MEMORANDUM

TO: Mr. Tim Mason
Cabernet Builders
P.O. Box 291
Stratham, NH 03885

FROM: Mr. Jeffrey S. Dirk, P.E., PTOE *and*
Ms. Lori A. Shattuck, EIT
Vanasse & Associates, Inc.
10 New England Business Center Drive
Suite 314
Andover, MA 01810-1066
(978) 474-8800

DATE: March 11, 2014 **RE:** 6684

SUBJECT: Proposed River's Peak Residential Development
Boulder Drive
Barrington, New Hampshire

Vanasse & Associates, Inc. (VAI) has completed a review of traffic count data along Route 126 and Province Road in Barrington, New Hampshire, in order to substantiate the analyses that were completed as part of the December 30, 2004 *Traffic Impact Assessment* ("December 2004 TIA") prepared in support of the proposed 20-lot residential development to be known as River's Peak and located along the north side of Boulder Drive and south of New Bow Lake Road in Barrington, New Hampshire (hereafter referred to as the "Project"). At the time of preparation of the December 2004 TIA, the proposed development was evaluated at its maximum density of 21-lots; however, the reduction of one lot would not materially impact the traffic volume projections for the Project from those that were assessed in the aforementioned document.

The December 2004 TIA reviewed the anticipated traffic characteristics of the Project and provided a comprehensive assessment of operating conditions and safety on the transportation infrastructure serving the Project site, both with and without the Project. Based on a review of the recent (March 2014) traffic counts collected on Route 126 and Province Road in relation to the traffic volume data that formed the basis of the December 2004 TIA, we have concluded that: i) the traffic volume projections and supporting analyses that were presented in the December 2004 TIA continue to provide a reasonable basis from which to assess the impact of the Project on the transportation infrastructure; and, therefore, ii) the conclusions and recommendations presented therein remain valid.

The following details our findings and the supporting data that forms the basis of our conclusions.

PROJECT DESCRIPTION

The Project will consist of the construction of a 20-lot residential subdivision to be situated on a parcel of land located along the north side of Boulder Drive and south of New Bow Lake Road in Barrington, New Hampshire. The Project site is generally bounded by New Bow Lake Road to the north; Boulder Drive and the Sandy Brook residential subdivision, residential properties, Nippo Brook and areas of open and wooded space to the south and east; and areas of open and wooded space to the west. Access to the Project will be provided by way of a new roadway that will intersect the north side of Boulder Drive, a private roadway that serves the adjacent Sandy Brook residential subdivision and provides access to both Route 126 and Province Road.

EXISTING TRAFFIC VOLUMES

In order to update existing traffic-volume demands and flow patterns on the roadways serving the Project site and to assess general traffic growth trends in the area, automatic traffic recorder (ATR) counts were completed in March 2014 on Route 126 north of Province Road, and on Province Road west of Route 126. The traffic-volume data was adjusted as necessary to represent peak-month conditions in accordance with New Hampshire Department of Transportation (NHDOT) standards. The 2014 Existing traffic volume data is summarized in Table 1, along with the traffic-volume data that was presented in the December 2004 TIA and was similarly adjusted to represent peak-month conditions.

Table 1
PEAK-MONTH TRAFFIC-VOLUME COMPARISON

Location/ Time Period	(A) 2014 Existing Peak-Month Traffic Volumes	(B) 2004 December TIA Peak-Month Traffic Volumes	(A - B) Difference	Percent Difference
Route 126, north of Province Road:				
Weekday Daily[a]	1,240	1,900	-660	-34.7
Weekday Morning Peak-Hour[b]	143	205	-62	-30.2
Weekday Evening Peak-Hour[b]	94	185	-91	-49.2
Province Road, west of Route 126:				
Weekday Daily[a]	1,235	1,565	-330	-21.1
Weekday Morning Peak-Hour[b]	108	76	+32	+42.1
Weekday Evening Peak-Hour[b]	114	98	+16	+16.3

[a]Average weekday traffic in vehicles per day.
[b]Vehicles per hour.

