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26 June 2020 Project: 190496

Greg Sweetnam
James Dick Construction Limited
14442 Highway 50
Box 470
Bolton ON L7E 5TA

Dear Mr. Sweetnam:

RE: REID ROAD RESERVOIR QUARRY – TRANSPORTATION IMPACT STUDY (UPDATE)

This version of the Transportation Impact Study has been completed with regard to all of the most recent and relevant transportation comments from the JART with the exception of seasonal variation. In our correspondence with MTO on April 30, 2020 they indicated that "Based on historical turning movement counts, peak hour ramp volumes appear to be similar during summer and winter conditions. Therefore, seasonal factors do not need to be applied."

We continue to utilize a seasonal variation factor based on the following quantitative approach:

The TMC data collected for the purpose of this TIS was obtained in February 2017 and represents Winter Average Daily Traffic (WADT) conditions. These volumes have been factored to a Summer Average Daily Traffic (SADT) condition using a factor of 1.25 (SADT/WADT) derived from historical traffic volumes for Highway 401. It is evident from Table 2 below that there is a clear and defensible trend between 1988 and 2016 of significant seasonal variation between winter and summer traffic volumes.

Furthermore, the quarry's shipping activity is expected to peak during the summer months. The use of SADT volumes reflects a peak condition for the site and the adjacent major roadways and provides for a conservative analysis in which appropriate mitigation measures can be determined.

From our perspective the data clearly supports our approach. Should the MTO produce quantitative data showing little to no seasonal variation then we will be prepared to provide a further addendum letter to identify the timing and extent of mitigation measures.

TABLE 1: HISTORICAL MONTHLY SHIPPING ACTIVE – ESTIMATED PERCENT OF LICENSE LIMIT (TIS REPORT TABLE 3.1)

Month	Percent of License Limit. 5-Year Average	Extrapolated To Subject Site (Tonnes*)		
January	3.18	31,480		
February	2.60	25,780		
March	4.47	44,215		
April	6.64	65,735		
May	9.02	89,300		
June	11.63	115,115		
July	11.11	110,010		
August	11.09	109,790		
September	10.86	107,535		
October	10.48	103,730		
November	11.43	113,175		
December	7.49	74,135		
Total	100.00	990,000		

<sup>\*</sup> Round to nearest 5 tonnes

## **TABLE 2: HIGHWAY 401 PROVINCIAL HIGHWAY TRAFFIC VOLUMES 1988-2016**

401 - Guelph Line GUELPH LINE IC-312-HALTON RD 1-MILTON								
Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR	WADT to SADT	
1988	IC	55,100	63,900	62,200	48,400	0.9	1.32	
1989	IC	60,300	69,300	68,100	53,600	0.9	1.29	
1990	IC	61,500	70,100	68,800	54,700	0.8	1.28	
1991	IC	64,100	72,300	71,000	57,000	0.6	1.27	
1992	IC	64,800	73,200	72,500	57,600	0.7	1.27	
1993	IC	65,500	72,700	72,000	59,600	0.8	1.22	
1994	IC	70,800	78,900	79,600	62,700	1.0	1.26	
1995	IC	76,000	84,700	85,900	67,300	0.7	1.26	
1996	IC	79,400	88,500	89,700	70,300	0.4	1.26	
1997	IC	82,800	92,300	93,600	72,900	0.3	1.27	
1998	IC	86,200	96,100	96,900	76,400	0.3	1.26	
1999	IC	91,700	102,200	103,100	81,200	0.4	1.26	
2000	IC	92,500	103,100	104,000	82,000	0.5	1.26	
2001	IC	95,100	106,500	106,500	83,700	0.5	1.27	
2002	IC	96,800	107,900	108,700	85,300	0.4	1.26	
2003	IC	104,400	115,900	116,900	91,900	0.5	1.26	
2004	IC	102,800	114,600	115,700	91,100	0.7	1.26	
2005	IC	97,600	108,500	109,600	86,000	0.7	1.26	
2006	IC	100,500	111,600	112,700	89,000	0.4	1.25	
2007	IC	97,900	108,700	112,100	86,500	0.6	1.26	
2008	IC	103,900	115,100	111,400	91,600	0.8	1.26	
2009	IC	104,500	117,100	118,100	93,600	0.6	1.25	
2010	IC	104,000	118,800	119,800	95,100	0.3	1.25	
2011	IC	105,000	115,500	119,700	94,500	N/A	1.22	
2012	IC	105,000	116,600	112,400	93,500	N/A	1.25	
2013	IC	107,000	118,800	117,700	95,200	N/A	1.25	
2014	IC	108,300	120,200	119,100			1.25	
2015	IC		118,900			N/A	1.25	
2016	IC	110,500	122,700	121,600	98,400	N/A	1.25	

We trust that the foregoing information will meet your requirements. Please do not hesitate to contact us if we can be of further assistance.

Yours truly,

## PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Scott Catton, C.E.T. Senior Project Manager Stew Elkins, BES

Vice President and Chief Resource Officer