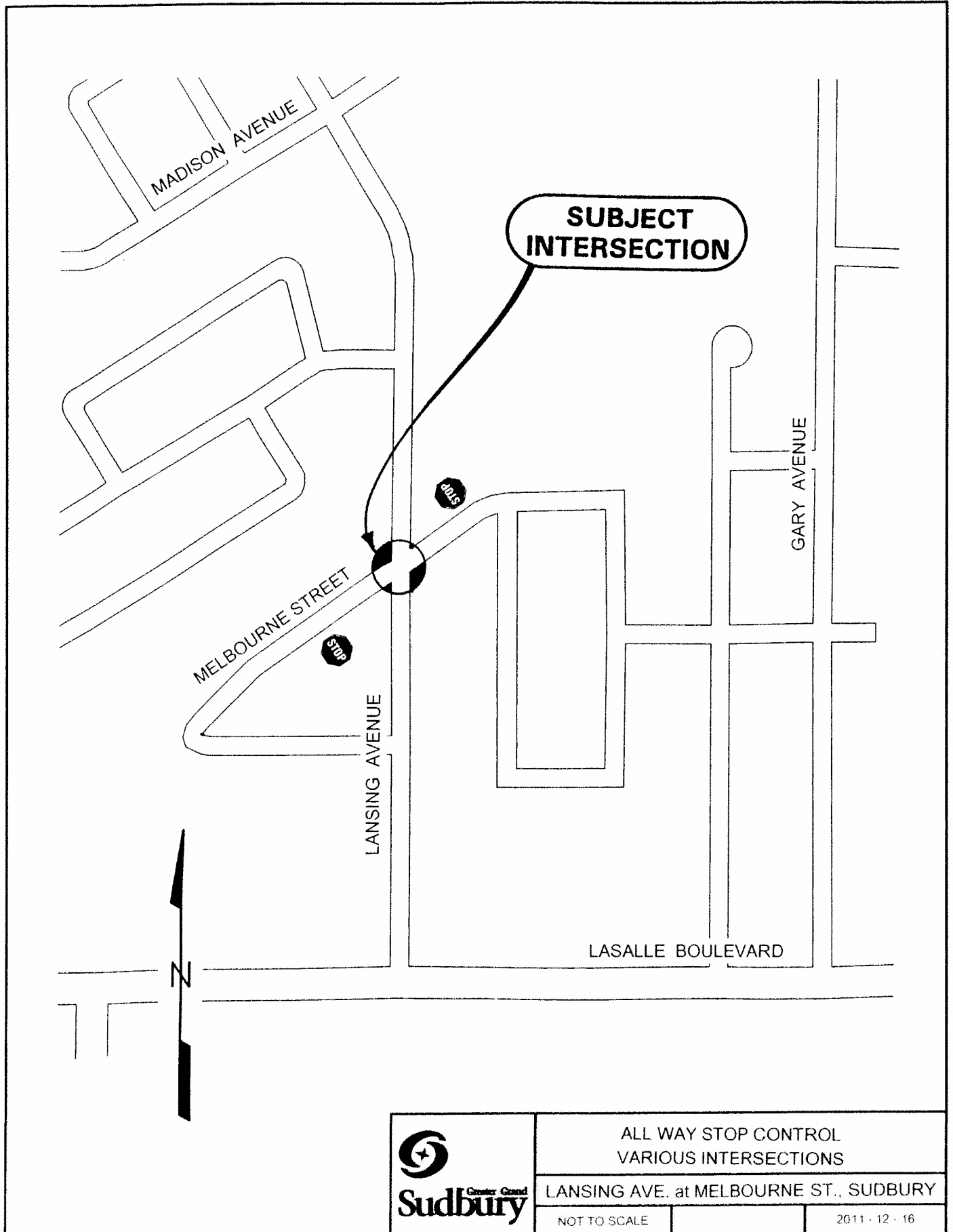
Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	2/3	16.7%

**Warrant #3** Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. No Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

# EXHIBIT: D2



# EXHIBIT: E2



## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Lansing Avenue at Melbourne Street Date: October 4, 2011  
 Date of TM Count: 09/28/2011 Analyst: JR  
 Type of Intersection: Cross  
 Roadway Type: Arterial/Major Collector  
 AADT of Main Road: 7300

### All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 19.6 %  
 Warrant #2 Collision History 16.7 %  
 Warrant #3 Traffic Control Signals No Y/N

**All-Way Stop Warranted?** **No** Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	509	100.0%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	39	19.6%
Traffic Split	70/30	70/30	70/30	92 / 8	26.7%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	2/3	16.7%

**Warrant #3** **Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures.** **No** Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.

