15-0173-002
October 13, 2021

Mr. Michael Conklin
Director of Environmental Affairs
Town of Wilton
141 Danbury Road,
Wilton, CT 06897

Re: **Inland Wetlands Commission**
Third Party Review Comments
WET#2714 (S) – FDSPIN 141 DR LLC
141 Danbury Road, Wilton, CT (Accessor's Map 70, Lot 2)

Dear Mr. Conklin:

Thank you for the opportunity to address the latest Third-Party review comments prepared by Alan Pilch at ALP Engineering & Landscape Architecture, PLLC, dated 10/11/2021. The following summarizes our responses to each of his follow up comments to his original 9/2/21 letter. Should you require additional information or materials, please let us know.

Comment Responses:

1. Comment: We concur that the applicant has provided an updated stormwater management plan, which provides stormwater quality controls and attenuation of the post-development, 100-year storm events to pre-development levels. The proposed design, however, needs to address whether the proposed water quality structures will provide and remove 80% of TSS from the site on an average annual basis, which is a required threshold in the Connecticut Stormwater Quality Manual as a standard and criteria for decision.

   Response: The attached pollutant removal calculations and mapping have been updated from what was previously provided in Appendix E of the engineering report to reflect the replacement of one area of porous pavement with a water quality structure. The calculations included with these responses show an estimated 83% total suspended solids (TSS) removal rate for stormwater discharging from the site, which exceeds the referenced 80% removal threshold outlined in the Connecticut Stormwater Quality Manual.

2. Comment: Based on our observation of the deep test pits, we concur that there was no groundwater to a depth of about 7 feet to 7.5 feet below the existing grade, and that there will be a separation of about 2.5 feet to 3 feet from the bottom of the stormwater practice and the groundwater. We also recommend that the location of the deep test holes that were recently performed be shown on Sheet C-301.

   Response: Sheet C-301 has been updated to show the locations of the 6 deep test holes performed on site and are included for your review.

3. Comment addressed.

4. Comment addressed.

5. Comment: It is recommended that the benching be done so that the area between the berms is level in order to maximize the infiltration into soils in the porous pavement. Given that the berms are proposed at a 20-foot to 25-foot interval, the additional excavation to accomplish this will be minimal, on the order of less than 6".

   Response: The porous pavement system will be benched during construction as noted.

6. Comment addressed.

7. Comment addressed.

8. Comment addressed.

9. Comment addressed.

10. Comment addressed.

11. Comment addressed.

Based on these final responses to Alan Pilch's October 11, 2021 letter, and our latest round of drawing and calculation revisions, Tighe & Bond has successful addressed and satisfied the comments of the third-party engineering review. We look forward to a positive determination from the commission.

Very truly yours,

TIGHE & BOND, INC.

Erik W. Lindquist, P.E., LEED AP
Senior Project Manager

John W. Block, P.E., L.S.
Senior Vice President

Project Name: **141 Danbury Road**
Project Number: **F0173-002**
Project Location: **Wilton, CT**
Description: **Stormwater BMP Pollutant Removal Estimate**
Prepared By: **TAS** Date: **July 9, 2021**
Rev. October 13, 2021

Water Quality Area 1

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.067	0.013	3.550	0.005	0.001	0.005
Proposed, Post Treatment	lb/yr/1-in	0.040	0.003	0.261	0.002	0.000	0.000
Reduction, Pre to Post Treat	---	40%	78%	93%	64%	70%	90%

Water Quality Area 2

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.183	0.037	9.715	0.014	0.003	0.013
Proposed, Post Treatment	lb/yr/1-in	0.109	0.008	0.715	0.005	0.001	0.001
Reduction, Pre to Post Treat	---	40%	78%	93%	64%	70%	90%

Water Quality Area 3

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.043	0.009	2.293	0.003	0.001	0.003
Proposed, Post Treatment	lb/yr/1-in	0.031	0.006	0.917	0.002	0.001	0.002
Reduction, Pre to Post Treat	---	27%	33%	60%	32%	32%	32%

Water Quality Area 4

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.042	0.008	2.240	0.003	0.001	0.003
Proposed, Post Treatment	lb/yr/1-in	0.031	0.006	0.896	0.002	0.000	0.002
Reduction, Pre to Post Treat	---	27%	33%	60%	32%	32%	32%

