Appendix C

Stormwater Pollution Prevention Plan
(SWPPP)

STORMWATER POLLUTION PREVENTION PLAN

FOR

DOCKSIDE

ROUTE 9W & DOCK ROAD

TOWN OF MARLBOROUGH
ULSTER COUNTY, NEW YORK

PREPARED BY

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs
99 Clinton St. 2nd Floor
Montgomery, NY 12549

JUNE 2011

W.O. 989.01

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1.0 INTRODUCTION

Engineering Properties, PC prepared this report summarizing the impact the proposed development of the property, known as Dockside will have on downstream properties and receiving waters.

1.1 PURPOSE

The purpose of the Stormwater Pollution Prevention Plan (SWPPP) is to:

a. Maintain existing drainage patterns and continue the conveyance of upland watershed runoff;

b. Mitigate potential stormwater quality and peak stormwater flow impacts, and prevent soil erosion and sedimentation resulting from stormwater runoff.

1.2 SCOPE

The scope of the SWPPP for the Dockside project described herein is as follows:

a. Describe and estimate existing stormwater runoff conditions;

b. Describe and estimate proposed stormwater runoff conditions;

c. Describe and evaluate stormwater management facilities planned as part of the proposed development.

2.0 PROJECT DESCRIPTION

The project site is 27.19± acres in size and is located on Dock Road and Route 9W in the Town of Marlborough, Ulster County, New York. The project encompasses three Town of Marlborough tax lots, Section 108.4 Block 3 Lot 29.1 and Section 109.1 Block 3 Lots 13 & 14.2. The parcel area was the location of a former sand and gravel mining operation and contains variable slopes ranging from generally flat to severely sloped. There are two distinct low areas with the topography sloping towards these low areas broken by a ridge to the west of the proposed development area. The existing site cover consists of pockets of woods with some adjoining areas of brush cover, impervious cover and an abandoned quarry site.

As proposed, the project involves the development of the site into 137 townhouse units. Approximately 4,280± linear feet of new roadway and associated infrastructure will be built to service the proposed 137 townhouse units. Multiple stormwater management

facilities will be constructed within the project to mitigate any stormwater runoff quality and quantity increases.

To the north of the property is the Marlboro Elementary School. To the west is a mixed use of residential and commercial properties. The Marlboro Sewer Treatment Plant and vacant property are to the south of the proposed project and a marina is to the east. The project maintains frontage along Route 9W and Dock Road with proposed access points off of Dock Road. A site location map is included as Figure 1 in Appendix 1.

3.0 TOPOGRAPHY AND SOILS

The existing topography is variable across the site, varying from approximately 20 feet above mean sea level (AMSL) to 184 feet AMSL. The majority of the slopes (±50%) on the project site are gently sloped (0%-10%), and moderate sloped areas (10%-15%) consist of approximately ±6% of the site. The area of significant slope (15%-20%) and severe slopes (>20%) on site represents ±4% and ±40% of the site area, respectively. The significant and severe slopes generally exist in the north and southeastern portion of the project site outside the limits of disturbance.

Information assembled by the U.S. Department of Agriculture Soil Conservation Service printed in the Soil Survey of Ulster County identifies the presence of Chenango (CnB), Hoosic (HgD & HSF), Raynham (Ra) and Riverhead (RvA) soil complexes within the areas of the proposed project site. There are also three small areas of separate soil designation which are: Cut & Fill Lands (CF), Made Lands (ML) and Fresh Water Marsh (FW). Chenango and Hoosic soils are considered to be a part of the “A” hydrologic soils group, while the Riverhead soils are part of the “B” hydrologic soils group, the Raynham soils are part of the “C” hydrologic soils group, and the remaining soil designations (CF, ML & FW) have been interoperated as a hydrologic soils group “D”. A soil map is included as Figure 2 in Appendix 1.

4.0 METHODOLOGY

The methodology utilized for this analysis is based upon the U.S.D.A. Soil Conservation Service’s Technical Release No. 20 and Technical Release No. 55, as utilized by the software entitled Hydraflow Hydrographs.

Hydraflow Hydrographs, developed by Intelisolve of Alpharetta, Georgia, is a Microsoft Windows based program for analyzing the hydrology and hydraulics of stormwater runoff. It utilizes the latest techniques to predict the stormwater flows from any given storm event.

Hydraflow Hydrographs has the capability of computing hydrographs (representing discharge rates characteristic of specific watershed conditions, precipitation and geologic factors), combining hydrographs, and routing flows through pipes, streams and ponds. A drainage model can consist of four different components - subareas, combinations, reaches and reservoirs.

A subarea consists of a relatively homogeneous area of land, which produces a volume and rate of runoff unique to that watershed. A subarea combination is the hydrologic addition of two subareas in order to determine the peak runoff at a design point. A reach is a channelized conveyance structure which routes the runoff from one point to another. A reservoir consists of a natural or man-made impoundment which temporarily stores stormwater runoff and that empties in a manner determined by various hydraulic structures located at its outlet.

The SWPPP for the Dockside project was based upon the New York State Stormwater Management Design Manual published by the New York State Department of Environmental Conservation (NYSDEC) last revised August 2010. Criteria set forth by this manual, requires analysis and determination of the required Water Quality Volume (Wqv), to provide extended detention of the 1-year storm event for Stream Channel Protection (Cpv), to control the peak discharge of the 10-year storm event also known as Overbank Flood Protection Criteria (Qp), and to control the peak discharge and safely pass the 100-year storm event otherwise known as Extreme Flood Control Criteria (Qf).

The SWPPP for Dockside was developed utilizing the “five step” process for Stormwater Site Planning and Practice Selection. The five steps consist of site planning, determination of the water quality treatment volume, runoff reduction volumes applied through the use of “green technologies”, application of standard stormwater management practices (SMP’s) for remaining water quality volumes, and application of

volume and peak rate control methods as required. Each of the five "steps" is further discussed in detail within this report.

5.0 STORMWATER MANAGEMENT PLANNING

5.1 INITIAL SITE PLANNING

The proposed site plan was devised to protect and preserve natural features, maintain natural drainage patterns, and avoid to the greatest extent practical, the disturbance of erodible soils and steep slopes. As the site was previously a sand and gravel mine much of the site has been cleared of vegetation. The only areas that still have significant vegetation are the buffer areas along Dock Road. These areas were also identified as steep slope areas where placement of roads and homes should be avoided. The site plan was prepared to avoid these areas to the greatest extent practical and confine the development area to the floor of the previous mining operation where there are no mature trees and slopes are flatter. The site plan with proposed watershed boundaries can be seen as Figure 4 in Appendix 1.

The hydrologic and hydraulic analysis was performed by delineating the tributary watershed to each design point and then dividing these tributary areas into relatively homogeneous subareas. The separation of the watershed into subareas was dictated by watershed conditions, methods of collection, conveyance and points of discharge. Watershed characteristics for each subarea were then assessed from topographical maps, soil surveys, site investigations and land use maps.

5.1.1 EXISTING CONDITIONS

The existing watershed within the site and areas contributory to the site were divided into four (4) distinct drainage areas and four corresponding design points. A design point represents the point at which stormwater, generated within a watershed, will exit the project site via either sheet flow along a linear boundary or as a point discharge. Figure 3 in Appendix 1 identifies each subarea and its corresponding design point. The

characteristics of each existing subarea of these watersheds are detailed in Table 1 below.

Each sub-area was delineated and a contributory area, area of impervious ground cover and an area of pervious ground cover was determined for each sub-area. It should be noted that the total contributory area includes off-site areas where appropriate and therefore, the total drainage area size is larger than the project site area.

