

Drain Bros Excavating Limited  
2130 8<sup>th</sup> Line Road, North  
Douro-Dummer, ON K0L 2H0.  
705-639-2301 | Fax: 705-639-2516 | www.drainbros.ca



June 30, 2020

The Township of Douro-Dummer  
894 South Street, P.O. Box 92  
Warsaw, Ontario  
K0L 3A0

Attention: Council Members

Re: Tender for Contract No. T-2020-04  
Daleview Road Reconstruction  
Douro-Dummer, Ontario  
Everlife Flex Municipal Thin Lift Asphalt Mix in lieu of HFMS-20

Dear Council Members,

Drain Brothers Excavating Limited have through our engineers at McAsphalt Industries developed a cost-effective high-performance polymer modified asphalt cement.

The product has been developed as a thin lift mix tailored to traffic volumes and climate conditions for rural roads with low to moderate traffic volumes. The Everlife Flex PMA (Polymer Modified Asphalt Cement) is engineered to provide enhanced resistance to low temperature cracking of the mix. The mix has increased AC content and premium high-quality aggregates incorporated into the asphalt pavement from conventional surface binders which provides the durability and extended fatigue life.

As this is a relatively new product with 2019 being its first year of application, we are unable, at this time, to provide any historical data of any significance on its maintenance, repair and life expectancy.

We along with our clients have been very pleased with the results in the use of this product and see this as a cost-effective alternative to Surface Treatment. If any members of council or Road staff are interested, we are willing to set up a site visit to one of our completed Municipal projects where we have used this product.

Drain Bros. as an Asphalt producer believe that this thin lift mix product will have a longer life cycle than Surface Treatment with less maintenance (no loss of surface material during plowing operations and from Vehicular Traffic usage) and provide a more durable finish.

Drain Bros Excavating Limited will warranty the Everlife Flex Pavement for two years for Drain Bros scope of work.

Trusting the attached to be in order and should you have any questions or require any additional information please call the undersigned at my office number 705-639-2301.

Yours truly

A handwritten signature in blue ink, appearing to read "D. Drain", is written over a horizontal line.

Darrell Drain  
President  
Drain Bros Excavating Limited

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Douro-Dummer, ON K0L 2H0.  
705-639-2301 | Fax: 705-639-2516 | [www.drainbros.ca](http://www.drainbros.ca)



June 16, 2020

The Township of Douro-Dummer  
894 South Street, P.O. Box 92  
Warsaw, Ontario  
K0L 3A0

Attention: Council Members

Re: Tender for Contract No. T-2020-04  
Daleview Road Reconstruction  
Douro-Dummer, Ontario  
Everlife Flex Municipal Thin Lift Asphalt Mix in lieu of HFMS-20

Dear Council Members,

We would like to propose an alternate for the surfacing of the proposed roadway and driveways on this project with an Everlife Flex Municipal Thin Lift Asphalt in lieu of the indicated HFMS-20 Surface Treatment.

The product has been developed as a cost-effective thin lift mix tailored to traffic volumes and climate conditions for rural/urban roads with low to moderate traffic volumes. The Everlife Flex PMA (Polymer Modified Asphalt Cement) is engineered to provide enhanced resistance to low temperature cracking of the mix. The mix has increased AC content and premium high-quality aggregates incorporated into the asphalt pavement from conventional surface binders which provides the durability and extended fatigue life.

It is in our opinion that given the timing of this project we can provide a better end product using the Everlife Flex Municipal Thin Lift Asphalt alternative that would not be constrained by a set date as early as September 1<sup>st</sup> for completion.

The Granular Base structure as designed for the roadway and driveways will not change and the items intended for Surface Treatment that include an additional 50mm lift of Granular will also be included within our pricing with the Everlife Flex Municipal Thin Lift Asphalt.

To provide this alternate of an Everlife Flex Municipal Thin Lift (25-30mm) Asphalt Mix in lieu of the HFMS-20 Surface Treatment would cost an additional \$14,000.00 to the total tender price submitted. Drain Bros Excavating Limited will warranty the Everlife Flex Pavement for a period of two years after Substantial completion.

Trusting the attached to be in order and should you have any questions or require any additional information please call the undersigned at my office number 705-639-2301.

Yours truly

A handwritten signature in black ink, appearing to read 'Darrell Drain', with a stylized flourish at the end.

