TOWN OF CARMEL

ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

ENVIRONMENTAL CONSERVATION BOARD AGENDA

JULY 23, 2015 – 7:30 P.M. – MEETING ROOM #2

ELIGIBLE FOR A PERMIT

APPLICANT	ADDRESS	TAX MAP #	COMMENTS
1. Sheppard Estates, Inc. c/o Lou Panny	17 Pleasant Road	53.15-1-24	Construct 1 Family Home

SUBMISSION OF AN APPLICATION OR LETTER OF PERMISSION

2. Morales, Ignacio	32 Sycamore Road	76.5-1-34	Construct Addition

PLANNING BOARD REFERRAL

3. Random Ridge Subdivision	Kennicut Hill Rd	76.10-1-23	29 Lot Cluster Subdivision
4. Wallauer's at Putnam Plaza	1924 Route 6, Carmel	55.11-1-4	Add a 25 x 64 Outdoor Display And Storage Area
5. NYCDEP	Drewville Road	66.-2-53	Install a Stormwater Detention System (Wetland Permit)
6. NYCDEP	Drewville Road	66.-2-53	Install a Stormwater Detention System (Tree Cutting Permit)

MISCELLANEOUS

7. Minutes – 04/09/15

JOHN KARELL, JR., P.E.
121 CUSHMAN ROAD
PATTERSON, NEW YORK, 12563
845-878-7894 FAX 845 878 4939
jack4911@yahoo.com

STORMWATER POLLUTION PREVENTION PLAN
EROSION AND SEDIMENT CONTROL
RAIN GARDEN DESIGN

LOUIS PANNY
PLEASANT ROAD
CARMEL (T)

March 24, 2015, revised June 8, 2015, **revised June 29, 2015**

JOHN KARELL, JR., P.E.
121 CUSHMAN ROAD
PATTERSON, NEW YORK, 12563
845-878-7894 FAX 845 878 4939
jack4911@yahoo.com

June 29, 2015

RESPONSE TO COMMENTS RICHARD FRANZETTI, P.E., ROBERT VARA IN A TELEPHONE CONVERSATION ON June 29, 2015
PANNY PLEASANT ROAD, TM # 53.15-1-24

1. SHPO letter dated April 14, 2015 was provided to your office previously, copy attached.
2. Rain gardens have been redesigned for 3.1 inch storm
3. The cover page of the new NOI is attached.
4. The sizes and types of the stormwater piping has been provided.
5. Driveway grading has been clarified.
6. A culvert under the driveway is not necessary with the new profile.
7. Sideline setbacks are shown.
8. A driveway cross section is shown.
9. Construction fencing has been provided around the rain gardens and settling basins.

John Karell, Jr., P.E.

NEW YORK
STATE OF
OPPORTUNITY.

Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

April 14, 2015

Mr. John Karell
Karell Engineering
121 Cushman Road
Patterson, NY 12563

Re: SEQRA - Panny Pleasant Road House Construction
Pleasant Road, Carmel, NY
15PR01536

Dear Mr. Karell:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation's Division for
Historic Preservation (OPRHP/DHP) as part of your SEQRA process. These comments are those of OPRHP/DHP and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

We have reviewed the submitted project for the project noted above, received on April 7, 2015. Based on our review of the above noted project, we believe that no archaeological investigations should be required. If in the future the scope of design of the project changes then we would suggest that the potential for archaeological site disturbance be reevaluated.

There are no properties in the project area that are **listed** in the State and/or National Register of Historic Places (S/NRHP). Therefore, under SEQRA we have no concerns regarding potential impacts to historic architectural resources. However, this review does not include potential impacts to architectural resources that may be **eligible** for the S/NRHP. If this project will involve state or federal permitting (such as DEC or DOT), funding or licensing, we will likely recommend a more rigorous review for impacts to architectural resources, in accordance with Section 106 of the National Historic Preservation Act or Section 14.09 of NYS Parks Recreation and Historic Preservation Law.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

JOHN KARELL, JR., P.E.
121 CUSHMAN ROAD
PATTERSON, NEW YORK, 12563
845-878-7894 FAX 845 878 4939
jack4911@yahoo.com

DRAINAGE STUDY

June 8, 2015, **revised June**

Louis Panny, Pleasant Road, Hamlet of Mahopac, Carmel (T)

DESIGN PARAMETERS

Proposed Impervious area roof = 1,350 square feet
Design Storm = 3.1 inches
Soils CrC Charlton Chatfield

WATER QUALITY VOLUME

WQV = (P)(RV)(A)/12
P=3.1 RV= 0.95 A=1,350 SF
WQV = 3.1(0.95)(1,350)/12
= 331 cf

Pretreatment Volume = 25% (WQV) = .25 (331) = 82 CF required

Use two concrete structures, each 4 ft x 3.5 ft x 4.5 ft, 63 cubic feet, gross capacity. Capacity 12 inches below top is 49 CF, total 98 CF

PROPOSED RAIN GARDEN DESIGN

It is proposed to treat the storm water from all impervious surfaces in two (2) rain gardens. The design of the rain gardens are as follows:

Total Impervious area = 1,350 sf. Use 2 rain gardens each designed at 700 sf

Treatment area; 1,350 square feet at 100% impervious
Rain garden section: 12" soil (0.2 porosity), 6" drainage layer (0.4 porosity, 8" ponding depth 6"

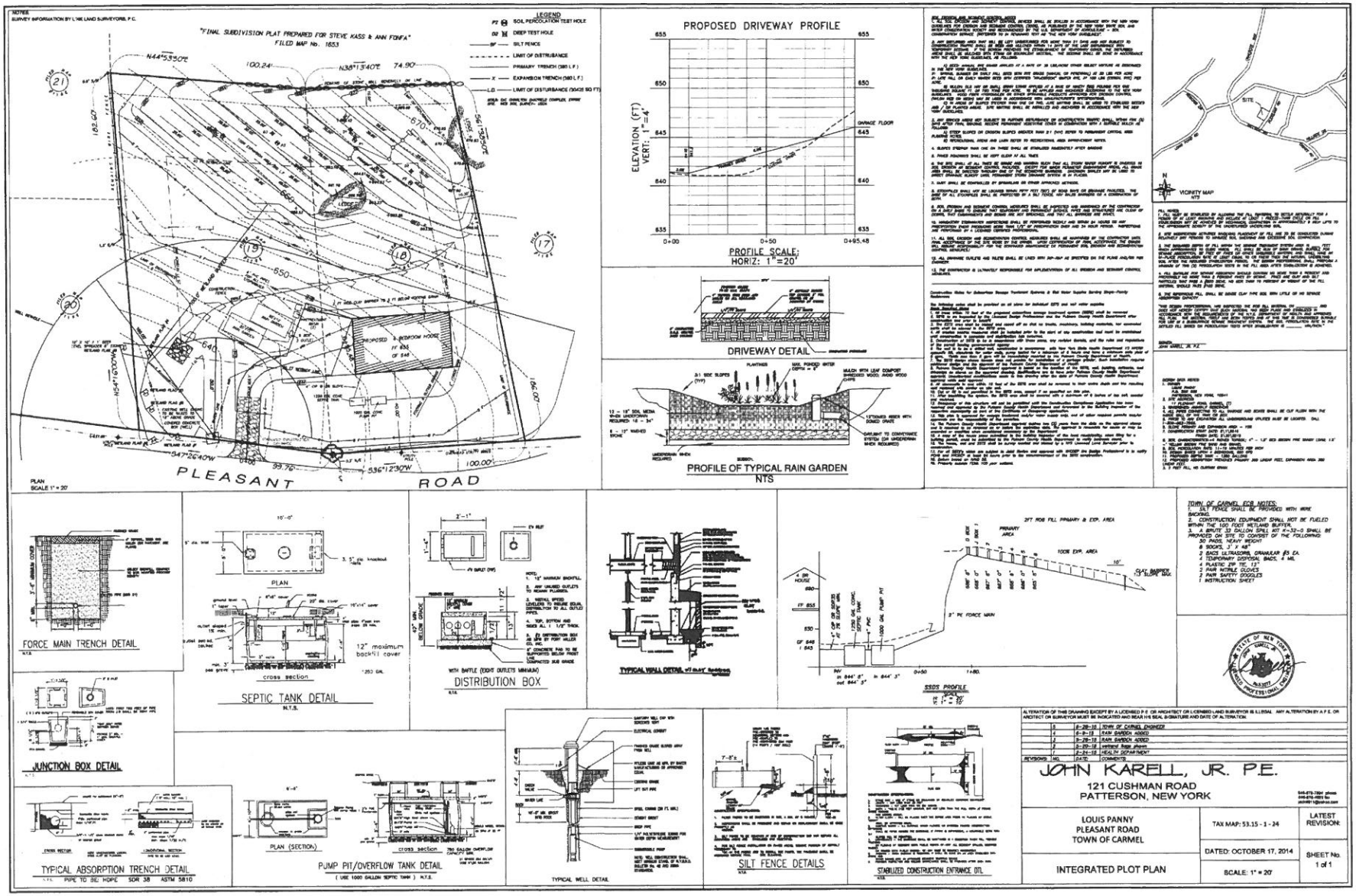
Design storm: 3.1" of rainfall
Proposed Rain Garden Area : 200 square feet
RV = 0.95

WQV = (Rainfall in inches)(0.05 + (0.009)(% impervious))(treatment area)/12
WQV = (3.1)(0.95)(700)/12
WQV = 172 cf

Soil Volume = (200 sq ft)(1 ft)(0.20) = 40 cf
Drainage Layer Volume = (200 sq ft)(0.5 ft)(0.40) = 40 cf
Ponding volume = (200 sq ft)(0.5 ft) = 100 cf

Total Treatment Volume = 40 + 40 + 100 = 180 cf > 172 cf

Two (2) rain gardens at 20 x 10 ft (200 sf) will be provided to treat the roof impervious areas. Two (2) settling basins, catch basins, will be provided before the rain gardens. The flow outleting the catch basin will be split in two in a distribution box, half to each rain garden. All underground piping will be 6" pvc.


NOTES:
SURVEY INFORMATION BY LYNE LAND SURVEYORS, P.C.
"FINAL SUBDIVISION PLAT PREPARED FOR STEVE KASS & ANN FONFA"
FILED MAP No. 1653
LEGEND
SOIL PERCOLATION TEST HOLE
DEEP TEST HOLE
SILT FENCE
LIMIT OF DISTURBANCE
PRIMARY TRENCH (380 L.F.)
EXPANSION TRENCH (380 L.F.)
LIMIT OF DISTURBANCE (50X25 SQ FT)
PROPOSED 4 BEDROOM HOUSE
FF 655
GF 646
PLEASANT ROAD
PLAN
SCALE 1" = 20'
PROPOSED DRIVEWAY PROFILE
ELEVATION (FT)
VERT: 1"=4'
PROFILE SCALE:
HORIZ: 1"=20'
DRIVEWAY DETAIL
PROFILE OF TYPICAL RAIN GARDEN
NTS
VICINITY MAP
SITE
PLEASANT RD
FORCE MAIN TRENCH DETAIL
SEPTIC TANK DETAIL
PLAN
cross section
12" maximum backfill cover
1250 GAL
DISTRIBUTION BOX
WITH BAFFLE (TEE'D OUTLETS MINIMUM)
TYPICAL WALL DETAIL
SSDS PROFILE
JUNCTION BOX DETAIL
TYPICAL ABSORPTION TRENCH DETAIL
PIPE TO BE: HDPE SDR 35 ASTM 5810
PUMP PIT/OVERFLOW TANK DETAIL
(USE 1000 GALLON SEPTIC TANK)
PLAN (SECTION)
cross section
1000 GALLON OVERFLOW CAPACITY TANK
TYPICAL WELL DETAIL
SILT FENCE DETAILS
STABILIZED CONSTRUCTION ENTRANCE DTL
TOWN OF CARMEL ECB NOTES:
1. SILT FENCE SHALL BE PROVIDED WITH WIRE BACKING.
2. CONSTRUCTION EQUIPMENT SHALL NOT BE FUELED WITHIN THE 100 FOOT WETLAND BUFFER.
3. A BRUTE 33 GALLON SPILL KIT #1-33-0 SHALL BE PROVIDED ON SITE TO CONSIST OF THE FOLLOWING:
30 PADS, HEAVY WEIGHT
9 SOCKS, 3" X 48"
2 BAGS ULTRASORB, GRANULAR #5 EA.
4 TEMPORARY DISPOSAL BAGS, 6 MIL
4 PLASTIC ZIP TIE, 13"
2 PAIR NITRILE GLOVES
2 PAIR SAFETY GOGGLES
1 INSTRUCTION SHEET
STATE OF NEW YORK
JOHN KARELL, JR.
No. 53377
LICENSED PROFESSIONAL ENGINEER
ALTERATION OF THIS DRAWING EXCEPT BY A LICENSED P.E. OR ARCHITECT OR LICENSED LAND SURVEYOR IS ILLEGAL. ANY ALTERATION BY A P.E. OR ARCHITECT OR SURVEYOR MUST BE INDICATED AND BEAR HIS SEAL, SIGNATURE AND DATE OF ALTERATION.
REVISIONS | NO. | DATE | COMMENTS
5 | 8-26-15 | TOWN OF CARMEL ENGINEER
4 | 5-6-15 | RAIN GARDEN ADDED
3 | 5-20-15 | RAIN GARDEN ADDED
2 | 3-20-15 | wetland flags shown
1 | 2-24-15 | HEALTH DEPARTMENT
JOHN KARELL, JR. P.E.
121 CUSHMAN ROAD
PATTERSON, NEW YORK
LOUIS PANNY
PLEASANT ROAD
TOWN OF CARMEL
TAX MAP: 53.15 - 1 - 24
DATED: OCTOBER 17, 2014
SCALE: 1" = 20'
LATEST REVISION:
SHEET No. 1 of 1
INTEGRATED PLOT PLAN

Marguerite and Ignacio Morales
32 Sycamore Road
Mahopac, NY 10541
(845)

July 17, 2015

Environmental Conservation Board
Carmel Town Hall
60 McAlpin Avenue
Mahopac, NY 10541

To Whom It May Concern,

We, Marguerite and Ignacio Morales, hereby give Thomas A. Nugent, Architect, permission to represent us before the Environmental Conservation Board.

Should you need additional information we can be reached at the phone number above. Thank you.

Sincerely,

Marguerite Morales, Morales

Marguerite and Ignacio Morales

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: IGNACIO MORALES

Address of Applicant: 32 SYCAMORE RD. MAHOPAC **Email:**

Telephone# **Name and Address of Owner if different from Applicant:**

SAME AS ABOVE

Property Address: 32 SYCAMORE RD., MAHOPAC **Tax Map #** 76.5-1-34
Agency Submitting Application if Applicable: N/A
Location of Wetland: ADJACENT TO PROPERTY
Size of Work Section & Specific Location: 480 SQ. FT., LEFT SIDE OF RESIDENCE
Will Project Utilize State Owned Lands? If Yes, Specify: NO

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).
260 S.F. ADDITION & DAYWELL FOR ROOF DRAINAGE

Proposed Start Date: 9/15/15 **Anticipated Completion Date:** 12/31/15 **Fee Paid $**225.00

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

7/11/15
DATE

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
PROPOSED ADDITION & ALTERATION TO THE RESIDENCE OF ENZO & MARGUERITE MORALES

Project Location (describe, and attach a location map):
32 SYCAMORE ROAD

Brief Description of Proposed Action:
ADD LIVING SPACE FOR ELDERLY LIVE IN RELATIVE, TO EXISTING RESIDENCE.

Name of Applicant or Sponsor:	Telephone: (8
THOMAS NUGENT	E-Mail: T CO

Address:
79 AUSTIN ROAD

City/PO:	State:	Zip Code:
MAHOPAC	NY	10541

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	✓	
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: PUTNAM COUNTY HEALTH DEPT. TOWN OF CARMEL BUILDING DEPT.		✓

3.a. Total acreage of the site of the proposed action? .24 acres
b. Total acreage to be physically disturbed? .0010 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? .24 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☑ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?		✓	
b. Consistent with the adopted comprehensive plan?		✓	
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO	YES	
		✓	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO	YES	
	✓		
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO	YES	
	✓		
b. Are public transportation service(s) available at or near the site of the proposed action?		✓	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?		✓	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: _____	NO	YES	
		✓	
10. Will the proposed action connect to an existing public/private water supply?	NO	YES	
		✓	
If No, describe method for providing potable water: _____			
11. Will the proposed action connect to existing wastewater utilities?	NO	YES	
		✓	
If No, describe method for providing wastewater treatment: _____			
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO	YES	
	✓		
b. Is the proposed action located in an archeological sensitive area?	✓		
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO	YES	
		✓	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	✓		

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:

☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional
☐ Wetland ☐ Urban ☑ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	✓	
16. Is the project site located in the 100 year flood plain?	✓	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,	NO	YES
a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	✓	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: 340 MIN. GAL. DRYWELL FOR NEW ROOF AREA RUNOFF		✓
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	✓	
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	✓	

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: THOMAS NUGENT Date: 7/17/15

Signature: [signature]

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?		
2. Will the proposed action result in a change in the use or intensity of use of land?		
3. Will the proposed action impair the character or quality of the existing community?		
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?		
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?		
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?		
7. Will the proposed action impact existing: a. public / private water supplies?		
b. public / private wastewater treatment utilities?		
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?		
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?		

CONSTRUCTION SEQUENCE 8-15-15 TO 12-31-15

1. EXCAVATE BY HAND FOR THE FOUNDATION & DRYWELL. REMOVE FILL TO DUMPSTER, OR DUMP TRUCK OR TRAILER. REMOVE FROM SITE WITHIN 48 HOURS.
2. POUR FOUNDATION & DRYWELL. SEED FINISHED GRADE AT DRYWELL
3. INSTALL FENCE ADDITION (CONTRACTOR W/ DISTURB AREA)
4. REMOVE WILLOWS, FOOTING & SIDING, (CONTRACTOR W/ DISTURB AREA)
5. BACKFILL FOUNDATION GRADE, INSTALL ELECTRICITY, PLUMBING, INSULATION, (CONTRACTOR W/ DISTURB AREA)
6. FINISH EXTERIOR FINISHES

NORTH

LAKE MAHOPAC

FLOATING PLATFORM

SHORELINE

72'

145.40'

145.57'

100'

GRADE SLOPES DOWN

DOUBLE SILT FENCE (SEE DET.)

MIN. 3'x10' WIDE "GALTEC" OR SIMILAR INFILTRATOR

EXISTING TREE (TYPICAL)

DECK

APPROXIMATE SEPTIC LOCATION

1½ STORY FRAME RESIDENCE

ENCRYPTED DISTURBED AREA, 270 S.F.

PROPOSED 2-STORY ADDITION (UNDER SEPARATE PERMIT FOR 2ND ELEVATION)

EXTENT OF WETLANDS BUFFER ZONE

RETAINING WALLS

PARKING AREA

ALTERNATE WELL LOCATION

N 42°-24'-40" E 12.12'

N 48°-59'-12" E 55.23'

N 48°-59'-12" E 100.19'

SYCAMORE ROAD

SITE PLAN

SCALE: 1" = 10'

LOCATION MAP

SCALE: 1" = 1000'

THE POINT

CALDWELL ISLAND

LAKE MAHOPAC

SITE

CROSS ROAD

BIRCH RD

CYPRESS RD

EAST LAKE BLVD

RTE 6

EPHRON FALLS RD

MAIN ST

MAHOPAC

ELSON AVENUE

INDIAN TRAIL

PARK ST.

WILLOW RD

CLARK RD

THOMPSON RUN

LAKEVIEW TER.

MAINT HOME RD

PUTNAM VALLEY RD

MILL TOP RD

NORTH

ROOF DRAINAGE CALCULATIONS

PROPOSED ADDITION ROOF AREA = 300 S.F.
ADDITIONAL IMPERVIOUS RUN OFF AREA = 0 S.F.
RAINFALL 1½" PER DAY, 1¼" PER S.F. = 1/8 CUBIC FEET PER S.F.
1/8 x 1.11 CUBIC FEET CU. FT. x 300 S.F. = 33.7 C.F.

EXCAVATION NOTES

ALL EXCAVATION WILL BE DONE BY HAND, THERE WILL BE NO HEAVY EQUIPMENT ON SITE.
EXCESS FILL WILL BE BROUGHT UP TO THE PARKING AREA AND REMOVED BY DUMPSTER OR DUMP TRUCK, WITHIN 48 HOURS. THE MINIMAL AMOUNT OF BACK FILL FOR THE ADDITION WILL BE STORED IN BACK.
FILL WORK FILE PT. DRYWELL EXCAVATION TO BE TARPED

DRYWELL DETAIL

NO SCALE

SILT FENCE DETAIL NO SCALE

7-7-15	PROPOSED ADDITION & ALTERATION TO THE RESIDENCE OF ENZO & MYRLENE MORALES 32 STECHER ROAD, THE POINT MAHOPAC, NY	THOMAS A. MURPHY Architect 79 Austin Road Mahopac, NY 10541 (845)-628-7895	DRAWING SY-1

PUTNAM ENGINEERING, PLLC.
Engineers and Architects

July 16, 2015

Mr. Robert Laga, Chairman
Town of Carmel Environmental Conservation Board
60 McAlpin Avenue
Mahopac, NY 10541

Re: Wetland Permit Application (Revised)
Random Ridge, Kennicut Hill Road

Dear Chairman Laga and Members of the Board:

On July 8, 2015 the Carmel Planning Board granted preliminary approval for the Random Ridge 29 lot cluster subdivision.

We are enclosing the following drawings to supplement the information previously submitted to the ECB on May 18, 2015:

1. Subdivision drawings, revised July 6, 2015, 1 full set

2. Drawings C-020, C-110, C-120, C-130, C-151, C-152, C-153 and C-160, revised July 6, 2015, 4 sets.

It is therefore requested that this project be placed on the next available ECB agenda for continued review and approval for a Wetland Permit.

Sincerely,

PUTNAM ENGINEERING, PLLC

Paul K. Garrity
PKG/tal
Enclosures

cc: Mr. Ron York, Blitman Development Corp.

(L01533)

Environmental Conservation Board

TOWN HALL- MAHOPAC, NY 10541-(845) 628-1500

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

REV 9/18/2015

Name of Applicant: BLITMAN BUILDING CORP.

Address of Applicant: 118 N. BEDFORD RD., SUITE 102, MT. KISCO NY 10549 Email:

Telephone#: (914) 241-8600 Name & Address of Owner if different from Applicant: SAME

Property Address: KENNICUT HILL ROAD Tax Map # SEE ATTACHED PROJECT NARRATIVE

Agency Submitting Application if Applicable: N.A.

Location of Wetland: EASTERN PORTION OF SITE

Size of Work Section & Specific Location: NO (0 ACRES) WETLAND DISTURBANCE, 1.1 AC. BUFFER DISTURBANCE LOCATION: WESTERN PORTION OF WETLANDS

Will Project Utilize State Owner Lands? If Yes, Specify: NO

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A detailed description of the regulated activity.

SEE ATTACHED PROJECT NARRATIVE

Proposed Starting Date: FALL 2015 Completion Date: SPRING 2017 Amount of Fee Paid: $1000.00

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

SIGNATURE

5/18/2015
DATE

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Random Ridge		
Project Location (describe, and attach a general location map): Kennicut Hill Road, Town of Carmel, Putnam County		
Brief Description of Proposed Action (include purpose or need): Proposed 29 lot residential subdivision on 106.5 acres: 29 single family cluster lots. The project site is located within the R-Residential zoning district. Sewer service shall be provided by community subsurface sewage treatment system located on-site and to be maintained by a homeowner's association. Water service shall be provided by a connection to the existing Carmel water District #8 facilities traversing the subject property.		
Name of Applicant/Sponsor: Blitman Building Corp.	Telephone: 914-244-8600 E-Mail:	
Address: 118 North Bedford Road, Suite 102		
City/PO: Mt. Kisco	State: NY	Zip Code: 10549
Project Contact (if not same as sponsor; give name and title/role): Putnam Engineering, PLLC	Telephone: 845-279-6789 E-Mail: plynch@putnameng.com	
Address: 4 Old Route 6		
City/PO: Brewster	State: NY	Zip Code: 10509
Property Owner (if not same as sponsor): Same as Applicant	Telephone: E-Mail:	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, ☐Yes☑No or Village Board of Trustees		
b. City, Town or Village ☑Yes☐No Planning Board or Commission	Carmel Planning Board	September 2014
c. City Council, Town or ☐Yes☑No Village Zoning Board of Appeals		
d. Other local agencies ☑Yes☐No	Carmel Environmental Conservation Board	
e. County agencies ☑Yes☐No	Putnam County Health Department - SSTS	
f. Regional agencies ☑Yes☐No	NYCDEP - SWPPP, SSTS	
g. State agencies ☑Yes☐No	NYSDEC - General Permit, SPEDES	
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☐Yes☑No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☐Yes☑No
iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☐Yes☑No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes☐No

If Yes, identify the plan(s):

NYCDEP Watershed Boundary

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☑ Yes ☐ No
If Yes, what is the zoning classification(s) including any applicable overlay district?
R - Residential

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Mahopac Central School District

b. What police or other public protection forces serve the project site?
Town of Carmel Police Department

c. Which fire protection and emergency medical services serve the project site?
Mahopac Volunteer Fire Department

d. What parks serve the project site?
Town of Carmel Parks

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)?
Residential

b. a. Total acreage of the site of the proposed action? 106.5 acres
b. Total acreage to be physically disturbed? +/-22.0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 106.5 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☑ Yes ☐ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
Residential
ii. Is a cluster/conservation layout proposed? ☑ Yes ☐ No
iii. Number of lots proposed? 29
iv. Minimum and maximum proposed lot sizes? Minimum .19 acres Maximum .38 acres

e. Will proposed action be constructed in multiple phases? ☑ Yes ☐ No
i. If No, anticipated period of construction: 24 months
ii. If Yes:
- Total number of phases anticipated 9
- Anticipated commencement date of phase 1 (including demolition) Oct. month 2015 year
- Anticipated completion date of final phase Oct. month 2017 year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

f. Does the project include new residential uses? ☑ Yes ☐ No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase	0	N.A.	N.A.	N.A.
At completion of all phases	29	N.A.	N.A.	N.A.

g. Does the proposed action include new non-residential construction (including expansions)? ☐ Yes ☑ No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☑ Yes ☐ No
If Yes,
i. Purpose of the impoundment: Stormwater runoff control
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☑ Other specify: Surface water runoff
iii. If other than water, identify the type of impounded/contained liquids and their source.
N.A.
iv. Approximate size of the proposed impoundment. Volume: 0.6 million gallons; surface area: 0.5 acres
v. Dimensions of the proposed dam or impounding structure: 5' height; 440' length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
Earth fill

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐ Yes ☑ No
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
_____
_____
iv. Will there be onsite dewatering or processing of excavated materials? ☐ Yes ☐ No
If yes, describe. _____
_____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐ Yes ☐ No
ix. Summarize site reclamation goals and plan: _____
_____
_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☑ Yes ☐ No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): Encroachment proposed into adjacent buffer area of Town of Carmel wetland
_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:
Placement of fill for stormwater pond berm, rip-rap spillway, rip-rap swales and plunge pools will encroach into local wetland adjacent buffer area

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☑ No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☑ No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☑ Yes ☐ No
If Yes:

i. Total anticipated water usage/demand per day: 12,760 gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☑ Yes ☐ No
If Yes:

- Name of district or service area: Carmel Water District #8
- Does the existing public water supply have capacity to serve the proposal? ☑ Yes ☐ No
- Is the project site in the existing district? ☑ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☑ No
- Do existing lines serve the project site? ☑ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☑ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
  Install approx. 3,950 L.F. watermain, which includes rerouting the watermain to Kennicut Hill Road, with 29 new hookups
- Source(s) of supply for the district: Existing wells

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☑ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☑ Yes ☐ No
If Yes:

i. Total anticipated liquid waste generation per day: 12,760 gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):
Sanitary wastewater

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☑ No
If Yes:

- Name of wastewater treatment plant to be used:
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project? ☐Yes☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes☑No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

Community subsurface sewage treatment system to be installed on-site

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

N.A.

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☑Yes☐No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or 3.1 acres (impervious surface)

_____ Square feet or 106.5 acres (parcel size)

ii. Describe types of new point sources. Swales, stormwater pipes, curbs

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

Stormwater discharges from small storms will be directed to green infrastructure practices that distribute the flow and infiltrate it into the ground. Larger storms are directed to on-site retention pond that controls the rate of runoff to pre-development conditions.

- If to surface waters, identify receiving water bodies or wetlands: _____

Through local town wetland to NYSDEC Wetland CF-2

- Will stormwater runoff flow to adjacent properties? ☑Yes☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☑Yes☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☑Yes☐No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

Heavy equipment during construction phases

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

N.A.

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

N.A.

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☐No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: 8am - 5pm
- Saturday: 8am - 5pm
- Sunday: N.A.
- Holidays: N.A.

ii. During Operations:

- Monday - Friday: N.A.
- Saturday: N.A.
- Sunday: N.A.
- Holidays: N.A.

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☑ Yes ☐ No

If yes:

i. Provide details including sources, time of day and duration:

Use of excavation equipment, 8am - 5pm Monday through Saturday as required during construction.

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☑ Yes ☐ No

Describe: Existing vegetation to be removed during construction to permit installation of infrastructure and single family homes.

n.. Will the proposed action have outdoor lighting? ☑ Yes ☐ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

Residences to have security and landscape lighting.

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☑ Yes ☐ No

Describe: Existing vegetation to be removed during construction to permit installation of infrastructure and single family homes.

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☑ Yes ☐ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

Diesel exhaust during construction

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored _____

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☐ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☐ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction: _____
- Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction: _____
- Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☐ Urban ☐ Industrial ☐ Commercial ☑ Residential (suburban) ☐ Rural (non-farm)
☑ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	0	3.1	+3.1
• Forested	77.4	55.37	-22.03
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)	2.6	7.4	+4.8
• Agricultural (includes active orchards, field, greenhouse etc.)	0	0	0
• Surface water features (lakes, ponds, streams, rivers, etc.)	0	0.13	+0.13
• Wetlands (freshwater or tidal)	26.5	26.5	0
• Non-vegetated (bare rock, earth or fill)	0	0	0
• Other Describe: lawns	0	14.0	+14.0

c. Is the project site presently used by members of the community for public recreation? ☐ Yes ☑ No

i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☑ Yes ☐ No

If Yes,

i. Identify Facilities:

Lakeview Elementary School

e. Does the project site contain an existing dam? ☐ Yes ☑ No

If Yes:

i. Dimensions of the dam and impoundment:

- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____

iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Has the facility been formally closed? ☐ Yes ☐ No

- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☑ Yes ☐ No

If Yes:

i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:

Adjacent school had previously disposed of hazardous materials on subject property and subsequently cleaned the site.
NYR000013573

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☐ Yes ☑ No

If Yes:

i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☐ Yes ☐ No

☐ Yes – Spills Incidents database — Provide DEC ID number(s): _____

☐ Yes – Environmental Site Remediation database — Provide DEC ID number(s): _____

☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☐ Yes ☐ No

If yes, provide DEC ID number(s): _____

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number:
- Describe the type of institutional control (e.g., deed restriction or easement):
- Describe any use limitations:
- Describe any engineering controls:
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☐ No
- Explain:

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? >8 feet

b. Are there bedrock outcroppings on the project site? ☑ Yes ☐ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? <1 %

c. Predominant soil type(s) present on project site: ChB, ChC, ClD, ClE, ClF, CrC, CsD, HrF, PoC, PoD, RhB

d. What is the average depth to the water table on the project site? Average: >10 feet

e. Drainage status of project site soils:
☑ Well Drained: 75 % of site
☐ Moderately Well Drained: % of site
☑ Poorly Drained 25 % of site

f. Approximate proportion of proposed action site with slopes:
☑ 0-10%: 26 % of site
☑ 10-15%: 14 % of site
☑ 15% or greater: 60 % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe:

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No
If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Unnamed stream #864-176 Classification C
- Lakes or Ponds: Name Classification
- Wetlands: Name NYSDEC wetland, Town wetland, Federal wetland Approximate Size 79 ac
- Wetland No. (if regulated by DEC) CF-2

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☐ Yes ☑ No
If yes, name of impaired water body/bodies and basis for listing as impaired:

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☐ Yes ☑ No

k. Is the project site in the 500 year Floodplain? ☐ Yes ☑ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☐ Yes ☑ No
If Yes:
i. Name of aquifer:

m. Identify the predominant wildlife species that occupy or use the project site:
deer, squirrel, birds
racoon

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation):
ii. Source(s) of description or evaluation:
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☐Yes ☑No

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use:

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☑Yes ☐No
If Yes, provide county plus district name/number: PUTN001

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site?
ii. Source(s) of soil rating(s):

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent:

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name:
ii. Basis for designation:
iii. Designating agency and date:

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based: _____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☑ Yes ☐ No

If Yes:

i. Identify resource: Putnam County Bikeway

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): Putnam County scenic bike / walking trail

iii. Distance between project and resource: 0.25 miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

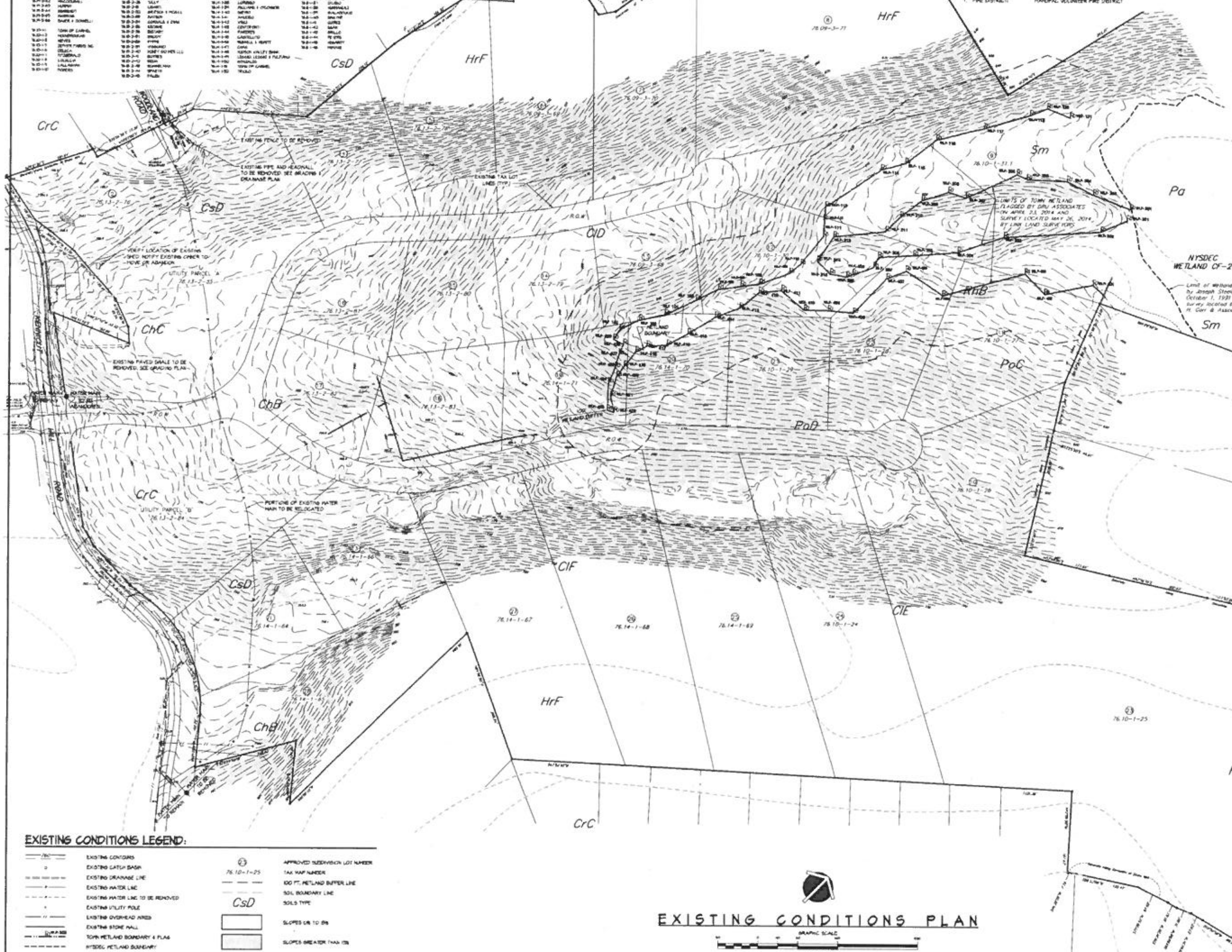
I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Putnam Engineering, PLLC Date 09/03/14 rev.03/31/15 rev. 04/30/15

Signature _____ Title PROJ MGR

PRINT FORM

ADJOINERS:

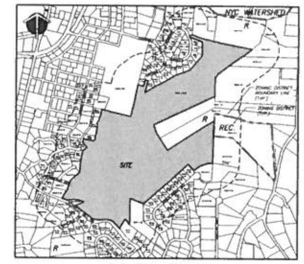


EXISTING CONDITIONS NOTES:

1. BOUNDARY INFORMATION TAKEN FROM "AMENDED FINAL SUBDIVISION PLAT OF RANDOM RIDGE" DATED MARCH 10, 2006, LAST REVISED JANUARY 10, 2007 AS PREPARED BY BADEY & WATSON 3040 ROUTE 9, COLD SPRING, NY

   ADDITIONAL BOUNDARY INFORMATION TAKEN FROM "FINAL SUBDIVISION PLAT PREPARED FOR TANAGER FARMS" DATED FEBRUARY 16, 2010, LAST REVISED NOVEMBER 22, 2010 AS PREPARED BY BADEY & WATSON 3040 ROUTE 9, COLD SPRING, NY

   TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED "CONSTRUCTION DRAWINGS" FOR RANDOM RIDGE DATED SEPTEMBER 10, 1991, LAST REVISED AUGUST 9, 2005 AS PREPARED BY PUTNAM ENGINEERING, PLLC
2. OWNER/APPLICANT: BUTMAN MAHOPAC, LLC, 18 N. BEDFORD ROAD SUITE 102, MT. KISCO, NY 10549
3. PROPOSED USE: RESIDENTIAL CLUSTER DEVELOPMENT - 29 LOTS
4. SITE DATA: TOTAL LOT AREA = 4,634,552 S.F. (106.51 AC.) SEE PLAN BELOW FOR EXISTING LOT TAX MAP NUMBERS
5. ZONING DISTRICT: R - RESIDENTIAL
6. SCHOOL DISTRICT: MAHOPAC CENTRAL SCHOOL DISTRICT
7. FIRE DISTRICT: MAHOPAC VOLUNTEER FIRE DISTRICT



AREA MAP

SCALE 1"=800'