As can be seen in Table 1, weekday daily traffic-volumes along Route 126 and Province Road were found to be between approximately 330 to 660 vehicles lower (between 21 and 35 percent) than the traffic volume data that was presented in the December 2004 TIA, with weekday peak-hour traffic volumes along Route 126 found to be between 62 and 91 vehicles lower (between 30 and 49 percent), and between 16 and 32 vehicles higher (between 16 and 42 percent) along Province Road. The increase in weekday peak-hour traffic volumes along Province Road can be attributed to the development of approximately 70 residential homes that have occurred off Province Road since the completion of the December 2004 TIA. It should be noted that this development was included in the future traffic-volume projections and analyses (No-Build and Build) that were presented in the December 2004 TIA.

Based on a review of the updated traffic count data and with consideration of the inclusion of the 70 residential homes in the future traffic volume projections and analyses that were presented in the December 2004 TIA, it can be concluded that: i) the traffic volume projections and supporting analyses that were presented in the December 2004 TIA continue to provide a reasonable basis from which to assess the impact of the Project on the transportation infrastructure; and, therefore, ii) the conclusions and recommendations presented therein remain valid for the Project.

SUMMARY

VAI has completed a review of traffic count data along Route 126 and Province Road in Barrington, New Hampshire, in order to substantiate the analyses that were completed as part of the December 2004 TIA prepared in support of the proposed 20-lot residential development to be known as River's Peak and located along the north side of Boulder Drive and south of New Bow Lake Road in Barrington, New Hampshire.

Based on a review of the recent (March 2014) traffic counts collected on Route 126 and Province Road in relation to the traffic volume data that formed the basis of the December 2004 TIA, we have concluded that: i) the traffic volume projections and supporting analyses that were presented in the December 2004 TIA continue to provide a reasonable basis from which to assess the impact of the Project on the transportation infrastructure; and, therefore, ii) the conclusions and recommendations presented therein remain valid.

cc: S. Cole – Beals Associates, PLLC (via email)
File

ATTACHMENTS

AUTOMATIC TRAFFIC RECORDER COUNT DATA
SEASONAL ADJUSTMENT DATA

AUTOMATIC TRAFFIC RECORDER COUNT DATA

Accurate Counts
978-664-2565

Location : Route 126
Location : North of Province Road
City/State: Barrington, NH

Site Code: 66840001
6684VOL1

Start Time	03-Mar-14 NB	03-Mar-14 SB	Tue NB	Tue SB	Wed NB	Wed SB	Thu NB	Thu SB	Fri NB	Fri SB	Sat NB	Sat SB	Sun NB	Sun SB	Week Average NB	Week Average SB	
12:00 AM	*	*	*	*	3	1	0	0	*	*	*	*	*	*	2	0	
01:00	*	*	*	*	0	1	1	1	*	*	*	*	*	*	0	1	
02:00	*	*	*	*	0	5	0	4	*	*	*	*	*	*	0	4	
03:00	*	*	*	*	0	3	3	4	*	*	*	*	*	*	2	4	
04:00	*	*	*	*	3	11	5	12	*	*	*	*	*	*	4	12	
05:00	*	*	*	*	1	34	2	46	*	*	*	*	*	*	2	40	
06:00	*	*	*	*	8	99	8	100	*	*	*	*	*	*	8	100	
07:00	*	*	*	*	8	**123**	4	**122**	*	*	*	*	*	*	6	**122**	128
08:00	*	*	*	*	**12**	80	**12**	82	*	*	*	*	*	*	**12**	81	
09:00	*	*	*	*	10	40	7	46	*	*	*	*	*	*	8	43	
10:00	*	*	*	*	9	39	10	41	*	*	*	*	*	*	10	40	
11:00	*	*	*	*	6	31	10	43	*	*	*	*	*	*	8	37	
12:00 PM	*	*	*	*	15	31	10	35	*	*	*	*	*	*	12	33	
01:00	*	*	*	*	6	44	10	36	*	*	*	*	*	*	8	40	
02:00	*	*	*	*	21	38	22	38	*	*	*	*	*	*	22	38	
03:00	*	*	*	*	33	**59**	17	**52**	*	*	*	*	*	*	25	**56**	
04:00	*	*	*	*	**41**	45	30	51	*	*	*	*	*	*	**36**	48	84
05:00	*	*	*	*	36	24	**33**	50	*	*	*	*	*	*	34	37	
06:00	*	*	*	*	14	37	23	33	*	*	*	*	*	*	18	35	
07:00	*	*	*	*	9	14	10	17	*	*	*	*	*	*	10	16	
08:00	*	*	*	*	10	12	10	9	*	*	*	*	*	*	10	10	
09:00	*	*	*	*	9	7	10	8	*	*	*	*	*	*	10	8	
10:00	*	*	*	*	4	3	1	3	*	*	*	*	*	*	2	3	
11:00	*	*	*	*	9	3	7	2	*	*	*	*	*	*	8	2	
Lane	0	0	0	0	267	784	245	835	0	0	0	0	0	0	257	810	
Day	0		0		1051		1080		0		0		0		1067		
AM Peak	-	-	-	-	08:00	07:00	08:00	07:00	-	-	-	-	-	-	08:00	07:00	
Vol.	-	-	-	-	12	123	12	122	-	-	-	-	-	-	12	122	
PM Peak	-	-	-	-	16:00	15:00	17:00	15:00	-	-	-	-	-	-	16:00	15:00	
Vol.	-	-	-	-	41	59	33	52	-	-	-	-	-	-	36	56	

