

# Vermont's Municipal Roads General Permit



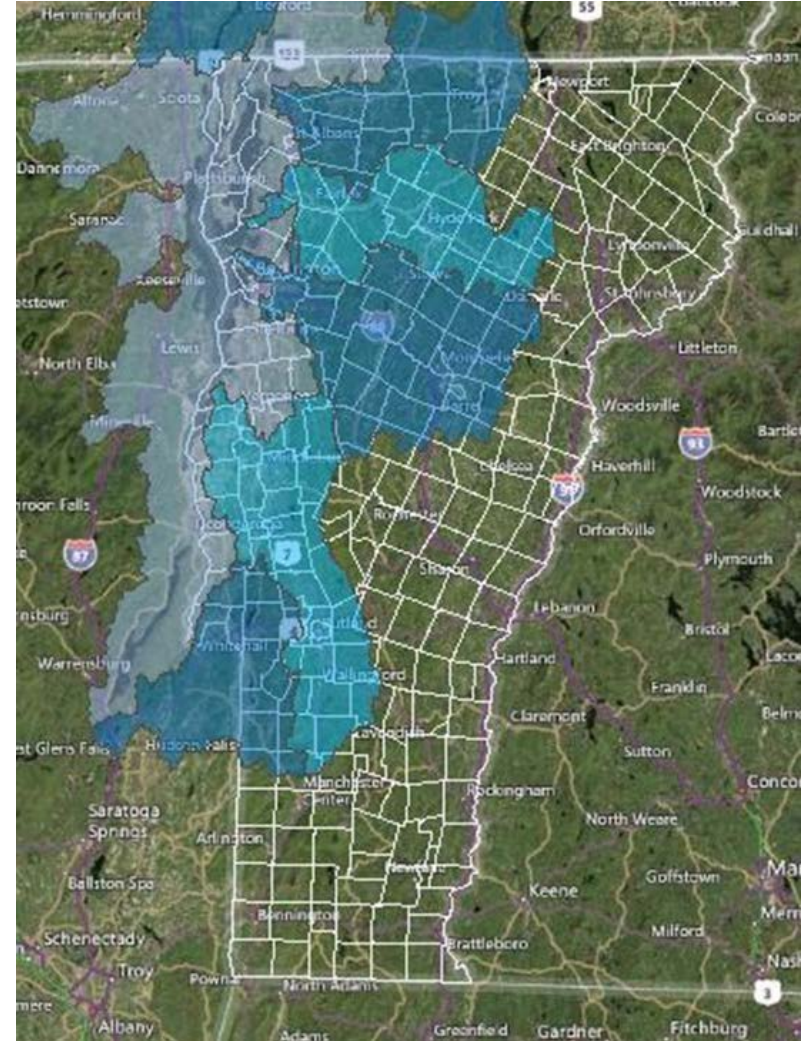
Christy Witters  
VT DEC Stormwater Program  
ACWA National Stormwater Roundtable  
February 22, 2018 – Atlanta, GA