SOILS LEGEND		
SOIL SYMBOL	SOIL GROUP	SOIL NAME
ChB	B	CHARLTON LOAM, 3 TO 8 PERCENT SLOPES
ChC	B	CHARLTON LOAM, 8 TO 15 PERCENT SLOPES
ClD	B	CHARLTON LOAM, 15 TO 25 PERCENT SLOPES, VERY STONY
ClE	B	CHARLTON LOAM, 25 TO 35 PERCENT SLOPES, VERY STONY
ClF	B	CHARLTON LOAM, 35 TO 45 PERCENT SLOPES, VERY STONY
CrC	B	CHARLTON - CHATFIELD COMPLEX, ROLLING, VERY ROCKY
CsD	B	CHATFIELD - CHARLTON COMPLEX, HILLY, VERY ROCKY
HrF	C/D	HOLLIS - ROCK OUTCROP COMPLEX, VERY STEEP
Pa	A/D	PALMS MUCK
PnD	C	PAXTON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPE
PoC	C	PAXTON FINE SANDY LOAM, 8 TO 15 PERCENT SLOPES, VERY STONY
PoD	C	PAXTON FINE SANDY LOAM, 15 TO 25 PERCENT SLOPES, VERY STONY
RhB	B	RIVERHEAD LOAM, 3 TO 8 PERCENT SLOPES
Sm	D	SUN LOAM, EXTREMELY ROCKY

NOTE: APPROXIMATE LIMITS OF SOIL TYPES TAKEN FROM SOIL SURVEY OF PUTNAM AND WESTCHESTER COUNTIES, 1994

EXISTING CONDITIONS LEGEND:

- EXISTING CONTOURS
- EXISTING CATCH BASIN
- EXISTING DRAINAGE LINE
- EXISTING WATER LINE
- EXISTING WATER LINE TO BE REMOVED
- EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRES
- EXISTING STONE WALL
- TOWN WETLAND BOUNDARY & FLAG
- NYSDEC WETLAND BOUNDARY
- APPROVED SUBDIVISION LOT NUMBER
- 76.10-1-25 TAX MAP NUMBER
- 100 FT. WETLAND BUFFER LINE
- SOIL BOUNDARY LINE
- CsD SOILS TYPE
- SLOPES UP TO 15%
- SLOPES GREATER THAN 15%

EXISTING CONDITIONS PLAN

GRAPHIC SCALE

1 INCH = 80 FEET

PUTNAM ENGINEERING, PLLC
ENGINEERS - ARCHITECTS
4 OLD ROUTE 6, BREWSTER, NEW YORK 10509
(845) 279-6324 FAX (845) 279-6784

PROJECT: RESIDENTIAL CLUSTER SUBDIVISION PREPARED FOR:

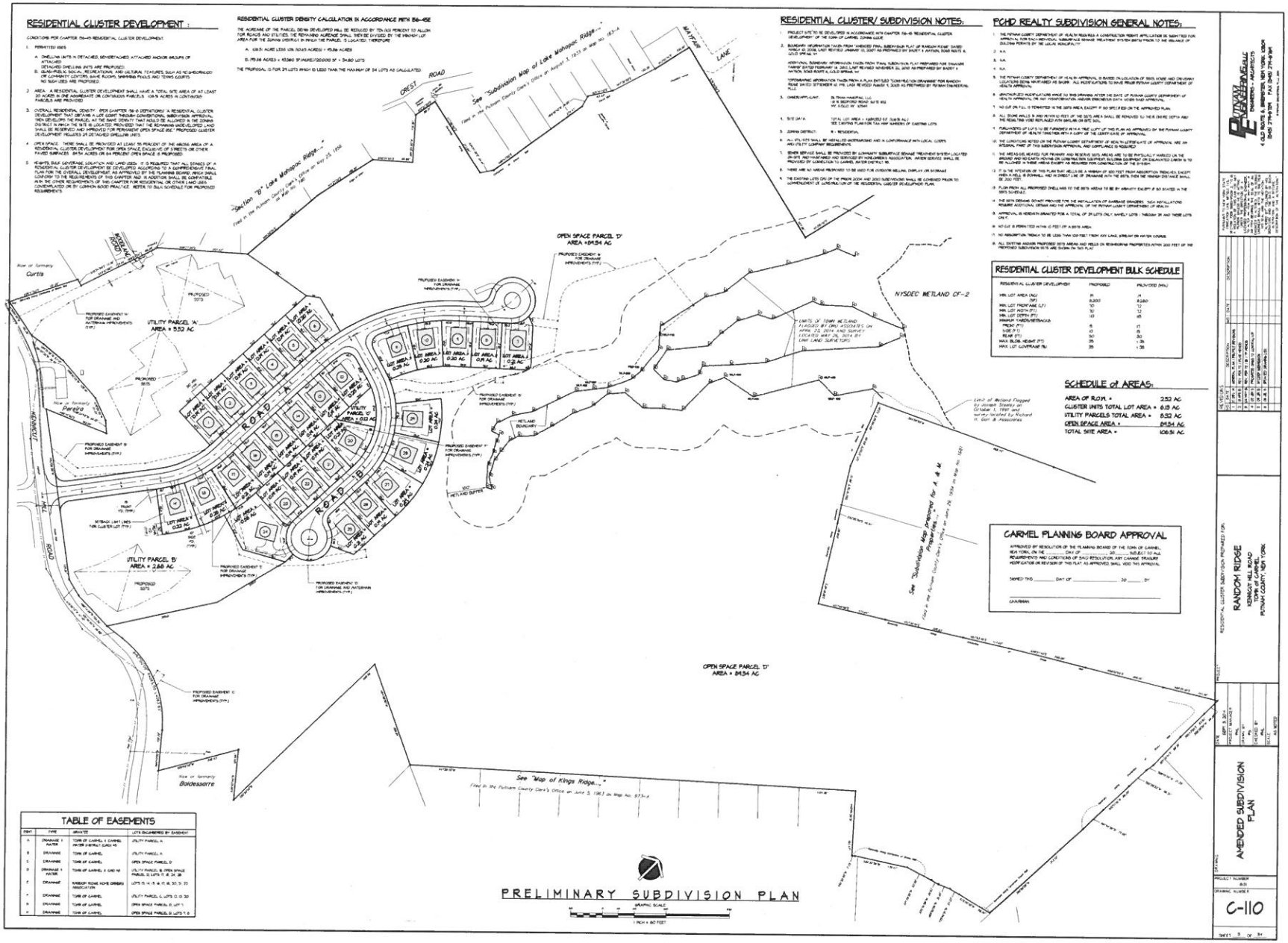
RANDOM RIDGE
KENNICUT HILL ROAD
TOWN of CARMEL
PUTNAM COUNTY, NEW YORK

DATE: SEPT. 8, 2014
SCALE: AS NOTED

DRAWING: EXISTING CONDITIONS and REMOVALS PLAN

DRAWING NUMBER: C-020

SHEET 2 OF 34



RESIDENTIAL CLUSTER DEVELOPMENT :

CONDITIONS FOR CHAPTER 154-45 RESIDENTIAL CLUSTER DEVELOPMENT:

1. PERMITTED USES
   - A. DWELLING UNITS IN DETACHED, REMODETACHED, ATTACHED AND/OR GROUPS OF ATTACHED DETACHED DWELLING UNITS ARE PROPOSED.
   - B. SEMI-PUBLIC, SOCIAL, RECREATIONAL AND CULTURAL FEATURES, SUCH AS NEIGHBORHOOD OR COMMUNITY CENTERS, SWIM ROOMS, SWIMMING POOLS AND TENNIS COURTS NO SUCH USES ARE PROPOSED.
2. AREA. A RESIDENTIAL CLUSTER DEVELOPMENT SHALL HAVE A TOTAL SITE AREA OF AT LEAST 20 ACRES IN ONE ANNEXABLE OR CONTIGUOUS PARCELS. (20.9 ACRES IN CONTIGUOUS PARCELS ARE PROVIDED
3. OVERALL RESIDENTIAL DENSITY. PER CHAPTER 154-6 DEFINITIONS) A RESIDENTIAL CLUSTER DEVELOPMENT THAT OBTAINS A LOT COUNT THROUGH CONVENTIONAL SUBDIVISION APPROVAL THEN DEVELOPS THE PARCEL AT THE SAME DENSITY THAT WOULD BE ALLOWED IN THE ZONING DISTRICT IN WHICH THE SITE IS LOCATED PROVIDED THAT THE REMAINING UNDEVELOPED LAND SHALL BE RESERVED AND APPROVED FOR PERMANENT OPEN SPACE USE." PROPOSED CLUSTER DEVELOPMENT RESULTS 29 DETACHED DWELLING UNITS
4. OPEN SPACE. THERE SHALL BE PROVIDED AT LEAST 35 PERCENT OF THE GROSS AREA OF A RESIDENTIAL CLUSTER DEVELOPMENT FOR OPEN SPACE, EXCLUSIVE OF STREETS OR OTHER PAVED SURFACES. 84.54 ACRES OR 64 PERCENT OPEN SPACE IS PROPOSED
5. HEIGHTS, BULK, COVERAGE, LOCATION AND LAND USES. IT IS REQUIRED THAT ALL STAGES OF A RESIDENTIAL CLUSTER DEVELOPMENT BE DEVELOPED ACCORDING TO A COMPREHENSIVE FINAL PLAN FOR THE OVERALL DEVELOPMENT AS APPROVED BY THE PLANNING BOARD, WHICH SHALL CONFORM TO THE REQUIREMENTS OF THIS CHAPTER AND, IN ADDITION, SHALL BE COMPATIBLE WITH THE OTHER REQUIREMENTS OF THIS CHAPTER FOR RESIDENTIAL OR OTHER LAND USES CONTEMPLATED OR BY COMMON GOOD PRACTICE. REFER TO BULK SCHEDULE FOR PROPOSED REQUIREMENTS

RESIDENTIAL CLUSTER DENSITY CALCULATION IN ACCORDANCE WITH §6-45E

THE ACREAGE OF THE PARCEL BEING DEVELOPED WILL BE REDUCED BY TEN (10) PERCENT TO ALLOW FOR ROADS AND UTILITIES. THE REMAINING ACREAGE SHALL THEN BE DIVIDED BY THE MINIMUM LOT AREA FOR THE ZONING DISTRICT IN WHICH THE PARCEL IS LOCATED, THEREFORE

A. 128.5 ACRES LESS (ON 50.45 ACRES) = 115.64 ACRES

B. 115.64 ACRES ÷ 43,560 SF/ACRES/20,000 SF = 34.80 LOTS

THE PROPOSAL IS FOR 29 LOTS WHICH IS LESS THAN THE MAXIMUM OF 34 LOTS AS CALCULATED.

RESIDENTIAL CLUSTER/ SUBDIVISION NOTES:

1. PROJECT SITE TO BE DEVELOPED IN ACCORDANCE WITH CHAPTER 154-45 RESIDENTIAL CLUSTER DEVELOPMENT OF THE TOWN OF CARMEL ZONING CODE
2. BOUNDARY INFORMATION TAKEN FROM "AMENDED FINAL SUBDIVISION PLAT OF RANDOM RIDGE SHARED DRIVE" LAST REVISED JANUARY 10, 2007 AS PREPARED BY BARRY J. PATTON, BOHLER ROSITE & GOLD SPRAGUE, LLC

   ADDITIONAL BOUNDARY INFORMATION TAKEN FROM "FINAL SUBDIVISION PLAT PREPARED FOR ENHANCE FAMILY" DATED FEBRUARY 16, 2010, LAST REVISED NOVEMBER 22, 2010 AS PREPARED BY BARRY J. PATTON, BOHLER ROSITE & GOLD SPRAGUE, LLC

   TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED "CONSTRUCTION DRAWINGS FOR RANDOM RIDGE (AMENDED SEPTEMBER 07 PRE LAND REVISED AUGUST 9, 2005) AS PREPARED BY PUTNAM ENGINEERING, PLLC
3. OWNER/APPLICANT: RJ TOWN HOUSE, LLC
   10 N. BEDFORD ROAD, SUITE 102
   MT. KISCO, NY 10549
4. SITE DATA: TOTAL LOT AREA = 128.5±(GROSS) ± 115.64±(NET) ACRES ALL
   SEE EXISTING PLAN FOR TAX MAP NUMBERS OF EXISTING LOTS
5. ZONING DISTRICT: R - RESIDENTIAL
6. ALL UTILITIES SHALL BE INSTALLED UNDERGROUND AND IN CONFORMANCE WITH LOCAL CODES AND UTILITY COMPANY REQUIREMENTS
7. SEWER SERVICE SHALL BE PROVIDED BY COMMUNITY SUBSURFACE SEWAGE TREATMENT SYSTEM LOCATED ON-SITE AND MAINTAINED AND SERVICED BY HOMEOWNERS ASSOCIATION. WATER SERVICE SHALL BE PROVIDED BY CONNECTION TO CARMEL WATER DISTRICT #3.
8. THERE ARE NO AREAS PROPOSED TO BE USED FOR DIVISION SELLING, DISPLAY OR STORAGE
9. THE EXISTING LOTS ON OF THE TRACK (2006 AND 2010 SUBDIVISION) SHALL BE COMBINED PRIOR TO COMMENCEMENT OF SUBDIVISION OF THE RESIDENTIAL CLUSTER DEVELOPMENT PLANS.

PCHD REALTY SUBDIVISION GENERAL NOTES:

1. THE PUTNAM COUNTY DEPARTMENT OF HEALTH REQUIRES A CONSTRUCTION PERMIT APPLICATION BE SUBMITTED FOR APPROVAL FOR EACH INDIVIDUAL SUBSURFACE SEWAGE TREATMENT SYSTEM (WTS) PRIOR TO THE ISSUANCE OF BUILDING PERMITS BY THE LOCAL MUNICIPALITY.
2. N/A.
3. N/A.
4. N/A.
5. THE PUTNAM COUNTY DEPARTMENT OF HEALTH APPROVAL IS BASED ON LOCATION OF WELL, HOUSE AND DRIVEWAY AS SHOWN ON PLANS APPROVED AND MAINTAINED AS SHOWN. ALL MODIFICATIONS TO THESE MUST FIRSTLY COUNTY DEPARTMENT OF HEALTH APPROVAL.
6. UNAUTHORIZED MODIFICATIONS MADE TO THIS DRAWING AFTER THE DATE OF PUTNAM COUNTY DEPARTMENT OF HEALTH APPROVAL OR ANY MISINFORMATION AND/OR ERRONEOUS DATA VOIDS SAID APPROVAL.
7. NO CUT OR FILL IS PERMITTED IN THE SEPTA AREA EXCEPT IF SO SPECIFIED ON THE APPROVED PLAN.
8. ALL SEPTA WALLS (5 AND WITHIN 10 FEET OF THE SEPTA AREA SHALL BE REMOVED TO THEIR ENTIRE DEPTH AND THE RESULTING VOID REPLACED WITH SUITABLE ON SITE SOIL.
9. PURCHASERS OF LOTS TO BE FURNISHED WITH A TRUE COPY OF THIS PLAN AS APPROVED BY THE PUTNAM COUNTY DEPARTMENT OF HEALTH. OWNER TO FURNISH WITH A COPY OF THE DEED AT TIME OF APPROVAL.
10. THE CONDITIONS NOTED ON THE PUTNAM COUNTY DEPARTMENT OF HEALTH LETTER DATE OF APPROVAL ARE AN INTEGRAL PART OF THIS SUBDIVISION APPROVAL AND COMPLIANCE IS REQUIRED
11. THE AREAS DESIGNATED FOR PRIMARY AND RESERVE SEPTA AREAS ARE TO BE PHYSICALLY MARKED ON THE GROUND AND MEN WITH FENCING OR CONSTRUCTION EQUIPMENT BEFORE EQUIPMENT OR EXCAVATED EARTH IS TO BE ALLOWED IN THESE AREAS EXCEPT AS REQUIRED FOR CONSTRUCTION OF THE SYSTEM.
12. IT IS THE INTENTION OF THIS PLAN THAT WELLS BE A MINIMUM OF 100 FEET FROM ABSORPTION TRENCHES EXCEPT WHERE A WELL IS DOWNHILL AND IN DIRECT LINE OF DRAINAGE WITH THE SEPTA THEN THE MINIMUM DISTANCE SHALL BE 200 FEET.
13. FLOOR DRAIN ALL PROPOSED DWELLINGS TO THE SEPTA AREAS TO BE BY GRAVITY EXCEPT IF SO STATED IN THE SEPTA SCHEDULE.
14. THE SEPTA DESIGNS DO NOT PROVIDE FOR THE INSTALLATION OF GARBAGE GRINDERS. SUCH INSTALLATIONS REQUIRE ADDITIONAL DESIGNS AND THE APPROVAL OF THE PUTNAM COUNTY DEPARTMENT OF HEALTH.
15. APPROVAL IS HEREWITH GRANTED FOR A TOTAL OF 29 LOTS ONLY, NAMELY LOTS 1 THROUGH 29 AND THOSE LOTS ONLY.
16. NO CUT IS PERMITTED WITHIN 10 FEET OF A SEPTA AREA.
17. NO ABSORPTION TRENCH TO BE LESS THAN 100 FEET FROM ANY LAKE, STREAM OR WATER COURSE.
18. ALL EXISTING AND/OR PROPOSED SEPTA AREAS AND WELLS ON NEIGHBORING PROPERTIES WITHIN 200 FEET OF THE PROPOSED SUBDIVISION SEPTA ARE SHOWN ON THIS PLAT.

RESIDENTIAL CLUSTER DEVELOPMENT BULK SCHEDULE

RESIDENTIAL CLUSTER DEVELOPMENT	PROPOSED	PERMITTED (MIN.)
MIN. LOT AREA (AC)	.29	.14
(SF)	8,000	6,000
MIN. LOT FRONTAGE (LF)	70	70
MIN. LOT WIDTH (FT)	70	70
MIN. LOT DEPTH (FT)	100	85
MINIMUM YARDS/SETBACKS FROM (FT):		
SIDE (FT)	5	15
SIDE (FT)	10	15
REAR (FT)	30	30
MAX. BLDG. HEIGHT (FT)	35	35
MAX. LOT COVERAGE (%)	35	35

SCHEDULE of AREAS:

AREA OF ROW =	2.52 AC
CLUSTER UNITS TOTAL LOT AREA =	6.13 AC
UTILITY PARCELS TOTAL AREA =	8.52 AC
OPEN SPACE AREA =	84.54 AC
TOTAL SITE AREA =	106.51 AC

GARMEL PLANNING BOARD APPROVAL

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE TOWN OF CARMEL, NEW YORK, ON THE _____ DAY OF _____, 20____, SUBJECT TO ALL REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION, ANY CHANGE, ERASURE, MODIFICATION OR REVISION OF THIS PLAT AS APPROVED SHALL VOID THIS APPROVAL.

SIGNED THIS _____ DAY OF _____, 20____, BY

_____
CHAIRMAN

TABLE OF EASEMENTS

ITEM	TYPE	GRANTEE	LOTS ENCUMBERED BY EASEMENT
A	DRAINAGE & WATER	TOWN OF CARMEL & CARMEL WATER DISTRICT (LAKE) NO.	UTILITY PARCEL A
B	DRAINAGE	TOWN OF CARMEL	UTILITY PARCEL A
C	DRAINAGE	TOWN OF CARMEL	OPEN SPACE PARCEL D
D	DRAINAGE & WATER	TOWN OF CARMEL & LAKE NO.	UTILITY PARCEL B, OPEN SPACE PARCEL D, LOTS 17, 8, 24, 28
E	DRAINAGE	RANDOM RIDGE HOME OWNERS ASSOCIATION	LOTS 13, 14, 15, 16, 17, 18, 20, 21, 22
F	DRAINAGE	TOWN OF CARMEL	UTILITY PARCEL C, LOTS 12, 13, 22
G	DRAINAGE	TOWN OF CARMEL	OPEN SPACE PARCEL D, LOT 1
H	DRAINAGE	TOWN OF CARMEL	OPEN SPACE PARCEL D, LOTS 7, 8

PUTNAM ENGINEERING, PLLC
ENGINEERS · SURVEYORS
4 OLD ROUTE 6, BREWSTER, NEW YORK 10509
(845) 279-6391 FAX (845) 279-6394

NO.	DATE	DESCRIPTION
1	12-4-13	PER TOWN COMMENTS
2	2-4-14	PER TOWN COMMENTS
3	3-4-14	PER TOWN COMMENTS
4	4-4-14	PER TOWN COMMENTS
5	5-5-14	PER TOWN COMMENTS
6	6-4-14	PER TOWN COMMENTS
7	7-4-14	PER TOWN COMMENTS
8	8-4-14	PER TOWN COMMENTS
9	9-4-14	PER TOWN COMMENTS
10	10-4-14	PER TOWN COMMENTS
11	11-4-14	PER TOWN COMMENTS
12	12-4-14	PER TOWN COMMENTS
13	1-4-15	PER TOWN COMMENTS
14	2-4-15	PER TOWN COMMENTS

REVISIONS

RESIDENTIAL CLUSTER SUBDIVISION PREPARED FOR:

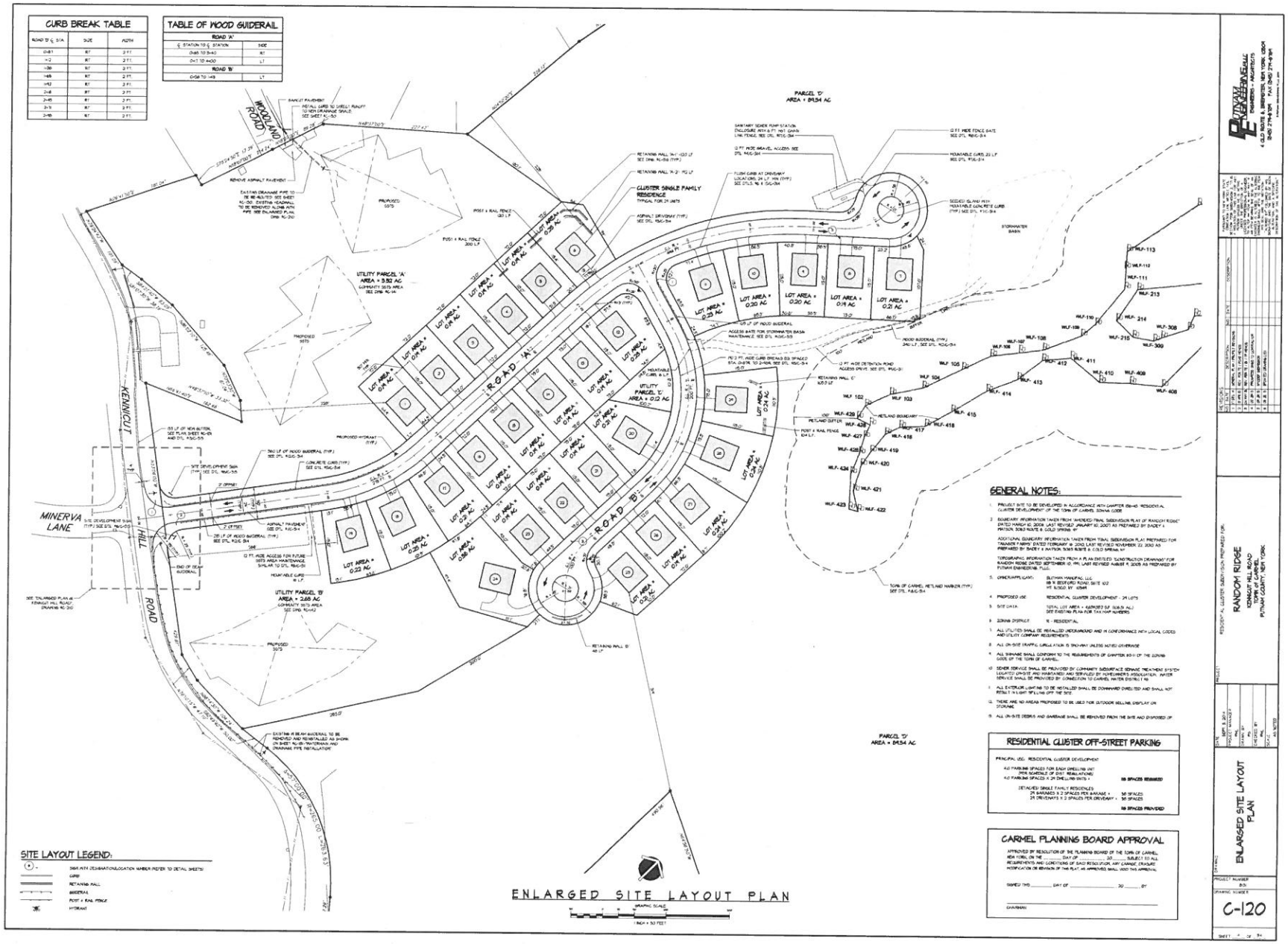
RANDOM RIDGE
KENNICOTT HILL ROAD
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

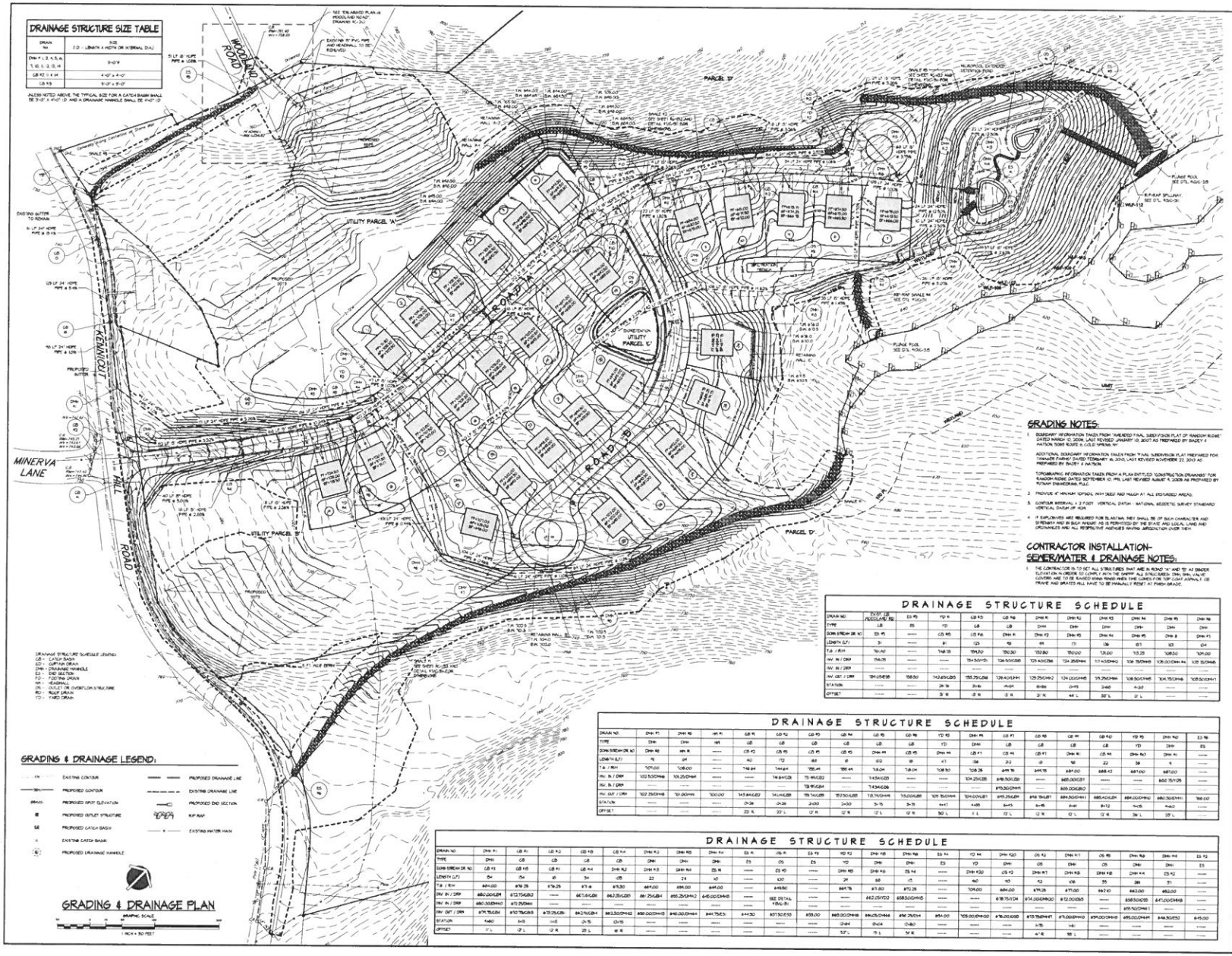
AMENDED SUBDIVISION PLAN

DATE: SEPT. 4, 2013
PROJECT NO. 2013-1
DRAWN BY: PAL
CHECKED BY: PE
SCALE: AS NOTED

PROJECT NUMBER 2013
DRAWING NUMBER C-110

SHEET 3 OF 31


CURB BREAK TABLE
TABLE OF WOOD GUIDERAIL
ROAD 'A'
ROAD 'B'
WOODLAND ROAD
KENNICUT HILL ROAD
MINERVA LANE
ROAD 'A'
ROAD 'B'
PARCEL 'D'
AREA = 84.54 AC
UTILITY PARCEL 'A'
AREA = 3.52 AC
UTILITY PARCEL 'B'
AREA = 2.68 AC
UTILITY PARCEL 'C'
AREA = 0.12 AC
CLUSTER SINGLE FAMILY RESIDENCE
TYPICAL FOR 24 UNITS
STORMWATER BASIN
TOWN OF CARMEL WETLAND HARBOR (TYP.)
SEE DTL. R&G-54
SEE "ENLARGED PLAN at KENNICUT HILL ROAD" DRAWING NO. C-121
EXISTING 18 DEAH GUIDERAIL TO BE REMOVED AND REINSTALLED AS SHOWN ON SHEET NO. 05-TWITERMAN AND DRAINAGE PIPE INSTALLATION
SITE LAYOUT LEGEND:
CURB
RETAINING WALL
GUIDERAIL
POST & RAIL FENCE
HYDRANT
ENLARGED SITE LAYOUT PLAN
GRAPHIC SCALE
1 INCH = 50 FEET
GENERAL NOTES:
RESIDENTIAL CLUSTER OFF-STREET PARKING
CARMEL PLANNING BOARD APPROVAL
PLANNING & ENGINEERING
RANDOM RIDGE
KENNICUT HILL ROAD
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
ENLARGED SITE LAYOUT PLAN
C-120



DRAINAGE STRUCTURE SCHEDULE

DRAIN NO.	DMH #1 (NEW)	EX. #5	YD #	CB #3	CB #4	DMH #1	DMH #2	DMH #3	DMH #4	DMH #5	DMH #6
TYPE	CB	ES	YD	CB	CB	DMH	DMH	DMH	DMH	DMH	DMH
DOWNSTREAM DR. NO.	ES #5	-----	CB #5	CB #4	DMH #1	DMH #2	DMH #3	DMH #4	DMH #5	DMH #6	DMH #7
LENGTH (LF)	5	-----	81	123	98	99	73	136	157	103	104
T.G. / RIM	764.90	-----	768.28	774.70	770.30	770.80	770.00	773.00	773.29	768.50	769.00
INV. IN / DRM	754.05	-----	-----	754.30/12"	754.10/12"	754.40/12"	754.20/12"	764.40/12"	764.20/12"	758.15/12"	758.00/12"
INV. IN / DRM	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
INV. OUT / DRM	754.05/12"	758.50	762.65/12"	755.25/12"	764.40/12"	755.25/12"	764.20/12"	765.20/12"	764.20/12"	758.30/12"	758.30/12"
STATION	-----	-----	2+78	2+86	4+84	6+86	0+93	3+60	4+30	-----	-----
OFFSET	-----	-----	31 R	12 R	0 R	21 R	44 L	32 L	21 L	-----	-----

DRAINAGE STRUCTURE SCHEDULE

DRAIN NO.	DMH #7	DMH #8	HW #1	CB #2	CB #3	CB #4	CB #5	CB #6	CB #7	DMH #9	CB #8	CB #9	CB #10	CB #11	DMH #10	ES #6
TYPE	DMH	DMH	HW	CB	CB	CB	CB	CB	CB	YD	DMH	CB	CB	CB	YD	DMH	ES
DOWNSTREAM DR. NO.	DMH #8	HW #1	-----	CB #2	CB #3	DMH #4	CB #5	DMH #6	DMH #6	DMH #7	CB #9	DMH #8	CB #9	DMH #10	DMH #7	DMH #9	-----
LENGTH (LF)	9	69	-----	40	172	88	91	102	91	41	38	32	91	98	22	58	9	-----
T.G. / RIM	707.00	708.00	-----	748.84	735.49	738.84	738.04	738.50	738.50	708.28	699.78	699.00	688.43	687.00	687.00	687.00	-----
INV. IN / DRM	702.50/24"	701.00/24"	-----	-----	744.84/18"	734.04/18"	734.04/18"	-----	-----	704.28/18"	693.30/18"	-----	-----	-----	-----	-----	-----
INV. IN / DRM	-----	-----	-----	-----	732.91/24"	-----	732.91/24"	-----	-----	-----	693.30/18"	-----	-----	-----	680.25/18"	-----	-----
INV. OUT / DRM	702.25/24"	701.00/24"	700.00	741.84/18"	741.44/18"	731.74/18"	731.54/18"	732.04/18"	731.54/18"	704.03/18"	693.25/18"	693.25/18"	693.25/18"	685.40/18"	684.00/24"	680.30/24"	700.00
STATION	-----	-----	-----	0+28	0+28	2+00	2+00	3+15	3+15	4+41	4+88	4+45	4+88	6+81	8+12	9+05	9+60	-----
OFFSET	-----	-----	-----	22 R	22 L	12 R	12 L	12 R	12 L	50 L	11 L	12 L	12 R	12 L	12 R	36 L	23 L	-----

DRAINAGE STRUCTURE SCHEDULE

DRAIN NO.	DMH #1	CB #1	CB #2	CB #3	CB #4	DMH #2	DMH #3	DMH #4	ES #1	DMH #5	ES #2	YD #2	DMH #6	DMH #7	DMH #8	YD #4	DMH #20	DMH #9	DMH #21	DMH #10	DMH #11	DMH #12	DMH #13	ES #3
TYPE	DMH	CB	CB	CB	CB	DMH	DMH	DMH	ES	DMH	ES	YD	DMH	DMH	DMH	DMH	DMH	DMH	DMH	DMH	DMH	DMH	DMH	ES
DOWNSTREAM DR. NO.	CB #3	CB #5	CB #1	CB #4	DMH #2	DMH #3	DMH #4	ES #4	-----	ES #5	-----	DMH #5	DMH #6	ES #4	-----	DMH #20	DMH #9	DMH #21	DMH #10	DMH #11	DMH #12	DMH #13	ES #3	-----
LENGTH (LF)	54	54	61	54	105	22	24	10	-----	100	-----	29	88	15	-----	40	93	93	106	55	281	51	-----	-----
T.G. / RIM	694.00	698.28	698.28	697.6	693.80	689.00	689.00	689.00	-----	698.80	-----	694.78	693.80	693.28	-----	704.00	694.00	693.28	693.00	693.10	693.00	692.00	-----	-----
INV. IN / DRM	680.20/24"	672.75/24"	-----	661.84/24"	662.25/42"	662.25/42"	662.25/42"	662.00/24"	-----	SEE DETAIL #5&6-B	-----	662.05/72"	658.50/48"	-----	-----	678.75/24"	674.00/24"	672.00/30"	-----	658.50/30"	647.00/24"	-----	-----	-----
INV. OUT / DRM	674.75/24"	670.75/24"	670.75/24"	662.74/24"	662.50/24"	662.50/24"	662.00/24"	661.75/12"	664.50	657.30/18"	658.00	660.00/24"	656.25/24"	656.25/24"	654.00	703.00/24"	670.75/24"	670.00/24"	671.75/24"	671.00/24"	658.00/24"	646.30/12"	645.00	-----
STATION	4+80	5+15	1+15	0+15	0+15	-----	-----	-----	-----	-----	-----	0+84	0+04	0+80	-----	-----	-----	-----	1+75	1+81	-----	-----	-----	-----
OFFSET	17 L	17 L	17 R	28 L	16 R	-----	-----	-----	-----	-----	-----	52 L	75 L	16 R	-----	-----	-----	-----	41 R	55 L	-----	-----	-----	-----

PREPARED FOR:
RANDOM RIDGE
KISHACOH HILL ROAD
TOWN OF CAMPBELL
PUTNAM COUNTY, NEW YORK

DATE: SEPT. 9, 2021
PROJECT NO.: 2020-0
DRAWN BY: PAL
CHECKED BY: PAL
SCALE: AS NOTED

GRADING and DRAINAGE PLAN

PROJECT NUMBER: 2020-0
DRAWING NUMBER: C-130

SHEET 5 OF 34

EROSION CONTROL LEGEND:

EXISTING DRAINAGE PIPE
EXISTING CONTOURS
PROPOSED CONTOURS
STABILIZED CONSTRUCTION ENTRANCE
TEMPORARY STAGING AREA
LIMITS OF DISTURBANCE
EARTH DIKE
TEMPORARY SOIL STOCKPILE
INLET PROTECTION
SILT FENCE
EROSION CONTROL BLANKET
CONSTRUCTION FENCE
CHECK DAM
LEVEL SPREADER
TEMPORARY SWALE
PROPOSED YARD DRAIN
PROPOSED OUTLET STRUCTURE
PROPOSED CATCH BASIN
PROPOSED END SECTION
PROPOSED STORMWATER PLANTER
PROPOSED RAIN GARDEN
PROPOSED SUBSURFACE TREATMENT SYSTEM

SEQUENCE OF CONSTRUCTION:

PHASE 2

DISTURBANCE AREA = 1.5 AC.