Comb. Total	0	0	1051	1080	0	0	0	1067

ADT ADT 1,066 AADT 1,066

Accurate Counts
978-664-2565

Location : Route 126
Location : North of Province Road
City/State: Barrington, NH

Site Code: 66840001
6684VOL1

Start	05-Mar-14	NB		Hour Totals		SB		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	1			0	12				
12:15		2	5			1	5				
12:30		0	5			0	8				
12:45		1	4	3	15	0	6	1	31	4	46
01:00		0	2			1	6				
01:15		0	2			0	7				
01:30		0	0			0	17				
01:45		0	2	0	6	0	14	1	44	1	50
02:00		0	5			0	10				
02:15		0	2			2	5				
02:30		0	7			1	13				
02:45		0	7	0	21	2	10	5	38	5	59
03:00		0	5			1	16				
03:15		0	10			2	15				
03:30		0	11			0	15				
03:45		0	7	0	33	0	13	3	59	3	92
04:00		1	10			0	10				
04:15		0	12			3	15				
04:30		0	9			4	8				
04:45		2	10	3	41	4	12	11	45	14	86
05:00		0	11			5	12				
05:15		0	6			8	5				
05:30		0	10			14	2				
05:45		1	9	1	36	7	5	34	24	35	60
06:00		2	5			20	12				
06:15		2	2			22	6				
06:30		4	1			30	7				
06:45		0	6	8	14	27	12	99	37	107	51
07:00		1	2			33	3				
07:15		5	5			38	5				
07:30		0	1			22	4				
07:45		2	1	8	9	30	2	123	14	131	23
08:00		3	4			26	1				
08:15		1	1			17	3				
08:30		3	3			24	1				
08:45		5	2	12	10	13	7	80	12	92	22
09:00		3	3			10	1				
09:15		2	3			8	2				
09:30		2	2			10	1				
09:45		3	1	10	9	12	3	40	7	50	16
10:00		4	0			14	1				
10:15		2	0			6	1				
10:30		2	2			12	1				
10:45		1	2	9	4	7	0	39	3	48	7
11:00		1	1			9	2				
11:15		1	2			4	1				
11:30		2	6			9	0				
11:45		2	0	6	9	9	0	31	3	37	12
Total		60	207			467	317			527	524
Percent		22.5%	77.5%			59.6%	40.4%			50.1%	49.9%

Accurate Counts
978-664-2565

Location : Route 126
Location : North of Province Road
City/State: Barrington, NH