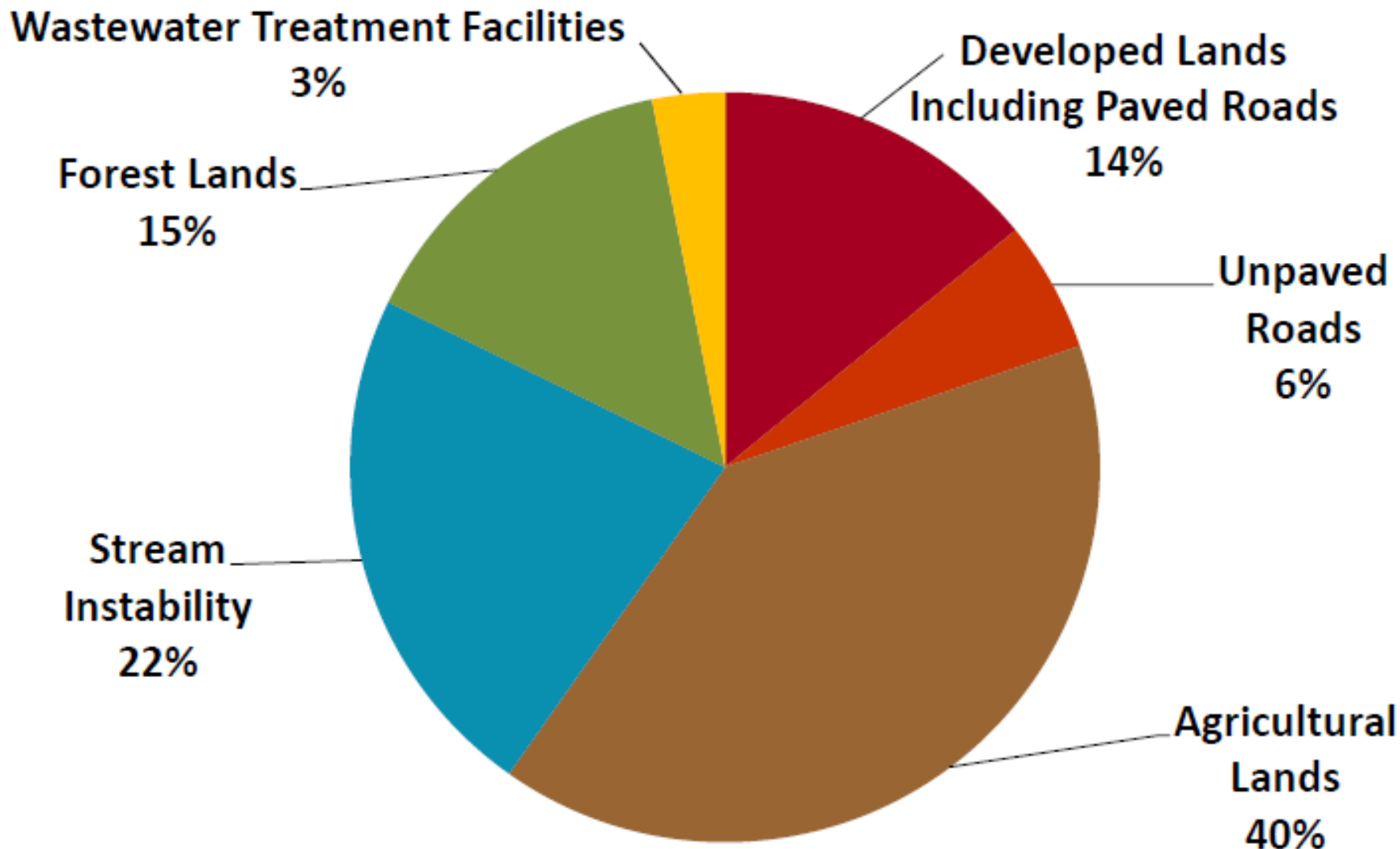
# Overview

- Lake Champlain Phosphorus TMDLs
- Implementation Commitments
- Municipal Roads General Permit