EXHIBIT: F2

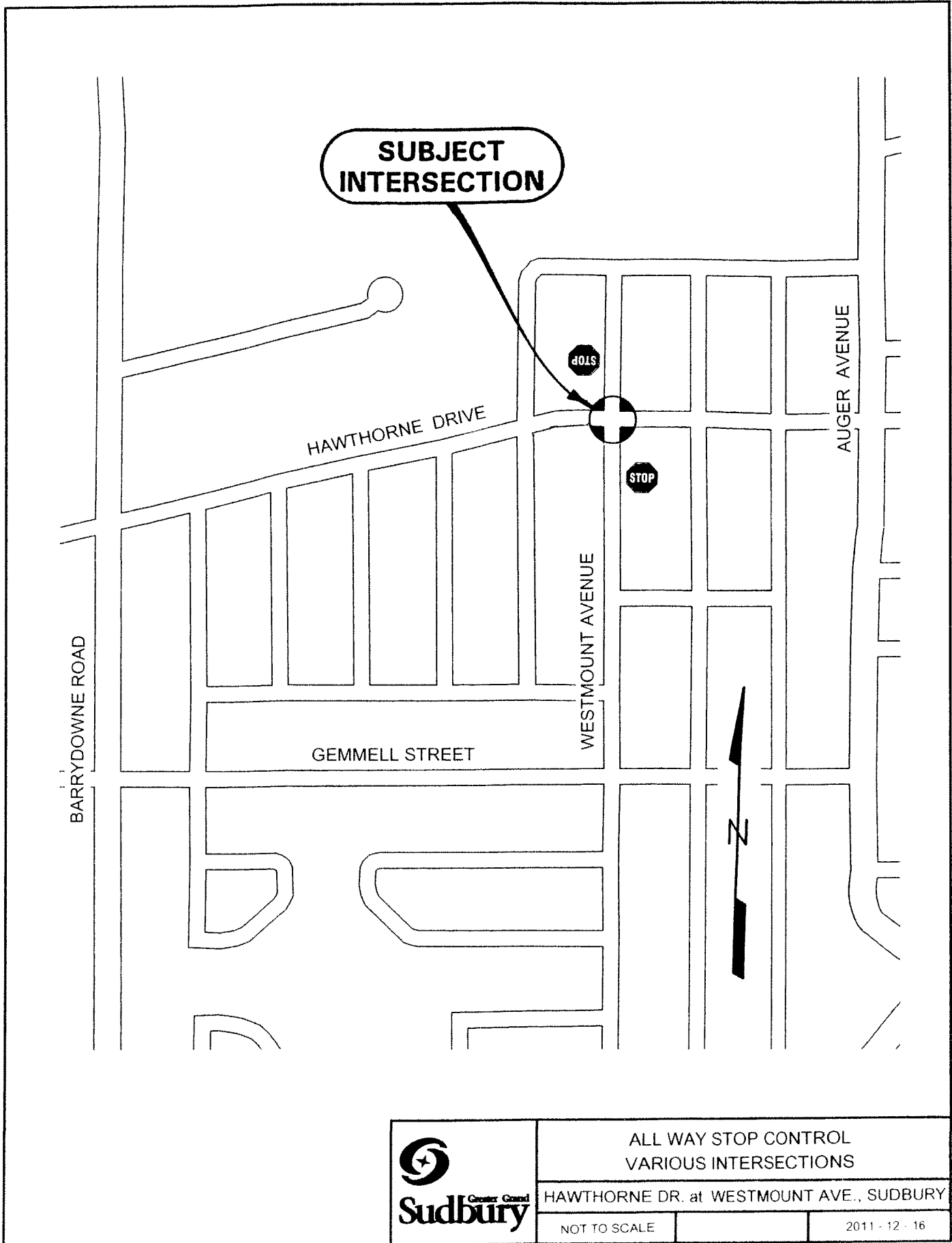


Exhibit F2 - Hawthorne Drive at Westmount Avenue 1/1

# EXHIBIT: G2



## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Westmount Avenue at Hawthorne Drive  
 Date of TM Count: 06/16/2011  
 Type of Intersection: Cross  
 Roadway Type: Arterial/Major Collector  
 AADT of Main Road: 5600

Date: August 9, 2011  
 Analyst: JR

### All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 25.1 %  
 Warrant #2 Collision History 25.0 %  
 Warrant #3 Traffic Control Signals No Y/N

**All-Way Stop Warranted?** **No** Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	411	82.3%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	50	25.1%
Traffic Split	70/30	70/30	70/30	88 / 12	40.0%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	1	25.0%

**Warrant #3** Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. **No** Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.