TABLE 1: EXISTING DRAINAGE AREA CHARACTERISTICS

DRAINAGE AREA DESIGNATION	DRAINAGE AREA SIZE (Ac.)	PERVIOUS COVER (Ac.)	IMPERVIOUS COVER (Ac.)
EX-A	4.47	3.80	0.67
EX-B	2.04	1.36	0.68
EX-C	24.30	22.72	1.57
EX-D	3.42	3.28	0.14
TOTAL	**34.23**		

5.1.2 PROPOSED CONDITIONS

For this analysis, the post-development watershed was broken down into a network consisting of seven (7) subareas, three (3) stormwater facilities, and two (2) combinations. The subareas under the proposed development are identified in Figure 4. The characteristics of each proposed subarea is detailed in Table 2 below. It should be noted that the total contributory area may include off-site area and therefore, the total drainage area size may be larger than the project site.

TABLE 2: PROPOSED DRAINAGE AREA CHARACTERISTICS

DRAINAGE AREA DESIGNATION	DRAINAGE AREA SIZE (Ac.)	PERVIOUS COVER (Ac.)	IMPERVIOUS COVER (Ac.)
PR-A1	3.26	2.63	0.63
PR-B1	1.77	1.18	0.59
PR-B2	3.20	1.72	1.48

PR-B3	0.64	0.23	0.41
PR-C1	8.09	6.61	1.48
PR-C2	13.34	8.39	4.95
PR-D1	3.93	3.69	0.24
TOTAL	**34.23**		

5.2 WATER QUALITY VOLUME

The second step of the Stormwater Site Planning process is determination of the required water quality treatment volume (WQ_v). WQ_v is calculated using the 90% Rule as defined by NYSDEC Stormwater Management Design Manual. The 90% Rule is defined as:

$$WQ_v = [(P)(R_v)(A)] / 12$$

Where: P is the 90% Rainfall Event Number
R_v is equal to 0.05 + 0.009*I *(Minimum 0.2)*
I is the Impervious Cover in percent
A is the subarea total acreage

The WQ_v was calculated for the areas of site that have been disturbed and are contributory to proposed stormwater management practice.

TABLE 3: REQUIRED WATER QUALITY VOLUMES

SMP	Required WQ_v (Ac-ft)
PR-B2	0.137
PR-B3	0.037
PR-C2	0.470

5.3 RUNOFF REDUCTION VOLUME

Step three of the Stormwater Site Planning process is the incorporation of "green infrastructure technologies" and standard SMP's that provide runoff reduction volume (RR_v) capacity. The goal of RR_v is the reduce 100% of the WQ_v and replicate pre-development hydrology. Each of the following green technologies and standard SMP's with RR_v capacity were analyzed for implementation along with an explanation of how they are used or unable to be used on this project.

Green Technologies

- Conservation of Natural Areas

  - There is a significant portion of the property that contains steep slopes (25% or greater) that is proposed to be left undeveloped. These areas have not been utilized to provide RR_v for the corresponding tributary areas in order to provide a more conservative analysis and design of the project.

- Sheet flow to Riparian Buffers
  - Undisturbed vegetative buffers are present along the southern property line that borders Dock Road. These locations are unsatisfactory for utilization for RR_v reduction due to the severity of the slopes, therefore RR_v reduction through the use of sheet flow to Riparian Buffers have not been applied on this project.
- Vegetated Open Swales
  - The proposed plan incorporates the use of multiple grassed swales for conveyance of stormwater runoff. The vegetative swales provide many benefits in the proposed plan such as prevention of any increase in runoff from encroaching on any neighboring properties, water quality treatment through infiltration and increased time of concentrations. The majority of the contributory areas to each of the swales are minute due to the fact that much of the actual contributing area to the swales has been applied to other green technologies such as rooftop disconnection. This results in negligible RR_v volumes therefore, RR_v reduction through the use of vegetated swales has not been applied on this project.
- Tree Planting / Tree Box
  - The proposed site design includes the preservation of existing tree clusters to the greatest extent possible. The locations of trees/wooded areas to remain will be delineated during construction. In addition, new trees will be planted in other areas, such as the island near the clubhouse and along the proposed roadways. To provide a more conservative drainage analysis the RR_v calculations have not been provided for the proposed

watersheds and contributory areas which contain this green technology.

- Disconnection of Rooftop runoff
  - All roof leaders that will be discharged from the proposed townhouses will be dispersed via down spout splash pad and sheet flow for a minimum of 20 feet prior to entering an existing vegetated buffer / filter strip or a vegetated swale. RR_v will be applied to all watersheds containing these roof areas.
- Stream Daylighting
  - There are no culverted/piped streams on-site; therefore this green technology is not applicable on this project site.
- Rain Gardens
  - Due to the relatively small overall development area, grading limitations (steep slopes), and large contiguous areas of impervious areas, rain gardens were not utilized as a green technology on this project.
- Green Roof
  - Green roofs are not proposed on the residential structures for the following reasons:
    - Increase cost of construction.
    - Cold Climate restricts planting types and survival rate
    - Maintenance procedures and costs
    - Limited access provisions
    - Sloped roofs
- Stormwater Planters
  - Stormwater planters are suitable for small runoff areas such as rooftops or plaza and courtyards. Stormwater planters work very well within urban redevelopment projects with appropriate soils. This project is utilizing rooftop disconnection for treatment of rooftop runoff, therefore the green technology of stormwater planters was not implemented.

- Rain Tanks/Cistern
    - Rain Tanks and cisterns are well-suited to treat rooftop runoff, however as previously stated, the rooftop disconnect technology was included the SWPPP for the design for this project. In addition, there are cold climate concerns associated with rain tanks and cisterns that could cause potential problems on this project.
- Porous Pavement
    - Porous pavement is currently not approved as an acceptable pavement mix for roadways within the Town, therefore this technology was not included in the design of the project.

Standard SMP's with RR_v Capacity

- Infiltration Practice
    - An Infiltration basin was selected and designed to obtain and treat the stormwater runoff from the proposed watershed PR-C2. This practice was chosen due to the good underlying soils, hydrologic soils group "A", and the overall small size of the basin design based upon the total tributary drainage area.
- Bio-Retention Practice
    - A Bio-retention facility has been designed to treat the stormwater runoff from proposed watershed PR-B2. This practice was chosen due to the good underlying soils, hydrologic soils group "A", small tributary drainage area, and the good aesthetics of the practice.
- Dry Swale (Open Channel Practice)
    - A Dry swale was utilized for the stormwater runoff from proposed watershed PR-B3. This practice was selected due to the very small tributary area, and the low maintenance that is required for this facility.

The RR_v for each of the green technologies used has been calculated for each watershed contributory to the proposed stormwater facility. The total RR_v was calculated and compared to the WQ_v for each watershed. For the watersheds where green technologies did not reduce the WQ_v by 100%, the watershed was

re-analyzed with respect to green technologies in attempts to maximize the RR_v but in all cases the minimum RR_v is achieved. The minimum RR_v is based upon the hydrological soil group (HSG) classification within the watershed and is defined a Specific Reduction Factor (*S*). The reduction factors for each HSG are shown below in Table 4.

