

**Addendum to
STORM WATER MANAGEMENT REPORT**

**The Town of York Police Department
New Public Safety Building and Connector Road**
1051 US Route 1, York, Maine



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1 ADDENDUM DESCRIPTION

This addendum covers minor revisions that have been made to the site plans for the referenced project to add turning lanes at the Ridge Road intersection with the new Access Road. Minor changes have also been made to the sidewalk configuration at the entrance to the site. The changes will add approximately 2,250 sf of impervious area, the majority of which will be treated in existing BMPs that were shown on the original plans.

The modifications are so small in relation to the affected subcatchment area that there is no impact on the runoff and routing calculations, or stormwater quantity analysis. Minor revisions have been made to the water quality calculations to reflect this change.

2 STORM WATER QUANTITY ANALYSIS

The revisions add approximately 2,250sf of impervious area to Subcatchment 201C. This does not change the runoff curve number of the subcatchment and has no impact on the peak runoff values obtained from the model for any of the design storm events.

3 STORM WATER QUALITY ANALYSIS

Water quality treatment for runoff from the new development is provided by a variety of treatment BMPs. These have been designed in accordance with State of Maine Chapter 500 Stormwater regulations and Stormwater Management for Maine - BMP Technical Design Manual. The quality treatment section is divided into two separate sections. The first section deals with treatment of the site development portion of the project. The Chapter 500 Stormwater General Standards require treatment of greater than 95% of contributing impervious area greater than 80% of the developed area of this part of the project. No changes have been made to any of these areas and the analysis remains per the originally issued report.

The second section deals with the road runoff. This is considered a linear portion of the project and as such treatment is required for greater than 75% of the contributing impervious area and greater than 50% of the developed area. The road changes result in modifications to areas A-29 and A-30 only. In addition, Filter Strip 5 has been re-located and reduced in length from 200ft to 125ft. The changes result in a minor reduction in the treated percentages of impervious area and developed area, but these are still both greater than the 75% and 50% required to meet current state standards. These changes are reflected in the table shown on the following page, and in the calculations included in revised Appendix-2

**York Police Department - New Public Safety Facility and Connector Road
 Stormwater General Standard Calculation**

Road Treatment Areas					
Area	Treated imperVIOUS	Treated developed	BMP	Untreated imperVIOUS	Untreated developed
A-1	4600	5855	B-3		
A-2	6200	10069	Bioretention B-1	0	0
E-1					2873
A-3	10800	10800	Filter Strip 1		
A-4	5300	7065	B-2		
A-5	0			2730	3930
A-6	7900	8967	B-3		
A-7	19600	19600	Filter Strip 2		
E-2					5100
A-8	2200		B-3	0	
A-9	5900	8296	B-2		
A-10	5200	8458	B-2		
A-11				5720	7710
A-12				2470	3010
A-13	5400	7776	B-2		
A-14	3100	6400	B-2		
A-15	3900	6844	Bioretention B-4		
A-15A	7900	7900	Filter Strip 3		
A-16				8300	11203
A-17	13900	13900	B-3		
A-18	4700	12283	B-2		
E-3					2386
A-19	8600		Filter Strip 4	0	
A-20	3960	5790	B-2		
A-21	2650	5082	B-2		
A-22				7940	12059
A-23	2840	4340	B-3		
A-24	0	0	B-3	6860	
A-25	2900	2900	Bioretention B-11		
A-26	5900	5900	Bioretention B-12		
A-27	8100	8100	Bioretention B-6		
A-28	0			11900	15562
A-29	4940	4940	Filter Strip 5		
A-30	7160	9269	Bioretention B-8		
TOTAL	153650	180534		45920	63833

% TREATED	IMPERVIOUS	DEVELOPED
	76.99%	73.88%

4 CONCLUSIONS

The minor changes to the Ridge Road end of the Access Road will have no significant impact on the water quality or water quantity analyses presented in the original stormwater report. The stormwater management system for the project will not result in an increase in peak runoff from the site under design storm conditions. Water quality treatment is provided in accordance with current local and state standards.