Darrell Drain  
President  
Drain Bros Excavating Limited



PRODUCT DATA SHEET

# EVERLIFE UT

ULTRA-THIN DURABLE ASPHALT MIX

**EVERLIFE UT** is an engineered dense-graded asphalt mixture designed for a single-lift thickness of less than 25 mm placed using conventional production and paving equipment.

**EVERLIFE UT** is a high-performance asphalt mix designed to provide greater durability than other surface treatments. This mix is designed to seal pavement structures with relatively good drainage.

**EVERLIFE UT** is designed to improve surface smoothness in order to achieve a better ride. This also helps to reduce the level of noise generated at the tire-pavement surface interface.

**EVERLIFE UT** is cost-effective and can be tailored to address specific traffic volumes and climatic conditions in order to provide superior flexibility in low temperatures and a high level of resistance to rutting in higher temperatures. This mix can also be produced at lower temperatures than conventional hot mix asphalt, reducing its emissions and lowering the process' energy consumption. Consequently, compaction temperatures are lower, reducing fumes and improving jobsite safety throughout the paving process.

## Recommended for rural roads and housing subdivisions

### FEATURES AND BENEFITS

- Uses customer-specified aggregates with gradations designed to provide superior rut and fatigue resistance
- Uses engineered binder containing specialty additives and polymer modifiers
- Engineered binder provides increased durability and crack resistance at different seasonal temperatures combined with traffic loadings
- Increased asphalt cement content gives the mix excellent durability and extends its fatigue life under repetitive traffic.
- Works best when combined with a high-performance tack coat such as McAsphalt's CLEAN BOND COAT emulsion or a granular sealer

**McAsphalt Head Office**

8800 Sheppard Ave East

Toronto, ON M1B 5R4

**Phone** 416.281.8181

**Toll Free** 1.800.268.4238

**Fax** 416.281.8842

**Email** [info@mcasphalt.com](mailto:info@mcasphalt.com)

**Web** [www.mcasphalt.com](http://www.mcasphalt.com)

**ISO** 9001/14001/45001



## DESIGN GUIDELINES

**EVERLIFE UT** asphalt mix specifications will vary depending on jurisdictions and local practices. McAsphalt's Engineering Services will design a custom mix to meet all relevant specifications and performance criteria.

Our staff will:

- Custom-select and formulate the highly modified **EVERLIFE UT PMA** required;
- Select the appropriate aggregate and blending proportions; and
- Create a mix design, carry out performance testing, and recommend application processes.

## EVERLIFE UT POLYMER-MODIFIED ASPHALT

**EVERLIFE UT PMA** contains specialty modifiers and additives that improve mix handling during production and provide more workability at lower temperatures in the field when compared to traditional hot mix asphalt, all while achieving its targeted mix density.

**EVERLIFE UT PMA** is engineered to provide resistance to various distresses:

- Rutting at higher pavement temperatures
- Fatigue at intermediate and freeze-thaw temperatures
- Thermal cracking at low pavement temperatures

## SPECIFICATIONS

PROPERTY	SPECIFICATION	
	Min.	Max.
Sieve Size		
9.50 mm, % passing	-	100
4.75 mm, % passing	85	100
0.075 mm, % passing	6	12
Marshall Stability	7200	
Flow Index, 0.25 mm	8	
Fatigue Life by Semi-Circular Bending (SCB), I-FIT value (AASHTO TP 124)	15	

## CERTIFICATION OF QUALITY

McAsphalt's quality control plan is available to you, providing guidance on the production, lay-down, and compaction processes required to correctly apply **EVERLIFE UT** as well as offering continuous technical support during construction.

The quality control plan will ensure that:

- the **EVERLIFE UT** is produced at the recommended temperature;
- the **EVERLIFE UT PMA** is formulated to meet requirements and shipped at the correct temperature;
- appropriate lay-down equipment is utilized; and
- proper mix compaction is utilized to achieve **EVERLIFE UT's** target density

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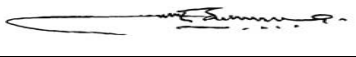
# McAsphalt Industries Limited

8800 Sheppard Avenue East, Scarborough, Ontario M1B5R4. TEL. 416-281-8181 FAX 416-281-7905

## MARSHALL MIX DESIGN REPORT

CONTRACTOR	Norway Asphalt Ltd			ITEM NO:	
CONTRACT #	Various	LOCATION:	2130 8th Line Road North, Douro-Dummer, Ontario K0L 2H0		
HWY:	Various	PLANT:	Norwood, Ontario	DATE SAMPLE REC'D:	March 11 2019
LAB MIX NO:	McA Ref R&D 453-E			DATE COMPLETED:	April 02 2019
HOT MIX TYPE:	Everlife UT ON				

TEST DATA CERTIFIED BY:

  
Michael Esenwa, P.Eng.