*TABLE 4: SPECIFIC REDUCTION FACTOR (S)**

HSG	*S*
A	0.55
B	0.40
C	0.30
D	0.20

* Watersheds with multiple HSG's shall utilize a weighted average

$RR_{v\ MIN}$ was calculated for each watershed in accordance with the following formula:

$$RR_{v\ MIN} = [(P)(0.95)(S)(I)] / 12$$

The total calculated RR_v provided is compared to the $RR_{v\ MIN}$ to ensure that the green technologies proposed are providing the minimum reduction of the WQ_v as required. The $RR_{v\ MIN}$ and the total RR_v provided, along with the revised WQ_v are shown below in Table 5. The revised WQ_v is calculated using the 90% rule as noted in Section 5.2 above, however, the contributory area and impervious area are reduced through the application of green technologies that have been utilized. It should be noted that although the RR_v may not meet the original WQ_v due to the fact of the RR_v calculation only provides a percentage of WQ_v as $RR_{v;}$ the area reductions for those portions of the site treated by green infrastructure techniques are at 100%, thereby completely eliminating all contributory and impervious areas subject to green infrastructure. The calculations for the required and adjusted water quality volumes along with the runoff reduction volumes calculations are shown in Appendix 4.

TABLE 5: RUNOFF REDUCTION VOLUMES & REVISED WQ_v

FACILITY	$RR_{v\ MIN}$	Total RR_v	Revised WQ_v
PR-B2	0.062	0.117	0.000
PR-B3	0.020	0.020	0.000
PR-C2	0.204	0.443	0.000

5.4 APPLICATION OF STANDARD SMP'S FOR THE REVISED WQ_v

The RR_v previously discussed has successfully reduced the required total WQ_v treatment required as a result of proposed construction of impervious cover. Step four of the planning process is to ensure any remaining WQ_v is treated in standard SMP's. However, since the WQ_v has been reduced 100% by RR_v, there is no further requirement to provide any additional WQ_v treatment.

TABLE 6: WQ_v PROVIDED IN STANDARD SMP'S

FACILITY	Revised WQ_v	Provided WQ_v
PR-B2	0.000	N/A
PR-B3	0.000	N/A
PR-C2	0.000	N/A

5.5 VOLUME AND PEAK RATE CONTROL

The fifth and final step of the Stormwater Site Planning process is to apply volume and peak rate control as necessary through the use of standard stormwater management practices. In preparing the SWPPP, it is the opinion of the design professional that the project will be directly discharging stormwater to the Hudson River. According to the Stormwater Management Design Manual, Stream Channel Protections Volume Requirements (Cp_v), Overbank Flood Control Requirements (Q_p), and Extreme Flood Control Criteria (Q_f) requirements do not apply when the site discharges directly to tidal waters or a fifth order or larger streams.

5.5.1 CHANNEL PROTECTION VOLUME

The required volume control consists of Channel Protection Volume (Cp_v) which is designed to protect downstream channels from erosion. The Cp_v is typically achieved through providing extended detention of the 1-year storm event for a period of 24 hours. As previously stated, due to the proposed project site directly discharging to the tidal waters of the Hudson River, the Cp_v requirements do not apply.

5.5.2 PEAK RATE CONTROL

The required peak rate control consists of Overbank Flood Control (Q_p), which is to prevent an increase in the frequency and magnitude of out-of-bank flooding, and Extreme Flood Control (Q_f), which is to prevent the increased risk of flood damage from large storm events. Both the Q_p and Q_f are typically achieved through providing additional storage of stormwater to attenuate the post development peak discharge rates to predevelopment rates. As previously stated, due to the proposed project site directly discharging to the tidal waters of the Hudson River, the Q_p and Q_f requirements do not apply.

5.6 STORMWATER RUNOFF AND NATURAL RESOURCE MANAGEMENT

The implemented SWPPP for Dockside will also incorporate the following water and natural resource management objectives.

a. Prevent increases in flooding and flood damage through the reduction of the volume of runoff from all areas.

b. Reduce the erosion potential from the development through the reduction of the volume of runoff from the project site and through the implementation of the soil and erosion control measures outlined on the project plans and as highlighted herein.

c. Decreases non-point source pollution and water quality degradation through the use of multiple “green technologies” including sheet flow to filter strips, vegetated open swales, tree plantings, roof top connections, infiltration basin, and bio-retention filters.

d. Those portions of the site which do not direct runoff into a stormwater management practice, will sheet flow through proposed lawn areas and through existing vegetative cover prior to discharging from the site.

6.0 EROSION AND SEDIMENT CONTROL MEASURES

Soil erosion and sediment control measures have been detailed on the plans and outlined herein. The following are general measures that should be implemented:

a. Damage to surface waters resulting from erosion and sedimentation shall be minimized by stabilizing disturbed areas and by removing sediment from construction site discharges.

b. Following the completion of construction activities in any portion of the site, permanent vegetation shall be re-established on all exposed soils within 14 days. Also, in areas where construction will temporarily cease for 21 days or more, the site shall be stabilized within 7 days of the last construction activity. After completion of final rough grading, topsoil shall be spread to a depth of 6 inches or more and tested for nutrient and soil composition. The topsoil shall be amended as necessary to encourage successful growth of proposed vegetation.

c. Site preparation activities shall be planned to minimize the area and duration of soil disturbance. The project will be built in sections limiting the amount of disturbance at any one time. However, due to the amount of earthwork required, there will be greater than the five acres disturbed during many of these phases. In accordance with the NYSDEC GP-0-10-001 permit, a waiver will be applied for to have an earth disturbance greater than the five (5) acre threshold.

d. Permanent traffic corridors shall be established and “routes of convenience” shall be avoided. Off site sediment tracking shall be minimized through regularly scheduled sweeping and good housekeeping of construction vehicles.

e. A qualified inspector shall inspect and log the erosion and sediment control measures once every seven (7) days once earth disturbance has commenced and continue until the site has achieved final stabilization. During times of possible inactivity (i.e. winter months), upon the site being temporarily stabilized, the inspector shall perform inspections monthly. The inspector shall make recommendations to the operator on how to maintain the integrity and function of all temporary erosion control measures throughout the duration of the development process. Any deficiencies in the measures shall be corrected as soon as possible by the operator.

f. An up to date Construction Site Log Book which includes this SWPPP for Dockside shall be maintained on site at all times during construction. The Construction Site Log Book shall also include the items found in the most recent version of the New York Standards and Specifications for Erosion and Sediment Control.

In particular, the following measures will be implemented:

a. Pre-Construction Installation: Prior to any disturbance on site, silt fence shall be installed in accordance with the approved plans in the area of the first phase. Prior to commencement of any subsequent phase, silt fence shall be installed in the proper phase in accordance with the approved plans. Siltation barriers shall be maintained in good condition and reinforced, extended, repaired or replaced as necessary.

b. Stone Check Dams: Until such time as final site stabilization is completed, swales/ditches shall receive treatment with stone check dams so as to effectively trap sediment and minimize its release off-site. Stone check dams shall be constructed within each ditch beginning at its downstream terminus and should be placed at intervals of less than 250 feet.

c. In no case shall erodible materials be stockpiled within 25 feet of any ditch, stream or other surface water body.

d. Permanent vegetative cover: Immediately following the completion of construction activity in any portion of the site, permanent vegetation shall be

established on all exposed soils by properly seeding at a coverage rate as noted on the approved plans and covered with straw. Water shall be applied to newly seeded areas as needed until grass cover is well established.

e. Washouts shall be immediately repaired, reseeded and protected from further erosion. All accumulated sediment shall be removed and contained in appropriate spoil areas. To effectively control wind erosion, water shall be applied to all exposed soils as necessary.