1. SURVEY AND STAKE OUT LOCATION OF PERMANENT DIVERSION SWALES #2 AND 3 AND LOCATION OF THE PROPOSED SWALE BEGINNING AND ENDPOINTS TO STA. BASED ESTABLISH LIMITS OF DISTURBANCE AND MARK IN THE FIELD (AND DRIVING CONSTRUCTION FENCES).
2. INSTALL MOUNTABLE CONSTRUCTION ENTRANCE PADS IN ANY CITY ROAD AND AS SHOWN ON THE PLAN. VEHICLES SHALL BE INSPECTED AND CLEANED, IF REQUIRED PRIOR TO ENTERING ONTO KENWIGUT HILL ROAD.
3. INSTALL SILT FENCE IMMEDIATELY DOWNHILL OF AREAS OF PROPOSED DISTURBANCE AND WHERE INDICATED ON PLAN. ALL SILT FENCES TO BE INSTALLED PARALLEL TO CONTOURS.
4. CLEAR AND GRUB AREA OF THE ACCESS ROAD AND DIVERSION SWALES TO THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN (SEE ALSO ON ROADING AREAS AS SHOWN ON THE PLAN.
5. CONSTRUCT TEMPORARY SWALE #4 & 5B, INSTALL DEWATERING PIT IN PER DETAIL AND DUG IN ORDER THAT CLEAN WATER MAY FLOW DIVERTED AWAY ALLOWS ROAD AND AWAY FROM CONSTRUCTION AREA.
6. INSTALL SEDIMENT TRAP NEAR STA. 3+20 (+/-) AS SHOWN.
7. EXCAVATE TEMPORARY DIVERSION SWALE #2 ALONG THE ACCESS ROAD AS SHOWN ON THE PLAN TO DIVERT CLEAN WATER AWAY FROM DISTURBED AREAS.
8. ROUGH GRADE 12' WIDE ACCESS ROAD TO STA. 8+00 (+/-) INSTALL OPERATIONS SHALL BE LIMITED TO THE ABSOLUTE AMOUNT AND THE DAY NO ERODIBLE LOOSE MATERIAL WHERE POSSIBLE.
9. STRIP TOPSOIL AND STORE ERODIBLE ORGANIC MATERIAL AT STOCKPILES PROVIDE SUITABLE PROTECTION PER DETAIL PROVIDED.
10. EXCAVATE PERMANENT DIVERSION SWALES #2 AND 3 SHAPED DISTURBED AREAS PER "STABILIZATION NOTES" ON THIS DRAWING.
11. INSTALL TEMPORARY OUTLET STRUCTURE (SLOPE FROM PERMANENT SWALE #2 ALONG WITH TEMPORARY DISCHARGE PIPE, EXCAVATE LEVEL SPREADER AT THE OUTLET OF THE PIPE.
12. EXCAVATE TEMPORARY SWALE #5 BETWEEN DIVERSION SWALES #2 + 3 AS SHOWN ON THE PLAN.
13. INSTALL PERMANENT RIP RAP LINING TO THE PERMANENT DIVERSION SWALES, INSTALL PLUNGE POOL AT THE END OF SWALE #5.
14. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE ALL DISTURBED AREAS AS DESCRIBED IN PHASE 2 OF SEQUENCE OF CONSTRUCTION ARE STABILIZED.

TEMPORARY SEDIMENT BASIN VOLUMES

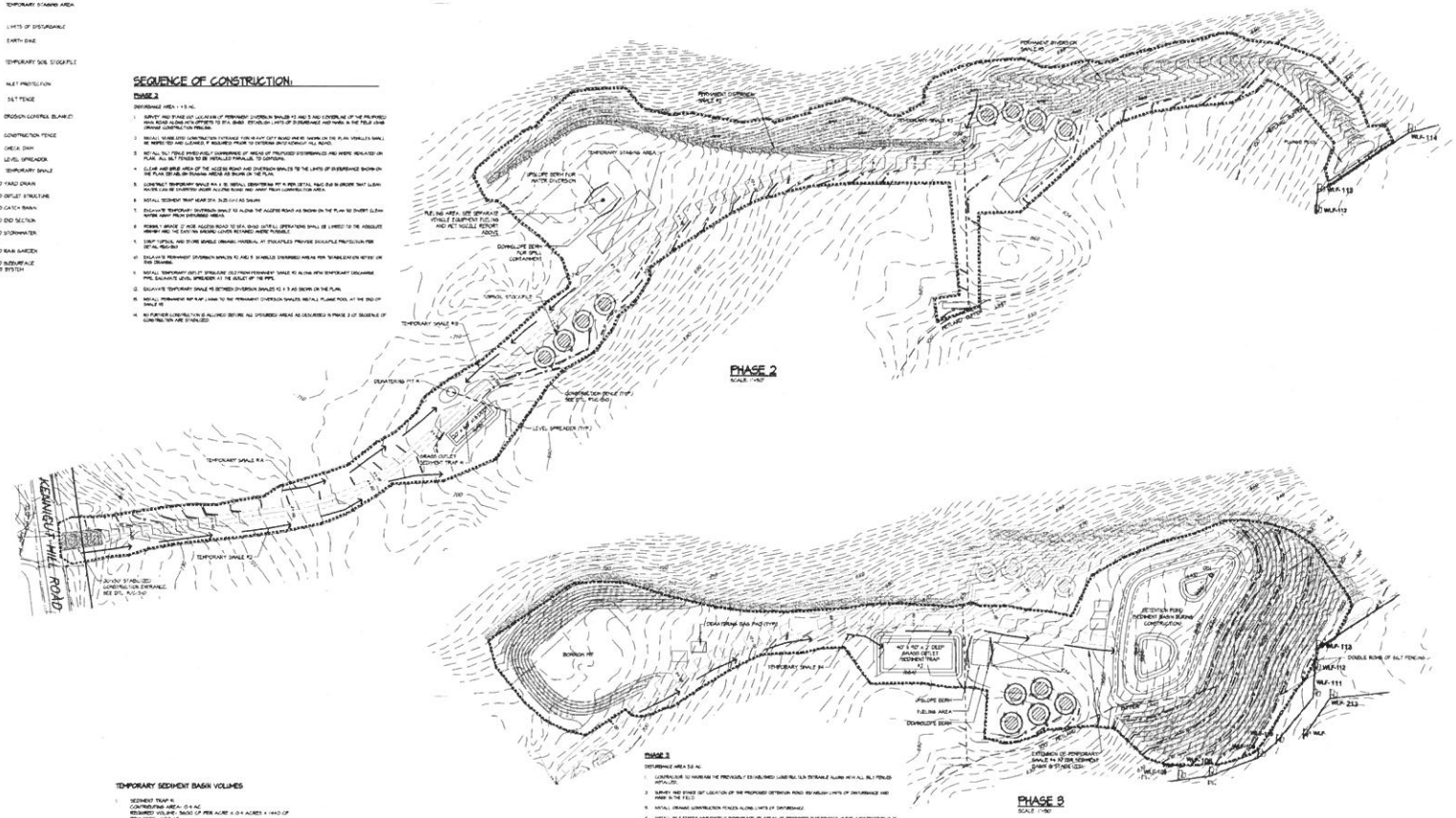
1. SEDIMENT TRAP #1
CONTRIBUTING AREA= 0.4 AC
REQUIRED VOLUME: 1800 CF PER ACRE x 0.4 ACRES = 1440 CF
PROVIDED= 1682 CF
SEDIMENT REMOVAL ELEVATION= 841.50

2. SEDIMENT TRAP #2
CONTRIBUTING AREA= 1.5 AC
REQUIRED VOLUME= 1800 CF PER ACRE x 1.5 ACRES = 4050 CF
VOLUME PROVIDED= 8422 CF
SEDIMENT REMOVAL ELEVATION= 845.01

2. SEDIMENT BASIN
CONTRIBUTING AREA= 2.8 AC
REQUIRED VOLUME= 1800 CF PER ACRE x 2.8 ACRES = 4030 CF
VOLUME PROVIDED= 8049 CF
SEDIMENT REMOVAL ELEVATION= 845.6

CONTRACTOR INSTALLATION-SEWER/WATER & DRAINAGE NOTES:

1. THE CONTRACTOR IS TO SET ALL STRUCTURES THAT ARE IN ROAD "A" AND "B" AT GRADE ELEVATION IN ORDER TO COMPLY WITH THE SHERIFF. ALL STRUCTURES (CMH, SMH, VALVE COVERS) ARE TO BE RAISED USING RINGS WHEN TIME COMES FOR "TOP COAT ASPHALT". CB FRAME AND GRATES WILL HAVE TO BE MANUALLY RESET AT FINISH GRADE.



PHASE 3

DISTURBANCE AREA 3.6 AC

1. COORDINATE TO MAINTAIN THE PREVIOUSLY ESTABLISHED MOUNTABLE CONSTRUCTION ENTRANCE ALONG WITH ALL SILT FENCES INSTALLED.
2. SURVEY AND STAKE OUT LOCATION OF THE PROPOSED DIVERSION SWALE AND LIMITS OF DISTURBANCE AND MARK IN THE FIELD.
3. INSTALL DRIVING CONSTRUCTION FENCES ALONG LIMITS OF DISTURBANCE.
4. INSTALL SILT FENCES IMMEDIATELY DOWNHILL OF AREAS OF PROPOSED DISTURBANCE. WHERE CONSTRUCTION IS IN CLOSE VICINITY OF WETLANDS, INSTALL DOUBLE ROWS OF FENCES. ALL SILT FENCES TO BE INSTALLED PARALLEL TO CONTOURS.
5. CLEAR AND GRUB AREA OF PHASE 3 TO THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN.
6. WORK ACCESS ROAD CREATED IN PHASE 2 BRINK IN ALL EQUIPMENT AND MATERIALS NECESSARY TO PERFORM PHASE 3 OF CONSTRUCTION. STORAGE ON STAGING AREAS AS SHOWN ON THE PLAN.
7. CLEAR AND GRUB PARK AREAS FOR THE PROPOSED CONSTRUCTION, STRIP TOPSOIL AND STORE USABLE ORGANIC MATERIAL AT STOCKPILES PROVIDED SUITABLE PROTECTION PER DETAIL PROVIDED.
8. EXCAVATE BRASS OUTLET SEDIMENT TRAP WHERE SHOWN ON THE PLAN. SEE "SEDIMENT TRAP" ALL RUNOFF IS JUST INTO SEDIMENT POND & EXCAVATED AND FULLY STABILIZED.
9. EXCAVATE TEMPORARY SWALE #4 AS SHOWN ON THE PLAN.
10. THE SEDIMENT TRAP AND ALL DISTURBED AREAS ARE NOT BE STABILIZED WITHIN (2) WEEKS FOLLOWING THE EARTHWORK. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE THESE AREAS ARE STABILIZED.
11. INSTALL RAMP BENCH FOR PLACEMENT OF DEWATERING BAGS, SEE DETAIL #16.00. THE DEWATERING BAGS SHOULD BE VERIFIED IF THE GENERALLY FOR HIGH STANDING WATER IS NOT REMOVED PIT AFTER RAIN EVENTS.
12. EXCAVATE DETENTION POND TO ACT AS TEMPORARY SEDIMENT BASIN. EXCAVATE BASIN TO FINAL GRADES.
13. (EXPLITE) EXCAVATED FROM "BORROW PIT" AREA IS FINAL TESTED (HEAVY METAL, TCL) MATERIAL SHALL BE USED FROM ACCESS, VEGETATION AND OVERSIZED STONES. FILL TO BE PLACED IN 12 INCH LIFTS AND COMPACTED TO 95% DRY DENSITY OF MODIFIED PROCTOR.
14. THE EMBANKMENTS SHALL BE INSTALLED IN LIFTS NO MORE THAN 12" MAX AFTER COMPLETING EACH 12 FOOT LIFT, THE EMBANKMENT SHALL BE STABILIZED AND A HIGH BERM OF SILT FENCE ADDED AT TOP OF THE EMBANKMENT. NO EXPOSED SOIL SHALL REMAIN OVERNIGHT. SEE FOR MORE THAN ONE (1) WEEK.
15. INSTALL TEMPORARY OUTLET STRUCTURE INTO ALONG WITH DISCHARGE PIPE. PLUG OUTLET PIPE FROM THE TEMPORARY OUTLET STRUCTURE.
16. UNLESS THE TEMPORARY SEDIMENT BASIN IS COMPLETED AND IS STABILIZED, PROCEED WITH RUNS.
17. REMOVE PLUG FROM THE OUTLET PIPE FROM THE TEMPORARY OUTLET STRUCTURE.
18. CLEAN SEDIMENT FROM SEDIMENT TRAP #2 BEFORE GRADING AT THIS LOCATION.
19. EXCEPT TEMPORARY SWALE #4 TO THE SEDIMENT BASIN.
20. NO FURTHER ALL DISTURBED AREAS NEVER ONE (1) WEEK FOLLOWING THE EARTHWORK PER 11 INSTALLATION NOTES. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE ALL DISTURBED AREAS AS DESCRIBED IN PHASE 3 OF SEQUENCE OF CONSTRUCTION IS STABILIZED.

EROSION & SEDIMENT CONTROL PLAN - PHASES 2 and 3

GRAPHIC SCALE
1 INCH = 150 FEET

PERKINS ENGINEERING
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NO.	DATE	DESCRIPTION	INIT.	DATE
1	7.8.14	APPROVAL PLAN RESUBMISSION		
2	8.4.14	RESUBMISSION		
3	8.19.14	RESUBMISSION		
4	9.3.14	RESUBMISSION		
5	9.8.14	RESUBMISSION		
6	9.9.14	RESUBMISSION		
7	9.15.14	RESUBMISSION		
8	9.18.14	RESUBMISSION		
9	9.19.14	RESUBMISSION		
10	9.22.14	RESUBMISSION		

PROJECT: RESIDENTIAL CLUSTER SUBDIVISION PREPARED FOR:

RANDOM RIDGE

KENWIGUT HILL ROAD
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

DATE: SEPT. 9, 2014
PROJECT MANAGER: PAL
DRAWN BY: JM
CHECKED BY: PAL
SCALE: AS NOTED

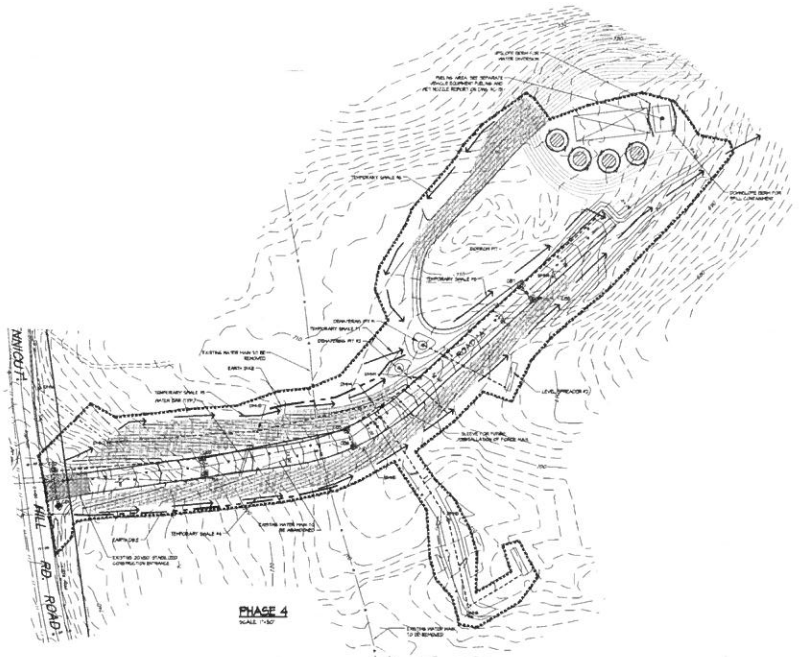
DRAWING: EROSION and SEDIMENT CONTROL PLAN PHASES 2 & 3

PROJECT NUMBER: 300
DRAWING NUMBER: C-151

SHEET 15 OF 24

EROSION CONTROL LEGEND:

- EXISTING DRAINAGE PIPE
- EXISTING CONTOURS
- PROPOSED CONTOURS
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY STAGING AREA
- LIMITS OF DISTURBANCE
- EARTH DIKE
- TEMPORARY SOIL STOCKPILE
- INLET PROTECTION
- SF — SILT FENCE
- EROSION CONTROL BLANKET
- CONSTRUCTION FENCE
- CHECK DAM
- LEVEL SPREADER
- TEMPORARY SWALE
- YDR PROPOSED YARD DRAIN
- OCS PROPOSED OUTLET STRUCTURE
- CBR PROPOSED CATCH BASIN
- END PROPOSED END SECTION
- SPR PROPOSED STORMWATER PLANTER
- RGR PROPOSED RAIN GARDEN
- SDTS PROPOSED SUBSURFACE TREATMENT SYSTEM

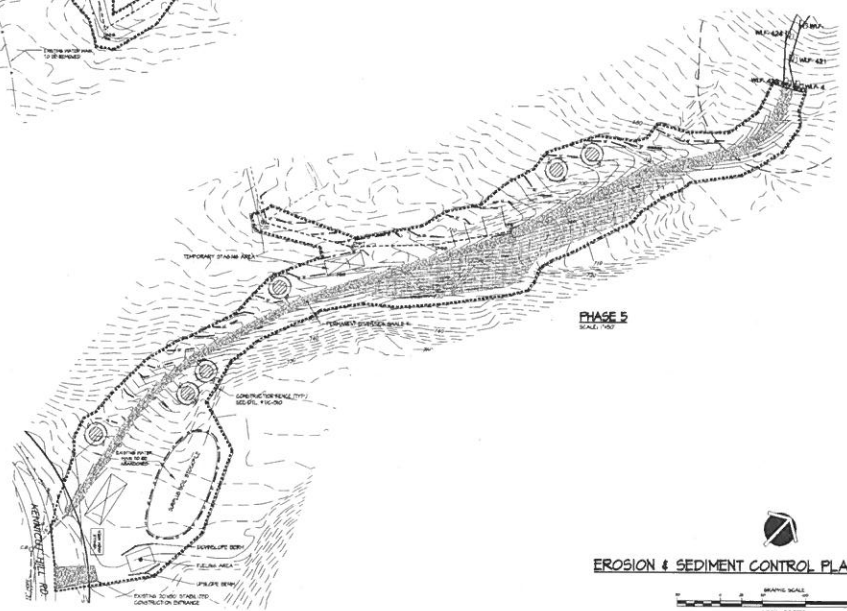


PHASE 4
SCALE: 1"=50'

CONTRACTOR INSTALLATION-
SEWER/WATER & DRAINAGE NOTES:

1. THE CONTRACTOR IS TO SET ALL STRUCTURES THAT ARE IN ROAD 1/4" AND 1/8" AT BINDER ELEVATION IN ORDER TO COMPLY WITH THE SHIMMY ALL STRUCTURES. DWG. DWG. VALVE COVERS ARE TO BE RAISED USING RINGS WHEN TYPE COMES FOR TOP COAT ASPHALT. CB FRAME AND GRATES WILL HAVE TO BE MANUALLY RESET AT FINISH GRADE.

PHASE 5
SCALE: 1"=50'



EROSION & SEDIMENT CONTROL PLAN - PHASES 4 & 5

GRAPHIC SCALE
1 INCH = 50 FEET

SEQUENCE OF CONSTRUCTION:

PHASE 4

28 HILLSPIRE ROAD TO STA. 1+19
DISTURBANCE AREA 3.4 AC

1. CONTRACTOR TO MAINTAIN THE PREVIOUSLY ESTABLISHED CONSTRUCTION ENTRANCE ALONG WITH ALL SILT FENCES INSTALLED.
2. ESTABLISH LIMITS OF DISTURBANCE AND AREA IN THE FIELD. INSTALL CONSTRUCTION FENCING ALONG LIMITS OF DISTURBANCE.
3. INSTALL ADDITIONAL SILT FENCES IMMEDIATELY DOWNHILL OF AREAS OF PROPOSED DISTURBANCE AS SHOWN ON THE PLAN.
4. CLEAR AND MASS AREA OF PHASE 4 TO THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN.
5. CRAB ACCESS ROAD (REMOVED IN PHASE 2 BRAH, PLAN), EXCAVATE AND INSTALL 6 ADJACENT TO PERFORM PHASE 1 OF CONSTRUCTION. ESTABLISH STAGING AREA AS SHOWN ON THE PLANS.
6. CLEAR AND PREPARE AREA FOR THE PROPOSED CONSTRUCTION. STRIP TOPSOIL AND STORE USABLE ORGANIC MATERIAL AT STOCKPILES. PROVIDE STOCKPILE PROTECTION PER DETAIL #SC-060.
7. RELOCATE TEMPORARY SWALE TO LOCATED IN PHASE 2 AS AN EXTENSION OF TEMPORARY SWALE #4 AS SHOWN ON THE PLAN. INSTALL TEMPORARY EARTH DIKE ALONG PORTION OF TEMPORARY SWALE #4 TO DIVERT CLEAN WATER AWAY FROM DISTURBED AREAS.
8. EXCAVATE TEMPORARY SWALE #5. INSTALL TEMPORARY EARTH DIKE ALONG PORTION OF TEMPORARY SWALE #5 TO DIVERT CLEAN WATER AWAY FROM DISTURBED AREAS.
9. STABILIZE ALL DISTURBED AREAS WITHIN ONE (1) FOOT TOLERANCE THE EARTHWORK. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE THESE AREAS ARE STABILIZED.
10. EXCAVATE DEMOTTEMPA PIT #2. INSTALL OUTLET STRUCTURE ALONG WITH OUTLET PIPE. OUTLET PIPE SHALL TERMINATE IN TEMPORARY SWALE #4.
11. EXCAVATE TEMPORARY SWALES #6 & 7.
12. GRAB FILL EXCAVATED FROM SUBDRAIN PIT UNDER FILL PAD FOR SEE PROPOSED ROAD. FILL MATERIAL SHALL BE FREE FROM ROOTS, VEGETATION AND UNSUITABLE SOILS.
13. AS EXCAVATION IN THE DIVERSION PIT PROGRESSES, CREATE TEMPORARY SWALE #3.
14. ROUGH GRADE THE ROAD FILL TO BE PLACED IN 2' (MAX LIFTS AND COMPACTED TO 95% DRY DENSITY BY MECHANICAL MEANS.
15. INSTALL WATER MAINS PER DETAIL #SU-050
16. STABILIZE ALL DISTURBED AREAS AS DESCRIBED IN "STABILIZATION NOTES".
17. EXCAVATE TRENCHES FOR INSTALLATION OF WATER, STORMWATER AND SEWER PIPES ALONG THE ROAD TO STA. 1+19. INSTALL SEWER MANHOLES WITH 2' DEEP SUMP. ALL OUTLET PIPING OF 12" DIA. AND OVER IS TO BE INSTALLED STARTING FROM DOWNHILL STRUCTURE TO UPHILL STRUCTURE. TRENCHES TO BE BACKFILLED IMMEDIATELY UPON COMPLETION OF INSTALLATION OF PIPES AND MANHOLES. EXPOSED SOIL TO BE STABILIZED IMMEDIATELY AFTER BACKFILL. TEST SEWER MAIN AND MANHOLES.
18. TOPS OF STRUCTURES INSTALLED IN PAVED AREAS SHALL BE SET AT BINDER COURSE ELEVATION. PRECAST CATCH BASIN PER CONSTRUCTION DETAIL. THE STRUCTURES ARE NOT TO RECEIVE ANY STORMWATER FLOW UNTIL AT LEAST ONE ASPHALT BINDER COURSE IS PLACED.
19. STAKE OFF DRAINAGE DIVERSION DITCH FROM DEMO TO DAMN. EXCAVATE TRENCH FOR INSTALLATION OF THE ABOVE MENTIONED STORM SEWER PIPES. INSTALLED AND PIPES TO BE INSTALLED STARTING FROM DOWNHILL STRUCTURES TO UPHILL STRUCTURES. INSTALL TEMPORARY OUTLET PIPE FROM DAMN TO DAYLIGHT. EXCAVATE LEVEL SPREADER AT OUTLET OF THE PIPE. AFTER INSTALLATION OF THESE PIPES REMOVE THE TEMPORARY OUTLET PIPE FROM DAMN AND PLUG THE OPENING WITH BLOCK AND MORTAR.
20. EXCAVATE TRENCH FOR INSTALLATION OF WATER PIPES FROM THE "TEE" CONNECTION AT ROAD 'D' STATION 11+50 +/- TO VICINITY OF DAMN. THIS MAY BE PERFORMED CONCURRENTLY WITH INSTALLATION OF STORMWATER PIPES FROM DAMN TO DAMN, LAY THE PIPES.
21. TRENCHES TO BE BACKFILLED IMMEDIATELY UPON COMPLETION OF INSTALLATION OF PIPES AND MANHOLES. EXPOSED SOIL TO BE STABILIZED IMMEDIATELY AFTER.
22. EXCAVATE TRENCH ALONG THE ROAD AND LAY ELECTRIC, CABLE AND TELEPHONE CABLES TO LOW PROVISIONS DESCRIBED ABOVE.
23. INSTALL SLEEVE UNDER THE ROAD NEAR STA. 4+41 FOR FUTURE INSTALLATION OF SEWER FORCE MAIN.
24. AFTER THE TRENCH WORK IS COMPLETED AND ALL CONCRETE CURE, THE PROPOSED ROAD SHALL BE PAVED WITH BINDER COURSE PER DETAIL #SC-050 TO STA. 1+28.
25. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE ALL DISTURBED AREAS AS DESCRIBED IN PHASE 4 OF SEQUENCE OF CONSTRUCTION ARE STABILIZED.

PHASE 5

1. VERIFY AND STAKE OUT LOCATION OF PERMANENT DIVERSION SWALE 'A' AND DRAINAGE DIVERSION DITCH FROM DAMN TO WW. ESTABLISH LIMITS OF DISTURBANCE AND MARK IN THE FIELD WITH ORANGE CONSTRUCTION FENCE.
2. INSTALL SILT FENCE IMMEDIATELY DOWNHILL OF AREAS OF PROPOSED DISTURBANCES AND WHERE INDICATED ON PLAN. ALL SILT FENCES TO BE INSTALLED PARALLEL TO CONTOURS.
3. USING STABILIZED CONSTRUCTION ENTRANCE INSTALLED IN PHASE 1 OF THIS DEVELOPMENT, CLEAR AND GRUB AREA TO THE LIMITS OF DISTURBANCE. WORK ON THE PLAN TIMES BY STAKING AREAS.
4. STRIP TOPSOIL AND STORE USABLE ORGANIC MATERIAL AT STOCKPILES. PROVIDE STOCKPILE PROTECTION PER DETAIL #SC-060.
5. EXCAVATE DIVERSION SWALE. STORE THE SURPLUS SOIL AT STOCKPILE. PROVIDE THE STOCKPILE PROTECTION PER DETAIL #SC-060.
6. STABILIZE DISTURBED AREAS PER "STABILIZATION NOTES" ON SHEET SC-002.
7. EXCAVATE TRENCH FOR INSTALLATION OF STORM SEWER PIPES. INSTALL MH, AND DMH TO DRAIN STRUCTURES AND PIPES TO BE INSTALLED STARTING FROM DOWNHILL STRUCTURES TO UPHILL STRUCTURES. CONNECT THE NEWLY CREATED PIPE SYSTEM TO DRAIN. ABANDON THE TEMPORARY OUTLET PIPE FROM DRAIN.
8. BACKFILL TRENCHES IMMEDIATELY UPON COMPLETION OF INSTALLATION OF PIPES AND MANHOLES. EXPOSED SOIL TO BE STABILIZED IMMEDIATELY AFTER BACKFILL.
9. INSTALL PERMANENT RIP RAP APRON AT THE DIVERSION SWALE.
10. NO FURTHER CONSTRUCTION IS ALLOWED BEFORE ALL DISTURBED AREAS AS DESCRIBED IN PHASE 5 OF SEQUENCE OF ARE STABILIZED.

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NO.	DATE	DESCRIPTION
1	3-19-19	APPROVAL SUBMISSION
2	4-19-19	PLANNING BOARD SUBMISSION
3	5-17-19	PLANNING BOARD SUBMISSION
4	6-19-19	PLANNING BOARD SUBMISSION
5	7-19-19	PLANNING BOARD SUBMISSION
6	8-19-19	PLANNING BOARD SUBMISSION
7	9-19-19	PLANNING BOARD SUBMISSION
8	10-19-19	PLANNING BOARD SUBMISSION
9	11-19-19	PLANNING BOARD SUBMISSION
10	12-19-19	PLANNING BOARD SUBMISSION
11	1-19-20	PLANNING BOARD SUBMISSION
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95	1-19-27	PLANNING BOARD SUBMISSION
96	2-19-27	PLANNING BOARD SUBMISSION
97	3-19-27	PLANNING BOARD SUBMISSION
98	4-19-27	PLANNING BOARD SUBMISSION
99	5-19-27	PLANNING BOARD SUBMISSION
100	6-19-27	PLANNING BOARD SUBMISSION

PROJECT:
REVISED PLANNING BOARD SUBMISSION PREPARED FOR:
RANDOM RIDGE
KENNICOTT HILL ROAD
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

DATE: SEPT. 3, 2019
DRAWN BY: PRL
CHECKED BY: PRL
SCALE: AS NOTED

DRAWING:
EROSION and SEDIMENT CONTROL PLAN PHASES 4 & 5

PROJECT NUMBER: 605
DRAWING NUMBER #: C-152

SHEET 14 OF 34

EROSION CONTROL LEGEND:

(symbol)	EXISTING DRAINAGE PIPE
(symbol)	EXISTING CONTOURS
(symbol)	PROPOSED CONTOURS
(symbol)	STABILIZED CONSTRUCTION ENTRANCE
(symbol)	TEMPORARY STAGING AREA
(symbol)	LIMITS OF DISTURBANCE
(symbol)	EARTH DIKE
(symbol)	TEMPORARY SOIL STOCKPILE
(symbol)	INLET PROTECTION
— SF —	SILT FENCE
(symbol)	EROSION CONTROL BLANKET
(symbol)	CONSTRUCTION FENCE
(symbol)	CHECK DAM
(symbol)	LEVEL SPREADER
(symbol)	TEMPORARY SWALE
YD#	PROPOSED YARD DRAIN
OS#	PROPOSED OUTLET STRUCTURE
CB#	PROPOSED CATCH BASIN
ES#	PROPOSED END SECTION
SP#	PROPOSED STORMWATER PLANTER
RG#	PROPOSED RAIN GARDEN
SSTS	PROPOSED SUBSURFACE TREATMENT SYSTEM

SEQUENCE OF CONSTRUCTION:

PHASE 6

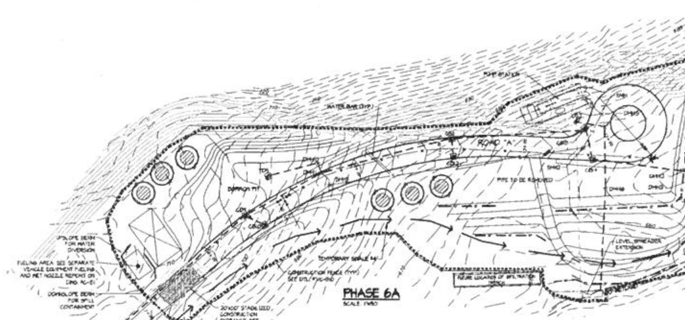
DEVELOPING ROAD "A" FROM STA. 7+25 TO THE END
DISTURBANCE AREA 4.1 AC. [illegible]

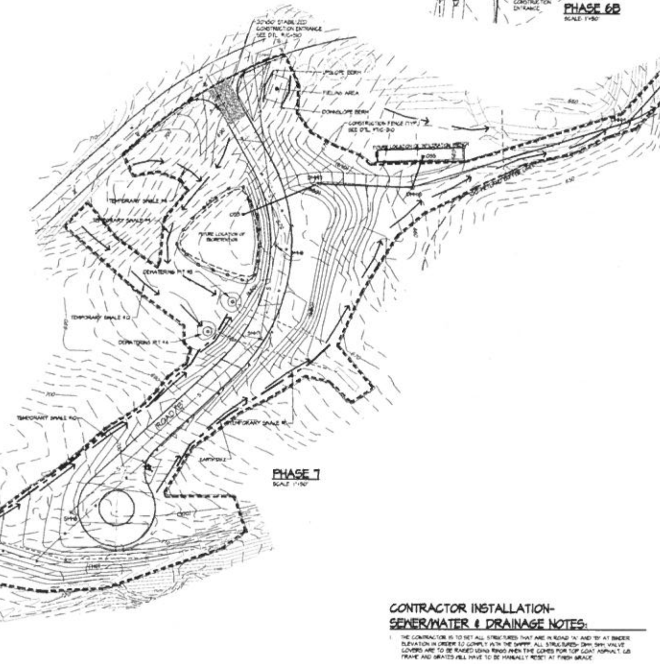
1. CONTRACTOR TO MAINTAIN PREVIOUSLY ESTABLISHED EROSION CONTROL MEASURES ALONG WITH ALL SILT FENCES INSTALLED.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE FOR LIGHT DUTY ROAD AT THE END OF PAVED SECTION OF THE ROAD STA. 7+25, AS SHOWN ON THE PLAN. VEHICLES SHALL BE INSPECTED AND CLEANED, IF REQUIRED, PRIOR TO ENTERING PAVED ROAD.

[illegible]

PHASE 7

[illegible]





MAINTENANCE PROGRAM:

TEMPORARY MEASURES

[illegible]

PERMANENT MEASURES

[illegible]

CONTRACTOR INSTALLATION-SEWER/WATER & DRAINAGE NOTES:

[illegible]

EROSION & SEDIMENT CONTROL PLAN - PHASES 6 & 7

GRAPHIC SCALE
1 INCH = 50 FEET

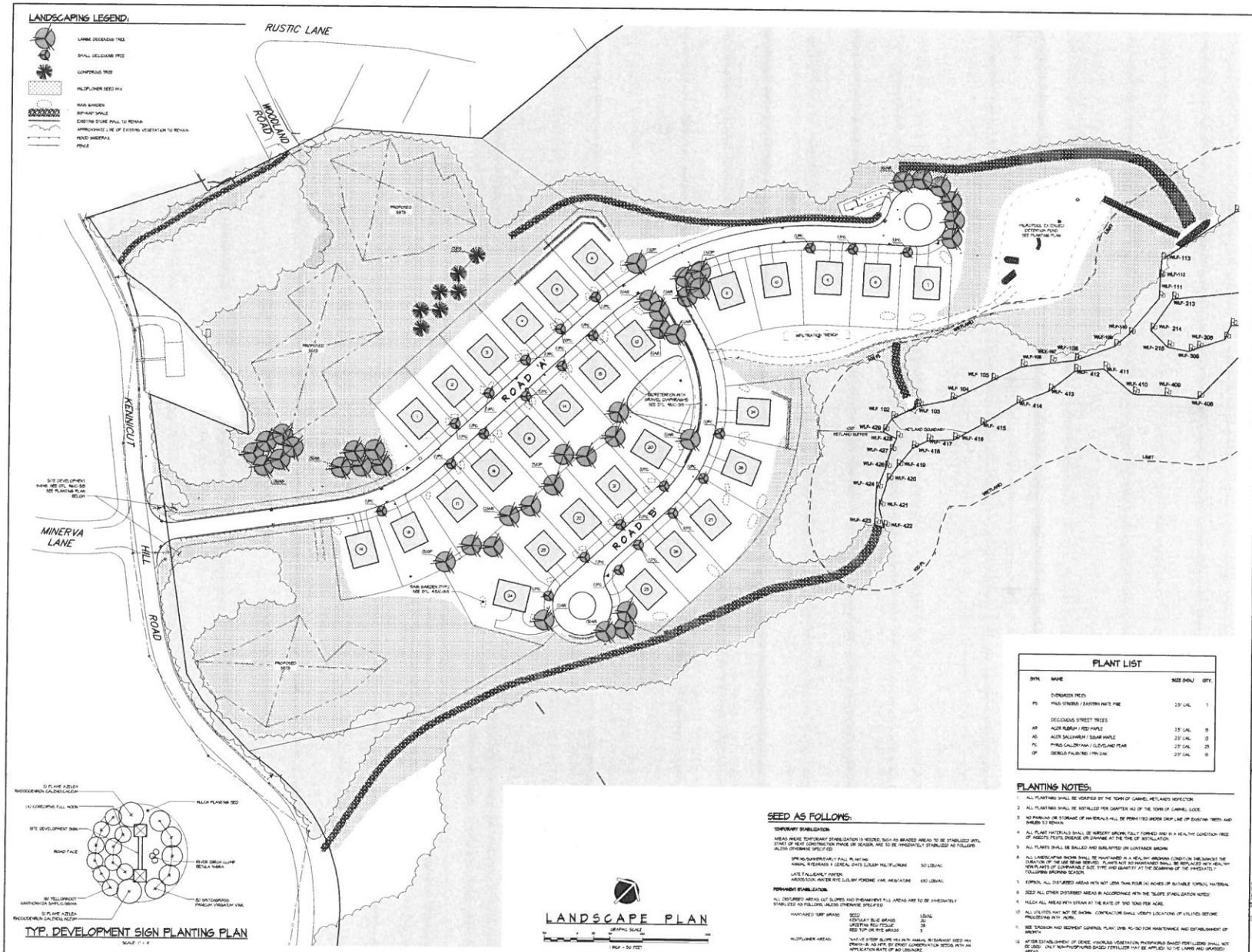
PUTNAM ENGINEERING PLLC
ENGINEERS - ARCHITECTS
4 OLD ROUTE 6, BREWSTER, NEW YORK 10509
(845) 279-6784 FAX (845) 279-6784

RESIDENTIAL CLUSTER SUBDIVISION PREPARED FOR:
RANDOM RIDGE
KENNICUT HILL ROAD
TOWN of CARMEL
PUTNAM COUNTY, NEW YORK

DATE: SEPT. 5, 2014
SCALE: AS NOTED

EROSION and SEDIMENT CONTROL PLAN PHASES 6 & 7

PROJECT NUMBER: 831
DRAWING NUMBER: C-153
SHEET 15 OF 34



PLANT LIST

SYM.	NAME	SIZE (MIN.)	QTY.
	EVERGREEN TREES		
PS	PINUS STROBUS / EASTERN WHITE PINE	2.5" CAL.	7
	DECIDUOUS STREET TREES		
AR	ACER RUBRUM / RED MAPLE	2.5" CAL.	8
AS	ACER SACCHARUM / SUGAR MAPLE	2.5" CAL.	13
PC	PYRUS CALLERYANA / CLEVELAND PEAR	2.5" CAL.	23
QP	QUERCUS PALUSTRIS / PIN OAK	2.5" CAL.	11

PLANTING NOTES:

1. ALL PLANTINGS SHALL BE VERIFIED BY THE TOWN OF CARMEL WETLANDS INSPECTOR.
2. ALL PLANTINGS SHALL BE INSTALLED PER CHAPTER 142 OF THE TOWN OF CARMEL CODE.
3. NO PARKING OR STORAGE OF MATERIALS WILL BE PERMITTED UNDER DRIP LINE OF EXISTING TREES AND SHRUBS TO REMAIN.
4. ALL PLANT MATERIALS SHALL BE NURSERY GROWN, FULLY FORMED AND IN A HEALTHY CONDITION FREE OF INSECTS, PESTS, DISEASE OR DAMAGE AT THE TIME OF INSTALLATION.
5. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN.
6. ALL LANDSCAPING SHOWN SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION THROUGHOUT THE YEAR BY THE SITE OWNER OR OWNERS. PLANTS NOT SO MAINTAINED SHALL BE REPLACED WITH HEALTHY NEW PLANTS OF COMPARABLE SIZE, TYPE AND QUANTITY AT THE BEGINNING OF THE IMMEDIATELY FOLLOWING GROWING SEASON.
7. TOPSOIL ALL DISTURBED AREAS WITH NOT LESS THAN FOUR (4) INCHES OF SUITABLE TOPSOIL MATERIAL.
8. SEED ALL OTHER DISTURBED AREAS IN ACCORDANCE WITH THE "SLOPE STABILIZATION NOTES".
9. MULCH ALL AREAS WITH STRAW AT THE RATE OF TWO TONS PER ACRE.
10. ALL UTILITIES MAY NOT BE SHOWN. CONTRACTOR SHALL VERIFY LOCATIONS OF UTILITIES BEFORE PROCEEDING WITH WORK.
11. SEE TEMPORARY AND PERMANENT EROSION CONTROL PLANT SPECIFICATIONS FOR MAINTENANCE AND ESTABLISHMENT OF GROWTH.
12. AFTER ESTABLISHMENT OF DENSE, VIGOROUS VEGETATION, PHOSPHORUS BASED FERTILIZERS SHALL NOT BE USED. ONLY NON-PHOSPHORUS BASED FERTILIZER MAY BE APPLIED TO THE LAWNS AND DISTURBED AREAS.