# EXHIBIT: H2

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Robert Machi	██████ Madeleine	████████████████████
Alphonse LaRose	██████ Madeleine	████████████████████
BARB INGRAM	██████ Madeleine	████████████████████
Jack Ingram	██████ "	████████████████████
Mike Guenneville	██████ Madeleine	████████████████████
Maxine Guenneville	██████ Madeleine	████████████████████
Lynn Jackson	██████ Madeleine	████████████████████
P Jackson	██████ "	████████████████████
Jennifer Whiting	██████ Madeleine	████████████████████
Doug Hodgins	██████ Madeleine	████████████████████
CHRISTOS KITSOS	██████ MADELEINE AVE	████████████████████
Tina Kitsos	██████ Madeleine Ave	████████████████████
Chrysoula Kitsos	██████ madeleine ave	████████████████████
Konstantinos Kitsos	██████ madeleine	████████████████████
Ralph [unclear]	██████ Madeleine	████████████████████
[unclear]	██████ Madeleine Ave	████████████████████
[unclear]	██████ Madeleine Ave	████████████████████
[unclear]	██████ Madeleine Ave	████████████████████
[unclear]	██████ MADELEINE AVE	████████████████████

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
MIKE LANDRY	MARTIN AVE Sudbury Ont	[REDACTED]
SUZANNE LANDRY	MARTIN AVE Sudbury Ont	[REDACTED]
Hussey G. and	Madeleine Ave	[REDACTED]
Julie Valade	Madeleine ave	[REDACTED]
Jean Valade	Sagebrush Pl	[REDACTED]
Jamie Valade	Madeleine Ave	[REDACTED]
R. VALADE	SAGEBRUSH PL	[REDACTED]
Heather Desjardins	Madeleine Ave	[REDACTED]
NORM AUBIN	MADELINE ST	[REDACTED]
Lee H. Bissell	Madeleine Ave	[REDACTED]
Diane Bissell	Madeleine Ave	[REDACTED]
MALENA AUDETTE	MADELEINE AVE	[REDACTED]
Richard Audette	Madeleine Ave	[REDACTED]
Erin Bissell	Madeleine Ave	[REDACTED]
Rory O'Brien	Madeleine Ave	[REDACTED]
Judy Gyles	Madeleine Ave	[REDACTED]
Claudette Macki	Madeleine	[REDACTED]
Nancy + Jim Howard	Madeleine Ave	[REDACTED]



FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Ethel Campbell	██████ Madeleine St.	████████████████████
Norothy Gustafson	██████ Madeleine St.	████████████████████
Renee Gustafson	██████ Madeleine St.	████████████████████
Andre Lefebvre	██████ Madeleine	████████████████████
Yvonne Lefebvre	██████ Madeleine	████████████████████
Jacqueline Pelon	██████ Madeleine	████████████████████
Edgar Pelon	██████ Madeleine	████████████████████
Roselle Scott	██████ Madeleine	████████████████████
Yves Jurek	██████ Madeleine	████████████████████
Brigitte Quenneville	██████ Madeleine	████████████████████
D. Carlson	██████ Madeleine	████████████████████
Carlson	██████ Madeleine	████████████████████
I. NAGANISHI	██████ A. Main	████████████████████
A. Martin	██████	████████████████████
GARY KOIVU	██████ MADELEINE AVE.	████████████████████
E. Knopf	██████ Madeleine Ave	████████████████████
C. Haygarth	██████ Madeleine ave.	████████████████████
Conrad Haygarth	██████ Madeleine ave	████████████████████
S. Manitowish	██████ Madeleine Ave	████████████████████
L. Manitowish	██████ Madeleine Ave	████████████████████

FEBRUARY 16, 2011

We, the residents of Madeleine, Martin, Main & Alexander Streets are requesting a 3-way Stop Sign at the corner of Madeleine & Main & Madeleine & Alexander Streets. We have serious speeding issues. Local children access the school entrance off of Madeleine and parents also drop off their children at this entrance to avoid congestion on Starlight Ave and turning challenges onto Lasalle Blvd