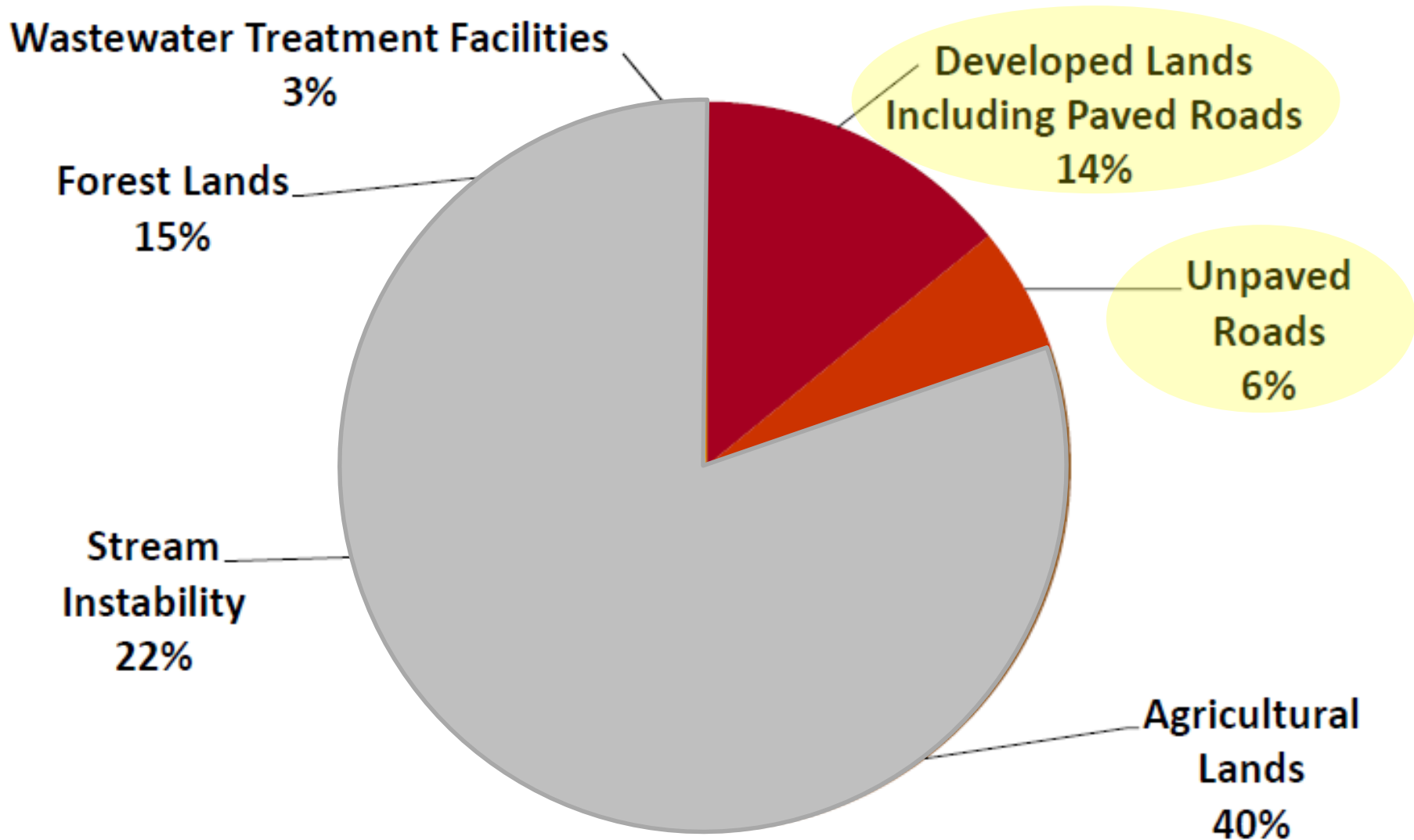
# Lake Champlain Phosphorus TMDLs



## Sources of phosphorus in the Vermont portion of the Lake Champlain Basin (Preliminary estimates from Tetra Tech, 2013)



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# Implementation Commitments