SEED AS FOLLOWS:

TEMPORARY STABILIZATION

AREAS WHERE TEMPORARY STABILIZATION IS NEEDED, SUCH AS GRADED AREAS TO BE STABILIZED UNTIL START OF NEXT CONSTRUCTION PHASE OR SEASON, ARE TO BE IMMEDIATELY STABILIZED AS FOLLOWS UNLESS OTHERWISE SPECIFIED

SPRING/SUMMER/EARLY FALL PLANTING
ANNUAL RYEGRASS // LOREAL OATS (LOLIUM MULTIFLORUM) — 50 LBS/AC

LATE FALL/EARLY WINTER
AROOSTOOK WINTER RYE (LOLIUM PERENNE VAR. ARISTATUM) — 100 LBS/AC

PERMANENT STABILIZATION

ALL DISTURBED AREAS, CUT SLOPES, AND PERMANENT FILL AREAS ARE TO BE IMMEDIATELY STABILIZED AS FOLLOWS, UNLESS OTHERWISE SPECIFIED

	SEED	LBS/AC
MAINTAINED "LAWN" AREAS	KENTUCKY BLUE GRASS	20
	CREEPING RED FESCUE	35
	RED TOP OR RYE GRASS	5
WILDFLOWER AREAS	"NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS" SEED MIX FROM H.B. NURSERY BY ERNST CONSERVATION SEEDS, WITH AN APPLICATION RATE OF 80 LBS/ACRE	

TYP. DEVELOPMENT SIGN PLANTING PLAN
SCALE: 1" = 5'

RANDOM RIDGE
KENNICUT HILL ROAD
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK

REVISED PLANTING PLAN PREPARED FOR:

LANDSCAPE PLAN

PROJECT NUMBER: 8-24
DRAWING NUMBER: C-160
SHEET 8 OF 34

PATRICK J. EARLEY, P.E.
CIVIL ENGINEERING
LAND SURVEYING
LAND PLANNING
4 OLD ROUTE 6 & 202 BREWSTER, NEW YORK 10509
(845) 279-6136 FAX (845) 279-6139

PUTNAM ENGINEERING, PLLC.
Engineers and Architects

July 20, 2015

Mr. Robert Laga, Chairman
Town of Carmel Environmental Conservation Board
60 McAlpin Avenue
Mahopac, NY 10541

Re: Wallauer's Store #10, Letter of Permission
Putnam Plaza Shopping Center
1924 Route 6
TM #55.11-1-4

Dear Chairman Laga and Members of the Board:

Wallauer's is proposing to utilize adjacent outdoor space located behind Putnam Plaza as an outdoor display and merchandise storage area. The area will be enclosed by chain link fencing and will be approximately 25 feet by 64 feet in area. A portion of the fence and enclosed area will be located within the 100 foot buffer of Michael Brook. This project has appeared before the Carmel Planning Board, most recently on July 8, 2015, and was referred to the E.C.B.

We are enclosing the following for your information and review:

1. Amended Site Layout Plan, last revised June 29, 2015, 5 copies.
2. Application for Letter of Permission, 5 copies.
3. Deed, 5 copies.
4. Project Narrative, 5 copies.
5. SEQR Short Environmental Assessment Form, dated April 30, 2015, 5 copies.
6. Letter of Authorization, 5 copies

It is therefore requested that this project be placed on the next available Environmental Conservation Board agenda for review and issuance of a Letter of Permission.

Sincerely,

PUTNAM ENGINEERING, PLLC

Paul K. Garrity
PKG/tal
cc: Mr. Mark Peterson, Wallauer, Inc.
Enclosures

(L01532)

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: C.R. WALLAUER, INC.

Address of Applicant: 30 VIRGINIA ROAD WHITE PLAINS, NY 10603 **Email:** MARKP@CRWALLAUER.COM

Telephone# (914) 948-4000 **Name and Address of Owner if different from Applicant:**

PUTNAM PLAZA LLC, 7-11 BROADWAY, WHITE PLAINS NY 10601

Property Address: 1924 ROUTE 6, CARMEL **Tax Map #** 55.11-1-4

Agency Submitting Application if Applicable: N.A.

Location of Wetland: MICHAEL BROOK LOCATED ALONG EASTERN PROP. LINE

Size of Work Section & Specific Location: 410 S.F.+/- WORK SECTION LOCATED @ EAST CORNER OF SITE

Will Project Utilize State Owned Lands? If Yes, Specify: NO

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).

WORK TO INCLUDE FENCED ENCLOSURE OF EXISTING PAVEMENT ADJACENT TO STORE FOR STORAGE AND DISPLAY OF MERCHANDISE

Proposed Start Date: 8/15 **Anticipated Completion Date:** 9/15 **Fee Paid $**_____

****

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

Mark J. Peterson
SIGNATURE

7/14/15
DATE

Wallauer's Store #10
Letter of Permission
Putnam Plaza Shopping Center
1924 Route 6
TM #55.11-1-4

Project Narrative

Wallauer's is currently a tenant leasing space in Putnam Plaza and is located in the eastern corner of the Plaza. They have applied to the Carmel Planning Board to utilize the adjacent outdoor space located behind the Plaza. They are proposing to fence in a 25 feet by 64 feet area of existing pavement to use as seasonal outdoor display and storage of merchandise. Materials to be stored in the area are as noted on the attached letter from Wallauer's dated June 18, 2015.

Approximately 67 linear feet of fence, including a gate, and 410 square feet of merchandise area fall within the 100 foot buffer of Michael Brook. The existing pavement is proposed to remain.

There is no work proposed within Michael Brook.

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
WALLAUER'S STORE # 10

Project Location (describe, and attach a location map):
1924 US ROUTE 6, CARMEL N.Y. , AKA PUTNAM PLAZA

Brief Description of Proposed Action:
ADD A 25'x64' +/- OUTDOOR STORAGE AREA TO EXISTING SHOPPING CENTER. NO NEW IMPERVIOUS SURFACES. AREA TO BE OPEN AIR, ENCLOSED WITH FENCING.

Name of Applicant or Sponsor:	Telephone: 914 948 4000
C.R. WALLAUER, INC., MARK PETERSON	E-Mail:

Address:
30 VIRGINIA ROAD

City/PO:	State:	Zip Code:
N. WHITE PLAINS	NY	10603

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	X	
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: PLANNING BOARD, ECB, BLDG DEPT - TOWN OF CARMEL NYSDEC - NEW YORK STATE		X

3.a. Total acreage of the site of the proposed action? 17.7 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? _____ acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☒ Urban ☐ Rural (non-agriculture) ☐ Industrial ☒ Commercial ☐ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☑ Other (specify): WETLAND
☐ Parkland

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	X	
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	X	
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	X	

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: R. CAMERON - PUTNAM ENGINEERING PLLC Date: APRIL 30, 2015

Signature: _____

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?	X	
2. Will the proposed action result in a change in the use or intensity of use of land?	X	
3. Will the proposed action impair the character or quality of the existing community?	X	
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?	X	
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?	X	
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?	X	
7. Will the proposed action impact existing: a. public / private water supplies?	X	
b. public / private wastewater treatment utilities?	X	
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?	X	
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?	X	

SINCE 1921
Wallauer's

PAINTS · WALLCOVERING · WINDOW TREATMENTS · IN-HOME DECORATING

Corporate Headquarters
30 VIRGINIA ROAD, WHITE PLAINS, NEW YORK 10603
914-948-4000 FAX 914-948-0390 www.wallauer.com

BEDFORD HILLS
655 N. Bedford Rd.
914-241-1666
FAX 914-241-3045

CARMEL
1866 Route 6
845-225-6613
FAX 845-225-6616

MAHOPAC
537 Route 6
845-621-1131
FAX 845-621-1123

MOHEGAN LAKE
1948 East Main ST.
914-528-6111
FAX 914-528-0468

OSSINING
Arcadian Shpg. Ctr.
914-941-1900
FAX 914-762-1414

PORT CHESTER
143 North Main St.
914-939-7600
FAX 914-939-0046

SCARSDALE
836 Post Road
914-723-4811
FAX 914-713-1071

N. WHITE PLAINS
30 Virginia Road
914-948-4000
FAX 914-948-0390

YONKERS
621 Tuckahoe Rd.
914-779-6767
FAX 914-337-4804

YORKTOWN HGTS.
1965 Commerce St.
914-962-3000
FAX 914-962-8259

June 18, 2015

Dear Robert,

The following is a list of merchandise that we intend to stock in the fenced in area of the Carmel, NY location.

All fertilizers, grass seed & bird seed will be stored inside. We will stock in the outside area the following:
Garden Hoses, sprinklers, gardening items (shovels, rakes, pitch forks, etc.), grills, garbage cans, Bird Houses, Bird feeders, mulch, potting soil, bagged top soil, planters, garden sprayers, fencing material & fence metal/wood posts, edging materials, a limited amount of hanging plants, ladders (step & extension).
This will also be the area where the Ace truck will unload; we want to use it as a staging area to break down the pallets, right now we are using the front sidewalk.
Our intension was to let customers enter and exit thru the store. We expect all merchandise to be loaded thru the front parking lot, not the back.
It was not our intension to have a check out counter in this area.
This will be a seasonal area (April thru October?). We will utilize this area as a staging area for unloading freight as long as there isn't snow on the ground.
Unloading of freight – just as we do for inside delivery, Ace Truck drops the freight on a pallet and we move it with a pallet jack.

Thank you,

Mark Petersen

Mark Petersen

URSTADT BIDDLE PROPERTIES INC.

321 Railroad Avenue, Greenwich, Connecticut 06830
Tel: 203-863-8200 Fax: 203-861-6755 Web site: www.ubproperties.com
(New York Stock Exchange Symbols: UBA and UBP)

July 10, 2015

Carmel Town Hall
Planning Board
60 McAlpin Avenue
Mahopac, NY 10541

To Who It May Concern:

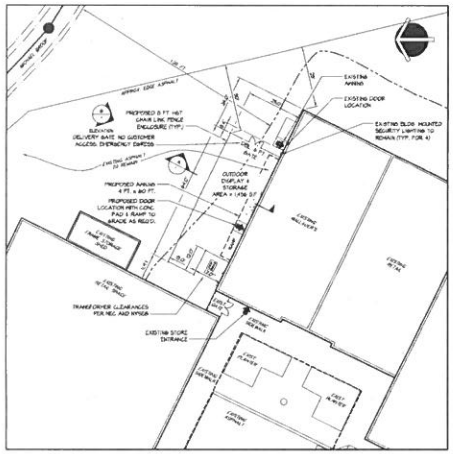
Urstadt Biddle Properties has authorized Wallauer's, located at Putnam Plaza Shopping Center at 1866 Route 6 to have large merchandise items to be picked up in the rear of the building.

Feel free to contact me with any questions.

Sincerely

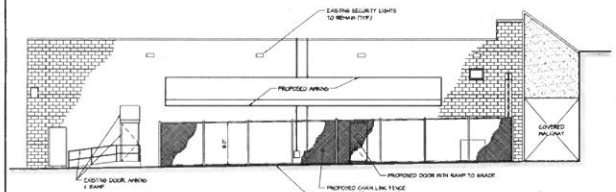
Debbie Nameth
Assistant Director of Operations
Urstadt Biddle Properties, Inc
203-863-8218

UBA
UBP
Listed
NYSE

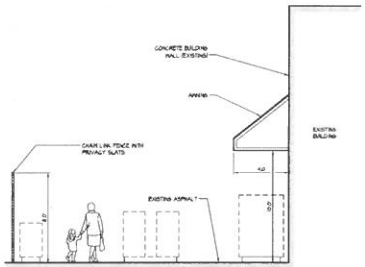


ENLARGED PLAN

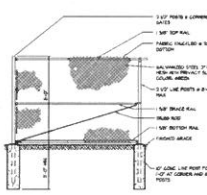
GRAPHIC SCALE
1 INCH = 20 FEET



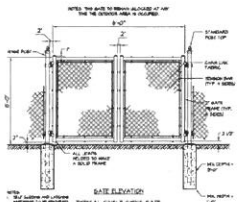
D ELEVATION
C-110 SCALE: 1/8" = 1'-0"



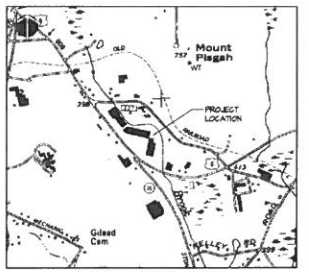
A PARTIAL SECTION
C-110 SCALE: 1/4" = 1'-0"



1 CHAIN LINK FENCE DETAIL
C-110 N.T.S.



2 CHAIN LINK FENCE GATE DETAIL
C-110 N.T.S.



LOCATION MAP
SCALE 1" = 1000'

AMENDED SITE LAYOUT PLAN

GRAPHIC SCALE
1 INCH = 40 FEET

SCHEDULE of DISTRICT REGULATIONS

C - COMMERCIAL DISTRICT	REQUIRED	EXISTING
MIN. LOT AREA (AC.)	25	18
MIN. LOT WIDTH (FT.)	200	2,410
MIN. LOT DEPTH (FT.)	200	465
MINIMUM YARDS (FT.) FRONT	40	428 TO PLAZA
SIDE	25	84
REAR	50	45
MAX. BUILDING HEIGHT (FT.)	35	25
MIN. FLOOR AREA (S.F.)	5000	69,300
MAX. BUILDING COVERAGE (%)	50	25

OFF-STREET PARKING & LOADING

OFF-STREET PARKING PER CHAPTER 156-42.D:

A VARIANCE OF SECTIONS 68-5.1(C) (1) AND 68-11.9 (C) HAS GRANTED BY THE CARMEL ZONING BOARD OF APPEALS ON APRIL 28, 2005 FOR REDUCTIONS IN PARKING STALL SIZES AND PARKING STALL QUANTITY. THIS PROPOSED APPLICATION WILL NOT INCREASE THE GROSS FLOOR AREA OF THE BUILDING, AND THEREFORE WILL NOT REQUIRE AN INCREASE IN THE NUMBER OF PARKING STALLS.

ADJOINERS:

TAX MAP	OWNER
58.4-1-18	KOLLE
58.4-1-19	R LEVINE LLC
58.4-1-20	6 ROUTE 6 CORP. (HELIG CHAMPAGNE)
58.4-1-21	6 ROUTE 6 RE REALTY
58.4-1-46	TOWN OF CARMEL
58.4-1-47	J.T.S. LEVINE AND BUILDING CORP.
58.4-1-48	ALFIERI & PITA
58.4-1-49	6 ROUTE 6 REALTY INC.
58.4-1-50	ALFIERI REALTY INC.
58.4-1-4	LIBERTY BELL TRUCK & CO. INC.
58.4-1-5.1	LIBERTY HARDWARE OF NY
58.4-1-5.2	ALL AMERICAN LLC
58.4-1-6	ALL AMERICAN TRUCK SHOP, INC.
58.4-1-7	SUBURBAN LLC
58.4-1-8	LINDSEE GARY
58.4-1-9	LIBERTY HARDWARE REALTY
58.4-1-10	CROWN CASTLE FT 2 ASSET LLC
58.4-1-11	OP SB LLC 1 WILMINGTON TRUST
58.4-1-12	LAND LLC
58.4-1-13	COUNTY OF PUTNAM
58.4-1-14	LIBERTY BELL TRUCKING CO. INC.

TAX MAP	OWNER
58.4-1-15	KOLLE
58.4-1-16	CARMEL CROSSE REALTY LLC
58.4-1-17	CARMEL CROSSE REALTY INC.
58.4-1-1.1	STUDIO, INC., PUTNAM COUNTY CHAPTER
58.4-1-1.2	KOLLE
58.4-1-1.3	DEPOSITORY HOLDINGS LIMITED, LP
58.4-1-1.4	NEW YORK STATE ELECTRIC & GAS CORP.
58.4-1-1.5	NEW YORK STATE ELECTRIC & GAS CORP.
58.4-1-1.6	MOUNTAIN VALLEY MID CATSKILL MAIN
58.4-1-2	STONELEIGH REALTY LLC
58.4-1-3	NEW YORK MANAGEMENT CORP.
58.4-1-4	NEW YORK MANAGEMENT CORP.
58.4-1-5	NEW LAND CONSTRUCTION 1 CRV
58.4-1-6	PUTNAM COUNTY HOUSING SOCIETY
58.4-1-7	ALFIERI REALTY INC.
58.4-1-8	ALFIERI, GIORGIO FAMILY TRUST
58.4-1-9	TOWN OF CARMEL
58.4-1-10.1	LIBERTY BELL TRUCKING CO. INC.
58.4-1-10.2	ITT HOLD RIGHTS & INC.

AREA MAP
SCALE 1" = 500'

SITE LAYOUT PLAN NOTES:

1. PROJECT DESCRIPTION: AMENDED SITE PLAN TO ADD AN OUTDOOR DISPLAY AND STORAGE AREA ADJACENT TO THE EXISTING WALLANDER'S RETAIL STORE.
2. BOUNDARY AND SITE INFORMATION TAKEN FROM A PLAN ENTITLED "AS-BUILT SURVEY PREPARED FOR HANNAFORD BROTHERS COMPANY" DATED JUNE 18, 2001, AS PREPARED BY BAILEY & PATSON, SUBS ADJUST & GOLD SPRING, NY. LONGHORN AND GARDEN LOCATION BY PUTNAM ENGINEERING
3. APPLICANT: C.R. WALLANDER, PE.
C/O MARK PETERSEN
50 VIRGINIA ROAD
NORTH WHITE PLAINS, NY 10603
OWNER: PUTNAM PLAZA, LLC
710 BROADWAY
WHITE PLAINS, NY 10603
4. EXISTING USE: SHOPPING CENTER
5. SITE DATA: TOTAL LOT AREA = 18.691 AC.
LOT TAX MAP NUMBER 58.-1-1.4
6. ZONING DISTRICT: C - COMMERCIAL
7. ALL UTILITIES ARE EXISTING AND TO REMAIN AS IS. NO CHANGES ARE PROPOSED.
8. ALL ON-SITE TRAFFIC CIRCULATION IS TO REMAIN AS IS. NO CHANGES ARE PROPOSED.
9. EXISTING SIGNAGE TO REMAIN. THERE ARE NO PROPOSED NEW SIGNS WITH THIS APPLICATION. ANY FUTURE SIGNAGE SHALL CONFORM TO THE REQUIREMENTS OF THE ZONING CODE OF THE TOWN OF CARMEL.
10. SEWER SERVICE PROVIDED BY EXISTING CONNECTIONS TO CARMEL SEWER DISTRICT #2. WATER SERVICE PROVIDED BY EXISTING CONNECTIONS TO CARMEL WATER DISTRICT #2.
11. THERE ARE NO ADDITIONAL EXTERIOR LIGHTING FIXTURES PROPOSED WITH THIS APPLICATION.
12. EXISTING LANDSCAPING TO REMAIN. NO CHANGES ARE PROPOSED.
13. EXISTING DRAINAGE PATTERNS TO REMAIN. THEREFORE NO CHANGES TO THE EXISTING DRAINAGE ARE PROPOSED. EXISTING DRAINAGE SHEET FLOWS GENERALLY TO THE EAST OF THE SITE.
14. ESTIMATE OF NUMBER OF EMPLOYEES: NO INCREASE IN THE NUMBER OF EMPLOYEES
DESCRIPTION OF OPERATION: OUTDOOR DISPLAY OF RETAIL ITEMS
TYPES OF PRODUCTS SOLD: MULCH, PLANTS, LAWN & GARDEN EQUIPMENT & RELATED ITEMS
TYPES OF MACHINERY & EQUIPMENT USED: NOT APPLICABLE

PUTNAM ENGINEERING
ENGINEERS • ARCHITECTS
4 OLD MILL ROAD, SUITE 1, CARMEL, NEW YORK
(845) 278-6181 FAX (845) 278-6184

REVISIONS

NO.	DATE	DESCRIPTION
1	8/8/05	PER TOWN COMMENTS
2	9/19/05	PER TOWN COMMENTS

PROJECT: WALLANDER'S CARMEL at PUTNAM PLAZA
AMENDED SITE LAYOUT PLAN PREPARED FOR:
NEW ROUTE 6
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
TAX MAP NO. 58.-1-1.4 SHEET 1 OF 1

DATE: 5/2/2005
PROJECT MANAGER:
DRAWN BY: PMS
CHECKED BY: PMS
SCALE: AS NOTED

DRAWING: AMENDED SITE LAYOUT PLAN

PROJECT NUMBER: 8256

DRAWING NUMBER: C-110

SHEET 1 OF 1

Revisions to Application for Wetland and Tree Cutting Permits

Town of Carmel Environmental Conservation Board

CRO-420 Filtration Avoidance Determination (FAD)-Related Stormwater Control/Management
Drewville Road, Town of Carmel, New York

Applicant

New York City Department of Environmental Protection (DEP)
Bureau of Water Supply
465 Columbus Avenue, Valhalla, New York 10595

July 2015

Table of Contents

Appendices

SECTION 1

APPLICATION FOR WETLAND PERMIT

TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.carmelny.org

APPLICATION FOR WETLAND PERMIT OR LETTER OF PERMISSION

Name of Applicant: New York City Department of Environmental Protection Bureau of Water Supply
465 Columbus Avenue, Suite 270

Address of Applicant: Valhalla, NY 10595 **Email:** mmandarino@dep.nyc.gov

Telephone# 914-742-2020 **Name and Address of Owner if different from Applicant:**

Property Address: Drewville Road, Town of Carmel **Tax Map #** S 66, Blk 2, Lot 53
Agency Submitting Application if Applicable: HDR-Gannett Fleming Joint Venture
Location of Wetland: Northeast of proposed facility location
Size of Work Section & Specific Location: North of Drewville Road, 660' west of intersection with Stoneleigh Ave
Will Project Utilize State Owned Lands? If Yes, Specify: No, NYCDEP owns the project area

Type and extent of work (feet of new channel, yards of material to be removed, draining, dredging, filling, etc). A brief description of the regulated activity (attach supporting details).
See attached supporting documentation

Proposed Start Date: 12/6/2016 **Anticipated Completion Date:** 10/30/2017 **Fee Paid $** 1,000 (Check 256329)

****

CERTIFICATION

I hereby affirm under penalty of perjury that information provided on this form is true to the best of my knowledge and belief, false statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. As a condition to the issuance of a permit, the applicant accepts full legal responsibility for all damage, direct or indirect, or whatever nature, and by whomever suffered, arising out of the project described here-in and agrees to indemnify and save harmless the Town of Carmel from suits, actions, damages and costs of every name and description resulting from the said project.

X Richard A. Willehm for MGM
SIGNATURE

7-14-15
DATE

617.20
Appendix B
Short Environmental Assessment Form

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project: FAD- Related Stormwater Control (CRO-420)

Project Location (describe, and attach a location map):
Approximately 660 feet west of the intersection of Drewville Road and Stoneleigh Avenue adjacent to the Croton Falls Reservoir in the Town of Carmel, NY.

Brief Description of Proposed Action:
See Section 2 - Project Narrative

Name of Applicant or Sponsor:	Telephone: (914) 742- 2020
NYC Department of Environmental Protection - Bureau of Water Supply	E-Mail: mmandarino@dep.nyc.gov

Address: 465 Columbus Avenue

City/PO:	State:	Zip Code:
Valhalla	NY	10595

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	X	
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: See Section 2 - Project Narrative		X

3.a. Total acreage of the site of the proposed action? 2.3 acres
b. Total acreage to be physically disturbed? 1.69 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 40 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☐ Urban ☐ Rural (non-agriculture) ☐ Industrial ☐ Commercial ☒ Residential (suburban)
☒ Forest ☐ Agriculture ☐ Aquatic ☒ Other (specify): Croton Falls Reservoir
☐ Parkland

	NO	YES	N/A
5. Is the proposed action,			
a. A permitted use under the zoning regulations?		X	
b. Consistent with the adopted comprehensive plan?			X

	NO	YES
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?		X

	NO	YES
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify:	X	

	NO	YES
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	X	
b. Are public transportation service(s) available at or near the site of the proposed action?	X	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	X	

	NO	YES
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: NOT APPLICABLE		

	NO	YES
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: NOT APPLICABLE		

	NO	YES
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: NOT APPLICABLE		

	NO	YES
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	X	
b. Is the proposed action located in an archeological sensitive area?	X	

	NO	YES
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?		X
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: 0.05 acres NYSDEC Class 1 Freshwater Wetland LC-63 & NYSDEC Class A tributary to Croton Falls Reservoir (Water Index # H-31-P 44-23-P 59-4)		X

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:
☐ Shoreline ☒ Forest ☐ Agricultural/grasslands ☐ Early mid-successional
☒ Wetland ☐ Urban ☐ Suburban

	NO	YES
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?		X

	NO	YES
16. Is the project site located in the 100 year flood plain?		X

	NO	YES
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes,		
a. Will storm water discharges flow to adjacent properties? ☒ NO ☐ YES		X
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☒ YES On-site stormwater management structures, forebay, and micropool		

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: Filter stormwater runoff draining into the Croton Falls Reservoir		X
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	X	
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe:	X	

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Maria Mandarino Date: 7-14-15

Signature: Richard A. Willelm for MGM.

Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2. Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

	No, or small impact may occur	Moderate to large impact may occur
1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?		
2. Will the proposed action result in a change in the use or intensity of use of land?		
3. Will the proposed action impair the character or quality of the existing community?		
4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?		
5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?		
6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities?		
7. Will the proposed action impact existing: a. public / private water supplies?		
b. public / private wastewater treatment utilities?		
8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?		
9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?		

	No, or small impact may occur	Moderate to large impact may occur
10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems?		
11. Will the proposed action create a hazard to environmental resources or human health?		

Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3. For every question in Part 2 that was answered "moderate to large impact may occur", or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required.

☐ Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.

Name of Lead Agency	Date
Print or Type Name of Responsible Officer in Lead Agency	Title of Responsible Officer
Signature of Responsible Officer in Lead Agency	Signature of Preparer (if different from Responsible Officer)

SECTION 2
PROJECT NARRATIVE

FAD-Related Stormwater Control – Drewville Road Water Quality Facility

Project Narrative

INTRODUCTION

Description of Action

The New York City Department of Environmental Protection (DEP) is proposing to construct improvements for controlling stormwater erosion to the Croton Falls Reservoir within the City's East of Hudson watershed. In order to achieve this goal, the DEP is proposing to install a stormwater detention system that would consist of a forebay, a micropool, and diversion and riser boxes. Additional improvements include reconstruction and riprap lining of a roadside ditch and removal and replacement of an existing 24-inch culvert. The proposed project, "Filtration Avoidance Determination (FAD) Related Stormwater Control – Drewville Road" is located adjacent to the Croton Falls Reservoir, in the Town of Carmel, Putnam County, New York.

Purpose and Need

The purpose of this project is to reduce sediment and pollutant loading in the Croton Falls Reservoir. This project is part of the City's efforts to comply with the United States Environmental Protection Agency's (USEPA) 2007 FAD. For a drinking water system to qualify for a FAD, the system cannot be the source of a waterborne disease outbreak and must meet source water quality limits. The FAD also requires that a watershed control program be implemented to minimize microbial contamination of the source water.

To maintain the FAD, the DEP seeks to reduce sediment, turbidity, and other pollutants loading into the Croton Falls Reservoir from Drewville Road by installing the proposed stormwater detention system.

Existing Conditions

The Drewville Road project is located within the East of Hudson Watershed, adjacent to the Croton Falls Reservoir, in the Town of Carmel, Putnam County, New York (Figure 1 in **Appendix A**). The project study area is 99,632 square feet (2.3 acres) in size and consists of forested land that is bounded by the Croton Falls Reservoir on the northern end and by Drewville Road (County Route 36) on the southern end (Figure 2 in **Appendix A**). The study area is located on a DEP-owned parcel that is approximately 40 acres in size, and surrounding land use

is comprised of properties with New York City Watershed and Residential zoning designations. The study area is primarily forested land, with some open space in the eastern portion. The Croton Falls Reservoir is immediately north and adjacent to the study area, while forest and residences are present to the west.

Stormwater runoff collects in a man-made roadside drainage ditch located along the north side of Drewville Road, within Putnam County's right-of-way. The man-made ditch is approximately 2.5 feet in width bank-to-bank, with shallow slopes and a bed comprised of sediments, coarse gravels, and sands. The runoff flows east-northeast through the southern section of the study area to a low point located approximately 660 feet west of the Drewville Road-Stoneleigh Avenue intersection (also known as Hopkins Corners). From there, the drainage ditch curves to the north, where it continues to flow approximately 130 feet, passing through a breached section of an adjacent rock wall in the forested property before dissipating to sheet flow (**Appendix B**). There are two unnamed streams immediately adjacent to the study area, and they are located to the east and west of the proposed project. Both streams flow to the Reservoir, emptying on the respective east and west sides of where the proposed stormwater detention system project will drain.

The study area is comprised of forested deciduous uplands and wetlands. The forested uplands comprise both mature growth trees interspersed with younger trees. The forest understory and herbaceous strata vary depending on elevation, proximity to the reservoir, and influence from off-site stormwater runoff, mainly originating from the roadside ditch along Drewville Road. There is an absence of understory trees and shrubs in the forest area at the southwestern portion of the study area; this area also has a sparse cover of perennial grasses and herbaceous plants. The southwestern portion of the study area is also higher in elevation and associated with a knoll. The existing slopes associated with the study area range from 3-10%. The topography of the site slopes to the northeast, with the low point occurring at or near the Croton Falls Reservoir's shoreline/bank.

Project Description

The proposed project is for the installation of a stormwater detention system that is designed to capture and treat the water quality volume (WQv) for the drainage area. Based on the United States Geological Survey (USGS) map, Lake Carmel quadrangle (2013), and on-site visits, it was determined that the project has a drainage area of approximately 15.17 acres. The drainage area consists of approximately 12.17 acres of woods and grasslands and 3.0 acres of paved impervious cover, as depicted in Figure 3 of **Appendix A**.

The New York State Department of Environmental Conservation (NYSDEC) defines WQv as the volume of runoff generated from the entire 90th percentile rain event. The WQv is directly related to the amount of impervious surface within a drainage area. The WQv calculated for the study area is an estimated 0.349 acre-feet (1.2 inches) of rainfall. After passing through bar screens located within the diversion box, the majority of the flow that exceeds the WQv would be diverted to a riprap lined bypass channel that flows around the detention ponds before discharging into the Croton Falls Reservoir. The flow that enters the system will increase with the increased storm event. The treatment system can handle up to three times its design water quality volume during a 100 year storm event. The bypassing features included in this project would be sized to accommodate the 100-year stormwater event flows. The project design is provided in **Appendix B**.

The flow schematic of the project is as follows:

- Stormwater runoff from the drainage area enters the roadside ditch and flows to the diversion box.
- The diversion box outlets the water quality volume flows to the forebay and sends all additional flows to the bypass channel.
- Once the forebay is filled with stormwater, water enters a riprap lined channel that flows to the micropool.
- The micropool is equipped with an aquatic bench, riser box outlet, and emergency spillway. Once the micropool fills with between 5 and 7.5 feet of water, it enters the outlet pipe through the riser box and is transported to an effluent channel. In the event that water level in the micropool exceeds 7.5 feet, stormwater flow would enter the micropool's emergency spillway and discharge to the bypass channel containing excess water from the diversion box. The micropool would be planted with various zones containing: softstem and hardstem bulrush, pickerelweed, white lily, common three-square, lesser bur-reed, sweetflag, blue flag iris, tussock sedge, elderberry, red-osier dogwood, and winterberry.
- Effluent from the micropool then combines with any untreated flows from the bypass channel. The treated and untreated discharge flows overland through a riprap channel prior to entering the Croton Falls Reservoir.

Roadside Ditch

As part of the project, the roadside ditch will be lined with approximately 517 linear feet of riprap and reshaped into a trapezoidal ditch with a bottom width of 1 foot, top width of 7.6 feet, and depth of 1.5 feet. The lining of the ditch will reduce run-off velocities, erosion occurring within the ditch, and the amount of suspended solids entering the stormwater detention system.

The NYSDEC *New York Standards and Specifications for Erosion and Sediment Controls* blue book was used to size the riprap in the ditch to accommodate the 100-year storm velocity.

Forebay

The forebay will be a 4-foot deep by 60-foot diameter excavation that is lined with a 40-mil, high-density polyethylene (HDPE) liner and equipped with an outlet spillway. The forebay will be located above the groundwater elevation, and the HDPE liner would be used to ensure that there is no migration of water between the subsurface and forebay.

The forebay will store a minimum of 10 percent of the water quality volume (0.0349 acre-feet) and provides the initial hydraulic detention of the stormwater. Once the forebay is completely filled, stormwater would enter an outlet channel that is cut within the embankment of the forebay. The outlet channel will be 19 feet long by approximately 6.4 feet wide, riprap-lined, designed to handle the expected 100-year storm event, and located between the forebay and micropool.

Micropool

The micropool will be a 7-foot deep by 90-foot diameter excavation equipped with an aquatic bench, riser box outlet, and emergency spillway. It will be lined with a 40-mil HDPE liner. The micropool will be located above the groundwater elevation, and the HDPE liner would be used to ensure that there is no migration of water between the subsurface and micropool.

The micropool will be sized to store 90 percent of the water quality volume (0.314 acre-feet) and provide the final detention of sediments prior to the stormwater being discharged to the Croton Falls Reservoir. The primary outlet of the micropool would consist of a riser box located within the pond's embankment. The riser box would be hydraulically connected to a 12-inch outlet pipe that discharges to the Croton Falls inlet channel. Water at depths from 5 to 7.5 feet within the micropool would begin to enter the riser box and flow through the outlet pipe to the Croton Falls inlet channel. The micropool will also have a secondary outlet, a riprap lined spillway channel that leads to a bypass channel. Although the hydraulic stormwater model indicates that the micropool is adequately sized to handle the 100-year storm event, the spillway channel has been provided as an additional precaution. The micropool would also have a 10-foot-wide aquatic bench around the circumference of the micropool to provide additional treatment through nutrient uptake by the aquatic plants.

Bypass Structures

The bypassing aspect of the project consists of a ten-foot by ten-foot diversion box with an influent bar screen and a ten-foot-wide bypass channel that are designed to convey the 100-year

storm event flows. A majority of the flows in excess of the WQv would be diverted away from the forebay into the bypass channel after passing through the bar screen and containing some of the floatable material. Bypassing the majority of flows above the water quality volume is critical because it will reduce/prevent washout of the forebay and micropool.

Micropool Spillway, Inlet, Bypass & Effluent Channels

The various channels that are included in the project will be lined with riprap to reduce flow velocities and prevent scouring and soil erosion. The NYSDEC *New York Standards and Specifications for Erosion and Sediment Controls* blue book was used to size the riprap in the various channels to accommodate the 100-year storm velocity.

Gravel Access Roadway

Authorized personnel will enter the project site through an access gate located on the north side of Drewville Road, in the southwest section of the project study area. Travelling in a northeastern direction from the project site access gate, a 12-foot-wide gravel maintenance access road will extend to the forebay and micropool. The gravel road will be a total of 1.5 feet thick, with a 12-inch sub-base course and a 6-inch surface course. The purpose of this road is to provide a means of vehicular access to the detention ponds for maintenance and repair purposes. The gravel road will be constructed approximately 615 feet inside the existing woods line and set back approximately 100 feet from Drewville Road.

LIST OF REQUIRED PERMITS, APPROVALS, AND CONSULTATIONS

U.S. Army Corps of Engineers

- Nationwide Permit 33 (Temporary Construction, Access and Dewatering)
- Nationwide Permit 43 (Stormwater Management Facilities)

U.S. Fish and Wildlife Service

- Consultation with Information, Planning, and Conservation System and New York Field Office

NYSDEC

- State Pollutant Discharge Elimination System General Permit for Stormwater Discharges From Construction Activity (GP-0-15-002)
- Protection of Waters Permit, 401 Water Quality Certification
- Freshwater Wetlands Permit
- Natural Heritage Program Consultation

- Region 3 Permitting Office Consultation

NYS Office of Parks, Recreation and Historic Preservation

- Consultation in accordance with State Historic Preservation Act

DEP

- State Environmental Quality Review Environmental Assessment Form
- Stormwater Pollution Prevention Plan Approval

Putnam County

- DOT Right-of-way Approval
- GML 239(m) Referral

Town of Carmel

- Wetland Permit, Tree Cutting Permit, Site Plan Approval
- MS4 Stormwater Pollution Prevention Plan Acceptance
- Building Permit

CONCLUSIONS AND MITIGATION COMMITMENTS

Upon completion, the proposed project will result in improved water quality within the New York City watershed by reducing the amount of pollutants and sediment entering the Croton Falls Reservoir. The rural character of the project area in Carmel, New York, will be maintained by the strategic placement of the stormwater detention system with an increased setback from Drewville Road, as well as the implementation of an extensive reforestation plan. Once completed, the site will not need to be frequently accessed, therefore the proposed project will not permanently impact area traffic.

Extensive analysis was performed to examine the impact of the proposed project's impact on natural resources. Terrestrial habitats (vegetation, soils) will be impacted, resulting in both permanent and temporary disturbances. Mitigation in the form of extensive reforestation plantings will provide for reestablishment of a forest community and stabilization of the disturbed land. There will be direct freshwater wetland impacts associated with the project. Impacts to the freshwater wetland and wetland-adjacent areas will be both temporary and permanent in nature. Effects on disturbance areas will be mitigated through an extensive landscaping plan that will establish wetland habitat. The objective of the plantings is to restore the ecological functions and values that will be impacted by the proposed wetland disturbance.

Success of the reforestation planting will be evaluated through implementation of a monitoring schedule that will include maintenance and replacements as needed. See **Appendix D** and **Appendix F** for additional information about the proposed reforestation plan.

It is anticipated that project construction activities within the Drewville Road right-of-way will impact the westbound lane of the road for a period. DEP will consult with hospital and local emergency service providers during final design to plan for the effective maintenance of traffic during construction. Prior to and during construction activities, the contractor will be required to maintain formal communications with emergency service providers and the Putnam Hospital to ensure the proper dissemination of information and alerts regarding any incidents or changes in access.

Traffic and noise levels will increase temporarily during a limited portion of the construction phase, but there will be no significant adverse impacts on the surrounding area. The majority of the 11-month construction phase will involve 5 to 10 on-site workers.