NAME	ADDRESS	TELEPHONE
Cécile Duchaine Madeleine Rocca Ray Arcand Pepi Lacerte	██████ Madeleine ave ██████ Madeleine ave. ██████ Madeleine ██████ Jones St	██████ ██████ ██████ ██████
K. McNeill Joe Shields Bessie May	██████ MADELAINE ST ██████ Madeleine AV ██████ Madeleine ave	██████ ██████ ██████
GARRY HOOGE Kevin Roy	██████ MADELAINE ██████ ██████	██████ ██████ ██████
JAMES + KATH + DOMINELY	██████ Alexander St. ██████ ██████ ALEXANDER ST	██████ ██████ ██████
Mathieu Landry Er. Forget ██████ ██████	██████ Martin Ave ██████ ██████ ██████	██████ ██████ ██████ ██████



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NAME	ADDRESS	TELEPHONE
Michel Guerin	Martin St	
Carole Guerin	Martin St	
JOSEPH PELLETIER	MARTIN AVE	
Joseph Bone	MARTIN	
Cham McLaughlin	Martin Ave	
Judith Scott	Martin St.	
Shirley Agnew	Martin	
Yvonne Stn	Martin	
Scotty Karpis	Martin Ave	
Jeannette Noel	Alexander St	
Matthew Roach	Martin Ave	
Lindsay Roach	Martin Ave	
Jeannine Mark	MADELEINE AVE	
Peter Mark	Madeleine Ave	
	MARTIN AVE	
Lorraine Edwards	Martin Ave	
Joe Kins	Martin Ave	
M. Sm	Martin Ave	
Paul Lemege	MARTIN AVE.	
ANNA LEMEGA	MARTIN AVE (UPPER)	
St. Joseph's	Martin Ave	

FEBRUARY 16, 2011

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NAME	ADDRESS	TELEPHONE
Maxine Lemieux	[REDACTED] Martin Ave	[REDACTED]
Fauvette Bonin	[REDACTED] Martin	[REDACTED]
Jacques Bonin	[REDACTED] Marlene	[REDACTED]
Pierre G. Bonin	[REDACTED] MARTIN	[REDACTED]
Suzanne Desrosiers	[REDACTED] martin ave	[REDACTED]
Mrs. Langlois	[REDACTED] martin ave	[REDACTED]
Linda K. Sade	[REDACTED] Martin Ave	[REDACTED]
Dan M.		
Donna Langlois	[REDACTED] MARTIN AVE	[REDACTED]
Jim [unclear]	[REDACTED] martin ave	[REDACTED]
[unclear]	[REDACTED] main ave	[REDACTED]
[unclear]	[REDACTED] martin ave	[REDACTED]
Aubert Boudet	[REDACTED] Main ave	[REDACTED]
Celine Lacasse	[REDACTED] martin ave	[REDACTED]
Kelene Lacasse	[REDACTED] Martin Ave	[REDACTED]
Pat Lacasse	[REDACTED] Martin Ave	[REDACTED]
Liliane Potvin	[REDACTED] main st	[REDACTED]
ERIC RESOLIN	[REDACTED] MAIN ST	[REDACTED]