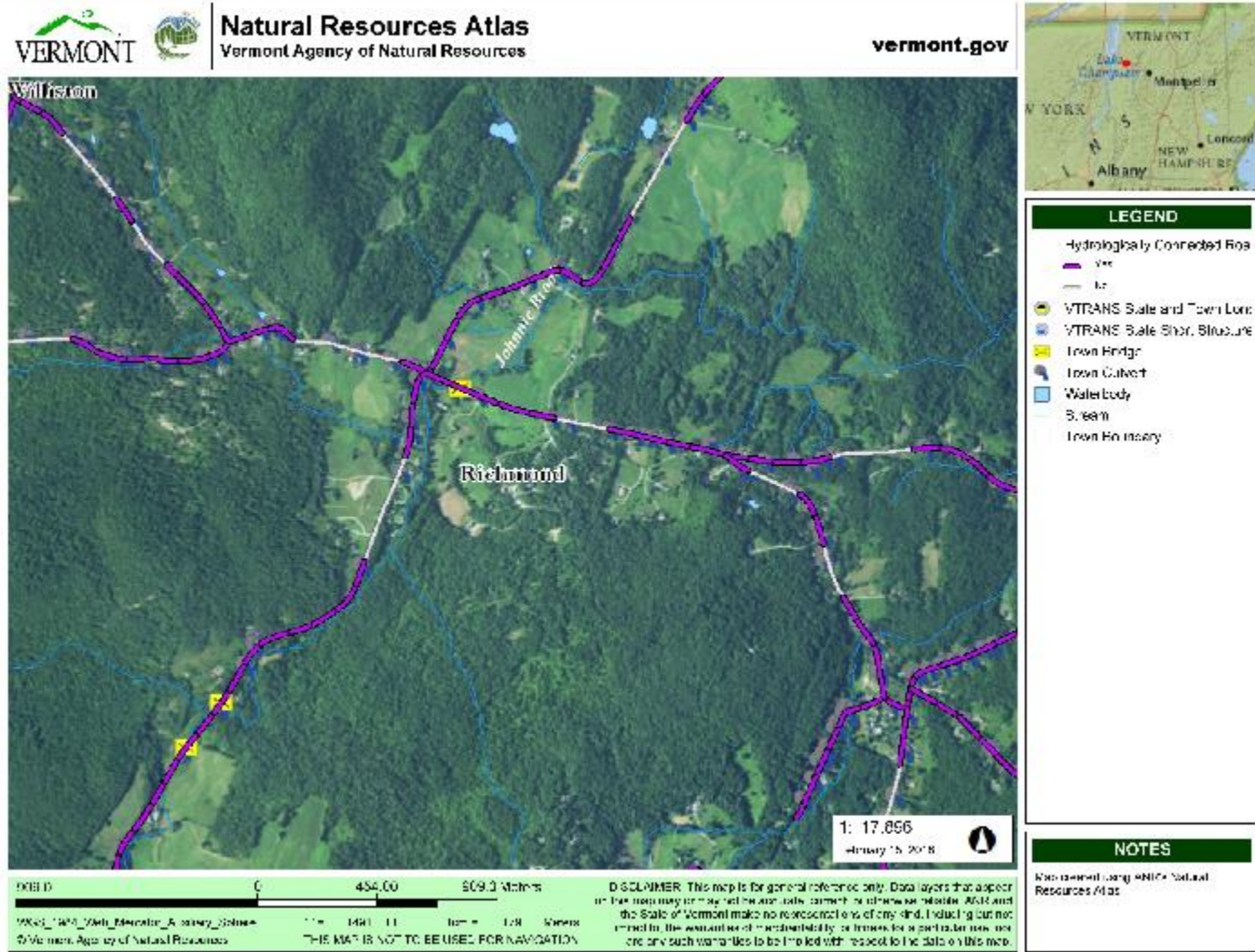
- MS4 Phosphorus Control Plans
- VTrans 'TS4' Statewide permit
- Retrofit permit for all '3 acre' sites
- **Municipal Roads General Permit (MRGP)**



# MRGP Applicability

- All of VT's 247 towns (+ 12 MS4s)
- 13,000+ miles town owned roads
- Paved, gravel, and Class 4 roads
- Only applies to hydrologically connected segments

# MRGP Requirements: Road Erosion Inventory





# MRGP Requirements: Road Erosion Inventory



**Road Erosion Inventory Form A**  
**PAVED ROADS WITH OPEN DITCHES**  
**GRAVEL/OPEN (DITCHED) NON CLASS 4 ROADS**

1 road segment = 100 meters = 328 feet  
 Both sides of road = 200 meters = 656 feet  
 Street flow < 1" erosion depth  
 RII 1" - 1.1" erosion depth  
 Gully 1.2" erosion depth

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Road Segment Name, Town Highway Number & Segment ID Number:	ANR Atlas Slope:	Field Determined Slope:	Road Type: <input type="checkbox"/> Paved <input type="checkbox"/> Gravel
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**1. ROADWAY CROWN/TRAVEL LANE:** (N/A for Paved) What percentage of the segment (1/4" to 1/2" per foot), in-sloped, or out-sloped? Note if erosion is present due to poor road surface material.