Site Code: 66840001
6684VOL1

Start	06-Mar-14	NB		Hour Totals		SB		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	2			0	9				
12:15		0	2			0	8				
12:30		0	1			0	11				
12:45		0	5	0	10	0	7	0	35	0	45
01:00		1	3			0	6				
01:15		0	2			0	9				
01:30		0	3			0	14				
01:45		0	2	1	10	1	7	1	36	2	46
02:00		0	5			0	9				
02:15		0	6			0	6				
02:30		0	5			2	12				
02:45		0	6	0	22	2	11	4	38	4	60
03:00		0	3			1	11				
03:15		0	3			1	10				
03:30		0	6			1	18				
03:45		3	5	3	17	1	13	4	52	7	69
04:00		5	5			2	10				
04:15		0	11			3	16				
04:30		0	8			3	15				
04:45		0	6	5	30	4	10	12	51	17	81
05:00		0	7			6	14				
05:15		0	9			9	11				
05:30		0	8			11	12				
05:45		2	9	2	33	20	13	46	50	48	83
06:00		2	7			14	9				
06:15		2	5			23	11				
06:30		3	3			33	6				
06:45		1	8	8	23	30	7	100	33	108	56
07:00		0	4			29	6				
07:15		0	1			37	4				
07:30		0	2			34	5				
07:45		4	3	4	10	22	2	122	17	126	27
08:00		4	4			35	4				
08:15		3	2			15	2				
08:30		0	2			17	3				
08:45		5	2	12	10	15	0	82	9	94	19
09:00		2	1			15	3				
09:15		0	1			14	0				
09:30		1	2			11	4				
09:45		4	6	7	10	6	1	46	8	53	18
10:00		1	0			13	0				
10:15		4	0			8	1				
10:30		4	1			10	1				
10:45		1	0	10	1	10	1	41	3	51	4
11:00		1	1			12	1				
11:15		1	4			8	0				
11:30		3	2			16	1				
11:45		5	0	10	7	7	0	43	2	53	9
Total		62	183			501	334			563	517
Percent		25.3%	74.7%			60.0%	40.0%			52.1%	47.9%
Grand Total		122	390			968	651			1090	1041
Percent		23.8%	76.2%			59.8%	40.2%			51.1%	48.9%
ADT		ADT 1,066		AADT 1,066							

Accurate Counts
978-664-2565

Location : Province Road
Location : West of Route 126
City/State: Barrington, NH

Site Code: 66840002
6684VOL2

Start	05-Mar-14	EB		Hour Totals		WB		Hour Totals		Combined Totals	
Time	Wed	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	5			3	4				
12:15		0	3			0	6				
12:30		0	4			1	3				
12:45		0	10	0	22	0	9	4	22	4	44
01:00		0	14			0	5				
01:15		1	22			1	7				
01:30		0	17			0	7				
01:45		0	8	1	61	0	5	1	24	2	85
02:00		0	9			1	3				
02:15		0	3			1	5				
02:30		0	7			0	7				
02:45		0	3	0	22	0	8	2	23	2	45
03:00		0	4			0	9				
03:15		0	6			0	14				
03:30		0	4			0	16				
03:45		0	5	0	19	0	17	0	56	0	75
04:00		1	3			0	22				
04:15		2	4			0	23				
04:30		1	8			0	13				
04:45		1	5	5	20	0	21	0	79	5	99
05:00		2	4			0	15				
05:15		3	12			0	14				
05:30		8	5			0	20				
05:45		5	9	18	30	0	15	0	64	18	94
06:00		14	4			1	19				
06:15		13	8			1	11				
06:30		16	2			3	12				
06:45		13	3	56	17	2	15	7	57	63	74
07:00		15	0			8	6				
07:15		24	4			3	10				
07:30		14	1			5	3				
07:45		20	2	73	7	5	8	21	27	94	34
08:00		9	0			2	12				
08:15		19	1			3	7				
08:30		9	1			4	5				
08:45		6	0	43	2	4	3	13	27	56	29
09:00		8	1			3	5				
09:15		10	3			2	7				
09:30		5	0			5	4				
09:45		8	1	31	5	3	3	13	19	44	24
10:00		5	0			3	4				
10:15		3	0			5	4				
10:30		6	0			3	1				
10:45		6	0	20	0	12	1	23	10	43	10
11:00		7	0			12	2				
11:15		8	0			16	0				
11:30		2	0			15	0				
11:45		6	0	23	0	16	2	59	4	82	4
Total		270	205			143	412			413	617
Percent		56.8%	43.2%			25.8%	74.2%			40.1%	59.9%