Activities associated with the proposed project will not substantially or adversely change existing air quality. There are no anticipated adverse or substantial increases in erosion, flooding, or leaching as a result of the proposed project. The project will not interfere with the natural hydrologic conditions of the watershed. It is not anticipated that the quality or quantity of groundwater or surface water will be significantly impacted by the proposed project. Upon a thorough review, it is determined that the proposed project will serve an environmentally beneficial purpose and does not pose any significant adverse impact.

SECTION 3

APPLICATION FOR A TREE CUTTING PERMIT

TOWN OF CARMEL

ENVIRONMENTAL CONSERVATION BOARD

60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

APPLICATION FOR A TREE CUTTING PERMIT

Name of Applicant: New York City Department of Environmental Protection Bureau of Water Supply

Address: 465 Columbus Avenue, Suite 270, Valhalla, NY 10595 **Tel. No.** (914) 742-2020

Owner of Property: New York City Department of Environmental Protection

Address: Drewville Road, Town of Carmel **Tel. No.**

Tax Map Number: S 66, Blk 2, Lot 53 **Total Land Area Involved:** 2.3 acres

Number of trees of each species to be cut: 197 **Range, in inches, of diameter, measured 4 & ½ feet above the ground of the trees to be cut:** 6 to 44 (See attached table)

Total Board Foot Volume for each species to be cut: 19,820 board feet (see attached table)

A Sketch Map drawn to scale must be attached showing:

1. **Boundaries of Property.**
2. **Access Roads into property and proposed roads and skid trails in the property.**
3. **Area within the property where cutting will occur.**
4. **Location and size of product loading areas.**
5. **Any area of the property defined as a wetland by the Town of Carmel Wetland Law.**
6. **If tree cutting operation is to be conducted in stages, each stage shall be shown on the sketch map.**
7. **Scale of map.**

A written statement must be attached stating that each tree to be removed has been designated with paint or other distinctive means at two points so as to be readily visible. One point shall be low enough on the tree so as to be visible on the stump after the tree is removed.

Permit Fee is: - Up to 25 acres - $300.00 -Over 25 acres - $400.00 + $50.00 an acre.

X Richard A. Wilhelm for MG&M
SIGNATURE OF OWNER

SIGNATURE OF APPLICANT

All property owners within 500 feet of the subject property must be notified by U.S. Mail prior to commencement of the operation.

FAD-Related Stormwater Control – Drewville Road Water Quality Facility

Application for a Tree Cutting Permit

SKETCH MAP REQUIREMENTS

1. The project area depicted in Appendix A of this application package falls entirely within the boundaries of the parcel; as such, the parcel boundaries are not visible on project plans.
2. The locations of access roads are provided in Appendix F of this application package.
3. Tree removal information is provided in Appendix E of this application package.
4. The Construction Staging Area is depicted in Appendix F of this application package.
5. Town of Carmel wetland boundaries are included in Appendices E, F, and G of this application package.
6. The tree cutting operation is not to be conducted in stages.
7. Each drawing depicts the appropriate map scale.

REQUIRED WRITTEN STATEMENT

As described within Appendix D of this application package, each tree proposed for removal will be clearly marked at two readily-visible points. One point will be low enough on the tree to remain visible on the stump after removal.

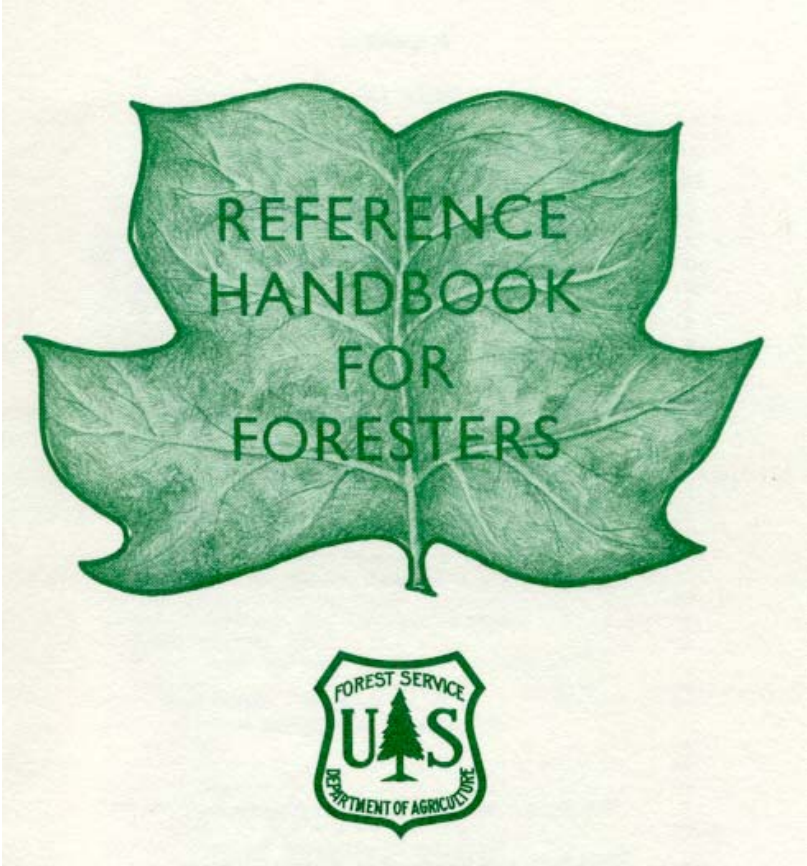
Board Foot Volume Calculations			
Tree	Diameter at Breast Height (inches)	Number of Trees to be Removed	Board Foot Volume[2,3,4] (board feet)
Maple	6[1]	41	1,640
	8[1]	37	1,480
	10[1]	39	1,560
	12	9	540
	14	7	560
	16	8	800
	18	3	420
	20	4	680
	22	3	630
	24	2	500
	28[2]	3	1,800
	36[2]	1	1,010
	44[3]	2	2,720
Ash	6[1]	3	120
	8[1]	5	200
	10[1]	1	40
	12	2	120
	14	3	240
	16	2	200
	18	1	140
	20	2	340
	24	2	500
	40[2]	2	2,500
Birch	6[1]	1	40
	8[1]	2	80
	10[1]	2	80
	12	1	60
	22	1	210
	24	1	250
Elm	6[1]	2	80
	8[1]	1	40
Hickory	12	2	120
Magnolia	6[1]	1	40
Cherry	14	1	80
Total	n/a	197	19,820

[1] Board feet volume for trees smaller than 12" dbh were assumed to be 40 board feet

[2] For board feet volume calculations, trees smaller than 25" dbh were assumed to be 16 feet tall (one 16-foot log); trees larger than 25" were assumed to be 32 feet tall (two 16-foot logs)

[3] For board feet volume calculations for trees larger than 43" dbh were assumed to be 1,360 board feet

[4] The attached International Tree Scale table was used to calculate these board feet volumes (USDA Forest Service Reference Handbook for Foresters, 1999)



U.S. Department of Agriculture
Forest Service
State and Private Forestry
Northeastern Area

NA-FR-15

September 1999
Revised for the internet, October 2001

Prepared by

Burl S. Ashley

Field Representative, Resources Management

Northeastern Area, State and Private Forestry

Morgantown, West Virginia

September 1989

This Handbook revises and supersedes NA-FR-2

"Field Reference Handbook for Service Foresters."

Revised for the internet by Arlyn Perkey, Helen Butalla, and Barb Morgan
October 2001

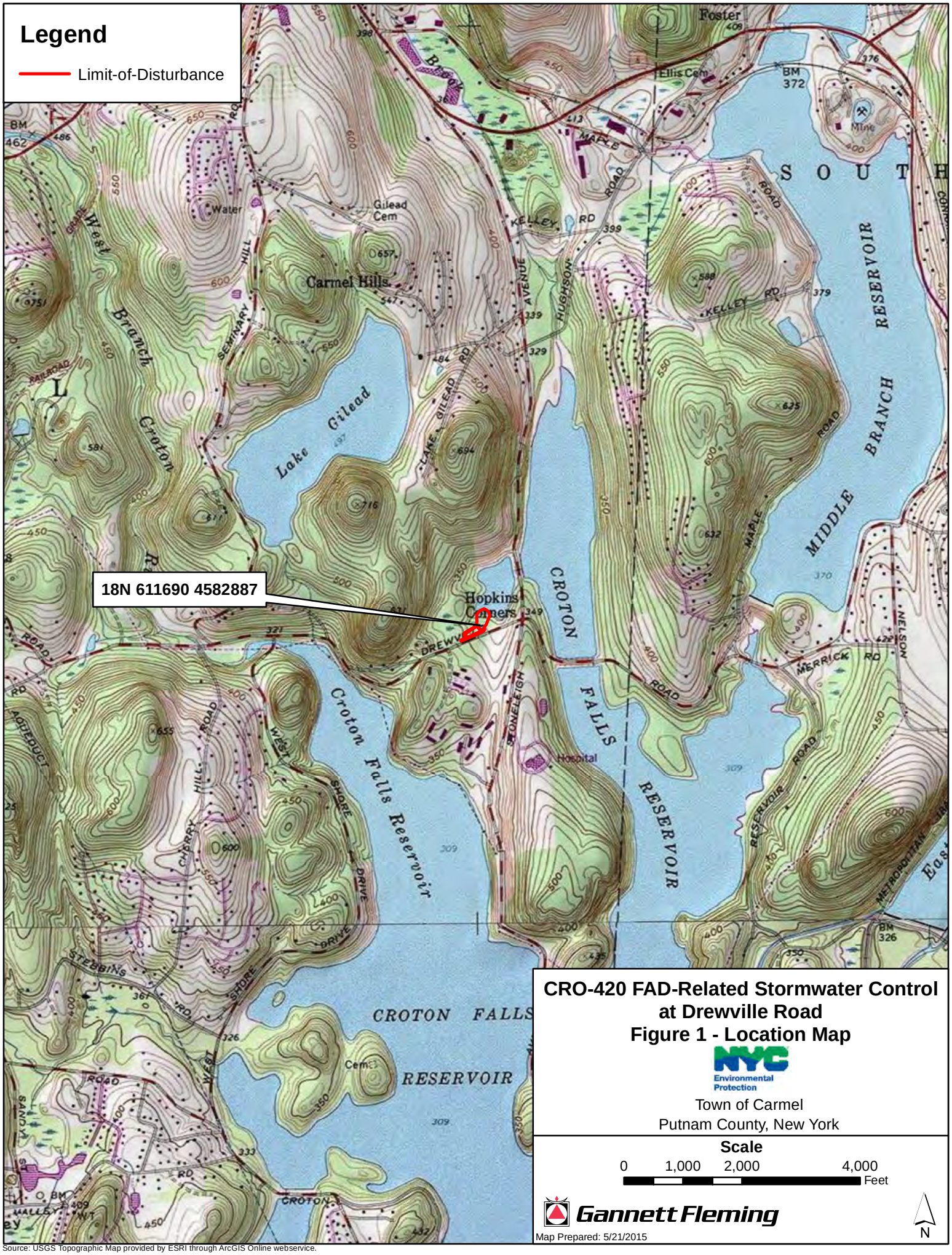
For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402

TREE SCALE

(International 1/4 Inch)

DBH (in.)	Number of 16-Foot Logs							
	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4
	Contents in Board Feet							
12	30	60	80	100	120			
14	40	80	110	140	160	180		
16	60	100	150	180	210	250	280	310
18	70	140	190	240	280	320	360	400
20	90	170	240	300	350	400	450	500
22	110	210	290	360	430	490	560	610
24	130	250	350	430	510	590	660	740
26	160	300	410	510	600	700	790	880
28	190	350	480	600	700	810	920	1020
30	220	410	550	690	810	930	1060	1180
32	260	470	640	790	940	1080	1220	1360
34	290	530	730	900	1060	1220	1380	1540
36	330	600	820	1010	1200	1380	1560	1740
38	370	670	910	1130	1340	1540	1740	1940
40	420	740	1010	1250	1480	1700	1920	2160
42	460	820	1100	1360	1610	1870	2120	2360

APPENDIX A
FIGURES



CRO-420 FAD-Related Stormwater Control at Drewville Road
Figure 1 - Location Map

NYC Environmental Protection

Town of Carmel
Putnam County, New York

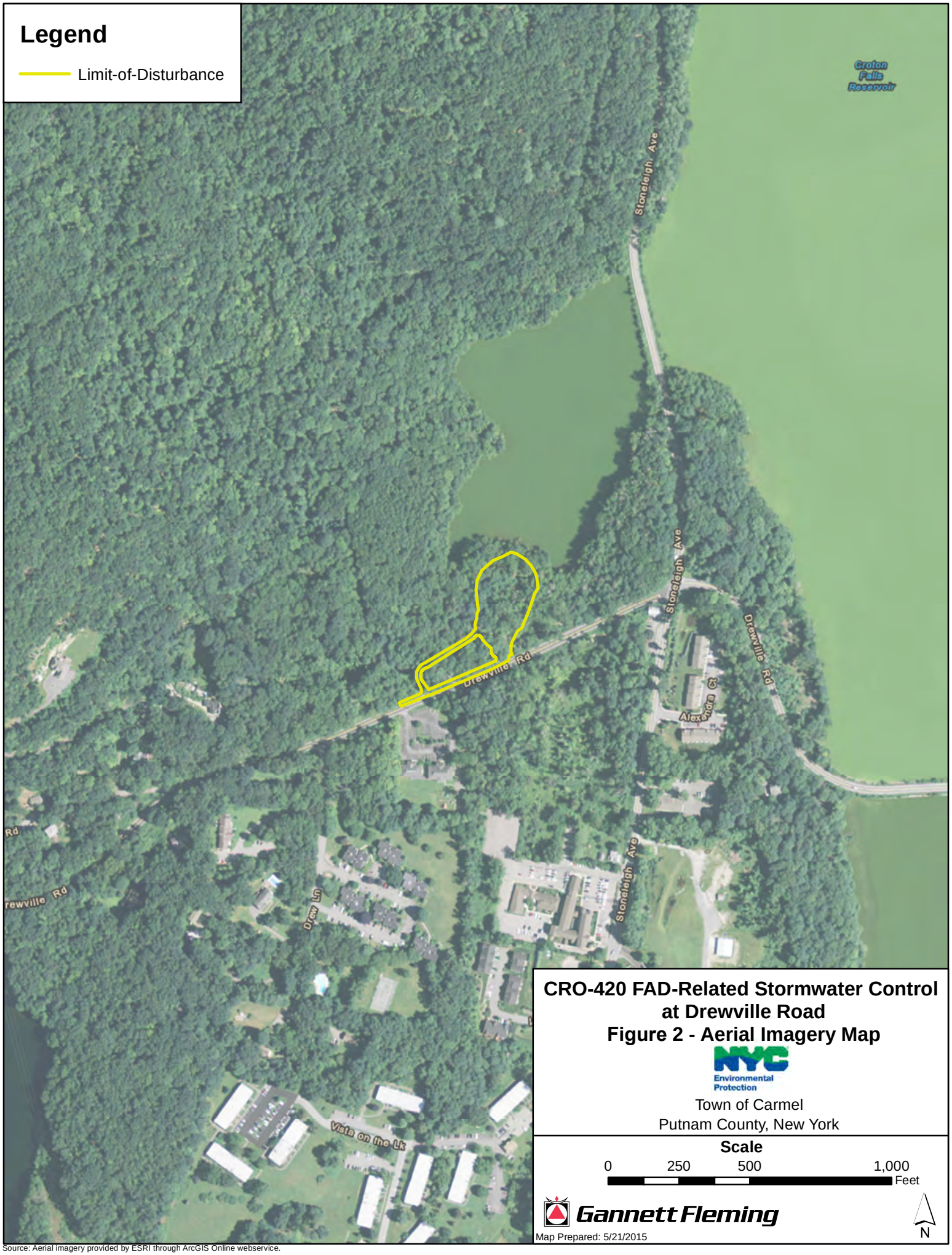
Scale
0 1,000 2,000 4,000 Feet

Gannett Fleming

N

Map Prepared: 5/21/2015

Source: USGS Topographic Map provided by ESRI through ArcGIS Online webservice.



CRO-420 FAD-Related Stormwater Control at Drewville Road
Figure 2 - Aerial Imagery Map

NYC Environmental Protection

Town of Carmel
Putnam County, New York

Scale

0 250 500 1,000 Feet

Gannett Fleming

N

Map Prepared: 5/21/2015

Source: Aerial imagery provided by ESRI through ArcGIS Online webservice.

0 150

Scale In Feet

DREWVILLE ROAD CONTRACT CRO-420
FIGURE 3 - DRAINAGE AREA MAP

APPENDIX B
PROJECT PLANS

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND REGULATIONS.
2. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF THE VARIOUS SYSTEMS AND APPROXIMATE RELATIVE LOCATIONS OF THE EQUIPMENT/DEVICES/ITEMS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THERE IS ADEQUATE SPACE AT THE LOCATION INDICATED FOR ALL THE EQUIPMENT/DEVICES/ITEMS PRIOR TO INSTALLATION OF SAME. ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL EXISTING ABOVEGROUND AND UNDERGROUND UTILITIES AND STRUCTURES AGAINST DAMAGE FROM EQUIPMENT MOBILIZATION AND/OR CONSTRUCTION OPERATIONS. NOTIFY ONE CALL UTILITY MARKOUT PRIOR TO EXCAVATION.
4. LOCATION OF ALL PIPING, STRUCTURES AND PROPERTY LINES ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE NOT WARRANTED TO BE EXACT. IT IS NOT WARRANTED THAT ALL ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION, AND FOR THE PROTECTION OF EXISTING PIPING AND STRUCTURES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL SUBSURFACE UTILITIES AND SERVICES WITHIN THE LIMIT OF WORK. THE LOCATION OF EXISTING SUBSURFACE UTILITIES AND STRUCTURES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY LOCATIONS IN THE FIELD.
6. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS AND TO SATISFACTION OF THE ENGINEER.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE ITSELF WITH THE SITE AND ALL REQUIREMENTS BEFORE BIDDING ON THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE PRIOR TO BIDDING TO FAMILILIARIZE ITSELF WITH THE NATURE AND EXTENT OF THE WORK AND LOCAL CONDITIONS THAT MAY AFFECT THE WORK TO BE PERFORMED AND THE EQUIPMENT, LABOR AND MATERIAL REQUIRED. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF COMPLETE PERFORMANCE UNDER THIS CONTRACT.
8. PROVIDE HEAVY DUTY PLASTIC SECURITY FENCING TO PROTECT ALL OPEN EXCAVATIONS.
9. ALL EXCAVATION SHALL BE DONE BY HAND WITHIN ONE FOOT OF EXISTING STRUCTURES, PIPING, AND OTHER UTILITIES.
10. THE CONTRACTOR IS TO RETAIN A NYS PROFESSIONAL ENGINEER AND SUBMIT A PE STAMPED SHEETING DESIGN IN ACCORDANCE WITH SPECIFICATION SECTION 2250, 02461 AND 02316.
11. ALL PROPOSED WORK SHALL BE DONE IN CONFORMANCE WITH THE LATEST STANDARDS OF THE NEW YORK CITY ENVIRONMENTAL PROTECTION AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
12. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING UTILITIES OR STRUCTURES DURING CONSTRUCTION, ANY DAMAGE CAUSED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY BY THE CONTRACTOR AT NO EXTRA COST TO THE CITY.
13. ALL MATERIALS ARE TO BE PROPERLY STORED AND SECURED AWAY FROM TRAFFIC AND PEDESTRIANS.
14. THE CONTRACTOR MUST REMOVE ALL WASTE MATERIAL FROM ALL AREAS WHEN CONSTRUCTION IS COMPLETED.
15. THE NORTHING AND EASTING LOCATIONS PROVIDED ARE BASED ON THE NEW YORK STATE PLANE COORDINATE SYSTEM NAD 1983.
16. THE WATER TABLE VARIES SEASONALLY AND WITH RESERVOIR WATER ELEVATION. DEWATERING WILL BE REQUIRED DURING EXCAVATING, SEE SPECIFICATION 02240 – DEAWTERING.

GENERAL STRUCTURAL NOTES:

A. DESIGN CRITERIA

1. BUILDING CODE ..... BUILDING CODE OF NEW YORK STATE, LATEST EDITION
2. NYCDEP GENERAL SPECIFICATIONS

B. CONCRETE

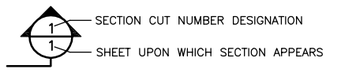
1. ALL CONCRETE FOR STRUCTURES SHALL BE AIR–ENTRAINED STONE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 POUNDS PER SQUARE INCH AT 28 DAYS.
2. REINFORCEMENT BARS SHALL BE NEW BILLET STEEL CONFORMING TO A.S.T.M. DESIGNATION A615, GRADE 60, DEFORMED.
3. WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. DESIGNATION A185.
4. WATERSTOPS SHALL BE POLYVINYL CHLORIDE, 6"X3/8" IN CONSTRUCTION JOINTS AND 9"X3/8" WITH CENTER BULB IN EXPANSION JOINTS UNLESS SHOWN OTHERWISE. PROVIDE BOND BREAKER AT EXPANSION JOINT UNLESS OTHERWISE NOTED.
5. CONCRETE DESIGN IS IN CONFORMANCE WITH "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (LATEST A.C.I.)
6. DETAIL, FABRICATE AND ERECT REINFORCEMENT BARS, INCLUDING BAR SUPPORTS, SPACERS, ETC. IN ACCORDANCE WITH "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT." (LATEST A.C.I.)
7. NO MATERIAL OR CONSTRUCTION METHOD SHALL BE USED WHICH WILL ADD TASTE, ODOR OR TOXICITY TO THE WATER SUPPLY.
8. CONCRETE COVER FOR REINFORCEMENT BARS SHALL CONFORM TO THE FOLLOWING, UNLESS INDICATED OTHERWISE ON THE DRAWINGS:
   - A. UNFORMED SURFACES IN CONTACT WITH GROUND ..... 3 INCHES
   - B. FORMED SURFACES IN CONTACT WITH GROUND OR EXPOSED TO WEATHER, AND ALL WALLS ..... 2 INCHES
   - C. ALL COLUMNS, BEAMS ..... 1–1/2 INCHES
   - D. EXTERIOR EXPOSURE, TOP OF SLABS ..... 1–1/2 INCHES
   - E. UNDERSIDE OF SLABS EXPOSED TO WATER ..... 1–1/2 INCHES
   - F. INTERIOR EXPOSURE TOP AND BOTTOM OF SLABS ..... 1 INCH
   - G. TOP OF SLABS EXPOSED TO WATER ..... 2 INCHES
9. CHAMFER EXPOSED CONCRETE EDGES 3/4 INCH X 3/4 INCH UNLESS NOTED OTHERWISE.
10. LATERAL LOADS SHALL NOT BE APPLIED TO ANY WALL PRIOR TO ACHIEVING THE 28 DAY CONCRETE COMPRESSIVE STRENGTH. ALL SUPPORTING FLOORS AND SLABS AT TOP OF WALLS MUST ALSO BE IN PLACE.

SUGGESTED GENERAL CONSTRUCTION SEQUENCE:

1. INSTALL TRAFFIC CONTROL DEVICES, TREE PROTECTION AND ALL EROSION AND SEDIMENT CONTROL MEASURES, CONSTRUCTION STAGING AREA.
2. CUT AND REMOVE FROM THE SITE, ALL TREES SHOWN ON THE TREE REMOVAL PLAN.
3. CLEAR AND GRUB ALL VEGETATION WITHIN THE WORK AREA THAT WOULD INTERFERE WITH THE CONSTRUCTION WORK.
4. INSTALL RIPRAP LINED BYPASS CHANNEL AND DISCHARGE CHANNEL.
5. REMOVE SECTIONS OF STONE WALL REQUIRED TO INSTALL STORMWATER DIVERSION DURING CONSTRUCTION. STABILIZE WALL ENDS AS REQUIRED.
6. INSTALL TEMPORARY SAND BAG DIVERSION AND ANY OTHER PROTECTION AS REQUIRED FOR THE TEMPORARY STORMWATER DIVERSION DURING CONSTRUCTION. THE LOCATION OF THE SAND BAG DIVERSION CAN BE MODIFIED BASED ON FIELD CONDITIONS AND REQUIREMENTS FOR CONSTRUCTION AS APPROVED BY NYCDEP.
7. INSTALL EROSION CONTROL BLANKET OVER ALL DISTURBED AREAS WHICH DO NOT NEED TO BE ACCESSIBLE FOR ACTIVE CONSTRUCTION OPERATIONS. SOW GRASS SEED ON ALL DISTURBED AREAS AND INSTALL ROLLED EROSION CONTROL MAT (RECM).
8. PERFORM SITE GRADING AND CONSTRUCT ACCESS ROADWAY, CHANNELS, FOREBAY AND MICROPOOL. INSTALL DIVERSION BOX, WEIR STRUCTURE, HEADWALLS, SPILLWAYS, OUTLET AND LOW FLOW ORIFICE.
9. WORK ON THE CHANNEL ALONG DREWVILLE ROAD SHALL BE DONE DURING DRY PERIODS. TEMPORARILY PROTECT WORK IN THE CHANNELS DURING WET WEATHER AS REQUIRED.
10. INSTALL ALL LANDSCAPING TO MEET THE REQUIREMENTS OF THE LANDSCAPING PLAN AND SCHEDULE.
11. AFTER THE STORMWATER TREATMENT SYSTEM IS ACCEPTED BY NYCDEP, REMOVE ALL COMPONENTS OF THE TEMPORARY STORMWATER DIVERSION SYSTEM, PROPERLY DISPOSE OF ALL COMPONENTS, RESTORE STONE WALL AND RESTORE DISTURBED AREAS. RIPRAP LINED BYPASS CHANNEL NO. 1 AND NO. 2 TO REMAIN IN PLACE AFTER CONSTRUCTION IS COMPLETE.

SYMBOLS AND ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AVE	AVENUE
℄ EL	CENTERLINE ELEVATION
CMP	CORRUGATED METAL PIPE
CONT	CONTINUOUS
D, ø	DIAMETER
DI	DUCTILE IRON
E	EAST, EASTERN
EA	EACH
EL, ELEV	ELEVATION
EXP	EXPANSION
FT	FOOT
H	HEIGHT
HDPE	HIGH DENSITY POLYETHYLENE
INV EL	INVERT ELEVATION
L	LENGTH
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MJ	MECHANICAL JOINT
MIL	MILLIMETER
MIN	MINIMUM
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH, NORTHERN
NAD	NOTRHERN AMERICAN DATUM
NAVD	NORTHERN AMERICAN VERTICAL DATUM
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PE	PLAIN END
PVC	POLY VINYL CHLORIDE
ROW	RIGHT OF WAY
SCH	SCHEDULE
SF	SQUARE FEET
SQ	SQUARE
SS	STAINLESS STEEL
T/	TOP
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WIDTH
WS EL	WATER SURFACE ELEVATION
YR	YEAR



SECTION CUT NUMBER DESIGNATION

SHEET UPON WHICH SECTION APPEARS

REMOVAL OR ABANDONED

—340— PROPOSED ELEVATION CONTOUR

—340— EXISTING ELEVATION CONTOUR

— ℄ — PROPERTY LINE

— ST — STORMWATER PIPE

— SAN — SANITARY FORCE MAIN

— GS — GAS SERVICE

—OHE— OVERHEAD ELECTRIC

EXISTING TREE

TREE TO BE REMOVED

RIPRAP

GUIDE RAIL

SILT FENCE

+369.9 SPOT ELEVATION

LIMIT OF DISTURBANCE

—X—X— CHAIN LINK FENCE

GEOTECHNICAL BORING

WETLAND BOUNDARY

100 FEET ADJACENT WETLAND BOUNDARY

No.	DESCRIPTION	DATE	BY
	REVISIONS		

DRAWN	SCALE
LK	NTS
DESIGNED	JOB No.
MS	49649.W012
APPROVED	DATE
SH	JUN. 2014

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO–420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

SHEET No.
G–01

NOTES:

1. SITE PLANS BASED ON TOPOGRAPHIC SURVEY PREPARED BY WSP–SELLS DATED MARCH 3, 2009. STORM WATER AND OVERHEAD ELECTRIC UTILITIES ARE ALSO BASED ON THIS SURVEY.
2. VERTICAL DATUM IS NAVD 1988. HORIZONTAL DATUM IS PROJECTED COORDINATE SYSTEM NAD 1983 STATE PLANE NEW YORK.
3. SEE SHEET C–12 FOR TREE REMOVAL SCHEDULE.
4. DREWVILLE ROAD IS ASPHALT. AREAS ADJACENT TO DREWVILLE ROAD IN THE AREA OF WORK ARE GRASS AND LIGHT BRUSH.
5. GEOTECHNICAL BORING DATA FOR BORINGS GB–1 AND GB–2 ARE PROVIDED IN SPECIFICATION APPENDIX A FOR REFERENCE ONLY.
6. PROPERTY OWNERS ARE BASED ON A PROPERTY LOCATION MAP PROVIDED BY NYCDEP.
7. SANITARY FORCE MAIN AND GAS SERVICE UTILITIES ARE BASED ON J. ROBERT FOLCHETTI AND ASSOCIATES L.L.C. SHEET 8 OF 21 STONELEIGH AVE. FORCE MAIN I, AS–BUILT MARK UP BY CONTRACTOR ISSUED 6/7/99.
8. CONTRACTOR SHALL MINIMIZE THE EXTENT OF STONE WALL REMOVAL TO ONLY WHAT IS REQUIRED TO CONSTRUCT THE NEW CHANNEL.

CROTON FALLS RESERVOIR

MERRITT RYDER

WETLAND BOUNDARY

100 FOOT ADJACENT WETLAND AREA BOUNDARY

20' SAN EASEMENT

8"ø DIP FORCE MAIN

EXISTING GRASS ROAD

REMOVE CABLE ACCESS GATE AND WOOD POSTS

REMOVE SECTIONS OF STONE WALL AND STABILIZE REMAINING WALL ENDS SEE NOTE 8

BREACH IN STONE WALL, STORMWATER ENTRY POINT TO SITE

GAS MAIN

GAS VALVE

24"ø CORRUGATED PLASTIC PIPE CULVERT TO BE REMOVED

BENCHMARK EL. 342.05' SPIKE IN POLE

GB–1
N: 931909.49
E: 721009.24

GB–2
N: 932008.53
E: 721044.53

BENCHMARK SPIKE IN POLE
N:931872.06
E:721151.93
EL. 328.71'

STONE WALL

GUIDE RAIL

DREWVILLE ROAD

24"ø CMP

18"ø CMP

15"ø CMP

DRIVEWAY

BOARD OF MANAGERS OF CLEARING IN THE WOODS C/O QUANTUM PROPERTY MANAGEMENT LTD 2269 SAW MILL RIVER RD ELMFORD, NY 10523

HOPE OF LIFE CHURCH

J. HOLT & C. WINNER

PARCEL OWNER UNKNOWN

0 30
Scale In Feet

WARNING
IT IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED, IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	DESCRIPTION	DATE	BY
2	BEDC COMMENTS	2/15	SH
1	GENERAL REVISION	10/11	EL
	REVISIONS		

DRAWN LK | SCALE 1"=30'
DESIGNED MS | JOB No. 48649.W012
APPROVED SH | DATE JAN. 2015

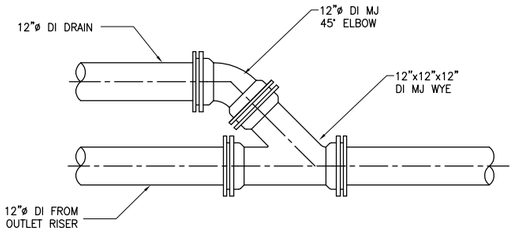
HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO–420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
EXISTING SITE PLAN

SHEET No.
C–01

07/13/15 10:46am FILE= K:\PROJECTS\48000's\48649\WD-12\Drewville Rd\Design\Design 2014\C-01 Exist Site Plan.dwg by LKAMORNIK XREFs=Drewville Exist Site, 48649_TITLESHT;



PIPE CONNECTION DETAIL

NTS

NOTES:

1. REUSE OF EXCAVATED SOIL TO BE DETERMINED BY SOIL SAMPLING AND BENEFICIAL USE DETERMINATION, SEE SPECIFICATION 02105 SOIL SAMPLING AND ANALYSIS.
2. EMBED 5 FEET OF RIPRAP AT THE FOREBAY INLET CHANNEL INTO CONCRETE.

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	01/15	
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

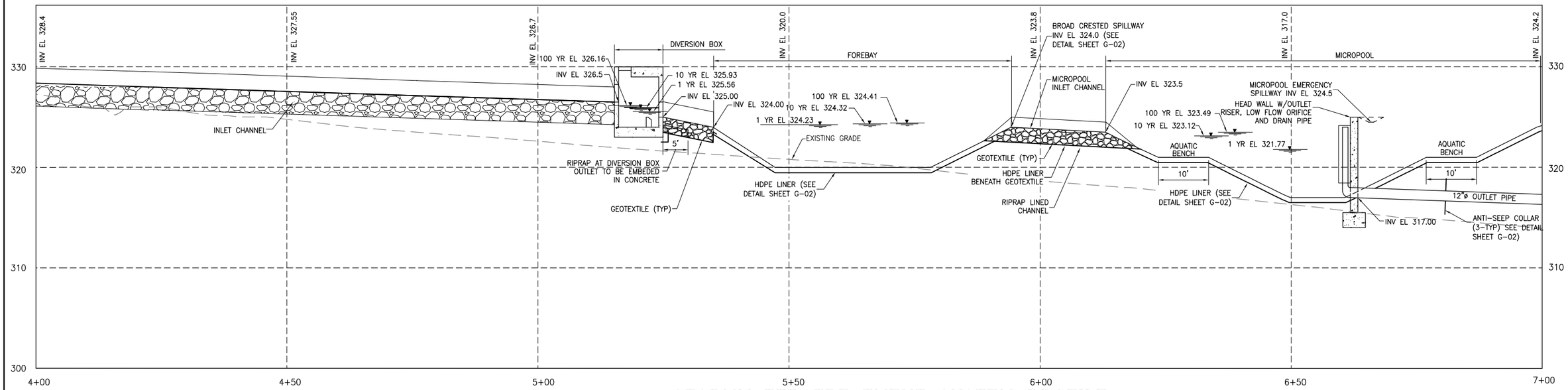
DRAWN	LK
DESIGNED	MS
APPROVED	SH
SCALE	1"=20'
JOB No.	48649.W012
DATE	JAN. 2015

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

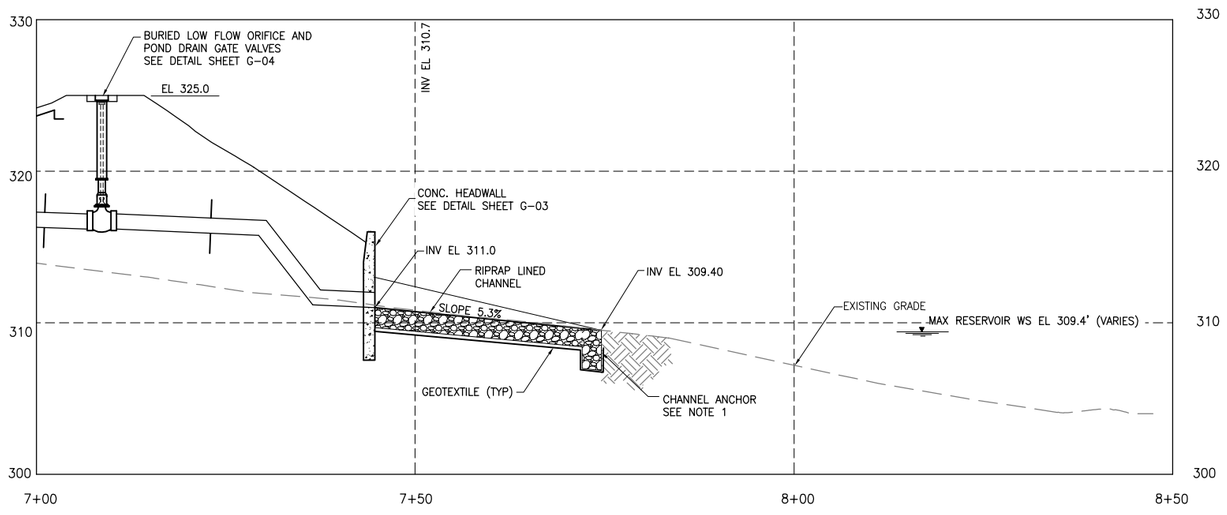
TITLE
STORMWATER TREATMENT SYSTEM AND GRADING PLAN

SHEET No.
C-03



STORMWATER TREATMENT SYSTEM PROFILE

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'



STORMWATER TREATMENT SYSTEM PROFILE

HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1"=5'

NOTES:

1. ANCHOR THE END OF RIPRAP CHANNEL. DIMENSIONS 3 FEET DEEP BY 1 FOOT FOR THE WIDTH OF THE CHANNEL.

0 10
Horizontal Scale In Feet

WARNING
IT IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED, IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	2/15	SH
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

DRAWN	LK
DESIGNED	MS
APPROVED	SH
SCALE	AS SHOWN
JOB No.	48649.WO12
DATE	JUN. 2014

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
STORMWATER TREATMENT SYSTEM
PROFILES II

SHEET No.
C-05

04/03/15 2:57pm FILE= K:\PROJECTS\48000's\48649\WO-12\Drewville Rd\Design 2014\C-05 SW Treat Profiles II.dwg by LKAMORNIK XREFs=Drewville Exist Site, 48649_TITLESHT, Drewville New Site,

APPENDIX C
AGENCY CORRESPONDENCE

New York State Office of Parks, Recreation and Historic Preservation

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation

David A. Paterson
Governor

Carol Ash
Commissioner

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

November 5, 2010

Jennifer Farmwald
Project Manager
NYCDEP-Bureau of Environmental Planning
Analysis
59-17 Junction Boulevard
Flushing, NY 11373

Re: **CORPS, DEC, NYCDEP**
FAD Stormwater Control
Carmel, Putnam County
10PR06914

Dear Ms. Farmwald:

Thank you for requesting the comment of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 14.09 (April 14, 2010) but are now responding to your request for review under Section106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon our review of the submitted information for this project, including a review for archeological sensitivity, it is the SHPO's opinion that the project will have No Adverse Effect upon properties in or eligible for inclusion in the National Register of Historic Places.

If you have any questions regarding this letter or your project, please feel free to contact me. Ext. 3273.

Sincerely,

Kenneth Markunas
Historic Sites
Restoration Coordinator

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

January 29, 2015

Ms. Maria Mandarino
NYC DEP, Bureau of Water Supply
465 Columbus Avenue, Suite 270
Valhalla, NY 10595

Re: CORPS
FAD-Related Stormwater Control - Drewville Road
Drewville Road, Carmel, NY
10PR06914

Dear Ms. Mandarino:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York State Environmental Conservation Law Article 8).

SHPO continues to recommend that your project will have No Adverse Effect upon cultural resources in or eligible for inclusion in the National Registers of Historic Places.