5 REFERENCES

- Stormwater Management for Maine: (MEDEP, January 2006, and as amended)
- The Soil Survey of Cumberland County, Maine
- Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices (CCSWCD/MEDEP)
- NRCS Technical Release 378
- NRCS Web Soil Survey

NON-LINEAR PORTION OF PROJECT

**York Police Department New Public Safety Building, Maine
Site Development Areas
Water Quality Volume Summary**

Subcatchment Area	Impervious	Landscaped	Developed	WQV required	WQV Provided	BMP
211	1520	4280	5800	404	880	B-14
212	5800	10340	16140	828	904	B-12
213	8060	11740	19800	1063	1591	B-6
214	225	5575	5800	205	680	B-10
215	45600	26800	72400	4693	5300	B-11
216	19200	0	19200	1600	1832	DRIP STRIP
202C	10240	4400	14640	1000	1670	B-9
Untreated	4580	6440	11020			Untreated
TOTAL TREATED	90645	63135	153780			

BMP General Standard Calculation			
	Impervious	Landscaped	Developed
NEW DEVELOPED AREA	95225	69575	164800
TREATED AREAS	90645	63135	153780
PERCENT TREATED	95.2%	90.7%	93.3%

**York Police Department - New Public Safety Facility and Connector Road
Stormwater General Standard Calculation**

Road Treatment Areas					
Area	Treated impervious	Treated developed	BMP	Untreated impervious	Untreated developed
A-1	4600	5855	B-3		
A-2	6200	10069	Bioretention B-1	0	0
E-1					2873
A-3	10800	10800	Filter Strip 1		
A-4	5300	7065	B-2		
A-5	0			2730	3930
A-6	7900	8967	B-3		
A-7	19600	19600	Filter Strip 2		
E-2					5100
A-8	2200		B-3	0	
A-9	5900	8296	B-2		
A-10	5200	8458	B-2		
A-11				5720	7710
A-12				2470	3010
A-13	5400	7776	B-2		
A-14	3100	6400	B-2		
A-15	3900	6844	Bioretention B-4		
A-15A	7900	7900	Filter Strip 3		
A-16				8300	11203
A-17	13900	13900	B-3		
A-18	4700	12283	B-2		
E-3					2386
A-19	8600		Filter Strip 4	0	
A-20	3960	5790	B-2		
A-21	2650	5082	B-2		
A-22				7940	12059
A-23	2840	4340	B-3		
A-24	0	0	B-3	6860	
A-25	2900	2900	Bioretention B-11		
A-26	5900	5900	Bioretention B-12		
A-27	8100	8100	Bioretention B-6		
A-28	0			11900	15562
A-29	4940	4940	Filter Strip 5		
A-30	7160	9269	Bioretention B-8		
TOTAL	153650	180534		45920	63833

%TREATED	IMPERVIOUS	DEVELOPED
	76.99%	73.88%

Buffer Criteria

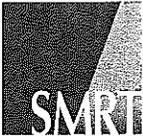
Area	Buffer	B-2 Ditch Turnout Buffer			
		0-8% Slope	9-15% Slope	Road Length	Req'd Buffer
A-4	Buffer 2	7%	8.50%	175	60
A-9	Buffer 5			200	72
A-10	Buffer 4	4%		200	60
A-13	Buffer 7	8%		180	60
A-14	Buffer 6	7%		120	60
A-18	Buffer 9	3%		290	75
A-20	Buffer 11	4%		140	60
A-21	Buffer 10	5%		150	60

Area	Buffer	B-3 Buffer Adjacent to Downhill Side of Road			
		No. of lanes	Forest	Meadow	Req'd Buffer
A-1	Buffer 1	2	x		55
A-6	Buffer 3	2	x		55
A-17	Buffer 8	1	x		35
A-23	Buffer 12	1	x		35

BMP Sizing Criteria

BMP	Impervious	Landscaped	Developed	WQV required	WQV Provided
Bioretention B-1	6200	3869	10069	968	1070
Bioretention B-4	3900	2944	6844	635	880
Bioretention B-8	7160	2109	9269	667	904
Filter Strip 1	10800	0	10800	900	924
Filter Strip 2	19600	0	19600	1633	1680
Filter Strip 3	7900	0	7900	658	840
Filter Strip 4	8600	0	8600	717	840
Filter Strip 5	4940	0	4940	412	525