Accurate Counts
978-664-2565

Location : Province Road
Location : West of Route 126
City/State: Barrington, NH

Site Code: 66840002
6684VOL2

Start	06-Mar-14	EB		Hour Totals		WB		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	4			1	5				
12:15		0	2			2	12				
12:30		0	2			1	3				
12:45		0	6	1	14	0	9	4	29	5	43
01:00		0	3			0	5				
01:15		0	6			0	10				
01:30		0	6			0	6				
01:45		0	3	0	18	1	10	1	31	1	49
02:00		0	6			0	6				
02:15		0	6			2	9				
02:30		0	8			0	6				
02:45		0	8	0	28	0	12	2	33	2	61
03:00		1	10			0	16				
03:15		0	6			0	10				
03:30		0	1			0	13				
03:45		0	7	1	24	0	14	0	53	1	77
04:00		2	6			0	15				
04:15		1	4			0	17				
04:30		3	10			0	18				
04:45		2	11	8	31	0	18	0	68	8	99
05:00		1	9			1	15				
05:15		3	11			2	19				
05:30		4	7			0	18				
05:45		2	8	10	35	0	23	3	75	13	110
06:00		9	5			3	19				
06:15		17	3			0	17				
06:30		16	3			3	21				
06:45		10	8	52	19	1	22	7	79	59	98
07:00		25	5			4	5				
07:15		11	4			2	6				
07:30		21	2			8	13				
07:45		22	5	79	16	6	10	20	34	99	50
08:00		12	8			3	9				
08:15		17	2			4	9				
08:30		12	3			5	5				
08:45		6	1	47	14	6	9	18	32	65	46
09:00		6	9			2	17				
09:15		6	5			2	5				
09:30		7	0			2	3				
09:45		13	0	32	14	5	3	11	28	43	42
10:00		6	3			3	5				
10:15		6	3			2	5				
10:30		7	0			8	2				
10:45		6	2	25	8	3	4	16	16	41	24
11:00		7	1			5	2				
11:15		6	0			8	2				
11:30		5	0			3	2				
11:45		6	0	24	1	5	0	21	6	45	7
Total		279	222			103	484			382	706
Percent		55.7%	44.3%			17.5%	82.5%			35.1%	64.9%
Grand Total		549	427			246	896			795	1323
Percent		56.3%	43.8%			21.5%	78.5%			37.5%	62.5%
ADT		ADT 1,059		AADT 1,059							

Accurate Counts
978-664-2565

Location : Province Road
Location : West of Route 126
City/State: Barrington, NH

Site Code: 66840002
6684VOL2

Start	03-Mar-14		Tue		Wed		Thu		Fri		Sat		Sun		Week Average		
Time	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	
12:00 AM	*	*	*	*	0	4	1	4	*	*	*	*	*	*	0	4	
01:00	*	*	*	*	1	1	0	1	*	*	*	*	*	*	0	1	
02:00	*	*	*	*	0	2	0	2	*	*	*	*	*	*	0	2	
03:00	*	*	*	*	0	0	1	0	*	*	*	*	*	*	0	0	
04:00	*	*	*	*	5	0	8	0	*	*	*	*	*	*	6	0	
05:00	*	*	*	*	18	0	10	3	*	*	*	*	*	*	14	2	
06:00	*	*	*	*	56	7	52	7	*	*	*	*	*	*	54	7	
07:00	*	*	*	*	**73**	21	**79**	20	*	*	*	*	*	*	**76**	20	96
08:00	*	*	*	*	43	13	47	18	*	*	*	*	*	*	45	16	
09:00	*	*	*	*	31	13	32	11	*	*	*	*	*	*	32	12	
10:00	*	*	*	*	20	23	25	16	*	*	*	*	*	*	22	20	
11:00	*	*	*	*	23	**59**	24	**21**	*	*	*	*	*	*	24	**40**	
12:00 PM	*	*	*	*	22	22	14	29	*	*	*	*	*	*	18	26	
01:00	*	*	*	*	**61**	24	18	31	*	*	*	*	*	*	**40**	28	
02:00	*	*	*	*	22	23	28	33	*	*	*	*	*	*	25	28	
03:00	*	*	*	*	19	56	24	53	*	*	*	*	*	*	22	54	
04:00	*	*	*	*	20	**79**	31	68	*	*	*	*	*	*	26	**74**	
05:00	*	*	*	*	30	64	**35**	75	*	*	*	*	*	*	32	70	102
06:00	*	*	*	*	17	57	19	**79**	*	*	*	*	*	*	18	68	
07:00	*	*	*	*	7	27	16	34	*	*	*	*	*	*	12	30	
08:00	*	*	*	*	2	27	14	32	*	*	*	*	*	*	8	30	
09:00	*	*	*	*	5	19	14	28	*	*	*	*	*	*	10	24	
10:00	*	*	*	*	0	10	8	16	*	*	*	*	*	*	4	13	
11:00	*	*	*	*	0	4	1	6	*	*	*	*	*	*	0	5	
Lane	0	0	0	0	475	555	501	587	0	0	0	0	0	0	488	574	
Day	0		0		1030		1088		0		0		0		1062		
AM Peak	-	-	-	-	07:00	11:00	07:00	11:00	-	-	-	-	-	-	07:00	11:00	
Vol.	-	-	-	-	73	59	79	21	-	-	-	-	-	-	76	40	
PM Peak	-	-	-	-	13:00	16:00	17:00	18:00	-	-	-	-	-	-	13:00	16:00	
Vol.	-	-	-	-	61	79	35	79	-	-	-	-	-	-	40	74	