<input type="checkbox"/> 0% - 49% (0' - 163')	<input type="checkbox"/> 50% - 89% (164' - 294')	<input type="checkbox"/> 90% - 100% (295' - 328')	<input type="checkbox"/> RII <input type="checkbox"/> Gully
Does Not Meet	Partially Meets	Fully Meets	

**2. GRADER BERM/WINDROW:** What percentage of the segment (both sides of road, 200m, 656') is the grader berm/windrow removed? (N/A for paved roads)

<input type="checkbox"/> 0% - 49% (0' - 327')	<input type="checkbox"/> 50% - 89% (328' - 656')	<input type="checkbox"/> 90% - 100% (657' - 656')	<input type="checkbox"/> RII <input type="checkbox"/> Gully
Does Not Meet	Partially Meets	Fully Meets	

**3. ROAD DRAINAGE:** What percentage of the segment (both sides of road, 200m, 656') is the allowed to shed in a distributed manner to a vegetated or forested filter area (shoulder lower than travel lane) or drainage ditch stabilized appropriately for the slope range below?

- < 5% slope: stabilized with vegetation, stone-lined, or check dams
- > 5% to < 8% slope: stabilized with stone-lined ditch or combination of grass lined ditch with check dams or grass-lined ditch if installed with disconnection practices such as turnouts and cross culverts
- > 8% slope: stone lined ditch required

<input type="checkbox"/> 0% - 49% (0' - 327')	<input type="checkbox"/> 50% - 89% (328' - 656')	<input type="checkbox"/> 90% - 100% (657' - 656')	<input type="checkbox"/> RII <input type="checkbox"/> Gully
Does Not Meet	Partially Meets	Fully Meets	

**4. CONVEYANCE AREA/TURNOUT:** Do drainage outlets/conveyance areas meet the standard of being turned out, shed in a distributed manner down the bank (shedding water), and/or stabilized with vegetation (< 5% slope) or stone (> 5% slope)?

One or more areas does not meet standard.  All areas meet standard.  RII  Gully

**E. & F. DRIVEWAY & DRAINAGE CULVERTS**

A. Type of culvert?	B. Is erosion present?	C. Where in the culvert cross section is erosion present and is it RII or gully erosion? SEE CULVERT CROSS SECTION DIAGRAM		
		C1. Failing header/end treatment?	C2. Outlet scour or perched culvert?	C3. Underpass/marginal structure/poor condition?
<input type="checkbox"/> Driveway <input type="checkbox"/> Drainage	<input type="checkbox"/> No (Fully Meets) <input type="checkbox"/> Yes (complete C)	<input type="checkbox"/> RII (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> RII (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> RII (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)
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**(Optional) IS OTHER RII OR GULLY EROSION PRESENT?**

<input type="checkbox"/> Road-shoulder embankment erosion	<input type="checkbox"/> RII	<input type="checkbox"/> Historic stone walls, LP
<input type="checkbox"/> Outside the Right of Way, i.e. agriculture, logging erosion, or private road/drive erosion	<input type="checkbox"/> Gully	<input type="checkbox"/> Historic large trees, LP
<input type="checkbox"/> Other:		<input type="checkbox"/> Buried up flow, LP
		<input type="checkbox"/> Wetland, LP