### JOB MIX FORMULA - GRADATION PERCENT PASSING\*

	%AC	26.5	19.0	16.0	13.2	9.5	4.75	2.36	1.18	600 mm	300 mm	0.15 mm	0.075 mm
JMF	6.70	100.0	100.0	100.0	100.0	100.0	88.6	48.3	32.3	23.2	13.5	8.9	7.5

	REQUIRED	SELECTED	%CA #1	%	BRD	ABS		
%VOIDS @ 90°C	3.00 - 5.0 max	3.5		32.0%	2.931	0.628	Gsb	2.913
FLOW (min.)	8 min	17.5					BRD	2.517
STABILITY (N)	7200 min	9816	%FA #1	10.0%	2.900	0.891	MRD	2.608
FBE (µm)	10,0 min	10.0	%FA #2	58.0%	2.906	0.802		

ASPHALT CEMENT	
SUPPLIER	PGAC
McAsphalt Industries	Everlife Flex PMA

ADDITIVE		
SUPPLIER	TYPE	as % of
McAsphalt Industries	Flex Additive	0.5%

AGG. TYPE	SOURCE/INVENTORY NO.	AGG. TYPE	SOURCE/INVENTORY NO.
COARSE	4.75 mm Chip		
AGG. #1	Drain Bros. - Havelock Quarry C01-054		
FINE	Manufactured Sand		
AGG. #1	Drain Bros. - Havelock Quarry C01-054		
FINE	Dry Screenings		
AGG. #2	Drain Bros. - Havelock Quarry C01-054		

AGG.	AGGREGATE GRADATION - PERCENT PASSING											
TYPE	26.5	19.0	16.0	13.2	9.5	4.75	2.36	1.18	600	300	150	75
CA #1	100.0	100.0	100.0	100.0	100.0	89.9	18.1	3.5	1.3	0.9	0.8	0.7
FA #1	100.0	100.0	100.0	100.0	100.0	100.0	96.7	90.1	74.3	21.6	6.3	3.7
FA #2	100.0	100.0	100.0	100.0	100.0	85.9	56.6	38.1	26.1	18.6	13.2	11.1

\* FINES RETURNED TO THE MIX: 0.5 % DUST COLLECTION SYSTEM: Baghouse

REMARKS:	Aggregate gradations based on Laboratory		
	Compacted at	75bps Handhammer	@ 125 °C. Mixing Temperature, T 140 °C.
	A.I. Procedures, No S.S.D. correction necessary.		
	Typical briquette wt. to achieve 63.0 +/- 2.5mm =	1250 g	
REVIEWED BY:	Michael Esenwa, P.Eng.		DATE: March 30, 2016

# McAsphalt Industries Limited

8800 Sheppard Avenue East, Scarborough, Ontario M1B 5R4. TEL. 416-281-8181 FAX. 416-281-7905

## 5 POINT MARSHALL MIX DESIGN

Pb (%AC): 5.7

Pb (%AC): 6.2

	1	2	3	Average		1	2	3	Average
Gmb (BRD)	2.494	2.491	2.495	2.493	Gmb (BRD)	2.509	2.508	2.509	2.509
Gmm (MRD)				2.651	Gmm (MRD)				2.629
Ps (Agg. % Wt. Of Total Mix)				94.3	Ps (Agg. % Wt. Of Total Mix)				93.8
Gsb (Bulk S.G. of Agg.)				2.913	Gsb (Bulk S.G. of Agg.)				2.913
Gse (Eff. S.G. of Agg.)				2.932	Gse (Eff. S.G. of Agg.)				2.932
VMA, %				19.30	VMA, %				19.2
Va (Air Voids), %				6.0	Va (Air Voids), %				4.6
Marshall Stability, N	10800	10818	11822	11147	Marshall Stability, N	10774	10786	9175.7	10245
Marshall Flow, 0.25mm	15.5	15.1	15.3	15.3	Marshall Flow, 0.25mm	16.5	16.3	16.2	16.3
Mix Appearance	D				Mix Appearance	M			
Briquette Appearance	D				Briquette Appearance	M			
Coating	FA-G, CA-G				Coating	FA-G, CA-G			
Aggregate Fracture	NIL				Aggregate Fracture	NIL			
Stripping	NIL				Stripping	NIL			