If further correspondence is required regarding this project, please refer to the OPRHP Project Review (PR) number noted above. If you have any questions I can be reached at 518-268-2186.

Sincerely,

Tim Lloyd, Ph.D., RPA
Historic Preservation Specialist - Archeology
timothy.lloyd@parks.ny.gov

via e-mail only

New York State Department of Environmental Conservation

Division of Environmental Permits

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Region 3 Main Office
21 South Putt Corners Road, New Paltz, NY 12561-1620
P: (845) 256-3033 | F: (845) 255-3042
www.dec.ny.gov

March 23, 2015

Maria Mandarino, P.E.
Chief, Capital Planning
NYC DEP
71 Smith Avenue
Kingston, NY 12401

RE: FAD Related Stormwater Control CRO-420 inquiry, **CH 5690**
Drewville Road
Carmel (T), Putnam (C)

Dear Ms. Mandarino:

Based upon our review of your inquiry received March 9, 2015, we offer the following comments:

PROTECTION OF WATERS
The following stream is located within or near the site you indicated:

Name	Class	DEC Water Index #	Status
Tributary of Croton Falls Reservoir	[A]	H-31-P 44-23-P 59-4	[Protected]

- A Protection of Waters permit is required to physically disturb the bed or banks (up to 50 feet from stream) of any streams identified above as "protected."

- The U.S. Army Corps of Engineers regulates the placement of fill and the construction of certain structures in waterways and wetlands. Please contact the U.S. Army Corps of Engineers, telephone (917) 790-8411 for any permitting they might require.

If a permit is not required, please note the project sponsor is still responsible for ensuring that work shall not pollute any stream or waterbody. Care shall be taken to stabilize any disturbed areas promptly after construction, and all necessary precautions shall be taken to prevent contamination of the stream or waterbody by silt, sediment, fuels, solvents, lubricants, or any other pollutant associated with the project

FRESHWATER WETLANDS
- Your project/site is near or in Freshwater Wetland **LC-63**, Class **1**. Be aware that a Freshwater Wetlands permit is required for any physical disturbance within these boundaries or within the 100 foot adjacent area. To have the boundary delineated, please contact Jonathan Russell in the Bureau of Habitat at (845) 256-3087.

From submitted information, it appears that portions of the proposed project would be located within Freshwater Wetland LC-63 and its 100-foot adjacent area. Please note that the applicant will be required by DEC to demonstrate that the project meets the permit issuance standards contained in the Freshwater Wetland Permit Requirements Regulations (6 NYCRR Part 663.5; copy available on-line at http://www.dec.ny.gov/regs/4613.html).

STATE-LISTED SPECIES

- No records of currently listed species were identified by this review

- DEC has reviewed the State's Master Habitat Databank (MHDB) records. We have determined that the proposed project area is located in or near records of the species Northern long-eared bat (*Myotis septentrionalis*). Although this species is not currently listed on either the NYS endangered or threatened species list, please note that this species has been proposed to be listed as a federally threatened species, and protection of this species through NYSDEC's implementation of Article 11, Title 5, Section 535 of the Environmental Conservation Law, Threatened and Endangered Species may occur within the near future. These regulations are expected to take effect in April of 2015.

  Therefore, the Department recommends application of the interim guidance on Northern Long-eared bats, available at http://www/fws/gov/midwest/endangered/mammals/nlba. Specifically, the Department recommends that all tree clearing take place between October 31st and March 31st (of any given year) to avoid impacts to Northern long-eared bats. If this tree clearing cannot be conducted within the above stated time frames, the applicant should contact this office for further discussion of reducing impacts to the bats and the impending regulations in relation to the project. For further information, please contact Lisa Masi of Wildlife at (845) 256-2257.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

OTHER

Please note that this letter only addresses the requirements for the following permits from the Department:

- ❒ Protection of Waters
- ❒ Freshwater Wetlands
- ❒ Master Habitat Databank

Other permits from this Department or other agencies may be required for projects conducted on this property now or in the future. Also, regulations applicable to the location subject to this determination occasionally are revised and you should, therefore, verify the need for permits if

your project is delayed or postponed. This determination regarding the need for permits will remain effective for a maximum of one year unless you are otherwise notified. Applications may be downloaded from our website at www.dec.ny.gov under "Programs" then "Division of Environmental Permits."

Please contact this office if you have questions regarding the above information. Thank you.

Sincerely,

Ashley Wilson
Division of Environmental Permits
Region 3, Telephone No. 845/256-3050

Ecc: Danielle Iuliucci diuliucci@gfnet.com
Lisa Masi
Jonathan Russell

NOTE: Regarding erosion/sediment control requirements:
Stormwater discharges require a SPDES Stormwater permit from this Department if they either:

- occur at industrial facilities and contain either toxic contaminants or priority pollutants OR
- result from construction projects involving the disturbance of 5000 square feet or more of land within the NYC Department of Environmental Protection East of Hudson Watershed, or the disturbance of 1 acre or more of land (outside the NYC DEP Watershed)

Your project may be covered by one of two Statewide General Permits or may require an individual permit. When other DEC permits are required, the Stormwater Pollution Prevention Plan (SWPPP) required by the SPDES General Permit must be submitted along with the permit application for concurrent review. Authorization for coverage under the SPDES General Permit is not granted until approval of the SWPPP and issuance of the other necessary DEC permits.

For information on stormwater and the general permits, see the DEC website at http://www.dec.ny.gov/chemical/8468.html. If this site is within an MS4 area (Municipal Separate Storm Sewer System), the stormwater plan must be reviewed and accepted by the municipality and the MS-4 Acceptance Form must be submitted to the Department. If the site is not within an MS4 area and other DEC permits are required, please contact the regional Division of Environmental Permits.

New York State Department of Environmental Conservation

New York Natural Heritage Program

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

May 26, 2010

Jennifer Farmwald
New York City Department Environmental Protection
59-17 Junction Blvd
Flushing, NY 11373

Dear Ms. Farmwald:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Filtration Avoidance Determination Related Stormwater Control, Project CAT-232, site as indicated on the map you provided, located on Drew Avenue, Town of Carmel, Putnam County.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g. regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Tara Salerno gp

Tara Salerno, Information Services
New York Natural Heritage Program # 538

Enc.
cc: Reg. 3, Wildlife Mgr.
Reg. 3, Fisheries Mgr.

Natural Heritage Report on Rare Species and Ecological Communities

NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

HISTORICAL RECORDS

The following plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier.
There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown and therefore location maps are generally not provided.
If appropriate habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there.

Natural Heritage Report on Rare Species and Ecological Communities

VASCULAR PLANTS

Liparis liliifolia

Large Twayblade

Office Use 8701

NY Legal Status: Endangered
Federal Listing:
Last Report: 1961-06-17

NYS Rank: S1 - Critically imperiled
Global Rank: G5 - Secure
EO Rank: Historical, no recent information

County: Putnam
Town: Carmel
Location: Croton Falls Reservoir
Directions: The plant was collected from dripping shaded ledges along the road near Croton Falls Reservoir.
General Quality and Habitat: The dripping shaded ledges along a road near a reservoir.

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1 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at http://www.natureserve.org/explorer, from NYSDEC at http://www.dec.ny.gov/animals/7494.html (for animals), and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Environmental Protection

Carter H. Strickland, Jr.
Commissioner

Angela Licata
Deputy Commissioner
alicata@dep.nyc.gov

59-17 Junction Blvd.
Flushing, New York 11373

Tel. (718) 595-4398
Fax (718) 595-4479

September 12, 2011

NYS Department of Environmental Conservation
DFWMR - New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

RE: Request for Concurrence With NYNHP Data
NYCDEP CAT-232: FAD Related Stormwater Control
Drewville Road Water Quality Facility
Town of Carmel, Putnam County, New York

Dear Sir or Madam:

In May 2010 the New York State Department of Environmental Conservation New York Natural Heritage Program (NYSDEC NYNHP) conducted a review of the above referenced project in regards to the potential impact/effect on rare/ threatened/endangered species and significant natural communities on or in the vicinity of the project site. A copy of the NYNHP's review letter, dated May 26, 2010 is attached.

NYNHP determined that the endangered plant, the Large Twayblade orchid (Liparis Liliifolia) was documented in the vicinity of the project site on June 17, 1969. The NYNHP review letter also indicates that there is no recent information on the large Twayblade in the vicinity of the project site, and its current status is unknown.

On April 26 and May 13, 2011, Deborah Layton of the New York City Department of Environmental Protection conducted two site surveys to determine the presence of the Large Twayblade in the project vicinity. Based on the site surveys, no evidence of the Large Twayblade was observed at the project site or in its immediate vicinity.

The purpose of this letter is to notify the NYNHP that site surveys have been conducted and to request for NYNHP concurrence that this project would not impact the Large Twayblade or any other rare/threatened/endangered species on or in the vicinity of the project site.

Please respond to me at the New York City Department of Environmental Protection Bureau of Environmental Planning and Analysis, 59-17 Junction Boulevard, 11th Floor, Flushing, NY 11373. Should you have any questions regarding this project, please feel free to contact me at (718) 595-3287 or via email at jfarmwald@dep.nyc.gov.

Sincerely,

Jennifer Farmwald,
Project Manager

Enclosures

c: Zaidoun Ereifej – NYCDEP
Deborah Layton – NYCDEP
Michael Usai – NYCDEP
Eric Lochner – HDR-Gannett JV
Jesse Horsford – HDR-Gannett JV
Theresa Albanese – HDR-Gannett JV
Jeff Kitt – HDR-Gannett JV

New York State Department of Environmental Conservation Joe Martens, Commissioner

Division of Lands & Forests
Forest Health and Protection, 5th Floor
625 Broadway, Albany, New York 12233-4253
Phone: (518) 402-9425 • **FAX:** (518) 402-9028
Website: www.dec.state.ny.us

November 1, 2011

Jennifer Farmwald
New York City Dept. of Environmental Protection
59-17 Junction Blvd
Flushing, NY 11373

Dear Ms. Farmwald:

In response to your letter of September 12, 2011, concerning NYC DEP CAT-232: FAD Related Stormwater Control Drewville Road Water Quality Facility, site as indicated on the map you provided, located in the Town of Carmel, Putnam County, we have reviewed the information provided in your letter. Based on the description of the project vicinity, and on the description of the work to be performed, it is unlikely that the project will have any negative impact on any rare or listed plants or animals, provided that the work is confined to the project site area.

While the NY Natural Heritage Program can report that it does not have any concerns about the proposed projects' impact on rare plants and animals, it does not have any regulatory or permitting authority, and so cannot provide any official determination as to any actions that are required or not required. Any such official determinations normally are done by the lead agency or permitting agency.

Sincerely,

Gerald A. Carlson,
Research Scientist 4
Chief, Forest Health and Protection
518-402-9419 or 9425 reception
jacarlso@gw.dec.state.ny.us

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

February 04, 2015

Maria Mandarino
NYC Department of Environmental Protection
71 Smith Avenue
Kingston, NY 12401

Re: Filtration Avoidance Determination-Related Stormwater Control Project (CR0-420) -- Drewville Road Water Quality Facility
Town/City: Carmel. County: Putnam.

Dear Maria Mandarino :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site. Our database does not contain documentation of Bald Eagle nesting areas within 0.5 mi of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

The following state-listed animals have been documented in the vicinity of your project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing. The list may also include significant natural communities that can serve as habitat for Endangered or Threatened animals, and/or other rare animals and rare plants found at these habitats.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

The following species have been documented within 2 mi of the project site. Individual animals may travel 5 mi from documented locations.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Mammals				
Northern Long-eared Bat *Hibernaculum*	*Myotis septentrionalis*	Unlisted	Candidate	14144

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants and rare animals have historical records in the vicinity of your project site.

The following rare plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*
Vascular Plants			
Large Twayblade	*Liparis liliifolia*	Endangered	Critically Imperiled in NYS

1961-06-17: The dripping shaded ledges along a road near a reservoir. 8701

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

U.S. Fish and Wildlife Service

New York Field Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2015-SLI-0267 March 16, 2015
Event Code: 05E1NY00-2015-E-01659
Project Name: FAD-Related Stormwater Control at Drewville Road, Town of Carmel

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: http://www.fws.gov/northeast/nyfo/es/section7.htm

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Official Species List

Provided by:

New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
(607) 753-9334
http://www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2015-SLI-0267
Event Code: 05E1NY00-2015-E-01659

Project Type: LAND - PRESERVATION

Project Name: FAD-Related Stormwater Control at Drewville Road, Town of Carmel
Project Description: The NYCDEP is proposing to construct improvements for controlling stormwater erosion within the Citys watershed in the Town of Carmel, New York. The project is part of the Citys efforts to comply with the USEPAs Filtration Avoidance Determination; the Citys water quality standards will be protected by reducing the amount of sediment and other pollutants entering the Croton Falls Reservoir as stormwater runoff from Drewville Road. Approximate disturbance will be limited to 2 acres or less.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-73.6654741 41.3897815, -73.6649634 41.3892785, -73.6653303 41.3886643, -73.6669911 41.3881516, -73.6670029 41.3885057, -73.666106 41.3889806, -73.6660727 41.3896688, -73.6654741 41.3897815)))

Project Counties: Putnam, NY

Endangered Species Act Species List

There are a total of 4 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	**Status**	**Has Critical Habitat**	**Condition(s)**
Indiana bat *(Myotis sodalis)* Population: Entire	Endangered		
New England Cottontail rabbit *(Sylvilagus transitionalis)*	Candidate		
northern long-eared Bat *(Myotis septentrionalis)*	Proposed Endangered		
Reptiles			
Bog Turtle *(Clemmys muhlenbergii)* Population: northern	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

ATTACHMENT 5
SPECIES CONCLUSIONS TABLE

Species Conclusions Table

Project Name: FAD-Related Stormwater Control at Drewville Road

Date: April 20, 2015

Species Name/Critical Habitat	Potential Habitat Present?	Species Present?	Critical Habitat Present?	ESA / Eagle Act Determination	Notes / Documentation Summary (include full rationale in your report) References are provided below this table, cited by reference number.
Indiana bat (*Myotis sodalis*)	Yes (summer)	No current survey conducted	Not applicable	May be affected by the proposed project	Indiana bats hibernate in caves between October and April and migrate to summer roosting sites between March and May[1,5]. In summer, the bats prefer exfoliating bark and sometimes tree cavities[1,5]. Potential summer roosting habitat includes live trees and/or snags at least 5 inches dbh with exfoliating bark or cracks[2]. Although species is not as important as structure[1], shagbark and bitternut hickories, black locusts, and sugar maples are among potential roost species preferred by Indiana bats[3]. Primary roosting trees are located in canopy gaps and forest edges receiving direct sunlight throughout the day[1]. Trees used for maternity roosts are typically larger than 8 inches dbh[1]. Of the 159 trees proposed for removal, six (6) are hickory trees between 12 and 20 inches dbh. An additional 11 trees within the action area will be protected, consisting of ash, birch, and maple species ranging from 6 to 32 inches dbh. There are no black locusts present within the action area. None of the trees to be removed are dead snags, but they may exhibit other characteristics preferred by Indiana bats. The tree clearing associated with the proposed project may impact potential Indiana bat roosting habitat.
New England cottontail rabbit (*Sylvilagus transitionalis*)	No	Not applicable	Not applicable	No effect	New England cottontail rabbits prefer early successional habitat with thick and tangled vegetation[4]. In later successional habitats, forest canopy causes the understory shrub layer to become less dense, reducing the suitability of the habitat for New England cottontail rabbits[4]. The rabbits choose foraging habitat for the presence of grasses and plant leaves in summer and the presence of bark and twigs in winter[4]. Habitat patches greater than 12 acres are more suitable for New England cottontail rabbits than areas less than 7 acres in size[4]. The action area consists mainly of deciduous forest and no shrublands are present in the vicinity. The proposed project is unlikely to affect New England cottontail rabbits since potential habitat is not present in the action area.

Species Name/Critical Habitat	Potential Habitat Present?	Species Present?	Critical Habitat Present?	ESA / Eagle Act Determination	Notes / Documentation Summary (include full rationale in your report) References are provided below this table, cited by reference number.
Northern long-eared bat (*Myotis septentrionalis*)	Yes (summer)	No current survey conducted	Not applicable	May be affected by the proposed project	Northern long-eared bats generally have the same habitat preferences as Indiana bats[5]. Northern long-eared bats hibernate in caves from as early as September to as late as May and migrate to summer roosting sites between March and May[5]. Northern long-eared bats are more plastic than Indiana bats, using artificial roosts and roosting in tree cavities with more frequency[5,6]. They prefer the same tree species used by Indiana bats and have been known to roost in trees as narrow as 3 inches dbh[5]. Of the 159 trees proposed for removal, six (6) are hickory trees between 12 and 20 inches dbh. An additional 11 trees within the action area will be protected, consisting of ash, birch, and maple species ranging from 6 to 32 inches dbh. There are no black locusts present within the action area. None of the trees to be removed are dead snags, but they may exhibit other characteristics preferred by northern long-eared bats. The tree clearing associated with the proposed project may impact potential northern long-eared bat roosting habitat.
Bog turtle (*Clemmys [=Glyptemys] muhlenbergii*)	No	Not applicable	Not applicable	No effect	Bog turtle habitat generally consists of open-canopy, pristine meadows and wetland-stream mosaics[7]. The diversity within this preferred habitat provides opportunities to find food, nest, absorb solar energy, and hibernate, all in the same area[7]. The action area does not contain the dominant wet meadow habitat type preferred by bog turtles. The vegetation in the action area is dominated by forest and lacks the herbaceous species typically associated with bog turtle habitat. The soils in the action area are mapped as being loamy with little organic matter, unlike preferred bog turtle habitat. Field investigations determined that a Phase 1 habitat assessment would not be necessary as the vegetation, soils, and hydrology indicators for bog turtle habitat were not present. The project is not expected to disturb bog turtles as potential habitat is not present within the action area.

Species Name/Critical Habitat	Potential Habitat Present?	Species Present?	Critical Habitat Present?	ESA / Eagle Act Determination	Notes / Documentation Summary (include full rationale in your report) References are provided below this table, cited by reference number.
Bald Eagle (*Haliaeetus leucocephalus*)	Yes	No current survey conducted	Not applicable	Unlikely to disturb nesting Bald Eagles	Spring and summer Bald Eagle habitat includes tall perching sites surrounding open waterbodies that contain their preferred fish diet[8]. Bald Eagles build nests in mature and old-growth trees, snags, cliffs, and artificial structures[9], returning to the same nest each year[8]. In New York, Bald Eagles typically build nests December through February, lay and incubate eggs February through May, rear young March through June, and fledge young May through August. In winter, the eagles migrate south or toward coastal areas to maintain their fish diet in unfrozen waters[9]. Human activity in the vicinity of Bald Eagle nests or habitat can reduce chances of survival for young and adult eagles, although the severity of individual responses can vary[9]. The USFWS Trust Resources List identified Bald Eagles as a migratory bird of concern that may be affected by the proposed project; the seasonal occurrence in the action area was listed as year-round. The NYNHP database did not contain documentation of Bald Eagle nesting areas within 0.5 mile of the action area and NYSDEC R3 records did not identify any state-listed species in the vicinity of the action area; however, DEP has recorded foraging and roosting Bald Eagle activity along the shoreline of the Croton Falls Reservoir. Although there are no confirmed nesting pairs within the vicinity of the action area, the presence of forest (dominant trees include sugar maple, red maple, white oak, ash, tulip poplar, hickory species, and black birch) in close proximity to the Croton Falls Reservoir indicates the area has the potential to provide suitable nesting habitat for Bald Eagles. The proposed project is unlikely to disturb nesting Bald Eagles because the action area is not within 0.5 mile of potential nesting habitat and no Bald Eagle nests have been documented in its vicinity.

References

1. Indiana Bat Project Review Fact Sheet. 2012. USFWS New York Field Office. https://www.fws.gov/northeast/nyfo/es/Ibat%20fact%20sheet2012.pdf
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Emailed 06/29/2015

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

June 29, 2015

Mr. Christopher A. Nadareski
Section Chief, Wildlife Studies Section
New York City Department of Environmental Protection
71 Smith Avenue
Kingston, NY 12401

Dear Mr. Nadareski:

This letter is in response to your April 20, 2015, letter regarding the New York City Department of Environmental Protection (NYCDEP) FAD-Related Stormwater Control (CRO-420), Drewville Road Water Quality Facility, Town of Carmel, Putnam County, New York. Additional information was provided in an electronic mail dated June 16, 2015, from Ms. Jillian Arnold, of Gannett Fleming, Inc. The project is located adjacent to the Croton Falls Reservoir and involves the installation of a stormwater detention system consisting of a forebay, a micropool, and a diversion and riser boxes. The project also includes the reconstruction and riprap lining of a roadside ditch and removal and replacement of an existing 24-inch culvert.

As you are aware federal agencies have responsibilities under Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to consult with the U.S. Fish and Wildlife Service (Service) regarding projects that may affect federally-listed species or designated critical habitat, and confer with the Service regarding projects that are likely to jeopardize federally-proposed species and/or adversely modify proposed critical habitat. We understand that the U.S. Army Corps of Engineers (Corps) will be acting as lead federal agency for this project and that Nationwide Permits 33 (Temporary Construction, Access and Dewatering) and 43 (Stormwater Management Facilities) will be needed. Therefore, please make sure to forward any correspondence regarding this project to the Corps so they can make a final determination of effects.

The following comments are submitted pursuant to our authorities under ESA. This response does not preclude additional Service comments under other legislation.

Endangered Species Act

There are three species that are known or are likely to occur in Putnam County that are federally-listed under the ESA – the bog turtle (*Clemmys* [=*Glyptemys]* *muhlenbergii*; Threatened), the northern long-eared bat (*Myotis septentrionalis*; Threatened), and the Indiana bat (*Myotis sodalis*; Endangered). The New England cottontail (*Sylvilagus transitionalis*), which is a candidate for federal listing, is also known within the county.

The NYCDEP has determined that the project will have "no effect" on the bog turtle or the New England cottontail due to the lack of suitable habitat present within or near the project area.

The NYCDEP also has determined that the project "may affect, but will not likely adversely affect" the northern long-eared bat and the Indiana bat as suitable roosting habitat was found among 159 trees that are proposed to be removed between October 31 and March 31 as a result of this project. As stated above, please forward the project information to the Corps for their final determination and consultation with the Service.

The Service also encourages incorporation of the following conservation measures to further minimize potential impacts to both bats species:

- Bright orange construction fencing and flagging will be used to demarcate trees to be protected compared with those to be cut prior to the initiation of any construction; and

- Artificial dyes, coloring, insecticide, algaecide, and/or herbicides will not be used on the ground for long-term maintenance of the property, especially near open water.

The most recent compilation of federally-listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.*

Any additional information regarding the proposed project and its potential to impact listed species should be coordinated with both this office and with the New York State Department of Environmental Conservation.

Thank you for the opportunity to review and comment on this project. If you require additional information or assistance please contact Noelle Rayman at (607) 753-9334. Future correspondence with us on this project should reference project file 15TA0716.

Sincerely,

ACTING FOR David A. Stilwell
Field Supervisor

*New York Field Office Website: http://www.fws.gov/northeast/nyfo/

cc: Gannett Fleming, Inc., Camp Hill, PA (D. Iuliucci/J. Arnold)
NYSDEC, New Paltz, NY (Env. Permits/L.Masi-Wildlife)
NYSDEC, Albany, NY (Wildlife Diversity Section)
COE, New York, NY (C. Mallory)

APPENDIX D

PLANNED AVOIDANCE AND MINIMIZATION

CRO-420 FAD-Related Stormwater Control/Management at Drewville Road

Planned Avoidance and Minimization Measures

Proposed efforts to avoid, minimize, and compensate for adverse impacts associated with this project are described below. The CRO-420 Drewville Road project proposes unavoidable impacts after avoidance and minimization means were employed. Appropriate best management practices will be used where necessary.

VEGETATION MEASURES

Tree Removal Information

Under the current design, approximately 197 trees are proposed to be removed. Table 1 below presents a summary of this information; additional details can be found in **Appendix E** and the site inspection report from the Town forester is included in **Appendix I**.

Table 1. Tree Removal Summary

Species of trees to be removed	Number of trees to be removed	Diameter at breast height (dbh) of trees to be removed (inches)
Maple	159	6 to 44
Ash	23	6 to 40
Birch	8	6 to 24
Elm	3	6 to 8
Hickory	2	12
Magnolia	1	6
Cherry	1	14
Total	197	--

All trees to be removed are located within the Limit Of Disturbance (LOD), including areas to be graded, as shown on plans included in **Appendix E**. Approximately 11 of the total trees to be removed are within the DEC-mapped wetland limits. Approximately 145 of the total trees to be removed are within the wetland-adjacent area. Each tree to be removed will be designated with distinctive means at two readily-visible points; one point will be low enough on the tree so as to be visible on the stump after tree removal. The tree removal process will include cutting trees in

the project area, transporting fallen trees to the contractor's staging area for temporary storage, and loading fallen trees for transport to an approved off-site facility. Cut trees and brush are expected to be removed daily.

In accordance with recommendations from the New York State Department of Environmental Conservation (NYSDEC) Region 3 Division of Environmental Permits, provided in **Appendix C**, all tree removal will occur between October 31 and March 31 to avoid impacting northern long-eared bats, which are on record as being in the vicinity of the project area. Additional information regarding rare, threatened, and endangered species can be found in the State Environmental Quality Review Assessment in **Appendix J** and in the U.S. Fish and Wildlife (USFWS) consultation request package and response included in **Appendix C**.

Construction fence, protective fence, and/or other approved techniques will be used to protect trees that are scheduled to be avoided during the proposed work.

Vegetation Restoration Information

To compensate for the permanent loss of trees and disturbance to PFO wetlands, an extensive restoration plan is proposed that will include plantings of native trees, shrubs, and herbaceous plants; this plan, summarized below and presented in **Appendix F**, will replicate pre-existing vegetative conditions and reestablish wetland area functions and values. Native wetland trees and shrubs will be planted and permitted to naturalize to re-establish some of the wetland overstory that will be disturbed by the proposed project. The proposed improvements to stormwater control offset the unavoidable disturbances. Success of the reforestation plantings will be evaluated through implementation of a monitoring schedule that will include maintenance and replacements as needed.

The restoration of the project site will be divided into distinctive planting zones as depicted in **Appendix F**. Zone A includes the area surrounding the facility, Zone B includes the micropool (B-1 is the inner area of the micropool and B-2 is the outer micropool area), Zone C includes the aquatic bench surrounding the micropool, Zone D includes the forebay, Zone E includes the area between the micropool and forebay, Zone F includes the temporary disturbance areas, and Zone G includes areas to be graded. The below Table 2 summarizes the proposed plantings by vegetation category. Species are listed by zone within **Appendix F**.

Table 2. Tree Removal Summary

Vegetation category	Species		Total number of plantings
Trees	Swamp white oak Sugar maple Red maple White oak American elm	Black/sweet birch Tuliptree Flowering Dogwood Hornbeam Shadbush	118
Shrubs	Gray dogwood Winterberry holly Witch hazel Arrowwood Winterberry holly	Spicebush Hazelnut Elderberry Red-osier dogwood Pussy willow	113
Ferns	Christmas fern	New York fern	50
Herbs	Softstem bulrush Hardstem bulrush Pickerelweed White lily Common three-square	Lesser bur-reed Sweetflag Blue flag iris Tussock sedge	1,009

A few of the zones will receive applications of seeds derived from seed mixes. Additional information can be found in **Appendix F**, which includes planting and soil specifications.

WETLAND AND WATERCOURSE MEASURES

Design Information

In order to address the Town of Carmel concerns regarding visual impacts, the proposed stormwater detention system was design to be located farther from Drewville Road and closer to the Croton Falls Reservoir. This position, encroaching further into wetlands, was approved by the Town of Carmel Planning Board in May 2013.

Location Information

The purpose of the proposed project, as described in the Project Narrative (**Section 2**), can only be met if the stormwater detention system is located between the Croton Falls Reservoir and Drewville Road, as shown on Drawing C-03 in **Appendix B**. This location contains freshwater wetlands and watercourses as described and mapped in **Appendix G**; a NYSDEC Class 1 Freshwater Wetland designated LC-63 is located in the vicinity of the project area, as depicted in

the NYSDEC Freshwater Wetlands Map provided in **Appendix G**. Class 1 wetlands include those adjacent to water bodies used primarily for public water supply, which applies to the Reservoir. The NYSDEC regulates this wetland along with its 100-foot adjacent area (see NYSDEC correspondence in **Appendix C**).

A protected NYSDEC Class A tributary of Croton Falls Reservoir is also located in the vicinity of the project area. The Class A designation is applied to streams that are tributary to New York City (NYC) water supply impoundments on NYC-owned land (6 NYCRR Part 864.4). The NYSDEC regulates this watercourse and its banks. The approximate location of the protected stream is indicated on the Stream Location Map in **Appendix G**.

DEP-delineated wetland and watercourse boundaries were approved and certified by NYSDEC; these boundaries and the NYSDEC certification block are included in **Appendix G**.

Impacts Information

The proximity of the proposed stormwater detention system to the Reservoir and its adjacent wetlands will create disturbances to the wetlands. The total permanent and temporary impacts to DEC-verified Palustrine Forested (PFO) wetlands is approximately 3,293 square feet (0.08 acre) and to wetland-adjacent areas is approximately 48.053 square feet (1.11 acre). Table 3 presents a summary of the permanent and temporary impacts:

Table 3. Wetlands and Adjacent Wetlands Area Impacts

NYSDEC -verified feature	Permanent impacts		Temporary impacts		
	Cause of disturbance	ft^2 (acre)	Cause of disturbance	ft^2 (acre)	ft^2 (acre)
PFO Wetlands	Grading and installation of outlet & bypass channels	2,225 (0.05)	Use of turbidity curtain & silt fence	1,068 (0.03)	3,293 (0.08)
100-foot Adjacent Area	Grading and installation of forebay, micropool, outlet & bypass channels, and access road	46,415 (1.07)	Use of silt fence	1,638 (0.04)	48,053 (1.11)

Impact Compensation Information

In a July 2014 initial consultation, NYSDEC stated that the preliminary wetland and wetland-

adjacent disturbance areas were minor and approved the wetland plantings within the proposed stormwater detention system as compensation for the impacts associated with this project. Wetland plantings are proposed within the forebay, micropool, aquatic bench, and area surrounding the micropool and forebay, for a total area of 12,515 square feet. The ratio between wetland impacted area of 2,225 square feet and wetlands mitigation area (zones B, C, D, and E) of 12,515 square feet is approximately 6:1.

In the May 7, 2015 Environmental Conservation Board meeting, the Town of Carmel requested mitigation be developed for the freshwater wetland impacts based on the requirements set for in Chapter 89 (Freshwater Wetlands), Subchapter 13 (Mitigation of Impact) of the Town Code. Chapter 89 suggests wetland benefits be enhanced or maintained to increase the likelihood of meeting the standards for Town Wetland Permit issuance. Any mitigation must occur on or in the immediate vicinity of the project site, result in Town-regulated features upon completion of the mitigation, and result in substantially the same or more benefits than those lost.

Based on the landscape position of the existing fresh water wetlands, it was determined that its function is to store and filter stormwater prior of entering the Croton Falls Reservoir. The CRO-420 Drewville Road project will meet the requirements of the Town Code with the installation of the proposed drainage system which will enhance the stormwater retention and filtration function of the wetland areas to be impacted.

The native freshwater wetland plantings proposed in and around the micropool and forebay areas (Zones B, C, D, and E) will be permitted to naturalize, resulting in created wetland habitat. Upon project completion and wetland habitat establishment, the area in and around the micropool and forebay will be considered wetland habitat and will therefore be regulated by the Town. The proposed compensation exceeds the conditions requested by the Town.

Even though all impacts fall within the proposed LOD, some of the proposed plantings fall outside of it. Table 4 summarizes the mitigation areas with associated plantings and type of habitat that will be developed:

Table 4. Proposed Mitigation

Planting zone	Area	Plantings	Habitat	Area (square feet)	Total wetland area (square feet)
A	Within LOD	Trees, shrubs, ferns	Upland	28,875	0
A	Outside LOD			25,832	0
B-1	Inner micropool	Herbaceous	PEM Wetland	480	480

Planting zone	Area	Plantings	Habitat	Area (square feet)	Total wetland area (square feet)
B-2	Outer micropool	Herbaceous	PEM Wetland	796	796
C	Micropool Aquatic Bench	Shrubs	PSS Wetland	1,360	1,360
D	Forebay	Herbaceous	PEM Wetland	1,342	1,342
E	Around forebay & micropool	Seeding	PEM Wetland	8,537	8,537
F	Disturbed areas	Seeding	Upland	7,056	0
G	Slopes	Trees & shrubs & seeding	Upland	14,437	0
Total					**12,515**

PEM= Palustrine Emergent
PSS= Palustrine Scrub-Shrub

Best management practices (BMPs), such as marking the LOD on the field to prevent any impacts from occurring outside this boundary, erecting silt fence and a turbidity barrier to prevent sediment from entering surface water, and protecting trees not proposed for removal, will be implemented to avoid unnecessary impacts. In addition, soil erosion and sediment control, stormwater management, air quality, traffic management, and noise disturbance BMPs will be utilized.

Monitoring Information

In order to verify that the areas with proposed wetland plantings have been established as wetland habitat, DEP will monitor the project area through the first two growing season. At the end of the first two years, DEP will submit a status report with photographs to USACE, NYSDEC, and the Town to document the conditions of the restoration areas. If it is evident that wetland habitat has been established after the end of these growing seasons, the compensation associated with the CRO-420 project will be deemed complete. If, at the end of these growing seasons, wetland habitat is not present in the forebay and micropool areas, DEP will develop alternate plans to achieve this.

APPENDIX E
TREE REMOVAL INFORMATION

NOTES:

1. REFER TO SHEET C–12 FOR TREE REMOVAL SCHEDULE.
2. CONTRACTOR SHALL TAKE MEASURES TO PROTECT TREES AND DRIPLINE OUTSIDE OF THE LIMIT OF DISTURBANCE WITH ORANGE CONSTRUCTION FENCING. SEE DETAIL ON SHEET C–10 FOR TREE PROTECTION AND DETAIL ON SHEET G–04 FOR ORANGE CONSTRUCTION FENCING. TREE PROTECTION TO BE COORDINATED WITH DEP FORESTER.
3. ANY TREES OR TREE BRANCHES WHICH ARE NOT SHOWN ON THE SITE WORK TO BE REMOVED, AND THAT WOULD INTERFERE WITH THE CONSTRUCTION WORK SHALL BE TIED BACK TOWARD THE CENTER OF THE TREE TO PREVENT INJURY TO IT.
4. ANY ACCIDENTAL INJURY TO THE TREES SHALL BE REPAIRED BY COMPETENT TREE SURGEON TO THE SATISFACTION OF THE ENGINEER AT NO EXTRA COST TO NYCDEP. REPAIR MAY INCLUDE PRUNING, FERTILIZER APPLICATION, AND/OR REPLANTING.
5. TREE REMOVAL MUST BE COORDINATED WITH THE DEP FORESTER.
6. ALL FELLED TREES SHALL BE REMOVED FROM THE SITE IMMEDIATELY.
7. FALLEN/DEAD TREES WITHIN THE CLEARING LIMITS ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL ALL SUCH TREES.