Water Quality Area 5

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.080	0.016	4.261	0.006	0.001	0.006
Proposed, Post Treatment	lb/yr/1-in	0.048	0.010	0.852	0.002	0.001	0.002
Reduction, Pre to Post Treat	---	40%	40%	80%	60%	60%	60%

Water Quality Area 6

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.000	0.000	0.000	0.000	0.000	0.000
Proposed, Post Treatment	lb/yr/1-in	0.000	0.000	0.000	0.000	0.000	0.000
Reduction, Pre to Post Treat	---	---	---	---	---	---	---

Water Quality Area 7

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.000	0.000	0.000	0.000	0.000	0.000
Proposed, Post Treatment	lb/yr/1-in	0.000	0.000	0.000	0.000	0.000	0.000
Reduction, Pre to Post Treat	---	---	---	---	---	---	---

Water Quality Area 8

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.041	0.008	2.165	0.003	0.001	0.003
Proposed, Post Treatment	lb/yr/1-in	0.033	0.003	0.498	0.002	0.000	0.000
Reduction, Pre to Post Treat	---	18%	67%	77%	47%	56%	85%

Total Site

Item	Units	Pollutant					
		TKN	P	TSS	Pb	Cu	Zn
Proposed, Pre Treatment	lb/yr/1-in	0.456	0.092	24.226	0.035	0.008	0.032
Proposed, Post Treatment	lb/yr/1-in	0.292	0.035	4.140	0.015	0.003	0.009
Reduction, Pre to Post Treat	---	36%	62%	83%	56%	60%	73%

Loading Calculation

Location: **Area 1** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.32 Total Area = 0.396 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.396	1.900	1.900	0.067
Total Phosphorus (P)	0.396	0.383	0.383	0.013
Total Suspended Solids	0.396	101.0	101.0	3.6
Lead	0.396	0.144	0.144	0.005
Copper	0.396	0.033	0.033	0.001
Zinc	0.396	0.135	0.135	0.005

$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 1** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.32 Total Area = 0.396 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.067	0.067	0	0.00	0.067
Total Phosphorus (P)	0.013	0.013	0	0.00	0.013
Total Suspended Solids	3.550	3.6	20	0.71	2.8
Lead	0.005	0.005	0	0.00	0.005
Copper	0.001	0.001	0	0.00	0.001
Zinc	0.005	0.005	0	0.00	0.005

Lin 1	Pollutant Load Area 1
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

4. Pollutant removal rates for Ultra Urban Filter Catch Basin inserts taken from *Final Report: Sediment Removal from Simulated Stormwater Runoff by Abtech Industries, Inc. UltraUrban Filter-CO in Laboratory Flume Tests* , Submitted by Stan Galicki, Ph.D., Millsaps College December 9th, 2009.

Location: **Area 1** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.32 Total Area = 0.396 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.067	0.067	18.3	0.01	0.055
Total Phosphorus (P)	0.013	0.013	66.9	0.01	0.004
Total Suspended Solids	2.840	2.8	77	2.19	0.7
Lead	0.005	0.005	46.5	0.00	0.003
Copper	0.001	0.001	56.2	0.00	0.001
Zinc	0.005	0.005	85.3	0.00	0.001

Lin 1	Pollutant Load Out of Deep Sump Catch Basins BMP
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

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Location: **Area 1** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.32 Total Area = 0.396 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.055	0.055	27	0.01	0.040
Total Phosphorus (P)	0.004	0.004	33	0.00	0.003
Total Suspended Solids	0.653	0.7	60	0.39	0.261
Lead	0.003	0.003	32	0.00	0.002
Copper	0.001	0.001	32	0.00	0.000
Zinc	0.001	0.001	32	0.00	0.000

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

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Loading Calculation

Location: **Area 2** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.38 Total Area = 0.969 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.969	1.900	1.900	0.183
Total Phosphorus (P)	0.969	0.383	0.383	0.037
Total Suspended Solids	0.969	101.0	101.0	9.7
Lead	0.969	0.144	0.144	0.014
Copper	0.969	0.033	0.033	0.003
Zinc	0.969	0.135	0.135	0.013

$$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 2** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.38 Total Area = 0.969 acres
BMP: **Deep Sump Catch Basins**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.183	0.183	0	0.00	0.183
Total Phosphorus (P)	0.037	0.037	0	0.00	0.037
Total Suspended Solids	9.715	9.7	20	1.94	7.8
Lead	0.014	0.014	0	0.00	0.014
Copper	0.003	0.003	0	0.00	0.003
Zinc	0.013	0.013	0	0.00	0.013