Pb (%AC): 6.70

	1	2	3	Average
Gmb (BRD)	2.519	2.517	2.516	2.517
Gmm (MRD)	2.608	2.607		2.608
Ps (Agg. % Wt. Of Total Mix)				93.3
Gsb (Bulk S.G. of Agg.)				2.913
Gse (Eff. S.G. of Agg.)				2.932
VMA, %				19.4
Va (Air Voids), %				3.5
Marshall Stability, N	9797	9785	9865	9816
Marshall Flow, 0.25mm	17.4	17.3	17.8	17.5
Mix Appearance	M			
Briquette Appearance	M			
Coating	FA-G, CA-G			
Aggregate Fracture	NIL			
Stripping	NIL			

Pb (%AC): 7.2

Pb (%AC): 7.7

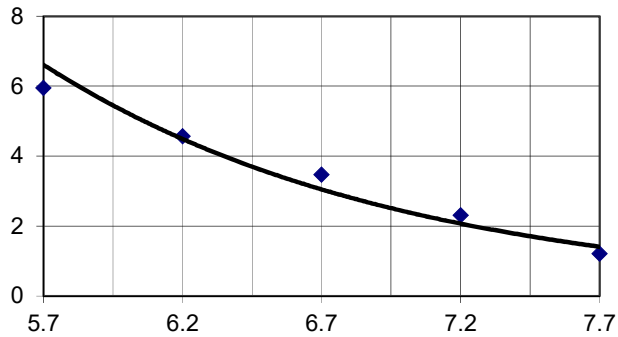
	1	2	3	Average		1	2	3	Average
Gmb (BRD)	2.525	2.525	2.528	2.526	Gmb (BRD)	2.537	2.531	2.534	2.534
Gmm (MRD)	2.586	2.585		2.586	Gmm (MRD)				2.565
Ps (Agg. % Wt. Of Total Mix)				92.8	Ps (Agg. % Wt. Of Total Mix)				92.3
Gsb (Bulk S.G. of Agg.)				2.913	Gsb (Bulk S.G. of Agg.)				2.913
Gse (Eff. S.G. of Agg.)				2.931	Gse (Eff. S.G. of Agg.)				2.932
VMA, %				19.5	VMA, %				19.7
Va (Air Voids), %				2.3	Va (Air Voids), %				1.2
Marshall Stability, N	8742.1	8775.7	8798.1	8772	Marshall Stability, N	7563.6	7908.5	7898.1	7790
Marshall Flow, 0.25mm	18.5	18.4	18.5	18.5	Marshall Flow, 0.25mm	19.4	19.3	19.2	19.3
Mix Appearance	M/R				Mix Appearance	M/R			
Briquette Appearance	M/R				Briquette Appearance	M/R			
Coating	FA-G, CA-G				Coating	FA-G, CA-G			
Aggregate Fracture	NIL				Aggregate Fracture	NIL			
Stripping	NIL				Stripping	NIL			

# McAsphalt Industries Limited

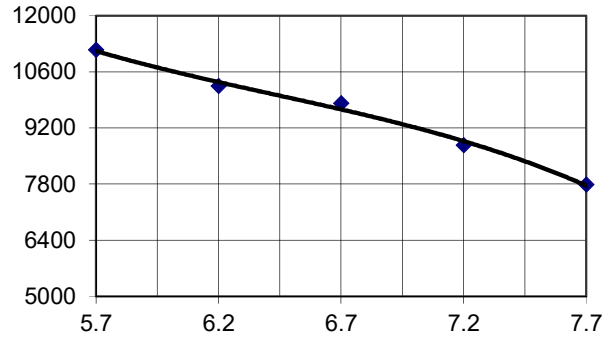
8800 Sheppard Avenue East, Scarborough, Ontario M1B 5R4. TEL. 416-281-8181 FAX. 416-281-7905