Comb. Total	0	0	1030	1088	0	0	0	1062

ADT ADT 1,059 AADT 1,059

SEASONAL ADJUSTMENT DATA

Year 2013 Monthly Data

Peak Hour Data

Station = 255001 Lee, NH 125 N of Lee Traffic Circle Group: 04

	Data				Factors			
Month	AM	Mid	PM	Sat Mid	AM	Mid	PM	Sat Mid
Jan	1024	764	1171	947	1.06	1.12	1.08	1.18
Feb	1038	794	1164	793	1.05	1.08	1.08	1.40
Mar	1045	768	1218	1031	1.04	1.11	1.03	1.08
Apr	1106	817	1260	1065	0.98	1.05	1.00	1.04
May	1166	878	1343	1142	0.93	0.97	0.94	0.97
Jun	1173	887	1369	1210	0.93	0.96	0.92	0.92
Jul	1067	963	1314	1319	1.02	0.89	0.96	0.84
Aug	1059	954	1332	1324	1.03	0.90	0.95	0.84
Sep	1152	877	1292	1174	0.95	0.97	0.98	0.95
Oct	1157	848	1293	1191	0.94	1.01	0.97	0.93
Nov	1087	851	1232	1082	1.00	1.00	1.02	1.03
Dec	990	852	1139	1077	1.10	1.00	1.11	1.03
Average	1089	854	1261	1113				
Peak	1173		1369					

March Adjustment to Peak Month:

1.12 **1.12**

Average Daily Data

	Data				Factors			
Month	AveSun	AveWD	AveSat	AveDay	AveSun	AveWD	AveSat	AveDay
Jan	9034	12995	11440	12283	1.23	1.11	1.16	1.13
Feb	7520	13372	9464	11977	1.48	1.08	1.40	1.15
Mar	9971	13603	12386	12821	1.12	1.07	1.07	1.08
Apr	10824	14301	12634	13615	1.03	1.01	1.05	1.02
May	11976	15470	13914	14818	0.93	0.94	0.95	0.93
Jun	13224	15770	14919	15204	0.84	0.92	0.89	0.91
Jul	14050	15734	15281	15458	0.79	0.92	0.87	0.89
Aug	14438	15841	15160	15550	0.77	0.91	0.87	0.89
Sep	12208	14974	14518	14452	0.91	0.97	0.91	0.96
Oct	11824	14784	14356	14347	0.94	0.98	0.92	0.96
Nov	10226	13923	12626	13214	1.09	1.04	1.05	1.05
Dec	8257	13088	12026	12171	1.35	1.11	1.10	1.14
Average	11129	14488	13227	13826				
Peak		15841						

March Adjustment to Peak Month:

1.16