**Notes:**

Overall Segment Score:  Fully Meets  Partially Meets  Does Not Meet

Updated December 2017

# MRGP Requirements: Road Erosion Inventory



- Crowning
- Culverts
- Outfalls





# MRGP Requirements: Implementation Table

- Enter REI scores
- Prioritize road segments





Segment		Assessment											Status	Priority
Num	Road Name	ID	Date	Reason	Road Type	Slope	Crown	Berm / windrow	Drainage	Conveyance	Drive Culvert	Drainage Culvert		
10443	BLUSH HILL RD	500	7/1/2017	Work Done	Paved - Non Curbed	6.75	F	F	F	F			Fully Meets	
10446	BLUSH HILL RD	502	7/1/2017	Work Done	Paved - Non Curbed	7.79	F	F	F	F			Fully Meets	
10447	BLUSH HILL RD	504	7/1/2017	Work Done	Paved - Non Curbed	13.95	F	F	F	F			Fully Meets	
106187	GREGG HILL RD	507	7/1/2017	Work Done	Paved - Curbed	6.45			F	F			Fully Meets	
106200	GREGG HILL RD	505	7/1/2017	Work Done	Paved - Non Curbed	0.13	F	F	F	F			Fully Meets	
106201	GREGG HILL RD	226	1/1/2017	Initial Inventory	Paved - Curbed	6.42			F	F			Fully Meets	
106218	GREGG HILL RD	514	7/1/2017	Work Done	Paved - Curbed	5.86			F	F			Fully Meets	
		404	4/1/2017	Re Assessment	Paved - Curbed	5.86			D	F			Does Not Meet	High
		223	1/1/2017	Initial Inventory	Paved - Curbed	5.86			D	F			Does Not Meet	High
106223	GREGG HILL RD	511	7/1/2017	Work Done	Paved - Curbed	12.13			F	F			Fully Meets	
106224	GREGG HILL RD	516	7/1/2017	Work Done	Paved - Curbed	1.81			F	F			Fully Meets	
106226	GREGG HILL RD	508	7/1/2017	Work Done	Paved - Curbed	6.16			F	F			Fully Meets	
106227	GREGG HILL RD	512	7/1/2017	Work Done	Paved - Curbed	2.5			F	F			Fully Meets	
106230	GREGG HILL RD	213	1/1/2017	Initial Inventory	Class 4	3.33							Fully Meets	
106233	GREGG HILL RD	509	7/1/2017	Work Done	Paved - Curbed	5.76			F	F			Fully Meets	
106239	GREGG HILL RD	227	1/1/2017	Initial Inventory	Paved - Curbed	10.58			D	F			Does Not Meet	Very high
106241	GREGG HILL RD	510	7/1/2017	Work Done	Paved - Curbed	0.15			F	F			Fully Meets	
106242	GREGG HILL RD	513	7/1/2017	Work Done	Paved - Curbed	6.45			F	F			Fully Meets	
106247	GREGG HILL RD	506	7/1/2017	Work Done	Paved - Curbed	5.11			F	F			Fully Meets	
106248	GREGG HILL RD	515	7/1/2017	Work Done	Paved - Curbed	5.14			F	F			Fully Meets	
106599	GROVE LN	229	1/1/2017	Initial Inventory	Paved - Curbed	6.98			F	D			Does Not Meet	High
106600	GROVE LN	228	1/1/2017	Initial Inventory	Paved - Curbed	3.39			F	F			Fully Meets	
106601	GROVE LN	230	1/1/2017	Initial Inventory	Paved - Curbed	10.18			P	F			Partially Meets	Moderate
111105	HENRY HOUGH RD	243	1/1/2017	Initial Inventory	Paved - Curbed	15.67			D	F			Does Not Meet	Very high
115163	HUBBARD FARM RD	250	1/1/2017	Initial Inventory	Paved - Non Curbed	6.85	F	F	F	F			Fully Meets	
115165	HUBBARD FARM RD	248	1/1/2017	Initial Inventory	Paved - Non Curbed	8.18	D	F	F	D			Does Not Meet	High
115168	HUBBARD FARM RD	249	1/1/2017	Initial Inventory	Paved - Non Curbed	5	P	P	P	F			Does Not Meet	High

# MRGP Standards: Upgrade Roads

- Baseline requirements for all roads



Crowning



Stable ditches



Stable turnouts



# MRGP Standards: Upgrade Roads

- Standards required if erosion is present



Culvert end treatments



Stabilized Outlets



18" culverts (driveway culverts may be 15")



# MRGP Deadlines

- Initial applications due July 31, 2018
- Road Erosion Inventory & Implementation Table due 2020
- All roads must meet standards by 2036



## For more information:

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<http://dec.vermont.gov/watershed>