7.0 LONG TERM MAINTENANCE OF WATER QUALITY FACILITIES

Upon completion of the project, the stormwater facilities shall be owned and maintained by the ***Dockside Home Owner's Association***. The Dockside HOA shall be responsible to ensure that the facilities operate and function as designed through proper maintenance as follows.

a. Regular inspection and maintenance of the proposed facilities is required to ensure its long term water quality and quantity reduction functions. Maintenance requirements for the permanent sediment basins, bio-retention filters and dry swales are as follows:

   i. The forebay, or stormwater inlet, of each facility (including the entire sedimentation basin) shall have accumulated sediment removed every five to six years or when the accumulation level has reached 50% of it's capacity. The 50% level will be measured and indicated by the permanent sediment marker installed in each forebay and permanent sediment basin.

   ii. The outlet structure shall be inspected annually for debris and operability. Any deficiencies shall be repaired or removed immediately.

   iii. The side slopes of the facilities shall be mowed at a minimum of twice a year.

b. All stormwater facilities and roadways with associated infrastructure are proposed to be located within lands to be owned by the HOA, however easements will be filed for any infrastructure that will be located on individual townhouse lots for access and maintenance.

c. A removable trash rack shall to be provided on the outlet structure top.

8.0 SUMMARY OF FINDINGS AND CONCLUSIONS

Based on the analysis of the pre-development and post-development stormwater conditions, and the implementation of stormwater quality and sediment and erosion control measures, the potential stormwater impacts of the Dockside project will be mitigated to the greatest extent practical.

a. All criteria set forth in the New York State Stormwater Management Design Manual have been met.

b. The WQ_V and RR_V discharge volumes will be reduced below pre-development discharge volume or their impacts minimized.

c. Sediment and erosion control measures are designed to minimize erosion loss and downstream sediment deposits.

d. Peak rate control is not necessary due to the location of the site in relation to the Hudson River.

APPENDIX 1

FIGURES

LOCATION MAP	DOCKSIDE DOCK ROAD TOWN OF MARLBOROUGH ULSTER COUNTY, NEW YORK	DATE: 06/24/11	JOB # 989.01
		SCALE: 1"=1000'	SHEET # F-1

ENGINEERING PROPERTIES
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99 CLINTON ST. 2ND FLOOR
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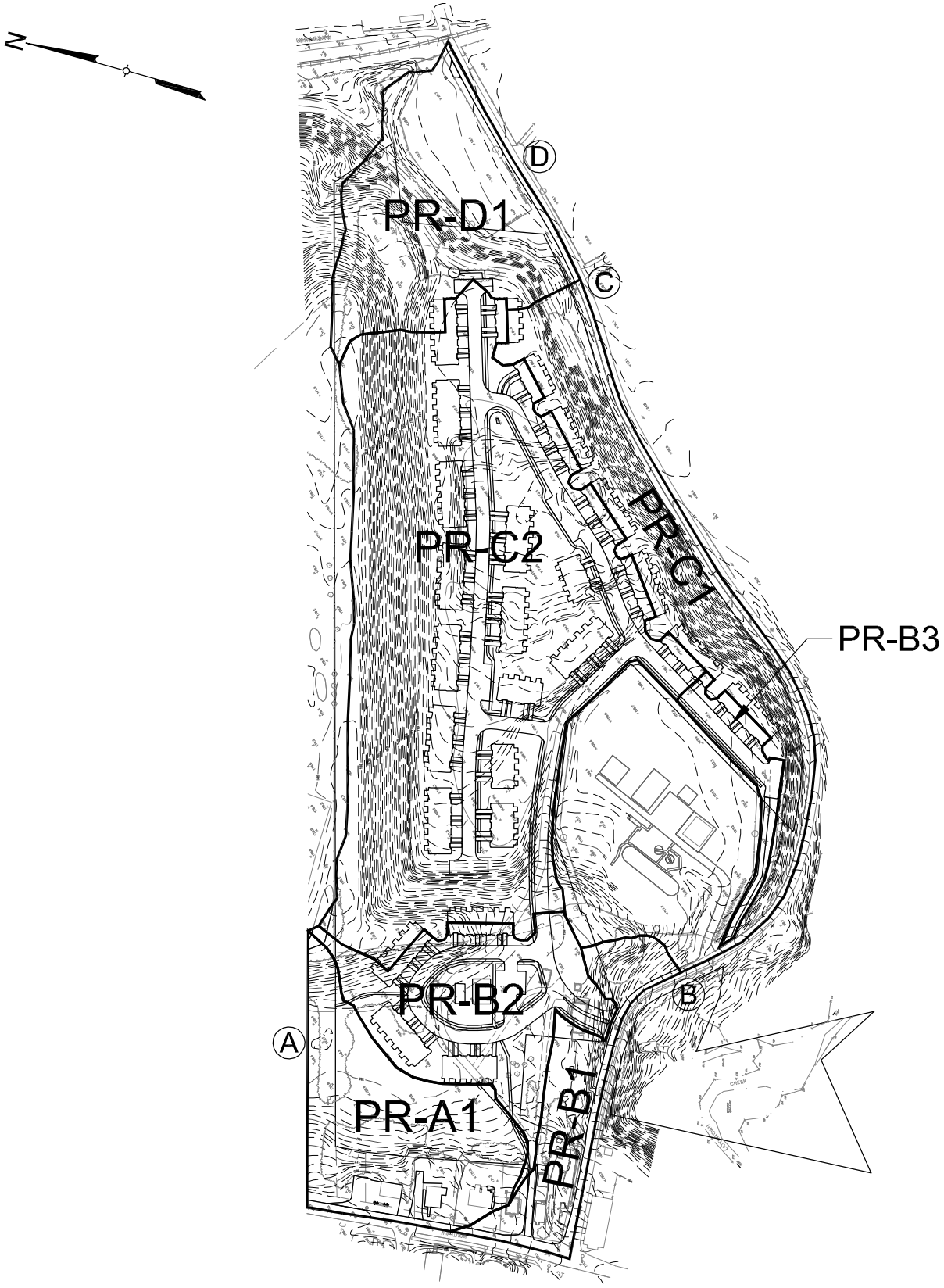

PROPOSED CONDITIONS	DOCKSIDE DOCK ROAD TOWN OF MARLBOROUGH ULSTER COUNTY, NEW YORK	DATE: 06/24/11	JOB # 989.01	ENGINEERING PROPERTIES Achieving Successful Results with Innovative Designs	99 CLINTON ST. 2ND FLOOR MONTGOMERY, NY 12549 Ph: (845) 457-7727 Fx: (845) 457-1899
		SCALE: 1"=300'	SHEET # F-4		