Lin 1	Pollutant Load Area 1
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

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Location: **Area 2** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.38 Total Area = 0.969 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (%)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.183	0.183	18.3	0.03	0.149
Total Phosphorus (P)	0.037	0.037	66.9	0.02	0.012
Total Suspended Solids	7.772	7.8	77	5.98	1.8
Lead	0.014	0.014	46.5	0.01	0.007
Copper	0.003	0.003	56.2	0.00	0.001
Zinc	0.013	0.013	85.3	0.01	0.002

Lin 1	Pollutant Load Out of Deep Sump Catch Basins BMP
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

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Location: **Area 2** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.38 Total Area = 0.969 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.149	0.149	27	0.04	0.109
Total Phosphorus (P)	0.012	0.012	33	0.00	0.008
Total Suspended Solids	1.788	1.8	60	1.07	0.7
Lead	0.007	0.007	32	0.00	0.005
Copper	0.001	0.001	32	0.00	0.001
Zinc	0.002	0.002	32	0.00	0.001

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

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Loading Calculation

Location: **Area 3** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.00 Total Area = 0.668 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.668	1.900	1.900	0.043
Total Phosphorus (P)	0.668	0.383	0.383	0.009
Total Suspended Solids	0.668	101.0	101.0	2.3
Lead	0.668	0.144	0.144	0.003
Copper	0.668	0.033	0.033	0.001
Zinc	0.668	0.135	0.135	0.003

$$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 3** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.00 Total Area = 0.668 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.043	0.043	27	0.01	0.031
Total Phosphorus (P)	0.009	0.009	33	0.00	0.006
Total Suspended Solids	2.293	2.3	60	1.38	0.9
Lead	0.003	0.003	32	0.00	0.002
Copper	0.001	0.001	32	0.00	0.001
Zinc	0.003	0.003	32	0.00	0.002

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

4. Pollutant removal rates for Ultra Urban Filter Catch Basin inserts taken from *Final Report: Sediment Removal from Simulated Stormwater Runoff by Abtech Industries, Inc. UltraUrban Filter-CO in Laboratory Flume Tests* , Submitted by Stan Galicki, Ph.D., Millsaps College December 9th, 2009.

Loading Calculation

Location: **Area 4** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.00 Total Area = 0.653 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.653	1.900	1.900	0.042
Total Phosphorus (P)	0.653	0.383	0.383	0.008
Total Suspended Solids	0.653	101.0	101.0	2.2
Lead	0.653	0.144	0.144	0.003
Copper	0.653	0.033	0.033	0.001
Zinc	0.653	0.135	0.135	0.003

$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 4** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.00 Total Area = 0.653 acres
BMP: **Infiltration System**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.042	0.042	27	0.01	0.031
Total Phosphorus (P)	0.008	0.008	33	0.00	0.006
Total Suspended Solids	2.240	2.2	60	1.34	0.9
Lead	0.003	0.003	32	0.00	0.002
Copper	0.001	0.001	32	0.00	0.000
Zinc	0.003	0.003	32	0.00	0.002

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

4. Pollutant removal rates for Ultra Urban Filter Catch Basin inserts taken from *Final Report: Sediment Removal from Simulated Stormwater Runoff by Abtech Industries, Inc. UltraUrban Filter-CO in Laboratory Flume Tests* , Submitted by Stan Galicki, Ph.D., Millsaps College December 9th, 2009.

Loading Calculation

Location: **Area 5** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.39 Total Area = 0.419 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.419	1.900	1.900	0.080
Total Phosphorus (P)	0.419	0.383	0.383	0.016
Total Suspended Solids	0.419	101.0	101.0	4.3
Lead	0.419	0.144	0.144	0.006
Copper	0.419	0.033	0.033	0.001
Zinc	0.419	0.135	0.135	0.006

$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 5** Condition: **Proposed**

Rainfall: 1 inches

Impervious Fraction: 0.39 Total Area = 0.419 acres

BMP: **Porous Pavement**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.080	0.080	40	0.03	0.048
Total Phosphorus (P)	0.016	0.016	40	0.01	0.010
Total Suspended Solids	4.261	4.3	80	3.41	0.9
Lead	0.006	0.006	60	0.00	0.002
Copper	0.001	0.001	60	0.00	0.001
Zinc	0.006	0.006	60	0.00	0.002

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:

1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

3. Pollutant removal rates for Vortechnics Stormwater Quality Unit and Deep Sump Catch Basins taken from *Final Report, Stormwater Treatment Devices Section 319 Project, Project #99-07* , Submitted to CT DEP April 15, 2002.