# EXHIBIT: I2

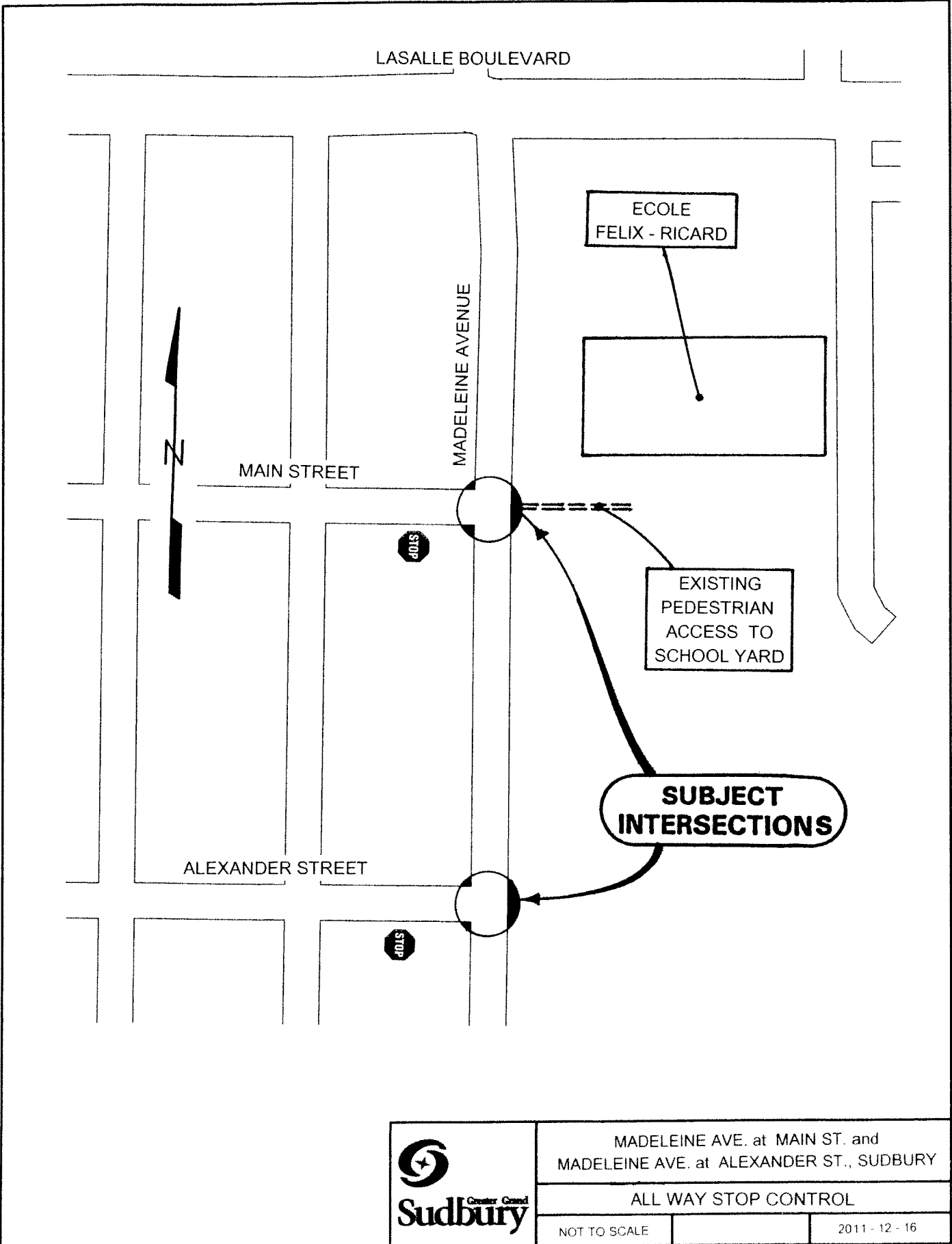


Exhibit I2 - T Intersections Located South of Lasalle Boulevard 1/1



# EXHIBIT: J2



## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location: Madeleine Avenue at Main Street Date: October 3, 2011  
 Date of TM Count: 06/27/2011 Analyst: JR  
 Type of Intersection: T  
 Roadway Type: Minor Collector  
 AADT of Main Road: 1500

### All-Way Stop Warrant Summary

Warrant #1 Minimum Vehicle Volume 15.4 %  
 Warrant #2 Collision History 0.0 %  
 Warrant #3 Traffic Control Signals No Y/N

**All-Way Stop Warranted?** **No** Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	90	25.6%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	22	15.4%
Traffic Split	70/30	70/30	70/30	76 / 24	80.0%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%

**Warrant #3** Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. **No** Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.



# EXHIBIT: K2



## CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

Location:	<u>Madeleine Ave at Alexander St</u>	Date:	<u>October 3, 2011</u>
Date of TM Count:	<u>June 28, 2011</u>	Analyst:	<u>JR</u>
Type of Intersection:	<u>T</u>		
Roadway Type	<u>Local</u>		
AADT of Main Road:	<u>500</u>		

### All-Way Stop Warrant Summary

Warrant #1	Minimum Vehicle Volume	<u>12.1</u> %
Warrant #2	Collision History	<u>0.0</u> %
Warrant #3	Traffic Control Signals	<u>No</u> Y/N

**All-Way Stop Warranted?** **No** Y/N

#### Warrant #1 - Minimum Vehicle Volume

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Vehicles per hour	Percent Compliance
AADT	> 5000	1000 - 5000	< 1000		
Count Period	7 hours	4 peak hours	4 peak hours		
Total vehicle volume from all approaches is ≥	500/hr	350/hr	250/hr	53	15.1%
Veh + Pedestrian volume from side street is ≥	200/hr	140/hr	N/A	17	12.1%
Traffic Split	70/30	70/30	70/30	68/32	100.0%

#### Warrant #2 - Collision History

Roadway Type	Arterial/Major Collector	Minor Collector	Local	Number of Collisions per year	Percent Compliance
Collisions per Year over 3 year period	4*	3*	2*	0	0.0%

**Warrant #3** Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. **No** Y/N

\* Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.