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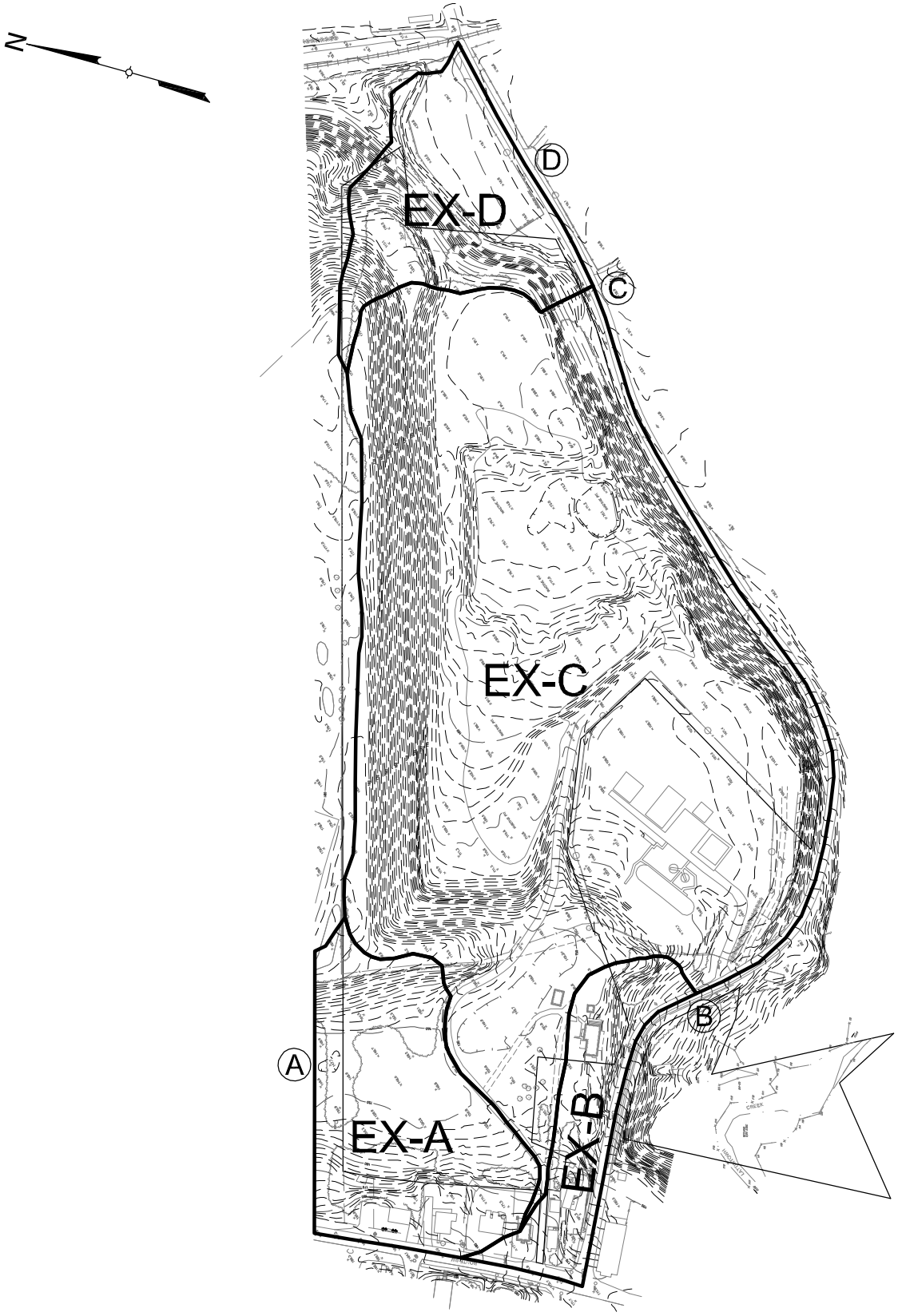

EXISTING CONDITIONS	DOCKSIDE DOCK ROAD TOWN OF MARLBOROUGH ULSTER COUNTY, NEW YORK	DATE: 06/24/11	JOB # 989.01
		SCALE: 1"=300'	SHEET # F-3

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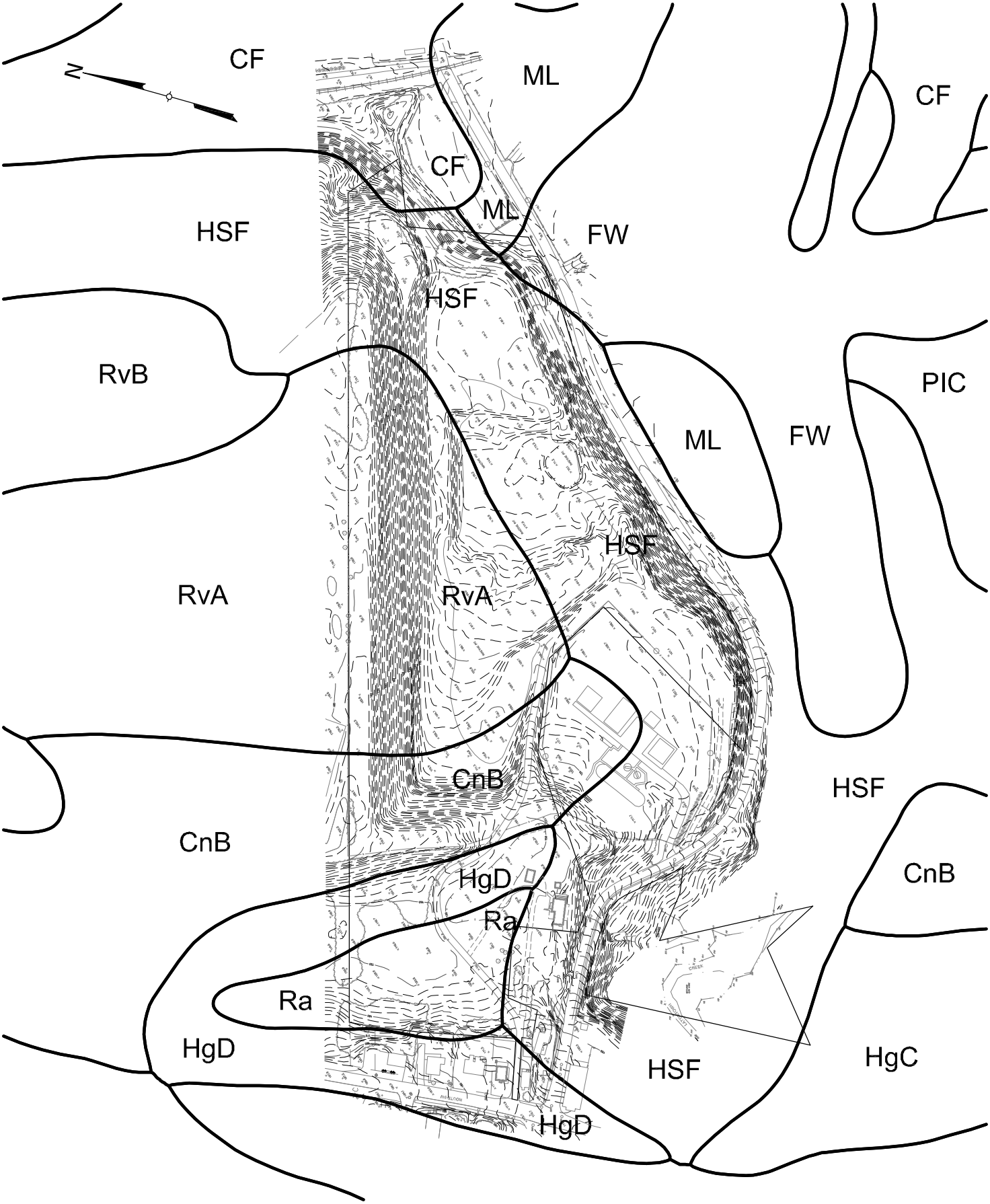

SOILS MAP	DOCKSIDE DOCK ROAD TOWN OF MARLBOROUGH ULSTER COUNTY, NEW YORK	DATE: 06/24/11 SCALE: 1"=300'	JOB # 989.01 SHEET # F-2	ENGINEERING PROPERTIES Achieving Successful Results with Innovative Designs	99 CLINTON ST. 2ND FLOOR MONTGOMERY, NY 12549 Ph: (845) 457-7727 Fx: (845) 457-1899

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APPENDIX 2

WATER QUALITY & RUNOFF REDUCTION VOLUME CALCULATIONS

ENGINEERING PROPERTIES
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WATER QUALITY VOLUME (WQ_v) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**1**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-B2**