4. Pollutant removal rates for Ultra Urban Filter Catch Basin inserts taken from *Final Report: Sediment Removal from Simulated Stormwater Runoff by Abtech Industries, Inc. UltraUrban Filter-CO in Laboratory Flume Tests* , Submitted by Stan Galicki, Ph.D., Millsaps College December 9th, 2009.

Loading Calculation

Location: **Area 8** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.27 Total Area = 0.271 acres

Pollutant	Residential A (acres)	Residential EMC (mg/L)	Weighted EMC (mg/L)	Weighted L (lbs/yr)
Total Nitrogen (N)	0.271	1.900	1.900	0.041
Total Phosphorus (P)	0.271	0.383	0.383	0.008
Total Suspended Solids	0.271	101.0	101.0	2.2
Lead	0.271	0.144	0.144	0.003
Copper	0.271	0.033	0.033	0.001
Zinc	0.271	0.135	0.135	0.003

$L = 0.2266 * EMC * [0.15 + 0.75*I] * P * A$

L	Pollution Loading (lbs/year)
EMC	Mean Event Mean Concentration (mg/L)
I	Fraction of Impervious Acres (acres)
P	Annual Rainfall (in)
A	Watershed Area (acres)

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* by Debo & Reese, pgs. 193-195

Location: **Area 8** Condition: **Proposed**
Rainfall: 1 inches
Impervious Fraction: 0.27 Total Area = 0.271 acres
BMP: **Water Quality Structure**

Pollutant	Lin 1 (lbs)	Sum L (lbs)	RR (-)	Lremoved (lbs)	Lout (lbs)
Total Nitrogen (N)	0.041	0.041	18.3	0.01	0.033
Total Phosphorus (P)	0.008	0.008	66.9	0.01	0.003
Total Suspended Solids	2.165	2.2	77	1.67	0.5
Lead	0.003	0.003	46.5	0.00	0.002
Copper	0.001	0.001	56.2	0.00	0.000
Zinc	0.003	0.003	85.3	0.00	0.000

Lin 1	Pollutant Load out from WQS
Sum L	Sum of Pollutant Load to this BMP
RR	Removal rate in percentage
Lout	Pollutant Load out of BMP

Notes:
1. Pollution loading calculated using *Municipal Stormwater Management, Second Edition* , by Debo & Reese, pgs. 193-195.

2. Pollutant removal rates for Rain Garden/Infiltration Trench and Wet Pond taken from *Municipal Stormwater Management, Second Edition* , by Debo & Reese, Tbl. 13-13, p. 748.