CROTON FALLS RESERVOIR

LIMIT OF DISTURBANCE

LC–63 WETLAND BOUNDARY

NYSDEC WETLANDS 100 FOOT ADJACENT AREA BOUNDARY

LC–63 WETLAND BOUNDARY

STONE WALL

STONE WALL

STONE WALL

STONE WALL

STONE WALL

EXISTING GRASS ROAD

DRIVEWAY

CREEK

GUIDE RAIL

DREWVILLE ROAD

0 30
Scale In Feet

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	01/15	
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

DRAWN	SCALE
LK	1"=30'
DESIGNED	JOB No.
MS	48649.W012
APPROVED	DATE
SH	JAN. 2015

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO–420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
TREE REMOVAL PLAN

SHEET No.
C–11

TREE REMOVAL SCHEDULE

#	TREE TAG	DESCRIPTION
1	15-002	6" MAPLE
2	15-003	10" MAPLE
3	15-004	10" MAPLE
4	15-005	10" MAPLE
5	15-006	10" MAPLE
6	15-007	18" MAPLE
7	15-008	8" MAPLE
8	15-009	10" MAPLE
9	15-010	10" ASH
10	15-011	14" MAPLE
11	15-012	8" MAPLE
12	15-013	12" MAPLE
13	15-014	14" MAPLE
14	15-015	12" MAPLE
15	15-016	14" MAPLE
16	15-017	10" MAPLE
17	15-018	10" MAPLE
18	15-019	6" MAPLE
19	15-021	16" MAPLE
20	15-022	8" ASH
21	15-023	6" MAPLE
22	15-024	8" ASH
23	15-025	10" MAPLE
24	15-028	10" MAPLE
25	15-030	6" MAPLE
26	15-031	12" HICKORY
27	15-032	12" HICKORY
28	15-033	10" MAPLE
29	15-034	10" MAPLE
30	15-035	24" ASH
31	15-036	8" MAPLE
32	15-037	18" MAPLE
33	15-038	8" ASH
34	15-039	14" ASH
35	15-040	6" MAPLE
36	15-041	16" ASH
37	15-042	20" MAPLE
38	15-043	14" ASH
39	15-044	6" ELM
40	15-045	16" ASH
41	15-046	6" MAPLE
42	15-047	6" MAPLE
43	15-048	8" MAPLE
44	15-050	10" MAPLE
45	15-053	8" MAPLE
46	15-055	20" MAPLE
47	15-056	6" MAPLE
48	15-057	10" MAPLE
49	15-058	12" ASH
50	15-059	8" MAPLE
51	15-062	8" MAPLE
52	15-063	24" MAPLE
53	15-064	10" MAPLE
54	15-068	10" MAPLE
55	15-070	10" MAPLE
56	15-071	22" MAPLE
57	15-072	18" MAPLE
58	15-073	24" MAPLE
59	15-074	18" MAPLE
60	15-075	20" MAPLE
61	15-076	8" MAPLE
62	15-077	16" MAPLE
63	15-078	6" MAPLE
64	15-080	12" MAPLE
65	15-082	10" MAPLE
66	15-083	10" BIRCH
67	15-084	12" MAPLE
68	15-085	10" MAPLE
69	15-086	8" MAPLE
70	15-088	40" ASH
71	15-090	16" MAPLE
72	15-096	6" MAPLE
73	15-097	28" MAPLE
74	15-098	28" MAPLE
75	15-099	8" ELM
76	15-100	8" MAPLE
77	15-101	10" MAPLE
78	15-102	10" MAPLE
79	15-103	40" ASH
80	15-104	36" MAPLE
81	15-106	6" MAPLE
82	15-107	12" MAPLE
83	15-108	16" MAPLE
84	15-114	10" MAPLE
85	15-116	12" MAPLE
86	15-119	6" MAPLE
87	15-122	6" MAPLE
88	15-125	28" MAPLE
89	15-126	8" MAPLE
90	15-128	12" MAPLE
91	15-129	6" MAPLE
92	15-130	8" MAPLE
93	15-131	8" MAPLE
94	15-132	10" MAPLE
95	15-133	6" MAPLE
96	15-137	14" MAPLE
97	15-138	8" MAPLE
98	15-140	8" ASH
99	15-141	8" MAPLE
100	15-142	6" MAPLE
101	15-144	8" MAPLE
102	15-145	8" MAPLE
103	15-146	8" MAPLE
104	15-147	6" BIRCH
105	15-148	6" MAPLE
106	15-149	8" MAPLE
107	15-150	10" MAPLE
108	15-151	6" MAPLE
109	15-152	44" MAPLE
110	15-153	18" ASH
111	15-154	6" MAPLE
112	15-155	8" MAPLE
113	15-156	22" BIRCH
114	15-161	22" MAPLE
115	15-160	6" MAPLE
116	15-162	8" MAPLE
117	15-159	8" MAPLE
118	15-163	8" MAPLE
119	15-164	24" BIRCH
120	15-165	8" MAPLE
121	15-166	8" BIRCH
122	15-168	12" BIRCH
123	15-169	6" MAPLE
124	15-170	6" MAPLE
125	15-171	12" ASH
126	15-173	6" ASH
127	15-174	10" MAPLE
128	15-175	10" MAPLE
129	15-176	6" MAPLE
130	15-177	6" ASH
131	15-178	8" BIRCH
132	15-180	6" MAPLE
133	15-181	8" MAPLE
134	15-182	6" MAPLE
135	15-183	12" MAPLE
136	15-184	14" MAPLE
137	15-185	6" MAPLE
138	15-186	10" MAPLE
139	15-187	14" MAPLE
140	15-189	6" MAPLE
141	15-190	6" MAPLE
142	15-192	6" MAPLE
143	15-193	6" MAGNOLIA
144	15-194	10" MAPLE
145	15-195	6" MAPLE
146	15-196	10" BIRCH
147	15-197	16" MAPLE
148	15-198	6" MAPLE
149	15-200	6" MAPLE
150	15-201	10" MAPLE
151	15-202	10" MAPLE
152	15-203	6" MAPLE
153	15-204	22" MAPLE
154	15-205	16" MAPLE
155	15-206	6" MAPLE
156	15-207	8" MAPLE
157	15-208	20" ASH
158	15-209	20" ASH
159	15-210	8" MAPLE
160	15-211	8" MAPLE
161	15-212	8" MAPLE
162	15-213	6" MAPLE
163	15-214	6" MAPLE
164	15-216	10" MAPLE
165	15-218	8" MAPLE
166	15-219	8" MAPLE
167	15-220	14" ASH
168	15-221	10" MAPLE
169	15-222	10" MAPLE
170	15-223	10" MAPLE
171	15-225	10" MAPLE
172	15-226	10" MAPLE
173	15-228	6" MAPLE
174	15-229	10" MAPLE
175	15-230	10" MAPLE
176	15-231	44" MAPLE
177	15-232	8" MAPLE
178	15-234	6" MAPLE
179	15-235	8" MAPLE
180	15-236	14" MAPLE
181	15-237	8" MAPLE
182	15-238	8" MAPLE
183	15-241	8" MAPLE
184	15-244	14" CHERRY
185	15-247	8" MAPLE
186	15-249	20" MAPLE
187	15-250	16" MAPLE
188	15-253	6" ELM
189	15-255	6" MAPLE
190	15-256	8" ASH
191	15-257	6" MAPLE
192	15-259	10" MAPLE
193	15-260	6" ASH
194	15-262	6" MAPLE
195	15-264	10" MAPLE
196	15-266	8" MAPLE
197	15-267	24" ASH

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	01/15	
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

DRAWN	SCALE
LK	NTS
DESIGNED	JOB No.
MS	48649.WO12
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A Joint Venture

PROJECT
CITY OF NEW YORK
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BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
TREE REMOVAL SCHEDULE

SHEET No.
C-12

APPENDIX F

VEGETATION RESTORATION INFORMATION

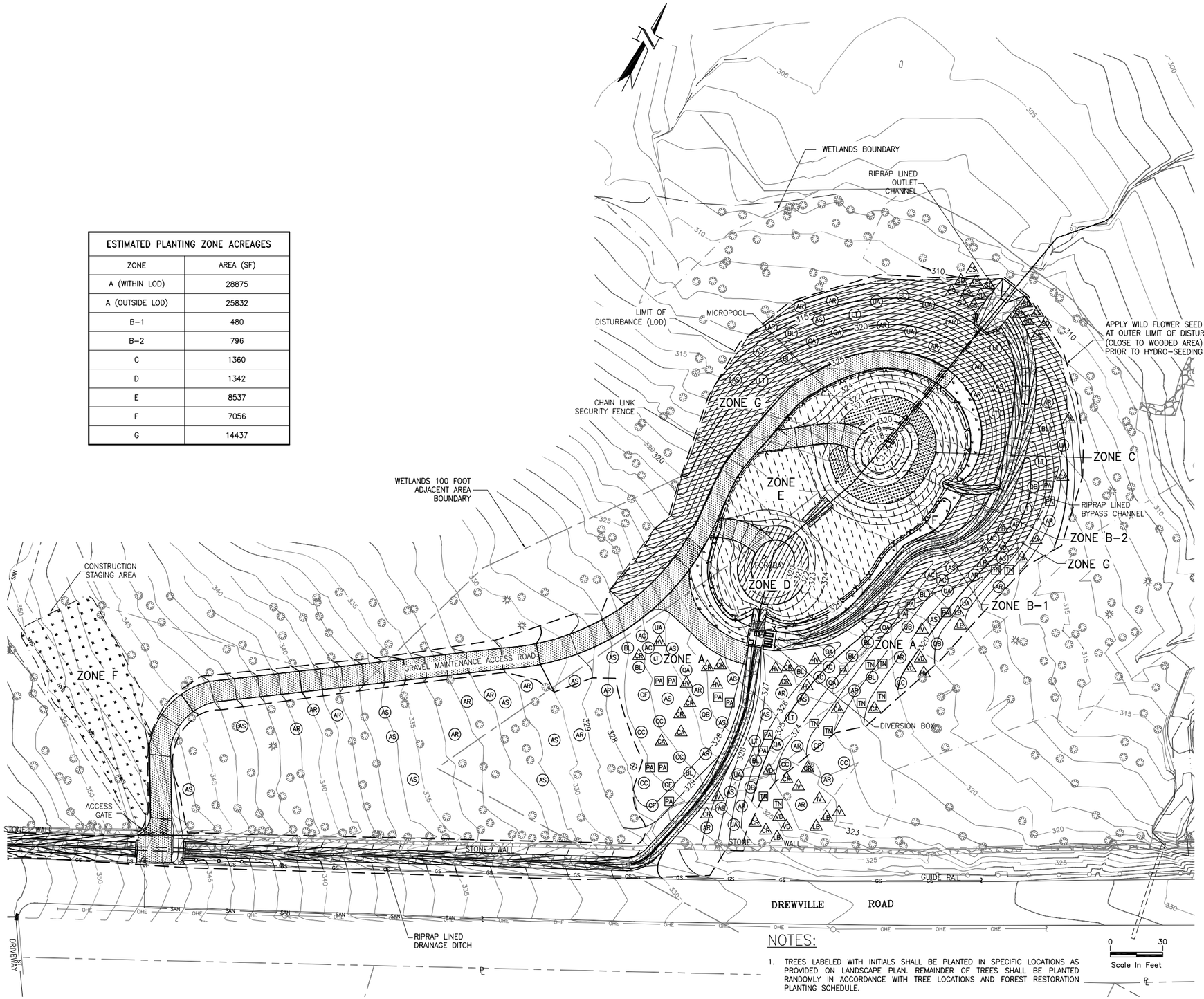
NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES AND DEVICES WILL BE IN PLACE PRIOR TO THE START OF CONSTRUCTION.
2. ALL CONSTRUCTION AREAS ARE TO BE SECURED FOR SAFETY WITH ORANGE CONSTRUCTION OR SILT FENCING.
3. THE CONSTRUCTION STAGING AREA WILL BE RESTORED TO ITS PRE-EXISTING CONDITION.
4. ALL WORK PERFORMED BY CONTRACTOR WILL BE IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS IN ACCORDANCE WITH THE APPROVED PLANS.
5. NO SURFACE AREA SOILS ARE TO REMAIN EXPOSED OR UNTREATED. A TEMPORARY SEED MIXTURE WILL BE APPLIED FOR DISTURBED AREAS THAT WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS OR WHEN WORK HAS BEEN POSTPONED FOR THE SEASON.
6. TEMPORARY SEEDING DATES: MARCH 1 – JUNE 15 AND AUGUST 1 – OCTOBER 15.
7. TEMPORARY VEGETATION STABILIZATION/TEMPORARY SEEDING: USE TILLER TO LOOSEN COMPACTED SOILS TO A DEPTH OF SIX (6) INCHES. PLACE LOAMY TOPSOIL WHERE NEEDED TO A DEPTH OF 2 INCHES ON 3:1 SLOPES AND 4 INCHES ON FLATTER SLOPES. APPLY APPROPRIATE SPECIFIED SEED MIX PROVIDED IN TABLE 1. FERTILIZE, LIME AND MULCH AS NEEDED. WATER THE SEEDED AREAS AS PER SEED SUPPLIER'S RECOMMENDATIONS.
8. ALL SEEDED AREAS SHOULD BE COVERED WITH CLEAN STRAW MULCH AT A RATE OF 90 LBS PER 1,000 SQUARE FEET.
9. PROPOSED PLANTINGS WILL PROCEED TO COMPLETION UNDER THE DIRECTION OF DEP OR AUTHORIZED AGENT, WHO WILL INSPECT ALL PLANT MATERIALS.
10. VEGETATION OUTSIDE OF CLEARING/PROJECT LIMIT OF DISTURBANCE SHALL BE CLEARLY MARKED IN THE FIELD AS AREAS TO BE PRESERVED.
11. THE RECOMMENDED PLANTING SCHEDULE FOR PLANT MATERIALS IS PROVIDED IN TABLE 2.
12. BALLED AND BURLAPPED PLANTS – MUST BE FREE OF WINTER DAMAGE. PLANT IN EARLY SPRING BEFORE BUD BREAK; CONTAINER-GROWN PLANTS ARE BEST PLANTED IN WARM SOILS DURING EARLY SUMMER AND FALL TO ENCOURAGE RAPID ROOT DEVELOPMENT.
13. HERBIVORY CONTROL MEASURES – IF HERBIVORY BY WATER FOWL/GEESE IS DETECTED HERBIVORY CONTROLS SUCH AS GOOSE EXCLUSION AND DEER FENCING SHALL BE INSTALLED.
14. AFTER INSTALLATION, ALL PLANTS SHALL BE WATERED THOROUGHLY AND DEEPLY UNTIL THE SURROUNDING SOIL IS SATURATED.
15. MULCH TO A DEPTH OF 2 TO 3 INCHES TAPERING INWARD AROUND TREES AND SHRUBS IN UPLAND ZONES. PREFERRED COMMON MULCHES ARE DOUBLE-SHREDDED PINE BARK AND AGED WOOD CHIPS.
16. GOOSE DETERRENT: FOR AREAS ADJACENT TO MICROPOOL AND FOREBAY PLANT A NATIVE WARM SEASON GRASS MIX AS TALL BUFFER STRIPS; NO MOWING OF BUFFER STRIPS IS PERMITTED. BUFFER TO RETAIN THEIR MATURE HEIGHT THROUGHOUT THE ENTIRE YEAR. IN ADDITION TO GRASS SEED MIX A CLUSTER OF DENSE SHRUBS WILL BE INSTALLED (PLANT ZONE C).

ESTIMATED PLANTING ZONE ACREAGES	
ZONE	AREA (SF)
A (WITHIN LOD)	28875
A (OUTSIDE LOD)	25832
B-1	480
B-2	796
C	1360
D	1342
E	8537
F	7056
G	14437

LEGEND:

- XX — TREE
- XX — SHRUB
- XX — FERN (2 FERNS PER SYMBOL)
- XX XX XX — ZONE A (RANDOM TREE PLACEMENT)
- ZONE B-1
- ZONE B-2
- ZONE C
- ZONE D
- ZONE E
- ZONE F
- ZONE G



NOTES:

1. TREES LABELED WITH INITIALS SHALL BE PLANTED IN SPECIFIC LOCATIONS AS PROVIDED ON LANDSCAPE PLAN. REMAINDER OF TREES SHALL BE PLANTED RANDOMLY IN ACCORDANCE WITH TREE LOCATIONS AND FOREST RESTORATION PLANTING SCHEDULE.

0 30
Scale In Feet

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	1/15	SH
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

DRAWN LK | SCALE 1"=30'
DESIGNED TA | JOB No. 48649.WO12
APPROVED SH | DATE APR.. 2015

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
LANDSCAPING PLAN

SHEET No.
C-13

FOREST RESTORATION AREA – PLANTING SCHEDULE

	COMMON NAME	SCIENTIFIC NAME	CALIPER (INCH)/ FORM	AVERAGE HEIGHT	SPEC. (MIM)	SPACING	QUANTITY	PLANTING PERIOD
TREES	SWAMP WHITE OAK (QB)	QUERCUS BICOLOR	2 1/2	12–14'	B&B	15'	4	SPRING ONLY
	SUGAR MAPLE (AS)	ACER SACCHARUM	2 1/2	12–14'	B&B	15'	18	SPRING/FALL
	RED MAPLE (AR)	ACER RUBRUM	2 1/2	12–14"	B&B	15'	21	SPRING ONLY
	WHITE OAK (QA)	QUERCUS ALBA	2 1/2	10–12'	B&B	15'	3	SPRING ONLY
	AMERICAN ELM (UA)	ULMUS AMERICANA	2 1/2	10'	B&B	15'	5	SPRING/FALL
	BLACK/SWEET BIRCH (BL)	BETULA LENTA	2 1/2	10'	B&B	15'	8	SPRING ONLY
	TULIPTREE (LT)	LIRIODENDRON TULIPIFERA	2 1/2	10–12'	B&B	15'	3	SPRING ONLY
	FLOWERING DOGWOOD (CF)	CORNUS FLORIDA	2"	10–12'	B&B	15'	4	SPRING/FALL
	HORNBEAM (CC)	CARPINUS CAROLINIANA	2 1/2	12–14'	B&B	15'	7	SPRING/FALL
	SHADBUSH (AC) (SERVICEBERRY)	AMELANCHIER CANADENSIS	2"	10–12'	B&B	15'	5	SPRING/FALL
						TOTAL:	78	
SHRUBS/ SMALL TREES	GRAY DOGWOOD (CR)	CORNUS RACEMOSA	–	4'	2 GAL.	7' OC	12	SPRING/FALL
	WINTERBERRY HOLLY (IV)	ILEX VERTICILLATA	–	4'	2 GAL.	7' OC	5	SPRING/FALL
	WITCH HAZEL (HV)	HAMAMELIS VIRGINIANA	–	4'	2 GAL.	7' OC	7	SPRING/FALL
	ARROWWOOD (VD)	VIBURNUM DENTATUM	–	4'	B&B	7' OC	2	5/1 – 7/1
	SPICEBUSH (LB)	LINDERA BENZOIN	–	4'	2 GAL.	7' OC	5	5/1 – 7/1
	HAZELNUT (CA)	CORYLUS AMERICANA	–	4'	2 GAL.	15' OC	8	SPRING/FALL
						TOTAL:	39	
FERNS	CHRISTMAS FERN (PA)	POLYSTICHUM ACROSTICHOIDES		–	QUART	2' OC	30	SPRING/FALL
	NEW YORK FERN (TN)	THELYPTERIS NOVEBORACENSIS		—	QUART	2' OC	20	SPRING/FALL
						TOTAL:	50	

NOTES:
1. APPLY WILD FLOWER SEED MIX AT THE OUTER LIMITS OF DISTURBED AREAS (CLOSE TO WOODED AREA) PRIOR TO HYDRO–SEEDING.
2. SEE SHEET C–15 FOR PLANTING DETAILS.

MICROPOOL PLANTING SCHEDULE ZONE B–1 – HERBACEOUS (ELEVATION 317' – 319')

COMMON NAME	SCIENTIFIC NAME	FORM*	SPACING**	QUANTITY	PLANTING PERIOD
SOFTSTEM BULRUSH	SCHOENOPLECTUS TABERNAEMONTANI	2" PLUG	18" OC	67	SPRING ONLY 4/1 – 6/1
HARDSTEM BULRUSH	SCHOENOPLECTUS ACUTUS	2" PLUG	18" OC	67	SPRING ONLY 4/1 – 6/1
PICKERELWEED	PONTEDERIA CORDATA	2" PLUG	18" OC	70	SPRING ONLY 4/1 – 6/1
WHITE LILY	NYMPHEA ODORATA	2" PLUG	18" OC	10	SPRING ONLY 4/1 – 6/1
			TOTAL:	214	

MICROPOOL PLANTING SCHEDULE ZONE B–2 – HERBACEOUS (ELEVATION 319' – 321')

COMMON NAME	SCIENTIFIC NAME	FORM*	SPACING*	QUANTITY	PLANTING PERIOD
COMMON THREE–SQUARE	SCHOENOPLECTUS PUNGENS	2" PLUG	18" OC	55	4/1 – 6/1
SOFTSTEM BULRUSH	SCHOENOPLECTUS TABERNAEMONTANI	2" PLUG	18" OC	50	4/1 – 6/1
LESSER BUR–REED	SPARGANIUM AMERICANUM	2" PLUG	18" OC	55	4/1 – 6/1
SWEETFLAG	ACORCUS AMERICANUS	2" PLUG	18" OC	55	4/1 – 6/1
BLUE FLAG IRIS	IRIS VERSICOLOR	2" PLUG	18" OC	60	4/1 – 6/1
[redacted] SEDGE	CAREX STRICTA	2" PLUG	18" OC	70	4/1 – 6/1
			TOTAL:	345	

*FORM – 2" PLUG OR PEAT POT, MINIMUM 4"
**SPACING – 18" ON CENTER, ALTERNATING GRID PATTERN

MICROPOOL AQUATIC BENCH ZONE C – SHRUBS (ELEVATION 321')

COMMON NAME	SCIENTIFIC NAME	FORM	SPACING*	QUANTITY	PLANTING PERIOD
ELDERBERRY ((SC)	SAMBUCUS CANADENSIS	#1 /2–3'	5' OC	15	4/1 – 6/1
RED–OSIER DOGWOOD (CS)	CORNUS SERICEA	#2 /18–24"	5' OC	20	4/1 – 6/1
WINTERBERRY (IV)	ILEX VERTICILLATA	#1 /2–3'	5' OC	20	4/1 – 6/1
			TOTAL:	55	

*SPACING: LINEAR ROWS – 3'x3' (THREE FEET BETWEEN ROWS AND 3' WITHIN EACH ROW)

FOREBAY PLANTING SCHEDULE ZONE D – HERBACEOUS (ELEVATION 320' – 322.0')

COMMON NAME	SCIENTIFIC NAME	SIZE*	SPACING**	QUANTITY	PLANTING PERIOD
COMMON THREE–SQUARE	SCHOENOPLECTUS PUNGENS	2" PLUG	18" OC	75	4/1 – 6/1
SOFTSTEM BULRUSH	SCIRPUS VALIDUS	2" PLUG	18" OC	100	4/1 – 6/1
LESSER BUR–REED	SPARGANIUM AMERICANUM	2" PLUG	18" OC	100	4/1 – 6/1
SWEETFLAG	ACORCUS AMERICANUS	2" PLUG	18" OC	100	4/1 – 6/1
BLUE FLAG IRIS	IRIS VERSICOLOR	2" PLUG	18" OC	75	4/1 – 6/1
			TOTAL:	450	

*FORM – 2" PLUG OR PEAT POT, MINIMUM 4"
**SPACING – 18" ON CENTER, ALTERNATING GRID PATTERN

EXTENDED DETENTION SEEDING SCHEDULE ZONE E – (TO ELEVATION 325.0')

COMMON NAME	SCIENTIFIC NAME	SEEDING RATE	APPLICATION SCHEDULE
SWITCH GRASS	PANICUM VIRGATUM	35 LBS/ACRE	4/1 – 6/15
CREEPING BENTGRASS	AGROSTIS STOLONIFERA		4/1 – 6/15
VIRGINIA WILD RYE	ELYMUS VIRGINICUS		4/1 – 6/15

NOTE:
MIX DERIVED FROM NEW ENGLAND WET MEADOW ROADSIDE MEADOW SEED MIX.

DISTURBED AREAS SEEDING SCHEDULE ZONE F

COMMON NAME	SCIENTIFIC NAME	PERCENT MIX	SEEDING RATE	APPLICATION SCHEDULE
SWITCH GRASS	PANICUM VERGATUM	VARIES	23 LBS/ACRE	4/1 – 6/15
INDIAN GRASS	SORGUSTRUM NUTANS	VARIES		4/1 – 6/15
VIRGINIA WILD RYE	ELYMUS VIRGINICUS	VARIES		4/1 – 6/15
ANNUAL RYEGRASS	LOLIUM SP	VARIES		4/1 – 6/15

NOTE:
1. DERIVED FROM NEW ENGLAND NATIVE WARM SEASON GRASS MIX.
2. ADDITIONAL AMENDMENT OF ANNUAL RYE–GRASS – APPLICATION RATE OF 10 LBS/ACRE.
3. RECOMMENDED SEEDING APPLICATION DATE – SPRING.
4. QUICK COVER CROP: 1/3 ANNUAL RYE–GRASS (I.E NON–PERSISTING NURSE CROP) WITH 2/3 NATIVE SEED MIX.

TABLE 1

TEMPORARY VEGETATION STABILIZATION		
SEED	LBS/ACRE	LBS/1,000 S.F.
ANNUAL RYEGRASS	40	1.0
WINTER RYE	120	3.0

TABLE 2

RECOMMENDED PLANTING SCHEDULE		
PLANT	SPRING	FALL
DECIDUOUS	5/1–7/1	9/1–11/1
HERBACEOUS (PLUGS)	4/1–6/1	–

SLOPE STABILIZATION SEEDING SCHEDULE ZONE G (EROSION AND REGRADING AREA)

COMMON NAME	SCIENTIFIC NAME	PERCENT MIX	SEEDING RATE	APPLICATION SCHEDULE
REDTOP	AGROSTIS ALBA	VARIES	35 LBS/ACRE	4/1 – 6/15
UPLAND BENTGRASS	AGOSTIS PERENNANS	VARIES		4/1 – 6/15
BLUE GRAMA	BOUTELOUA GRACILIS	VARIES		4/1 – 6/15
CANADA WILD RYE	ELYMUS CANADENSIS	VARIES		4/1 – 6/15
ANNUAL AND PERENNIAL RYEGRASS	LOLIUM SPECIES	VARIES		4/1 – 6/15
LITTLE BLUESTEM	SCHIZACHYRIUM	VARIES		4/1 – 6/15
INDIAN GRASS	SORGUSTRUM NUTANS	VARIES		4/1 – 6/15

PERMANENT SEEDING MIX

SOURCE: NEW ENGLAND EROSION CONTROL/RESTORATION MIX – PREMIXED.

ADDITIONAL NOTES:
1. APPLY BY HYDRO SEED METHOD FOR SLOPES.
2. SEEDING APPLICATION RATE: RECOMMENDED 35 LBS/ACRE – COVERS 1,250 SQ FT/LB.
3. APPLY FAST RELEASE FERTILIZER EXCLUDING PHOSPHORUS BASED ON SOIL CHEMISTRY RESULTS.
4. LIGHT MULCHING OF STRAW IS RECOMMENDED FOR SLOPE STABILIZATION.

ZONE G – TREES AND SHRUBS ON SLOPES

	COMMON NAME	SCIENTIFIC NAME	CALIPER (INCH)/FORM	AVERAGE HEIGHT	SPEC (MIM)	SPACING*	QUANTITY	PLANTING PERIOD
TREES	SUGAR MAPLE (AS)	ACER SACCHARUM	1 ½" – 2"	8–10'	B&B	15'	6	SPRING ONLY
	RED MAPLE (AR)	ACER RUBRUM	1 ½" – 2"	8–10'	B&B	15'	11	SPRING ONLY
	TULIPTREE (LT)	LIRIODENDRON TULIPIFERA	1 ½" – 2"	8–10'	B&B	15'	6	SPRING ONLY
	BLACK/SWEET BIRCH (BL)	BETULA LENTA	1 ½" – 2"	8–10'	B&B	15'	5	SPRING ONLY
	WHITE OAK (QA)	QUERCUS ALBA	1 ½" – 2"	8–10'	B&B	15'	3	SPRING ONLY
	SWAMP WHITE OAK (QB)	QUERCUS BICOLOR	1 ½" – 2"	8–10'	B&B	15'	1	SPRING ONLY
	AMERICAN ELM (UA)	ULMUS AMERICANA	1 ½" – 2"	8–10'	B&B	15'	5	SPRING ONLY
	SHADBUSH (AC) (SERVICEBERRY)	AMELANCHIER CANADENSIS	1 ½" – 2"	8–10'	B&B	15'	3	SPRING ONLY
						TOTAL:	40	
SHRUBS	PUSSY WILLOW (SD)	SALIX DISCOLOR	#1 /2–3'			7' OC	7	4/1 – 6/1
	RED–OSIER DOGWOOD (CS)	CORNUS SERICEA	#2 /18–24"			7' OC	8	4/1 – 6/1
	SPICEBUSH (LB)	LINDERA BENZOIN		4'	2 GAL.	7' OC	2	5/1 – 7/1
	ARROWWOOD (VD)	VIBURNUM DENTATUM		4'	2 GAL.	7' OC	2	5/1 – 7/1
						TOTAL:	19	

No.	DESCRIPTION	DATE	BY
2	REVISED ROAD AND POND LOCATIONS	1/15	SH
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

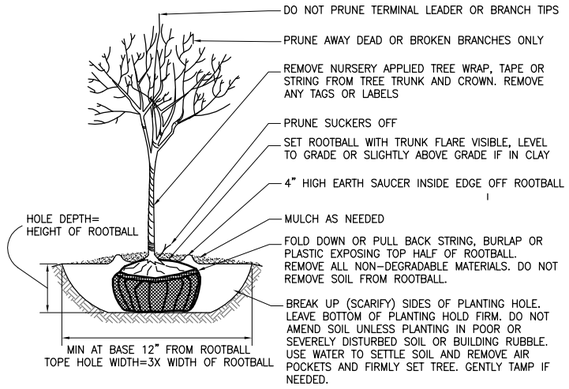
DRAWN LK | SCALE NONE
DESIGNED MS | JOB No. 48649.WO12
APPROVED SH | DATE APR. 2015

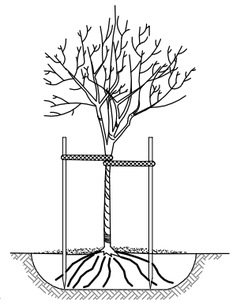
HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
FAD RELATED STORMWATER CONTROL
CONTRACT CRO–420
DREWVILLE ROAD, NEW YORK

TITLE
LANDSCAPING SCHEDULES

SHEET No.
C–14





STAKING:

DO NOT STAKE UNLESS IN HEAVY CLAY SOIL, WINDY CONDITIONS, 3" OR GREATER DIAMETER TREE TRUNK OR LARGE CROWN, SLOPES GREATER THAN 15%. IF STAKING IS NEEDED DUE TO THIESE CONDITIONS:

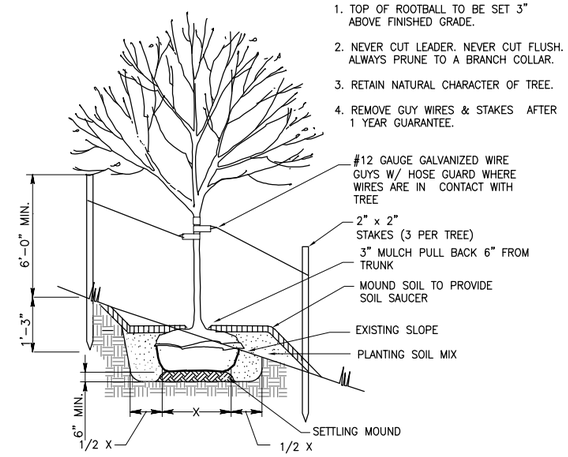
- STAKE WITH 2x2 HARDWOOD STAKES OR APPROVED EQUAL DRIVEN 6"-8" OUTSIDE OF ROOTBALL.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (2 PER TREE ON OPPOSITE SIDES OF TREE, CONNECT FROM TREE TO STAKE HORIZONTALLY. DO NOT USE ROPE OR WIRE THROUGH A HOSE).
- REMOVE ALL STAKING MATERIALS AFTER 1 YEAR.

DECIDUOUS TREE PLANTING

NOT TO SCALE

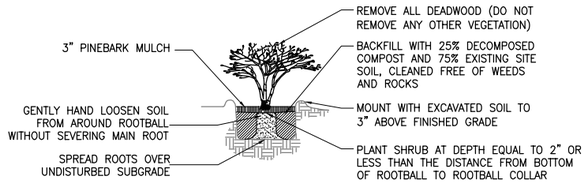
NOTES:

1. TOP OF ROOTBALL TO BE SET 3" ABOVE FINISHED GRADE.
2. NEVER CUT LEADER. NEVER CUT FLUSH. ALWAYS PRUNE TO A BRANCH COLLAR.
3. RETAIN NATURAL CHARACTER OF TREE.
4. REMOVE GUY WIRES & STAKES AFTER 1 YEAR GUARANTEE.



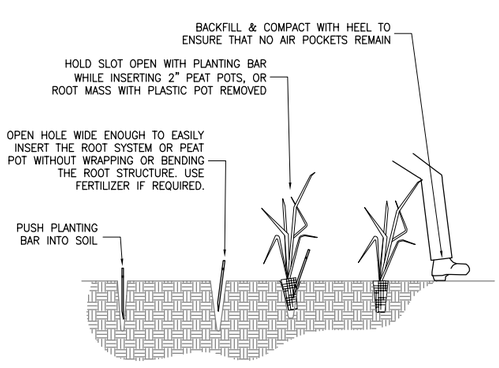
TREE PLANTING ON SLOPES DETAIL

NOT TO SCALE



SHRUB PLANTING – CONTAINER GROWN

NOT TO SCALE



HERBACEOUS PLANT INSTALLATION DETAIL (TYPICAL)

NOT TO SCALE

No.	DESCRIPTION	DATE	BY
1	REVISED ROAD AND POND LOCATIONS	10/11	EL

REVISIONS

DRAWN	LK
DESIGNED	TA
APPROVED	SH
SCALE	NONE
JOB No.	48649.W012
DATE	FEB. 2015

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
LANDSCAPING DETAILS

SHEET No.
C-15

APPENDIX G

WETLAND DELINEATION AND ASSESSMENT

CRO-420 FAD-Related Stormwater Control/Management at Drewville Road

Wetland Delineation and Assessment

WETLAND ASSESSMENT/DELINEATION: METHODOLOGY AND APPROACH

A desktop review of existing information and mapping was conducted. The United States Geological Survey (USGS) 7.5-minute quadrangle map (Lake Carmel, NY), USFWS National Wetlands Inventory (NWI) Wetlands Mapper, NYSDEC Freshwater Wetlands Mapping, the Westchester County Soil Survey, Town of Carmel Wetland Map (1982), and aerial imagery were reviewed to determine the presence of on-site wetlands prior to beginning field investigations. The topographic and aerial imagery maps are provided in **Appendix A**. The NWI, NYSDEC, and Town of Carmel wetland maps are herein attached.

The NYSDEC Freshwater Wetlands Mapping depicts a wetland, identified as LC-63, within the vicinity of the project site. The wetland has a NYSDEC Class 1 designation, indicating that LC-63 is "adjacent or contiguous to a reservoir or other body of water that is used primarily for public water supply." The boundaries of this wetland are depicted on the attached NYSDEC Freshwater Wetlands Map.

The wetland map adopted by the Town of Carmel in 1982, attached, indicates that there are local regulated wetlands present on a portion of the project site. Both the Town and State-mapped wetland areas are depicted on the attached Wetland Boundaries Map.

NYSDEC consultation indicated the presence of a protected Class A tributary to the Croton Falls Reservoir in the vicinity of the project area; the Class A designation is applied to streams that are tributary to New York City (NYC) water supply impoundments on NYC-owned land (6 NYCRR Part 864.4). The approximate location of the protected stream is indicated on the attached Stream Location Map.

The project study area was investigated for vegetative, soil, and hydrologic wetland indicators. The wetland field investigations were performed in accordance with methods described in the U.S. Army Corps of Engineers (USACE) *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* and the NYS Freshwater Wetlands Manual. Initial wetland field investigations were conducted on February 27 and August 28, 2009, and January 5 and March 26, 2010. A redelineation was conducted on May 14, 2015, in accordance with comments DEP received from the Town of Carmel during the Environmental Conservation Board meeting held May 7, 2015. This report describes the May 2015 wetland field investigation. A final field visit was conducted with NYSDEC on June 3, 2015 to confirm the

boundary of the redelineation completed in May.

VEGETATION, SOILS, AND HYDROLOGIC CONDITIONS AT THE PROJECT SITE

Wetland Determination Data Forms from the May 2015 wetland field investigation are attached to this assessment, containing specific information about vegetation, soils, and hydrology for each wetland and upland datapoint.

Vegetation Composition

The majority of the project site vegetation composition was forested uplands with a low density of understory trees and shrubs; perennial grasses and herbaceous plants were also present. The forest vegetation included the following trees: sugar maple (*Acer saccharum*), tulip poplar (*Liriodendron tulipifera*), white ash (*Fraxinus americana*), hickory (*Carya* sp.*)*, black birch (*Betula lenta*), and American hornbeam (*Carpinus caroliniana)*. Few saplings were present in the understory, consisting mostly of maple species. Deciduous shrubs included three invasive species, privet (*Ligrustum vulgare*), Japanese barberry (*Berberis thunbergii*), and rambler rose (*Rosa multiflora*), along with some raspberry (*Rubus* sp.), catbriar (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), and fox grape (*Vitis labrusca*). Spicebush (*Lindera benzoin*) were present in the lower slopes and near the reservoir edge. Herbaceous vegetation was generally limited. Perennial herbaceous vegetation included wood ferns and grass species. Two invasive species, Japanese stilt grass (*Microstegium vimineum*) and garlic mustard (*Alliaria petiolata*), were observed.

The wetlands delineated onsite were palustrine forested (PFO), palustrine emergent (PEM)/palustrine scrub-shrub (PSS), and PSS/PFO wetland areas. The dominant vegetation associated with the wetland areas included red maple (*Acer rubrum*), sugar maple, slippery elm (*Ulmus rubra*), and eastern hop-hornbeam (*Ostrya virginiana*) with spicebush, sugar maple saplings, skunk-cabbage (*Symplocarpus foetidus)*, Japanese barberry, spotted touch-me-not (*Impatiens capensis*), Japanese stilt grass, rambler rose, and poison ivy occupying the understory.

Soil Types

According to the Natural Resources Conservation Services' (NRCS) Soil Survey Geographic database (SSURGO2), project soils fall under the "B" hydrologic group. Two soil types are mapped in the project area: Charlton Loam (ChB/ChE) and Leicester Loam (LcB). The Charlton soil type is a well-drained loamy soil formed in till derived from parent materials. The soils are found on nearly-level to very steep plains and hills. The Leicester soil is a deep poorly-drained soil

comprised of loamy soils typically mapped on low-lying positions on hills; the water table is at or near the surface.

Soils were evaluated at different locations throughout the project site. Soils within the delineated wetland areas displayed hydric soil indicators including redoximorphic features and dark subsoil layers. Wetland area soils were generally poorly drained. None of the soils outside the delineated wetland areas exhibited wetland morphological characteristics. Non-wetland area soils were generally moderately well-drained.

Additionally, two geotechnical borings were taken at the project site in September 2009. The borings indicate that the soils are a mixture of sand, clay, and gravel from 0 to 10 feet below grade and a mixture of rock, sand, and gravel from 10 to 14 feet below grade. Groundwater was found to range from 6 to 8 feet below grade. The geotechnical boring logs (GB-1 and GB-2) are attached to this assessment.

Hydrologic Conditions

Wetland hydrology indicators within the delineated wetland areas included high water table, saturation, and oxidized rhizospheres on living roots, among others. Both primary and secondary hydrology indicators were observed to confirm the presence of wetland hydrology.

RESULTS

The wetland redelineation was conducted on May 14, 2015, and validated by NYSDEC staff during a field visit on June 3, 2015. The NYSDEC-regulated freshwater wetland identified on the project site is known as LC-63. The NYSDEC validation block provided on the attached Wetlands and Waterways Plan indicates that the field-delineated wetland boundaries have been approved by the State of New York.

The flagged wetland consist of Wetlands A, B, C, D, and E. The flagged watercourse areas consist of Watercourses A, B, and C. Wetland, upland, and boundary datapoints were marked using pink wetland flagging and collected in the field with the Trimble® GeoExplorer® 6000 series handheld. The data were then transferred onto project plans, as shown in the attached Wetlands and Waterways Plan.