$WQ_v = (P * R_v * A) / (12)$

must use min value of 0.2 for Rv

Drainage Area	90% Rainfall Event # (**P**)	Total Drainage Area (**A**)	Total Impervious Area (**I**)	**R_v** (0.05 + 0.009*I%)	**WQ_v** Required (Ac-ft)	**WQv** Required (ft^3)
PR-B2	1.10	3.20	1.48	0.466	0.137	5,967.7

HSG	Area (Ac.)	%	S
A	2.35	73%	0.55
B	0.00	0%	0.40
C	0.85	27%	0.30
D	0.00	0%	0.20

Minimum RRv = (P * 0.95 * S * I) / (12)

P =	1.10
S =	0.48
I =	1.48
$RR_{v\ MIN}$	**0.062** Ac-ft

Green Technology	**Implemented ?** Yes	**Implemented ?** No	Drainage Area Reduction	Contributing Drainage Area Reduction	Total Drainage Area Reduction	Total Impervious Area Reduction
Area Reduction Practices						
Conservation of Natural Areas	☐	☑	-	-	-	-
Sheet Flow to Riparian Buffers or Filter Strips	☐	☑	-	-	-	-
Tree Planting / Tree Box	☐	☑	-	-	-	-
		Subtotals			0.000	0.000

Revised WQ_v after Area Deductions	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ AREA}$**
	1.10	3.20	1.48	0.466	0.137	**0.000**

Disconnection of Rooftop Runoff	Impervious Area Reduction:	0.47 Acres

Revised WQ_v after Impervious Disconnect	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ IMP}$**
	1.10	3.20	1.01	0.334	0.098	**0.039**

Source Control WQ_v Treatment Practices	**Yes**	**No**	**WQ_v**	**$RR_{v\ SC}$***	**(A)** Reduction	**(I)** Reduction
Vegetated Open Swales	☐	☑	-	-	-	-
Rain Garden	☐	☑	-	-	-	-
Green Roof	☐	☑	-	-	-	-
Stormwater Planters	☐	☑	-	-	-	-
Rain Tanks / Cisterns			-	-	-	-
Porous Pavement			-	-	-	-
Standard SMP's with RRv Capacity						
Infiltration			-	-	-	-
Bio-Retention			0.098	0.078	3.20	1.01
Dry Swale (Open Channel)			-	-	-	-
		Subtotals	0.098	**0.078**	3.20	1.01

Is The Total **RR_v** ($RR_{v\ AREA}$ + $RR_{v\ IMP}$ + $RR_{v\ SC}$)	**0.117**	**≥ $RR_{v\ MIN}$?**	**0.062**	**YES**

WQ_v Required by Standard Practices	**P**	**A**	**I**	**R_v**	**WQ_v (Ac-ft)**	**WQ_v (ft^3)**
	1.10	0.00	0.00	0.00	0.000	0.0

** For Source Control (if used) RRv calculations see attached Green Technology RRv Calculation Sheets*

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**2**	**3**

PROJECT TITLE		LOCATION
Dockside @ Marlborough		**Town of Marlborough**
CALCULATED BY **KW**	APPROVED BY **RW**	Stormwater Management Practice Facility Designation **PR-B2**

ROOF/IMPERVIOUS DISCONNECT

Requirement Checks	Yes	No	Notes:
Disconnect receiving soil permeable	☑	☐	*Soil Group A or B, or Evaluated by Licensed Eng.*
Runoff from designated hotspot	☐	☑	
Maximum contributing flow path ≤ 75'	☑	☐	
Downspouts have 10' separation to any impervious area	☑	☐	
Rooftop area less than 500 SF if NO, flow dispersion required (max 2,000 SF)	☑	☐	
Length of vegetated swale, filter strip, and/or infiltration area shall be longer than contributing impervious area length	☑	☐	
Entire vegetative filter/infiltration area has average slope < 5%	☑	☐	

Area of Impervious to have disconnect 0.47 Acres

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**3**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-B2**

BIO-RETENTION

Requirement Checks	Yes	No	Notes:
Runoff enters as sheet flow or through a dissipator	☑	☐	
Pretreatment provided	☑	☐	
Design Complies with Required Elements of Practice	☑	☐	
Infiltration designed to exfiltrate through bottom of practice only?	☑	☐	

Drainage Area (Ac.)	3.200	
Impervious Area (Ac.)	1.010	
Rainfall Event # (P)	1.10	
Rv	0.334	
$WQv_{REQ'D}$	0.098	
A_f (ft^2)	1,710.0	Surface area of filter bed
d_t (ft)	2.0	depth of filter bed
k (ft/day)	1.0	coefficient of permability of filter media
h_f (ft)	0.50	average height of water above filter bed
t_f (days)	2.00	design filter bed drain time
V_f (ft^3)	4,275.0	Design volume of filter (WQ_v Provided)
$V_f > WQv_{REQ'D}$	**YES**	
HSG Soil Classification	A	

RRv Reduction Allowance

Soil Group A or B	80%
Soil Group C or D	40%

RRv	0.078

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

WATER QUALITY VOLUME (WQ_v) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**1**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-C2**

$WQ_v = (P * R_v * A) / (12)$

must use min value of 0.2 for Rv

Drainage Area	90% Rainfall Event # (**P**)	Total Drainage Area (**A**)	Total Impervious Area (**I**)	**R_v** (0.05 + 0.009*I%)	**WQ_v** Required (Ac-ft)	**WQv** Required (ft^3)
PR-C2	1.10	13.34	4.95	0.384	0.470	20,473.2

HSG	Area (Ac.)	%	S
A	6.45	48%	0.55
B	6.90	52%	0.40
C	0.00	0%	0.30
D	0.00	0%	0.20

Minimum RRv = (P * 0.95 * S * I) / (12)

P =	1.10
S =	0.47
I =	4.95
$RR_{v\ MIN}$	**0.204** Ac-ft

Green Technology	**Implemented ?** Yes	**Implemented ?** No	Drainage Area Reduction	Contributing Drainage Area Reduction	Total Drainage Area Reduction	Total Impervious Area Reduction
Area Reduction Practices						
Conservation of Natural Areas	☐	☑	-	-	-	-
Sheet Flow to Riparian Buffers or Filter Strips	☐	☑	-	-	-	-
Tree Planting / Tree Box	☐	☑	-	-	-	-
		Subtotals			0.000	0.000

Revised WQ_v after Area Deductions	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ AREA}$**
	1.10	13.34	4.95	0.384	0.470	**0.000**

Disconnection of Rooftop Runoff	Impervious Area Reduction:	2.38 Acres

Revised WQ_v after Impervious Disconnect	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ IMP}$**
	1.10	13.34	2.57	0.223	0.273	**0.196**

Source Control WQ_v Treatment Practices	**Yes**	**No**	**WQ_v**	**$RR_{v\ SC}$***	**(A)** Reduction	**(I)** Reduction
Vegetated Open Swales	☐	☑	-	-	-	-
Rain Garden	☐	☑	-	-	-	-
Green Roof	☐	☑	-	-	-	-
Stormwater Planters	☐	☑	-	-	-	-
Rain Tanks / Cisterns			-	-	-	-
Porous Pavement			-	-	-	-
Standard SMP's with RRv Capacity						
Infiltration			0.273	0.246	13.34	2.57
Bio-Retention			-	-	-	-
Dry Swale (Open Channel)			-	-	-	-
		Subtotals	0.273	**0.246**	13.34	2.57

Is The Total **RR_v** ($RR_{v\ AREA}$ + $RR_{v\ IMP}$ + $RR_{v\ SC}$)	**0.443**	**≥ $RR_{v\ MIN}$?**	**0.204**	**YES**