## MARSHALL PROPERTIES

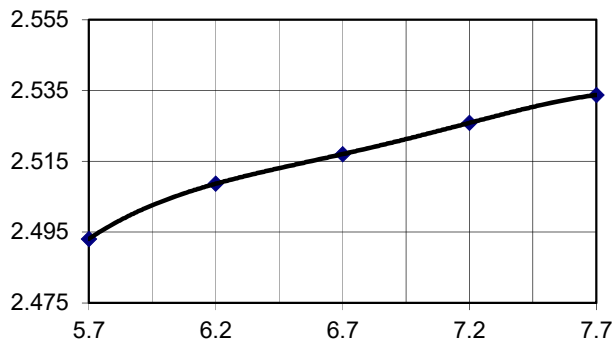
**AIR VOIDS (%)**



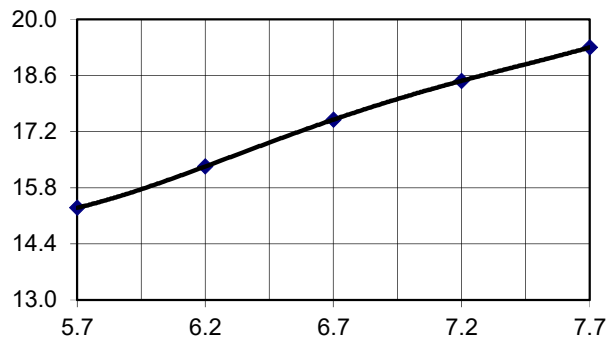
**STABILITY, N (X1000)**



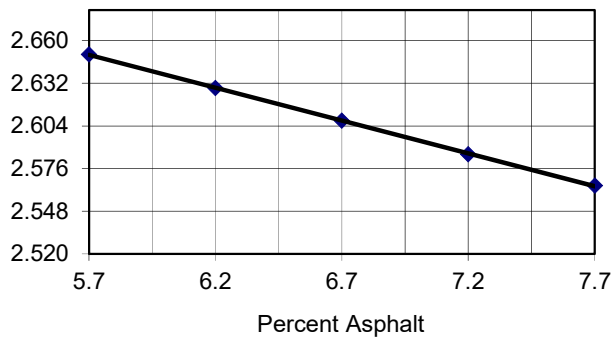
**BULK RELATIVE DENSITY**



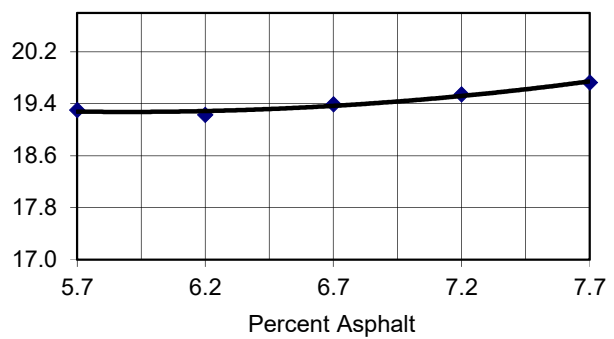
**MARSHALL FLOW (0.25mm)**



**MAXIMUM RELATIVE DENSITY**



**%VMA**





# McAsphalt Industries Limited

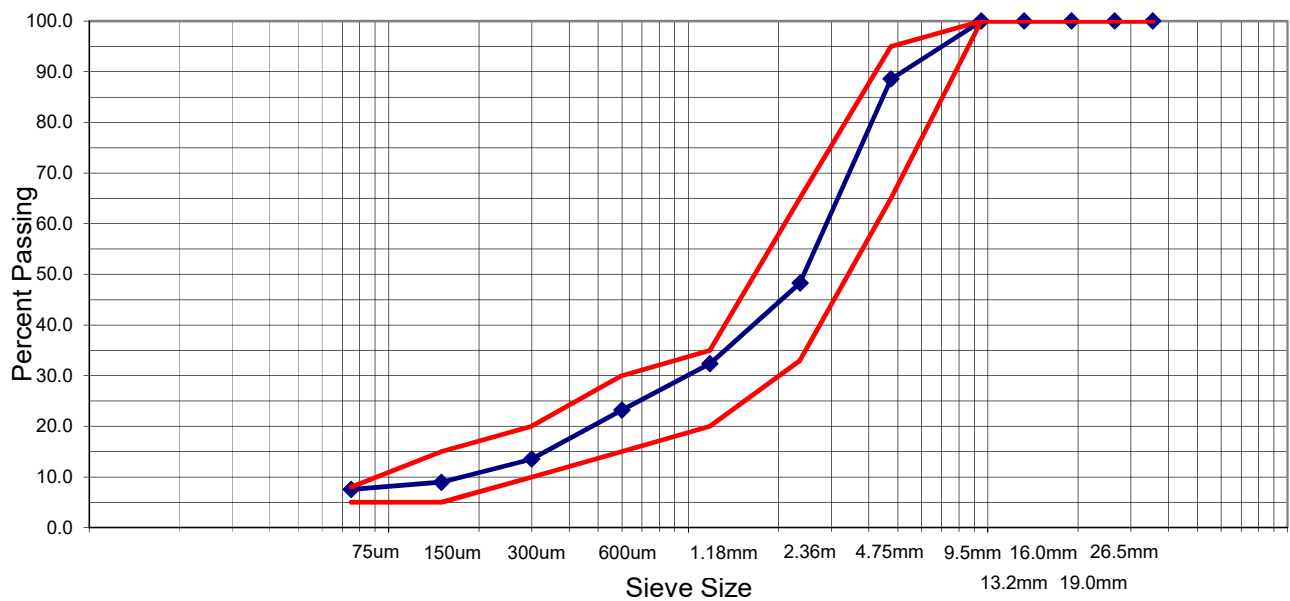
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## BITUMINOUS MIX DESIGN REPORT