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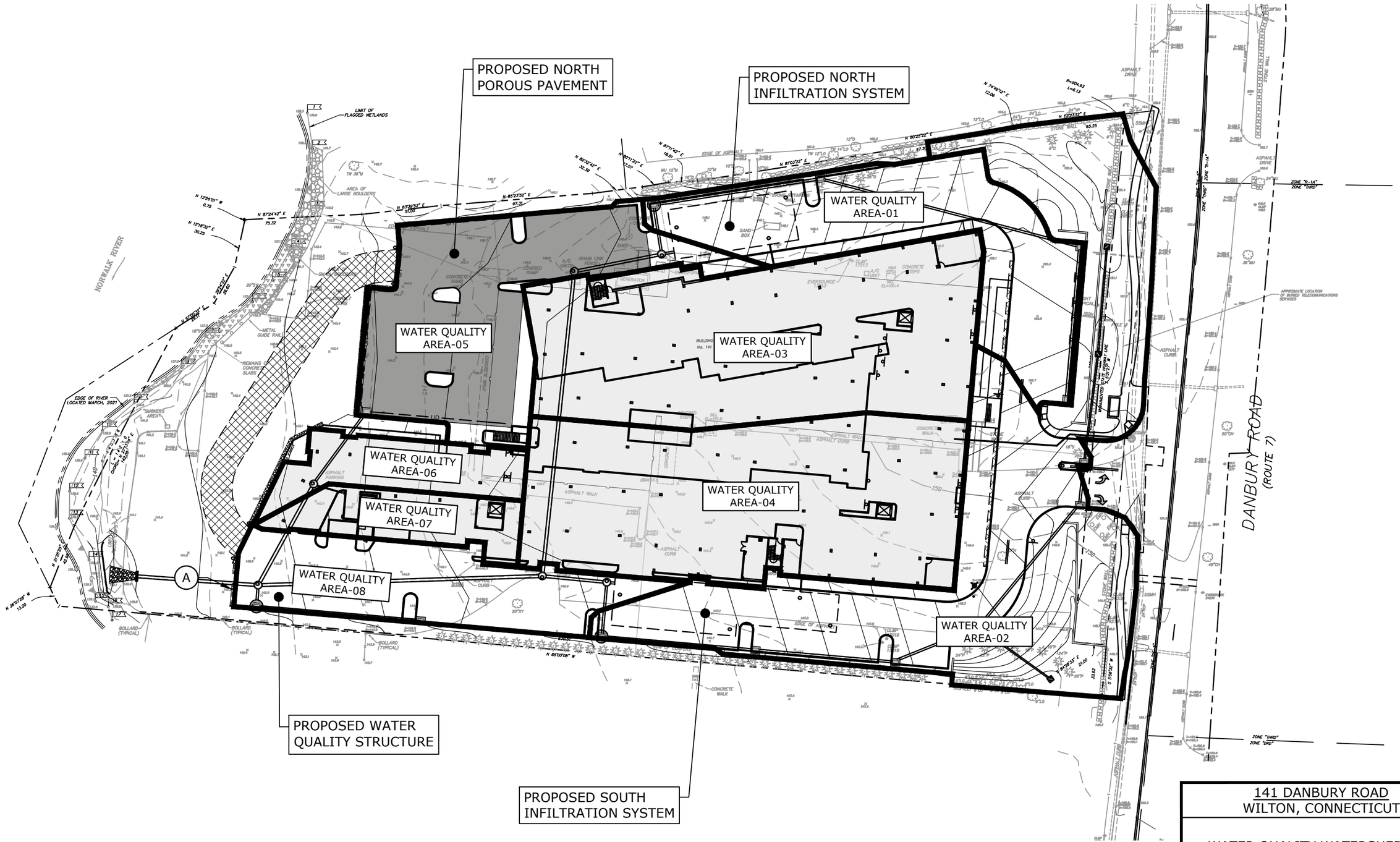


LEGEND

WATER QUALITY BOUNDARY

(A) DESIGN POINT

0 60' 120'

SCALE: 1" = 60'