WQ_v Required by Standard Practices	**P**	**A**	**I**	**R_v**	**WQ_v (Ac-ft)**	**WQ_v (ft^3)**
	1.10	0.00	0.00	0.00	0.000	0.0

** For Source Control (if used) RRv calculations see attached Green Technology RRv Calculation Sheets*

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**2**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-C2**

ROOF/IMPERVIOUS DISCONNECT

Requirement Checks	Yes	No	Notes:
Disconnect receiving soil permeable	☑	☐	*Soil Group A or B, or Evaluated by Licensed Eng.*
Runoff from designated hotspot	☐	☑	
Maximum contributing flow path ≤ 75'	☑	☐	
Downspouts have 10' separation to any impervious area	☑	☐	
Rooftop area less than 500 SF if NO, flow dispersion required (max 2,000 SF)	☑	☐	
Length of vegetated swale, filter strip, and/or infiltration area shall be longer than contributing impervious area length	☑	☐	
Entire vegetative filter/infiltration area has average slope < 5%	☑	☐	

Area of Impervious to have disconnect	2.38	Acres

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**3**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-C2**

INFILTRATION PRACTICES

Requirement Checks	Yes	No	Notes:
Infiltration rate (k) $\geq$ 0.5"/$_{hr}$	☑	☐	
Pretreatment provided	☑	☐	
Design Complies with Required Elements of Practice	☑	☐	
Infiltration designed to exfiltrate through bottom of practice only?	☑	☐	

Drainage Area (Ac.)	13.34	
Impervious Area (Ac.)	2.57	
Rainfall Event # (P)	1.10	
Rv	0.223	
$WQv_{REQ'D}$	0.273	
A_t (ft^2)		Surface area of infiltration trench
d_t (ft)		depth of trench
n	0.400	porosity
V_t (ft^3)		Design Volume of Trench (WQ_v Provided)
$V_t > WQv_{REQ'D}$		
A_b (ft^2)	2,547.0	Surface area of infiltration basin
D_b (ft)	5.0	depth of basin
V_b (ft^3)	12,735.0	Design Volume of basin (WQ_v Provided)
V_b (ac-ft)	0.292	Design Volume of basin (WQ_v Provided)
$V_t > WQv_{REQ'D}$	**YES**	
RRv	0.246	

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

WATER QUALITY VOLUME (WQ_v) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**1**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-B3**

$WQ_v = (P * R_v * A) / (12)$

must use min value of 0.2 for Rv

Drainage Area	90% Rainfall Event # (**P**)	Total Drainage Area (**A**)	Total Impervious Area (**I**)	**R_v** (0.05 + 0.009*I%)	**WQ_v** Required (Ac-ft)	**WQv** Required (ft^3)
PR-B3	1.10	0.64	0.41	0.627	0.037	1,611.7

HSG	Area (Ac.)	%	S
A	0.64	100%	0.55
B	0.00	0%	0.40
C	0.00	0%	0.30
D	0.00	0%	0.20

Minimum RRv = (P * 0.95 * S * I) / (12)

P =	1.10
S =	0.55
I =	0.41
$RR_{v\ MIN}$	**0.020** Ac-ft

Green Technology	**Implemented ?** Yes	**Implemented ?** No	Drainage Area Reduction	Contributing Drainage Area Reduction	Total Drainage Area Reduction	Total Impervious Area Reduction
Area Reduction Practices						
Conservation of Natural Areas	☐	☑	-	-	-	-
Sheet Flow to Riparian Buffers or Filter Strips	☐	☑	-	-	-	-
Tree Planting / Tree Box	☐	☑	-	-	-	-
		Subtotals			0.000	0.000

Revised WQ_v after Area Deductions	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ AREA}$**
	1.10	0.64	0.41	0.627	0.037	**0.000**

Disconnection of Rooftop Runoff	Impervious Area Reduction:	0.08 Acres

Revised WQ_v after Impervious Disconnect	**P**	**A**	**I**	**R_v**	**WQ_v**	**$RR_{v\ IMP}$**
	1.10	0.64	0.33	0.514	0.030	**0.007**

Source Control WQ_v Treatment Practices	**Yes**	**No**	**WQ_v**	**$RR_{v\ SC}$***	**(A)** Reduction	**(I)** Reduction
Vegetated Open Swales	☐	☑	-	-	-	-
Rain Garden	☐	☑	-	-	-	-
Green Roof	☐	☑	-	-	-	-
Stormwater Planters	☐	☑	-	-	-	-
Rain Tanks / Cisterns			-	-	-	-
Porous Pavement			-	-	-	-
Standard SMP's with RRv Capacity						
Infiltration			-	-	-	-
Bio-Retention			-	-	-	-
Dry Swale (Open Channel)			0.000	0.012	0.64	0.33
		Subtotals	0.000	**0.012**	0.64	0.33

Is The Total **RR_v** ($RR_{v\ AREA}$ + $RR_{v\ IMP}$ + $RR_{v\ SC}$)	**0.020**	**≥ $RR_{v\ MIN}$?**	**0.020**	**YES**

WQ_v Required by Standard Practices	**P**	**A**	**I**	**R_v**	**WQ_v (Ac-ft)**	**WQ_v (ft^3)**
	1.10	0.00	0.00	0.00	0.000	0.0

** For Source Control (if used) RRv calculations see attached Green Technology RRv Calculation Sheets*

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**2**	**3**

PROJECT TITLE		LOCATION
Dockside @ Marlborough		**Town of Marlborough**
CALCULATED BY **KW**	APPROVED BY **RW**	Stormwater Management Practice Facility Designation **PR-B3**

ROOF/IMPERVIOUS DISCONNECT

Requirement Checks	Yes	No	Notes:
Disconnect receiving soil permeable	☑	☐	*Soil Group A or B, or Evaluated by Licensed Eng.*
Runoff from designated hotspot	☐	☑	
Maximum contributing flow path ≤ 75'	☑	☐	
Downspouts have 10' separation to any impervious area	☑	☐	
Rooftop area less than 500 SF if NO, flow dispersion required (max 2,000 SF)	☑	☐	
Length of vegetated swale, filter strip, and/or infiltration area shall be longer than contributing impervious area length	☑	☐	
Entire vegetative filter/infiltration area has average slope < 5%	☑	☐	

Area of Impervious to have disconnect 0.08 Acres

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

RUNOFF REDUCTION VOLUME (RRv) CALCULATION SHEET

WO. NO.	DATE	REVISED	SHEET	OF
989.01	**06/06/11**		**3**	**3**

PROJECT TITLE	LOCATION
Dockside @ Marlborough	**Town of Marlborough**

CALCULATED BY	APPROVED BY	Stormwater Management Practice Facility Designation
KW	**RW**	**PR-B3**

DRY SWALE

Requirement Checks	Yes	No	Notes:
4% maximum slope	☑	☐	
Check dams used for slopes > 2%	☐	☑	
30 minute retention time provided	☑	☐	
Maximum depth of flow < 18"	☑	☐	

Drainage Area (Ac.)	0.64
Impervious Area (Ac.)	0.33
Rainfall Event # (P)	1.10
Rv	0.520
WQv Peak Flow (QWQv) <	0.031
Qr (Runoff Volume)	0.572
CN	94
Tc (Hours)	0.250
Ia	0.128
Ia/P	0.116
Qu (from Exhibit 4-II (TR-55))	1000
Q_{WQv}	0.572

Swale Design

Bottom Width (ft)	1.00
Side Slopes	3.00
Depth (ft)	2.00
Area of Flow (ft^2)	14.000
Wetted Perimeter	13.649
Slope (ft/ft)	0.010
Mannings "n":	0.040
Q_{swale} (Design)	53.040
V_{swale} (Design)	3.789