Water quality volume provided in Bioretention cells equals one foot of storage over the base area - this includes a maximum of 6" of storage in the cell and 6" storage allowance in the media

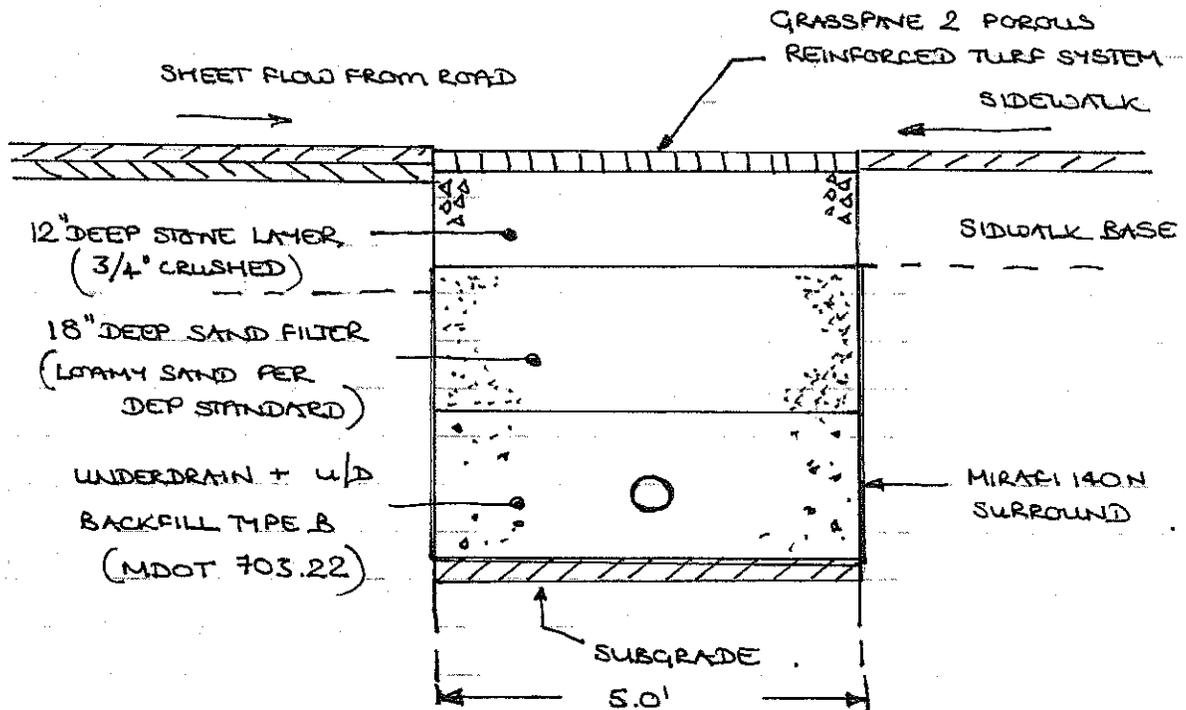


UNDERDRAINED SUB-SURFACE SAND FILTER DESIGN

STRIP FILTERS HAVE BEEN DESIGNED TO CAPTURE AND TREAT ROAD RUNOFF AT FIVE LOCATIONS ON THE SITE.

THE FILTERS CONSIST OF A REINFORCED TURF FILTER STRIP FIVE FEET WIDE AT THE EDGE OF PAVEMENT WITH A STONE STORAGE RESERVOIR AND AN UNDERDRAINED TREATMENT SAND FILTER.

RUNOFF WILL ENTER THE FILTER STRIP BY SHEET FLOW AND INFILTRATE INTO THE STONE STORAGE RESERVOIR AND HENCE INTO THE FILTER MEDIA. AN UNDERDRAIN BENEATH THE FILTER WILL ALLOW TREATED WATER TO EXIT TO DOWNSTREAM RECEIVING AREAS.



THE BMP WILL PROVIDE 6" EQUIVALENT STORAGE DEPTH IN THE MEDIA AND 4" EQUIVALENT IN THE STORAGE LAYER.

$$\text{TOTAL VOLUME} = 10" \times 5.0' = 4.2 \text{ cuft / FT}$$