Everlife UT ON Mix

JOB MIX FORMULA - GRADATION PERCENT PASSING												
	35.5	26.5	19.0	13.2	9.5	4.75	2.36	1.18	0.600	0.300	0.150	0.075
JMF	100.0	100.0	100.0	100.0	100.0	88.6	48.3	32.3	23.2	13.5	8.9	7.5
MAX	100	100	100	100	100	95	65	35	30	20	15	8
MIN	100	100	100	100	100	65	33	20	15	10	5	5

JMF Gradation



TWP. Of NORTH KAWARTHA - 2019

Project: Apsley - Various Locations

Results Summary- Everlife UT ON (HL-2 HS) JMF 453-E

2019

Sample No.	1	2	3	4	5	6
	(Norway)	(Norway)	(Norway)	(Norway)	(Norway)	(Norway)
Date	11-Jun-2019	11-Jun-2019	11-Jun-2019	12-Jun-2019	12-Jun-2019	13-Jun-2019
Ticket No.	N288937	N288982	N288995	N289079	N289236	N289282
453_E	453-E	453-E	453-E	453-E	453-E	453-E
Everlife Flex PMA made this						
Lab #	1 i.o.	2 i.o.	3 i.o.	4 i.o.	5 i.o.	6 i.o.
A.C. (6.7%)	6.96	6.65	6.70	6.68	6.72	6.65
Grading:						
13.2 (100.0)	100.0	100.0	100.0	100.0	100.0	100.0
9.5 (100.0)	97.9	100.0	100.0	100.0	100.0	100.0
4.75 (88.6)	86.2	87.2	89.0	87.8	88.6	89.1
2.36 (48.3)	48.6	47.9	49.1	47.6	51.0	49.2
1.18 (32.3)	32.2	30.6	31.4	30.6	33.7	31.8
0.600 (23.2)	23.4	21.6	22.4	22.1	24.4	22.9
0.300 (13.5)	15.5	12.2	13.1	12.9	14.7	13.8
0.150 (8.9)	9.9	7.9	9.1	8.8	10.0	9.5
0.075 (7.5)	6.6	5.8	6.9	6.8	7.3	7.0
Gmb(BRD)-(2.517)	2.523	2.525	2.527	2.533	2.521	2.530
Gmm(MRD)-(2.608)	2.612	2.605	2.604	2.610	2.610	2.612
Air Voids (%)-(3.5%)	3.1	3.1	3.0	3.0	3.4	3.1
VMA(%) - (?%)	20.4	19.1	19.1	18.9	19.3	18.9
Stability (N) - 9,816 (8,900 min.)	9,880	10,647	11,581	11,649	15,907	16,218
Flow (0.25mm) -17.5 ( 8.0 min.)	12.6	11.1	15.0	13.2	11.1	11.6

Borderline	
Rejectable	

Madoc Township - 2020  
Project: O'Hara Rd.  
Results Summary- Everlife UT ON (HL-2 HS) JMF 453-E  
**2020**

[illegible]

Borderline	Yellow
Rejectable	Red