Channel Length (ft)	300.00
WQv Depth of Flow (Ft)	0.266
WQv Velocity	0.002
Retention Time (Min)	2,292.9
$Q_{10\text{-}yr}$ (cfs)	2.84
$D_{10\text{-}yr}$ (ft)	0.576
$V_{10\text{-}yr}$ (f/s)	1.805
Swale Design Depth (ft)	2.00
Available Freeboard	1.42
HSG Soil Classification	A

3.2 inches

RRv Reduction Allowance

Soil Group A or B	40%
Soil Group C or D	20%

WQv to Swale	0.031
RRv	0.012

APPENDIX 3

CONSTRUCTION SITE INSPECTION FORM

SWPPP INSPECTION REPORT

ENGINEERING PROPERTIES
Achieving Successful Results with Innovative Designs

W.O. No.	Date:	Greater than 5 Ac. Of Disturbance? Waiver?	Page Of
Project Name:		Arrival Time :	Departing Time:
Location:		Weather	Temp (°F)

Owner:	**Documents on-site?**		SWPPP:	
Contractor:	Weekly Inspections:		NOI:	

Description of current activities onsite and phase of construction (attach sketch showing areas of stabilization and current work):

Description of runoff at discharge points (inlcuding onsite conveyance systems):

Erosion & Sediment Control Measures in Need of Repair or Maintenance:

Description of post-construction stormwater management facilities:

Was contractor notified of deficiences/repairs needed? _____

Qualified Inspector

Notice:

This inspection was performed soley for purpose of determine complaince with NYSDEC GP 08-001.

Name _____ Signature _____

APPENDIX 4

DRAFT NOTICE OF INTENT

0669273036

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR ☐☐☐☐☐☐
(for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-
RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State ☐☐ Zip ☐☐☐☐☐ - ☐☐☐☐

Phone (Owner/Operator) ☐☐☐ - ☐☐☐ - ☐☐☐☐

Fax (Owner/Operator) ☐☐☐ - ☐☐☐ - ☐☐☐☐

Email (Owner/Operator)

FED TAX ID ☐☐ - ☐☐☐☐☐☐☐ (not required for individuals)

Project Site Information

Project/Site Name

Street Address (NOT P.O. BOX)

Side of Street
○ **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)

State N Y Zip - County DEC Region

Name of Nearest Cross Street

Distance to Nearest Cross Street (Feet)

Project In Relation to Cross Street
○ **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

Y Coordinates (Northing) 4

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in imperviousness**

○ **Redevelopment with no increase in imperviousness**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ○ PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION

Number of Lots

- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ○ CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ OTHER

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ○ **Yes** ○ **No**

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ○ **Yes** ○ **No**

6. Is this property owned by a state authority, state agency or local government? ○ **Yes** ○ **No**

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	**Acreage To Be Disturbed**	**Existing Impervious Area Within Disturbed**	**Future Impervious Area Within Disturbed**
.	.	.	.

8. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ○ **No**

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	**B**	**C**	**D**
%	%	%	%

10. Is this a phased project? ○ Yes ○ No

11. Enter the planned start and end dates of the disturbance activities. **Start Date** ☐☐/☐☐/☐☐☐☐ - **End Date** ☐☐/☐☐/☐☐☐☐

12. Identify the nearest, natural, surface waterbody(ies) to which construction site runoff will discharge.

Name

12a. Type of waterbody identified in Question 12?

- ○ Wetland / State Jurisdiction On Site (Answer 12b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 12b)
- ○ Wetland / Federal Jurisdiction Off Site
- ○ Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

12b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment in Appendix E of GP-0-10-001? ○ Yes ○ No

14. Is this project located in one of the Watersheds identified in Appendix C of GP-0-10-001? ○ Yes ○ No

15. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? **If no, skip question 16.** ○ Yes ○ No

16. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? ○ Yes ○ No

If Yes, what is the acreage to be disturbed?

				.	
				.	

17. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ○ Yes ○ No

18. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ○ Yes ○ No ○ Unknown

(If No, skip question 19)

19. What is the name of the municipality/entity that owns the separate storm sewer system?

20. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ○ No ○ Unknown

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ○ Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) ○ Yes ○ No

(If No, skip questions 23 and 27-35)

23. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ○ Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ○ **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer

Contact Name (Last, Space, First)

Mailing Address

City

State Zip -

Phone - - Fax - -

Email

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name **MI**

Last Name

Signature

Date / /

25. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ○ Check Dams
- ○ Construction Road Stabilization
- ○ Dust Control
- ○ Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ○ Silt Fence
- ○ Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ○ Protecting Vegetation
- ○ Recreation Area Improvement
- ○ Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ○ Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Water Quality and Quantity Control

Important: Completion of Questions 27-35 is not required if response to Question 22 is No.

Post-Construction Stormwater Management Practices

27. Indicate **all** Stormwater Management Practice(s) that will be installed/constructed on this site:

Ponds
- ○ **Micropool Extended Detention (P-1)**
- ○ **Wet Pond (P-2)**
- ○ **Wet Extended Detention (P-3)**
- ○ **Multiple Pond System (P-4)**
- ○ **Pocket Pond (P-5)**

Filtering
- ○ **Surface Sand Filter (F-1)**
- ○ **Underground Sand Filter (F-2)**
- ○ **Perimeter Sand Filter (F-3)**
- ○ **Organic Filter (F-4)**
- ○ **Bioretention (F-5)**
- ○ **Other**

Alternative Practice
- ○ **Rain Garden**
- ○ **Cistern**
- ○ **Green Roof**
- ○ **Stormwater Planters**
- ○ **Permeable Paving (Modular Block)**

Wetlands
- ○ **Shallow Wetland (W-1)**
- ○ **Extended Detention Wetland (W-2)**
- ○ **Pond/Wetland System (W-3)**
- ○ **Pocket Wetland (W-4)**

Infiltration
- ○ **Infiltration Trench (I-1)**
- ○ **Infiltration Basin (I-2)**
- ○ **Dry Well (I-3)**
- ○ **Underground Infiltration System**

Open Channels
- ○ **Dry Swale (O-1)**
- ○ **Wet Swale (O-2)**

Verified Proprietary Practice
- ○ **Hydrodynamic**
- ○ **Wet Vault**
- ○ **Media Filter**

28. Describe other stormwater management practices not listed above or explain any deviations from the technical standards.

29. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

30. Provide the total water quality volume required and the total provided for the site.

WQv Required ☐☐☐.☐☐☐ **acre-feet**

WQv Provided ☐☐☐.☐☐☐ **acre-feet**

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required ☐☐☐.☐☐☐ **acre-feet**

CPv Provided ☐☐☐.☐☐☐ **acre-feet**

31a. The need to provide for channel protection has been waived because:

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ☐☐☐.☐☐☐ **CFS**

Post-development ☐☐☐.☐☐☐ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ☐☐☐.☐☐☐ **CFS**

Post-development ☐☐☐.☐☐☐ **CFS**

31b. The need to provide for flood control has been waived because:

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ☐☐☐ %

33. Post-Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ☐☐☐ %

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed. ☐☐

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems) ☐☐

36. Identify other DEC permits that are required for this project.

DEC Permits

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Other SPDES
- ○ Solid Waste
- ○ None
- ○ Other
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15

37. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ○ **No**
If Yes, Indicate Size of Impact. _____.__

38. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ○ **No**
(If No, skip question 39)

39. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

40. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. NYR_____

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name **MI**

Print Last Name

Owner/Operator Signature

Date __ / __ / ____