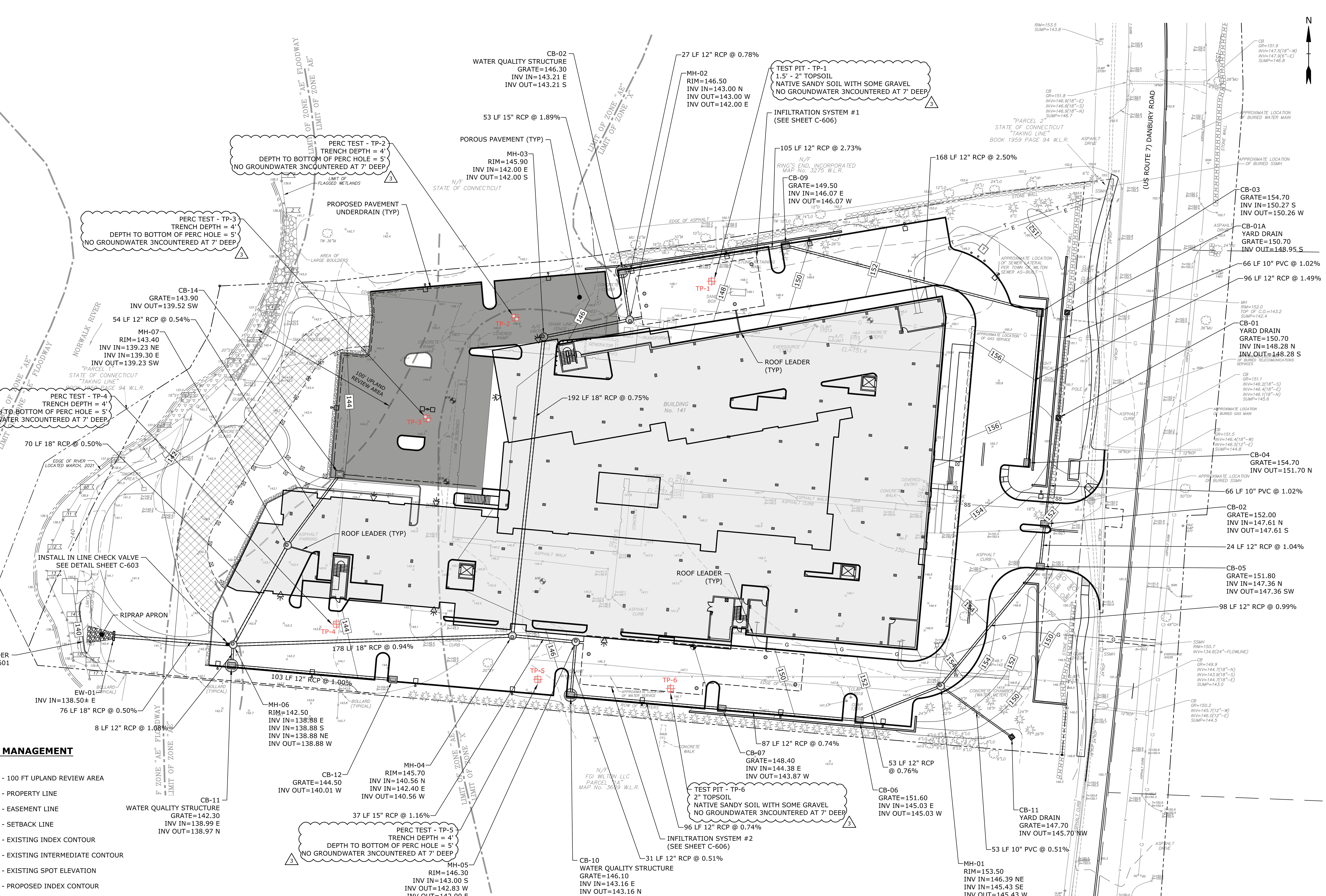
141 DANBURY ROAD
WILTON, CONNECTICUT

WATER QUALITY WATERSHED MAP
REVISED 10/13/2021

DATE: 07/09/2021
SCALE: 1" = 60'
FIGURE: WQM-01

Tighe&Bond

Plotted On:Oct 13, 2021-9:02am By: TAS
Tighe & Bond:J:\F\F0173 Fuller\002 141 Danbury Road\Design\Stormwater\F0173-02-C-Proposed Water Quality Map.dwg



STORMWATER MANAGEMENT PLAN LEGEND

- 100 FT UPLAND REVIEW AREA
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- 25 — EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- X 141.2 — EXISTING SPOT ELEVATION
- 25 — PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- + 32.0 — PROPOSED SPOT ELEVATION
- PROPOSED CURB
- PROPOSED RETAINING WALL
- PROPOSED BUILDING
- PROPOSED CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED MANHOLE
- PROPOSED POROUS PAVEMENT
- PROPOSED PERMATURF LAWN PANELS

NOTE

1. SURVEY CONDITIONS TAKEN FROM PLAN ENTITLED "TOPOGRAPHIC SURVEY DEPICTING 141 DANBURY ROAD IN WILTON, CONNECTICUT, PREPARED FOR FDSPIN 141 DR LLC" BY D'ANDREA SURVEYING & ENGINEERING, P.C., DATED APRIL 19, 2021, AND IS FOR REFERENCE ONLY.

SCALE: 1" = 30'

Last Saved: 10/13/2021
Plotted On:Oct 13, 2021-9:35am By: SansoneM
Tighe & Bond: J:\F\F0173 Fuller\002 141 Danbury Road\Drawings-Figures\Sheets\F0173-02-C-301-STRM.dwg

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TOWN SUBMISSION

141 Danbury Road

FDSPIN
141 DR, LLC

Wilton, Connecticut

MARK	DATE	DESCRIPTION
3	10/13/2021	3RD PARTY REVIEW COMMENTS
2	10/8/2021	3RD PARTY REVIEW COMMENTS
1	7/15/2021	REV'D BLDG & SITE LAYOUT

PROJECT NO:	F0173-002
DATE:	06/07/2021
FILE:	F0173-02-C-301-STRM.dwg
DRAWN BY:	TAS
CHECKED:	EWL
APPROVED:	JWB

STORMWATER MANAGEMENT PLAN

SCALE: 1" = 30'

C-301