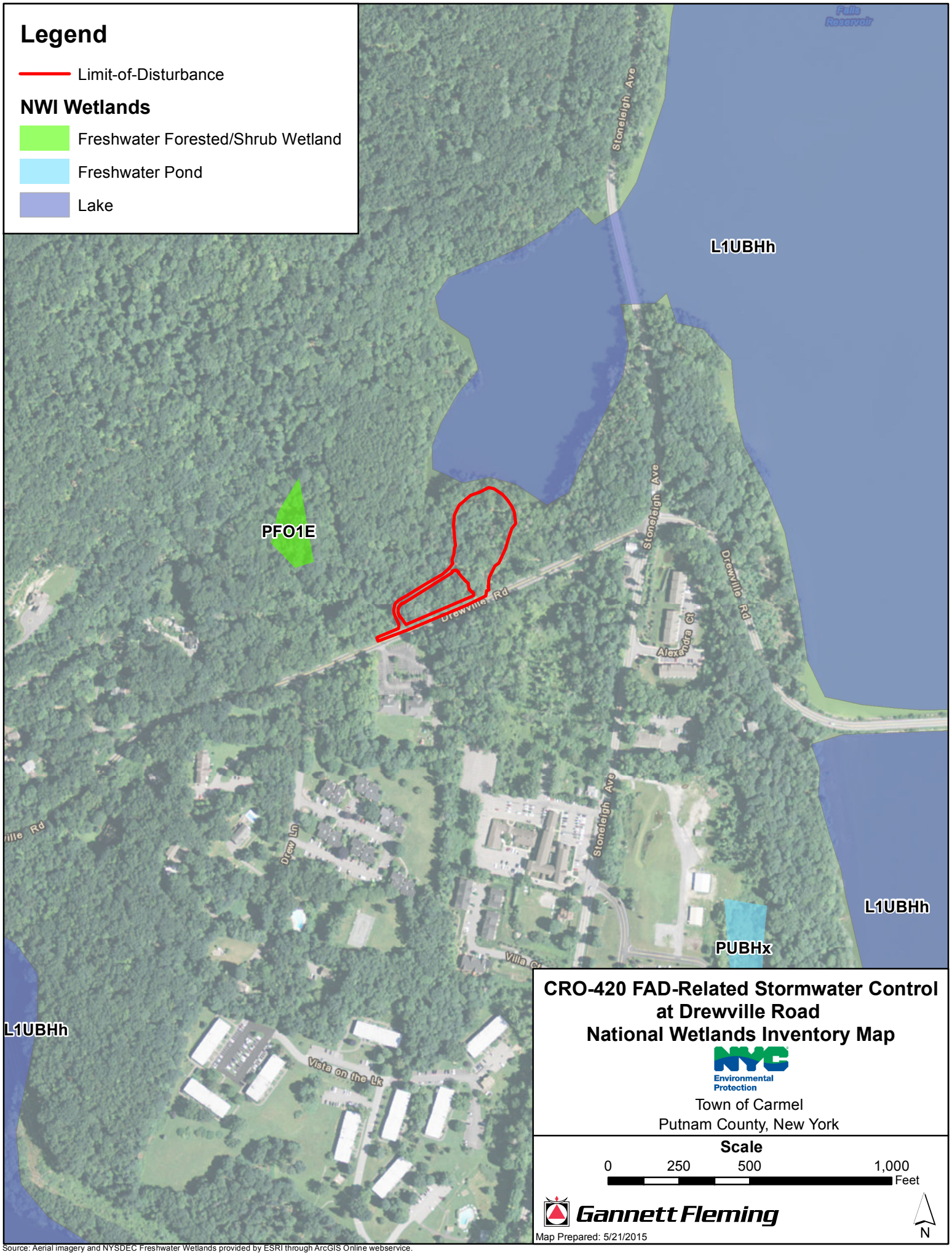
Wetlands A and B are open-ended PFO hillslope wetlands containing wetland drainage patterns with mucky soils, located northwest of the limit-of-disturbance. Wetland A drains through a culvert to Wetland B, which drains directly into the Reservoir. Wetland C is a PFO wetland adjacent to and bounded by the Reservoir. Wetland D is a PSS/PFO wetland in a closed depression

near Drewville Road. Wetland E is a PEM/PSS wetland associated with Watercourse A, an unnamed perennial tributary to the Croton Falls Reservoir east of the limit-of-disturbance.

Watercourse A is an unnamed perennial tributary to the Croton Falls Reservoir, east of the limit-of-disturbance. Watercourse B represents the boundary of the Reservoir north of the limit-of-disturbance. Watercourse C is the ditch on the north side of Drewville Road that is generating the runoff requiring the proposed stormwater detention system.

ATTACHMENTS

1. National Wetlands Inventory Map
2. NYSDEC Freshwater Wetlands Map
3. Town of Carmel Wetland Map
4. Stream Location Map
5. Wetland Determination Data Forms
6. Soil Boring Logs for Geotechnical Borings
7. Wetlands and Waterways Plan
8. Wetland Boundaries Map



CRO-420 FAD-Related Stormwater Control at Drewville Road
National Wetlands Inventory Map

NYC Environmental Protection

Town of Carmel
Putnam County, New York

Scale

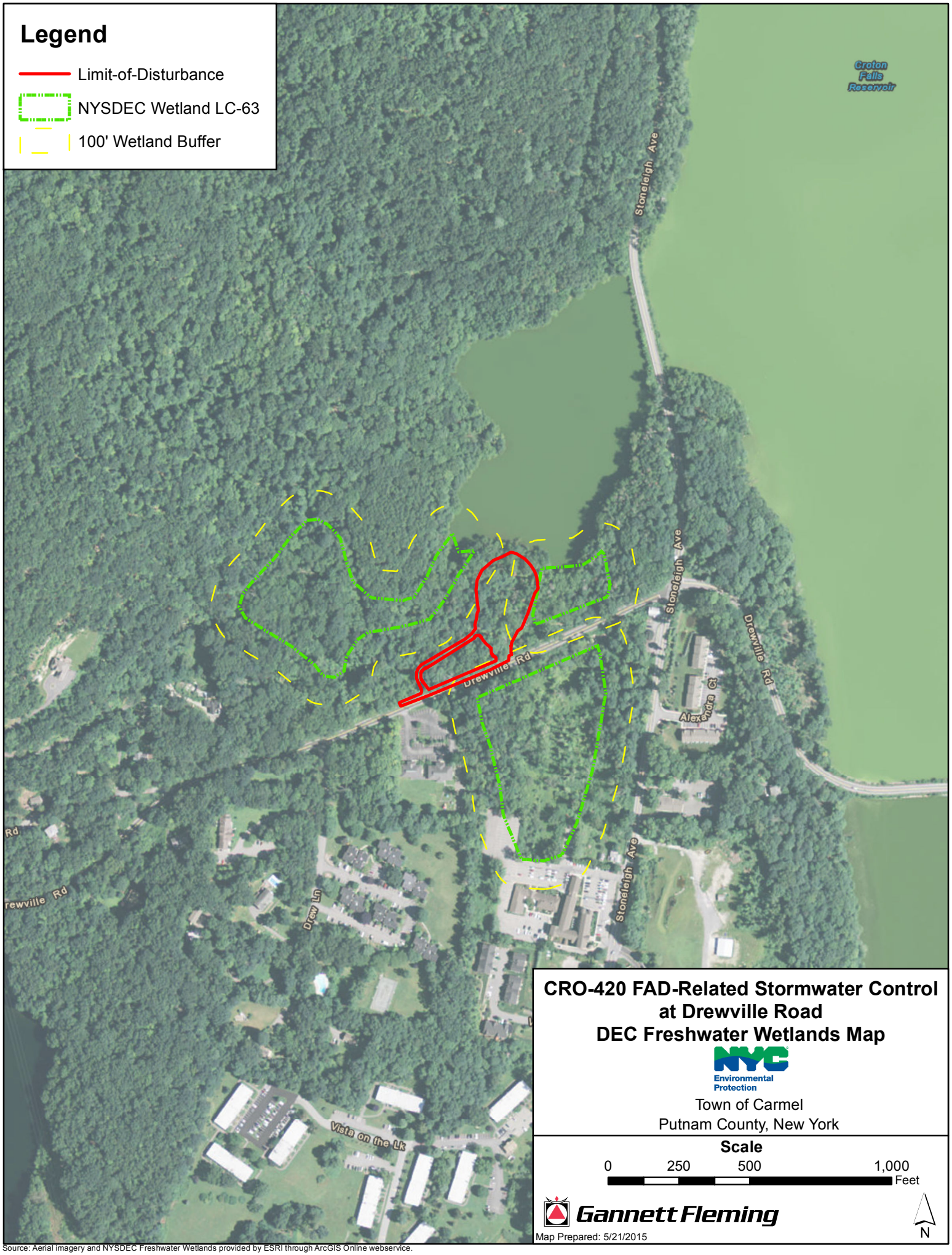
0 250 500 1,000 Feet

Gannett Fleming

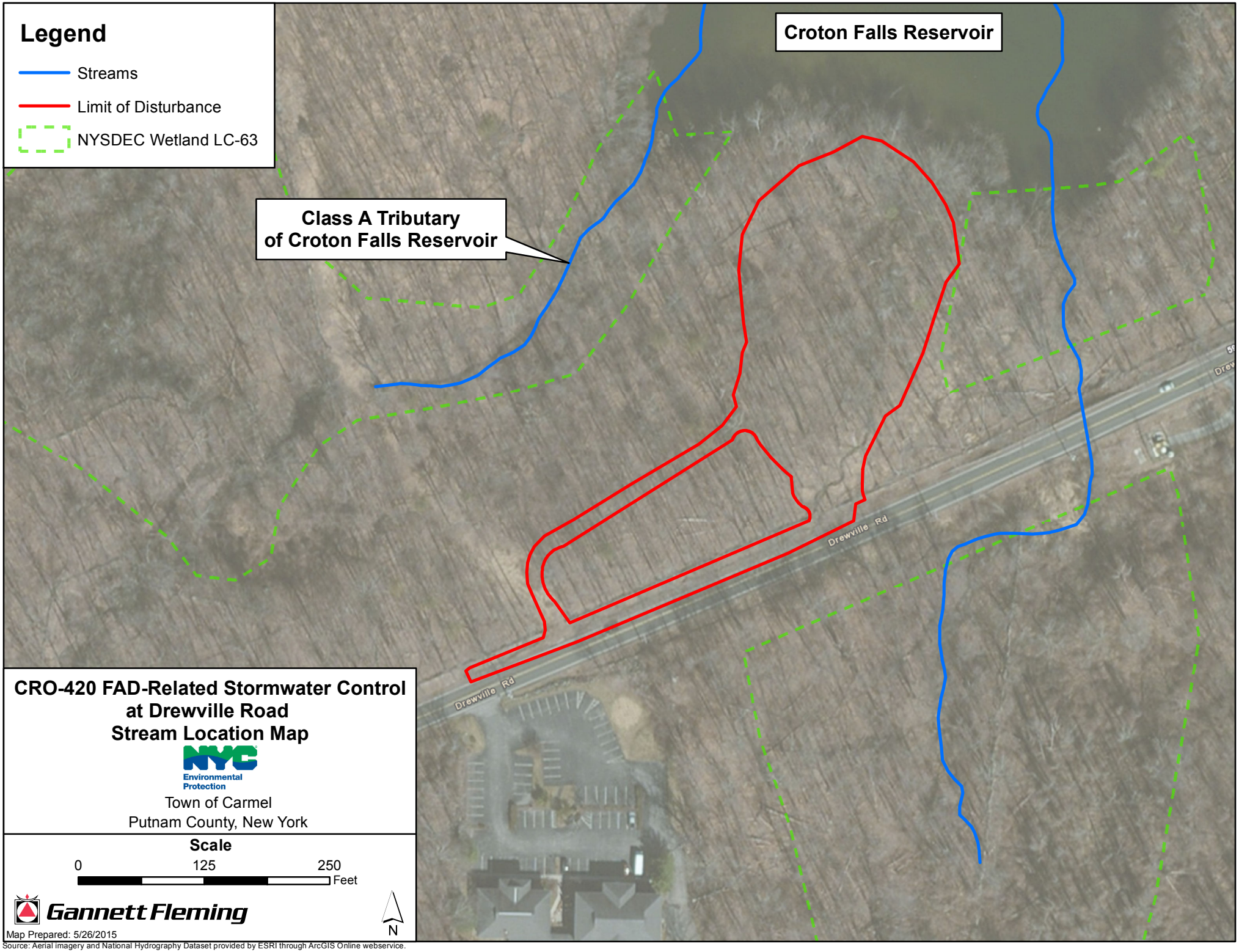
Map Prepared: 5/21/2015

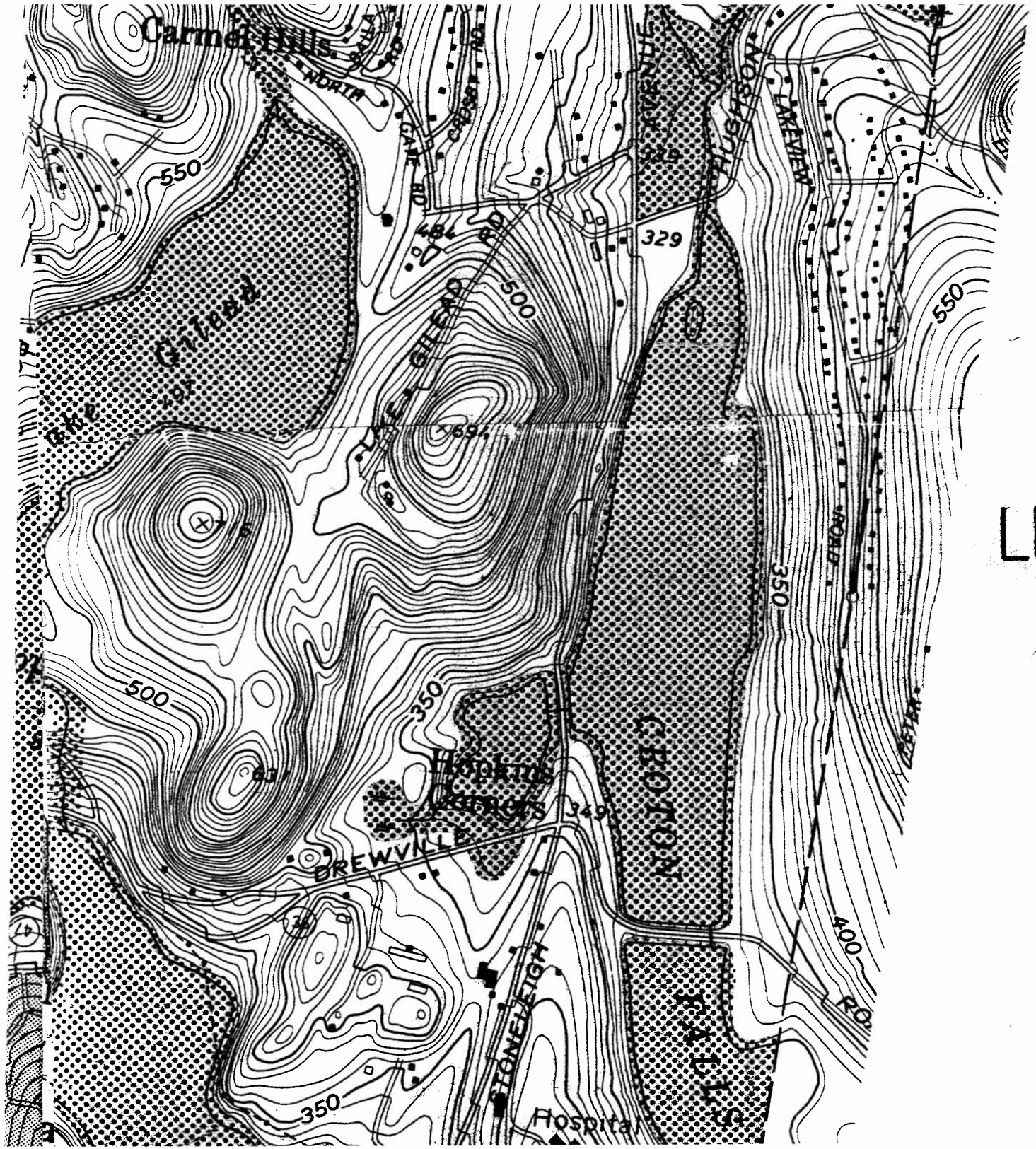
N

Source: Aerial imagery and NYSDEC Freshwater Wetlands provided by ESRI through ArcGIS Online webservice.



Source: Aerial imagery and NYSDEC Freshwater Wetlands provided by ESRI through ArcGIS Online webservice.


Legend
Streams
Limit of Disturbance
NYSDEC Wetland LC-63
Croton Falls Reservoir
Class A Tributary
of Croton Falls Reservoir
Drewville Rd
Drewville Rd
CRO-420 FAD-Related Stormwater Control
at Drewville Road
Stream Location Map
Environmental
Protection
Town of Carmel
Putnam County, New York
Scale
0
125
250
Feet
Gannett Fleming
N
Map Prepared: 5/26/2015
Source: Aerial imagery and National Hydrography Dataset provided by ESRI through ArcGIS Online webservice.



Adopted _____

by the Town Board

OCTOBER 1982

Amendments: _____

LEGEND

BOUNDARIES:
- State
- County
- Town or City
- Incorporated Village
- Federal-Aid Urban Area

ROADS:

Touring Route markers:
- Interstate (17)
- U. S. (28)
- State (36)

State Highway number and limit (6000)

County road (72)

Interchange number (87)

Divided highways and streets:
- Wide mall
- Narrow mall or barrier

Undivided highways and streets:
- 4 or more lanes
- Less than 4 lanes

Vehicle track; trail

ONE SQUARE ACRE (208' x 208')

WETLAND

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WA_UPL
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2-3%
Subregion (LRR or MLRA): LRR R E: 720548.99' N: 931914.29' Datum: NAD 83
Soil Map Unit Name: ChB—Charlton loam, 2 to 8 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No x
Hydric Soil Present? Yes ____ No x **Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present? Yes ____ No x **If yes, optional Wetland Site ID:** ____

Remarks: (Explain alternative procedures here or in a separate report.)
Upland forest adjacent to wetland WA.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mats or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches):
Water Table Present? Yes ____ No x Depth (inches):
Saturation Present? Yes ____ No x Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present?
Yes ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology observed.

VEGETATION - Use scientific names of plants.

Sampling Point: WA_UPL

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	80	Y	FACU
2. *Fraxinus americana*	10	N	FACU
3. *Ulmus rubra*	10	N	FAC
4.			
5.			
6.			
7.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Berberis thunbergii*	15	Y	FACU
2. *Lindera benzoin*	10	Y	FACW
3. *Acer saccharum*	5	N	FACU
4.			
5.			
6.			
7.			
	30	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Polystichum acrostichoides*	20	Y	FACU
2. *Dennstaedtia punctilobula*	10	Y	UPL
3. *Lindera benzoin*	5	N	FACW
4. *Berberis thunbergii*	5	N	FACU
5. *Alliaria petiolata*	5	N	FACU
6. *Circaea canadensis*	5	N	FACU
7. *Quercus sp.*	2	N	UPL
8.			
9.			
10.			
11.			
12.			
	52	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1	0
FACW species	15	x2	30
FAC species	10	x3	30
FACU species	145	x4	580
UPL species	12	x5	60
Column Totals:	182	(A)	700 (B)

Prevalence Index = B/A 3.85

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WA_UPL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	7.5YR3/3	100					Silt loam	
9-11	7.5YR4/4	100					Silt loam	
11-12	7.5YR3/3	100					Silt loam	
12								Rock refusal

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
- ___ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present?

Yes **No** x

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WA-Wet
Investigator(s): Steve Wittig. Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 0-2%
Subregion (LRR or MLRA): LRR R E: 720514.33' N: 931933.15' Datum: NAD 83
Soil Map Unit Name: ChC-Charlton loam, 8 to 15 percent slopes NWI classification: Freshwater Forested/Shrub Wetlad PFO1
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____
Hydric Soil Present? Yes X No ____ **Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present? Yes X No ____ **If yes, optional Wetland Site ID:** WA

Remarks: (Explain alternative procedures here or in a separate report.)
Palustrine forested wetland (PFO) Wetland located on a hillslope. Hydrologically connected to wetland WB by a culvert.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____	Surface Water (A1)	X	Water-Stained Leaves (B9)
X	High Water Table (A2)	____	Aquatic Fauna (B13)
X	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	____	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	X	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mats or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopographic Relief (D4)
____	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): N/A
Water Table Present? Yes X No ____ Depth (inches): 3"
Saturation Present? Yes X No ____ Depth (inches): surface
(includes capillary fringe)

Wetland Hydrology Present?
Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Area recieves surface and groudwater from offsite.

VEGETATION - Use scientific names of plants.

Sampling Point: WA-Wet

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	60	Y	FACU
2. *Acer rubrum*	20	Y	FAC
3. *Ulmus rubra*	10	N	FAC
4.			
5.			
6.			
7.			
	90	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lindera benzoin*	15	Y	FACW
2. *Acer saccharum*	10	Y	FACU
3. *Ulmus rubra*	5	N	FAC
4. *Berberis thunbergii*	5	N	FACU
5.			
6.			
7.			
	35	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Symplocarpus foetidus*	65	Y	OBL
2. *Lindera benzoin*	5	N	FACW
3. *Acer saccharum*	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	72	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals:	(A)		(B)

Prevalence Index = B/A

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WA-Wet

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR2/1	95	7.5YR3/3	5	C	M	Silt loam	
12-15	10YR2/2	100					Sandy loam	
15-18	10YR2/2	90	10YR2/1	10	D	M	Sandy loam	
18-20	10YR5/2	95	7.5YR4/4	5	C	M	Loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**		2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
	Histic Epipedon (A2)		Thin Dark Surface (S9) (**LLR R, MLRA 149B**)		Coast Prairie Redox (A16) (**LRR K, L, R**)
	Black Histic (A3)		Loamy Mucky Mineral (F1) (**LRR K, L**)		5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Dark Surface (S7) (**LRR K, L, M**)
	Stratified Layers (A5)		Depleted Matrix (F3)		Polyvalue Below Surface (S8) (**LRR K, L**)
	Depleted Below Dark Surface (A11)	x	Redox Dark Surface (F6)		Thin Dark Surface (S9) (**LRR K, L**)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		Iron-Manganese Masses (F12) (**LRR K, L, R**)
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		Piedmont Floodplain Soils (F19)(**MLRA 149B**)
	Sandy Gleyed Matrix (S4)				Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
	Sandy Redox (S5)				Red Parent Material (F21)
	Stripped Matrix (S6)				Very Shallow Dark Surface (TF12)
	Dark Surface (S7) (**LRR R, MLRA 149B**)				Other (Explain in Remarks)

Indicators for Problematic Hydric Soils[3]:

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes X No**

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WB_UPL
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Townhsip
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 2-3%
Subregion (LRR or MLRA): LRR R E: 720878.39' N: 932166.57' Datum: NAD 83
Soil Map Unit Name: ChE—Charlton loam, 25 to 35 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No x
Hydric Soil Present? Yes ____ No x **Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present? Yes ____ No x **If yes, optional Wetland Site ID:** ____

Remarks: (Explain alternative procedures here or in a separate report.)
Upland forest adjacent to wetland WB.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mats or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches):
Water Table Present? Yes ____ No x Depth (inches):
Saturation Present? Yes ____ No x Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present?
Yes ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology observed.

VEGETATION - Use scientific names of plants.

Sampling Point: WB_UPL

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	40	Y	FACU
2. *Fraxinus americana*	25	Y	FACU
3. *Fagus grandifolia*	15	N	FACU
4. *Betula lenta*	10	N	FACU
5. *Carpinus caroliniana*	5	N	FAC
6.			
7.			
	95	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Acer saccharum*	15	Y	FACU
2. *Berberis thunbergii*	15	Y	FACU
3. *Carya ovata*	5	N	FACU
4. *Lindera benzoin*	5	N	FACW
5. *Betula lenta*	5	N	FACU
6.			
7.			
	45	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Lindera benzoin*	10	Y	FACW
2. *Acer saccharum*	5	Y	FACU
3. *Arisaema triphyllum*	2	N	FAC
4. *Parthenocissus quinquefolia*	2	N	FACU
5. *Violet sp.*	2	N	N/A
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	21	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1	0
FACW species	15	x2	30
FAC species	7	x3	21
FACU species	137	x4	548
UPL species	2	x5	10
Column Totals:	161 (A)		609 (B)

Prevalence Index = B/A 3.8

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No x

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WB_UPL

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR3/2	100					Silty loam	
10-16	10YR5/4	85	10YR3/2	15	C	M	Silty loam	
16-18	10YR4/4	85	10YR2/2	10	D	M	Silty loam	
			7.5YR4/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ____ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)
- ____ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ____ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ____ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ____ Dark Surface (S7) (**LRR K, L, M**)
- ____ Polyvalue Below Surface (S8) (**LRR K, L**)
- ____ Thin Dark Surface (S9) (**LRR K, L**)
- ____ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ____ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
- ____ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes **No** **x**

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WB_Wet
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): Concave Slope (%): 1-2%
Subregion (LRR or MLRA): LRR R E: 720863.35' N: 932202.47' Datum: NAD 83
Soil Map Unit Name: ChE—Charlton loam, 25 to 35 percent slopes NWI classification: Lake L1UBHh
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No ____
Hydric Soil Present? Yes x No ____ **Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present? Yes x No ____ **If yes, optional Wetland Site ID:** WB

Remarks: (Explain alternative procedures here or in a separate report.)
Palustrine Forested (PFO) wetland, on a hillslope, downslope of wetland WA. Hydrologically connected to WA by a culvert and drains to Croton Falls Reservior.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____	Surface Water (A1)	x	Water-Stained Leaves (B9)
____	High Water Table (A2)	____	Aquatic Fauna (B13)
x	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	x	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	x	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mats or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Stunted or Stressed Plants (D1)
____	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopographic Relief (D4)
____	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): N/A
Water Table Present? Yes ____ No x Depth (inches): N/A
Saturation Present? Yes x No ____ Depth (inches): surface
(includes capillary fringe)

Wetland Hydrology Present? **Yes x No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Area recieves surface and groundwater from upslope.

VEGETATION - Use scientific names of plants.

Sampling Point: WB_Wet

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	30	Y	FAC
2. *Ulmus rubra*	25	Y	FAC
3.			
4.			
5.			
6.			
7.			
	55	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lindera benzoin*	65	Y	FACW
2. *Berberis thunbergii*	30	Y	FACU
3.			
4.			
5.			
6.			
7.			
	95	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Symplocarpus foetidus*	25	Y	OBL
2. *Impatiens capensis*	15	Y	FACW
3. *Fraxinus pennsylvanica*	5	N	FACW
4. *Athyrium angustum*	2	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	47	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals:		(A)	(B)

Prevalence Index = B/A

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

Spagnum moss also present within wetland.

SOIL **Sampling Point:** WB_Wet

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR2/1	100					Silty loam	
6-9	10YR4/1	90	7.5YR3/4	10	C	M	Silty loam	
9-18	10YR6/1	85	10YR5/6	15	C	M	Silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)	___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**	___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Histic Epipedon (A2)	___ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)	___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1) (**LRR K, L**)	___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Dark Surface (S7) (**LRR K, L, M**)
___ Stratified Layers (A5)	x Depleted Matrix (F3)	___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Depleted Below Dark Surface (A11)	___ Redox Dark Surface (F6)	___ Thin Dark Surface (S9) (**LRR K, L**)
___ Thick Dark Surface (A12)	___ Depleted Dark Surface (F7)	___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	___ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
___ Sandy Gleyed Matrix (S4)		___ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
___ Sandy Redox (S5)		___ Red Parent Material (F21)
___ Stripped Matrix (S6)		___ Very Shallow Dark Surface (TF12)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)		___ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils[3]:

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes x No**

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WC_Upl
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Townhsip
Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): convex Slope (%): 2-3%
Subregion (LRR or MLRA): LRR R E: 932216.18' N: 932216.18' Datum: NAD 83
Soil Map Unit Name: LcB—Leicester loam, 3 to 8 percent slopes, stony NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No x
Hydric Soil Present? Yes ____ No x **Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present? Yes ____ No x **If yes, optional Wetland Site ID:** ____

Remarks: (Explain alternative procedures here or in a separate report.)
Upland adjacent to wetland WC.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mats or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches):
Water Table Present? Yes ____ No x Depth (inches):
Saturation Present? Yes ____ No x Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present?
Yes ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology observed.

VEGETATION - Use scientific names of plants.

Sampling Point: WC_Upl

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	40	Y	FACU
2. *Carya ovata*	20	Y	FACU
3. *Fraxinus americana*	20	Y	FACU
4.			
5.			
6.			
7.			
	80	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Acer saccharum*	10	Y	FACU
2. *Berberis thunbergii*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Microstegium vimineum*	85	Y	FAC
2. *Lindera benzoin*	10	N	FACW
3. *Impatiens capensis*	5	N	FACW
4. *Dennstaedtia punctilobula*	5	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x1	0
FACW species	15	x2	30
FAC species	85	x3	255
FACU species	100	x4	400
UPL species	5	x5	25
Column Totals:	205	(A)	710 (B)

Prevalence Index = B/A 3.46

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No x

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WC_Upl

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR2/2	100					Silty loam	
7-13	10YR4/3	100					Silty loam	
13-18	10YR5/4	90	10YR4/2	10	D	M	Saturated silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ____ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)
- ____ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ____ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ____ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ____ Dark Surface (S7) (**LRR K, L, M**)
- ____ Polyvalue Below Surface (S8) (**LRR K, L**)
- ____ Thin Dark Surface (S9) (**LRR K, L**)
- ____ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ____ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
- ____ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes **No** **x**

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WC_Wet
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): Concave Slope (%): 1-3%
Subregion (LRR or MLRA): LRR R E: 721080.86' N: 932242.13' Datum: NAD 83
Soil Map Unit Name: LcB—Leicester loam, 3 to 8 percent slopes, stony NWI classification: Lake L1UBHh
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No ____
Hydric Soil Present? Yes x No ____ **Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present? Yes x No ____ **If yes, optional Wetland Site ID:** WC

Remarks: (Explain alternative procedures here or in a separate report.)
Small Palustrine Forested (PFO) wetland adjacent to Croton Falls Reservior.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____	Surface Water (A1)	x	Water-Stained Leaves (B9)
____	High Water Table (A2)	____	Aquatic Fauna (B13)
x	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	____	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	____	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mats or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
____	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
x	Stunted or Stressed Plants (D1)
____	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopographic Relief (D4)
____	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): N/A
Water Table Present? Yes ____ No x Depth (inches): N/A
Saturation Present? Yes x No ____ Depth (inches): surface
(includes capillary fringe)

Wetland Hydrology Present? **Yes x No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Low area adjacent to reservior. Recieves surface water from reservior during early parts of the growing season.

VEGETATION - Use scientific names of plants.

Sampling Point: WC_Wet

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. **Acer saccharum*	45	Y	FAC
2. *Ostrya virginiana*	25	Y	FACU
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lindera benzoin*	40	Y	FACW
2. *Berberis thunbergii*	30	Y	FACU
3.			
4.			
5.			
6.			
7.			
	70	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Microstegium vimineum*	45	Y	FAC
2. *Carex sp.*	15	N	FAC
3. *Toxicodendron radicans*	10	N	FAC
4. *Impatiens capensis*	5	N	FACW
5. *Poaceae*	5	N	UPL
6. *Lindera benzoin*	5	N	FACW
7. *Symplocarpus foetidus*	2	N	OBL
8.			
9.			
10.			
11.			
12.			
	87	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals:		(A)	(B)

Prevalence Index = B/A

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- x Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

The *Acer saccharum* individuals within the wetland display shallow roots and buttressing. Per pg. 30 of the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, if more than 50% of a FACU species have morphological adaptations for life in wetlands this species is considered a hydrophyte and its indicator status within the plot should be reassigned as FAC. Therefore the *Acer saccharum* within the plot have been assigned an indicator of FAC for this wetland.

SOIL **Sampling Point:** WC_Wet

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/1	100					Silty loam	
2-8	10YR3/2	90	7.5YR4/3	10	C	M	Silty loam	
8-18	10YR4/4	80	10YR3/2	20	D	M	Saturated silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

	Histosol (A1)		Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**		2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
	Histic Epipedon (A2)		Thin Dark Surface (S9) (**LLR R, MLRA 149B**)		Coast Prairie Redox (A16) (**LRR K, L, R**)
	Black Histic (A3)		Loamy Mucky Mineral (F1) (**LRR K, L**)		5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Dark Surface (S7) (**LRR K, L, M**)
	Stratified Layers (A5)		Depleted Matrix (F3)		Polyvalue Below Surface (S8) (**LRR K, L**)
	Depleted Below Dark Surface (A11)	x	Redox Dark Surface (F6)		Thin Dark Surface (S9) (**LRR K, L**)
	Thick Dark Surface (A12)		Depleted Dark Surface (F7)		Iron-Manganese Masses (F12) (**LRR K, L, R**)
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		Piedmont Floodplain Soils (F19)(**MLRA 149B**)
	Sandy Gleyed Matrix (S4)				Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
	Sandy Redox (S5)				Red Parent Material (F21)
	Stripped Matrix (S6)				Very Shallow Dark Surface (TF12)
	Dark Surface (S7) (**LRR R, MLRA 149B**)				Other (Explain in Remarks)

Indicators for Problematic Hydric Soils[3]:

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes x No**

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WD_Upl
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): none Slope (%): 1-2%
Subregion (LRR or MLRA): LRR R E: 721143.59' N: 931979.05' Datum: NAD 83
Soil Map Unit Name: LcB—Leicester loam, 3 to 8 percent slopes, stony NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No x
Hydric Soil Present? Yes ____ No x **Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present? Yes ____ No x **If yes, optional Wetland Site ID:** ____

Remarks: (Explain alternative procedures here or in a separate report.)
Upland forest serves as the upland data point for both wetland WD and WE.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mats or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches):
Water Table Present? Yes ____ No x Depth (inches):
Saturation Present? Yes ____ No x Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present?
Yes ____ **No** x

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No indicators of wetland hydrology observed.

VEGETATION - Use scientific names of plants.

Sampling Point: WD_Upl

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	45	Y	FACU
2. *Fraxinus americana*	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Berberis thunbergii*	25	Y	FACU
2. *Rosa multiflora*	15	Y	FACU
3. *Lindera benzoin*	10	Y	FACW
4.			
5.			
6.			
7.			
	50	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Microstegium vimineum*	70	Y	FAC
2. *Alliaria petiolata*	20	N	FACU
3. *Symplocarpus foetidus*	15	N	OBL
4. *Onoclea sensibilis*	10	N	FACW
5. *Parthenocissus quinquefolia*	10	N	FACU
6. *Rosa multiflora*	10	N	FACU
7. *Toxicodendron radicans*	10	N	FAC
8. *Lindera benzoin*	5	N	FACW
9.			
10.			
11.			
12.			
	150	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x1	15
FACW species	25	x2	50
FAC species	80	x3	240
FACU species	140	x4	560
UPL species	0	x5	0
Column Totals:	260	(A)	865 (B)

Prevalence Index = B/A 3.33

Hydrophytic Vegetation Indicators:

_____ Rapid Test for Hydrophytic Vegetation

_____ Dominance Test is >50%

_____ Prevalence Index is ≤3.0[1]

_____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** x

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WD_Upl

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR2/2	100					Silty loam	
1-16	10YR3/2	100					Silty loam	
16-18	10YR4/2	85	10YR2/2	15	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ____ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**
- ____ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)
- ____ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ____ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ____ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ____ Dark Surface (S7) (**LRR K, L, M**)
- ____ Polyvalue Below Surface (S8) (**LRR K, L**)
- ____ Thin Dark Surface (S9) (**LRR K, L**)
- ____ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ____ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
- ____ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
- ____ Red Parent Material (F21)
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No** **x**

Remarks:

Mottled soil too deep to meet hydric criteria.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WD_Wet
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-2%
Subregion (LRR or MLRA): LRR R E: 721149.78' N: 931960.27' Datum: NAD 83
Soil Map Unit Name: LcB—Leicester loam, 3 to 8 percent slopes, stony NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" Yes x No
Are Vegetation , Soil , or Hydrology naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No
Hydric Soil Present? Yes x No **Is the Sampled Area within a Wetland?** Yes x No
Wetland Hydrology Present? Yes x No **If yes, optional Wetland Site ID:** WD

Remarks: (Explain alternative procedures here or in a separate report.)
Palusrine Scrub/Shrub / Palustrine Forested (PSS/PFO) wetland in a closed depression.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- x Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- x Algal Mats or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- x Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No x Depth (inches): N/A
Water Table Present? Yes No x Depth (inches): N/A
Saturation Present? (includes capillary fringe) Yes x No Depth (inches): surface

Wetland Hydrology Present? **Yes x No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Area fed by stormwater from Drewville Road.

VEGETATION - Use scientific names of plants.

Sampling Point: WD_Wet

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharum*	35	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lindera benzoin*	60	Y	FACW
2. *Rosa multiflora*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
	80	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Microstegium vimineum*	35	Y	FAC
2. *Toxicodendron radicans*	20	Y	FAC
3. *Lindera benzoin*	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals:	(A)		(B)

Prevalence Index = B/A

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- x Dominance Test is >50%
- ____ Prevalence Index is ≤3.0[1]
- ____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WD_Wet

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR2/1	100					Silty loam	
2-8	10YR3/1	90	7.5YR3/4	10	C	M	Silty loam	
8-18	10YR4/3	85	10YR2/2	15	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) (**LLR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- x Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19)(**MLRA 149B**)
- ___ Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes x No

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: FAD Related Stormwater Control Drewville Road City/County: Carmel/Putnam Sampling Date: 5/14/2015
Applicant/Owner: NYS DEC State: NY Sampling Point: WE_Wet
Investigator(s): Steve Wittig, Matthew Updegrove Section, Township, Range: Carmel Town
Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): concave Slope (%): 1-3%
Subregion (LRR or MLRA): LRR R E: 721253.79' N: 932108.07' Datum: NAD 83
Soil Map Unit Name: LcB—Leicester loam, 3 to 8 percent slopes, stony NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" Yes x No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? present? If needed, explain in remarks.

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes x No ____
Hydric Soil Present? Yes x No ____ **Is the Sampled Area within a Wetland?** Yes X No ____
Wetland Hydrology Present? Yes x No ____ **If yes, optional Wetland Site ID:** WE

Remarks: (Explain alternative procedures here or in a separate report.)
Palustrine Emergent / Paustrine Scrub/Shrub (PEM/PSS) wetland that drains to a perennial watercourse.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____	Surface Water (A1)	____	Water-Stained Leaves (B9)
x	High Water Table (A2)	____	Aquatic Fauna (B13)
x	Saturation (A3)	____	Marl Deposits (B15)
____	Water Marks (B1)	____	Hydrogen Sulfide Odor (C1)
____	Sediment Deposits (B2)	x	Oxidized Rhizospheres on Living Roots (C3)
____	Drift Deposits (B3)	____	Presence of Reduced Iron (C4)
____	Algal Mats or Crust (B4)	____	Recent Iron Reduction in Tilled Soils (C6)
____	Iron Deposits (B5)	____	Thin Muck Surface (C7)
____	Inundation Visible on Aerial Imagery (B7)	____	Other (Explain in Remarks)
____	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

____	Surface Soil Cracks (B6)
x	Drainage Patterns (B10)
____	Moss Trim Lines (B16)
____	Dry-Season Water Table (C2)
____	Crayfish Burrows (C8)
____	Saturation Visible on Aerial Imagery (C9)
____	Stunted or Stressed Plants (D1)
x	Geomorphic Position (D2)
____	Shallow Aquitard (D3)
____	Microtopographic Relief (D4)
____	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No x Depth (inches): N/A
Water Table Present? Yes x No ____ Depth (inches): 10"
Saturation Present? Yes x No ____ Depth (inches): surface
(includes capillary fringe)

Wetland Hydrology Present? **Yes x No ____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Area recieves surface and groundwater from upslope.

VEGETATION - Use scientific names of plants.

Sampling Point: WE_Wet

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *none*			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft)			
1. *Lindera benzoin*	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1. *Symplocarpus foetidus*	25	Y	OBL
2. *Lindera benzoin*	25	Y	FACW
3. *Toxicodendron radicans*	5	N	FAC
4. *Parthenocissus quinquefolia*	5	N	FACU
5. *Dennstaedtia punctilobula*	5	N	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft)			
1. *none*			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test Worksheet:

Numbers of Dominant Species That are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1	
FACW species		x2	
FAC species		x3	
FACU species		x4	
UPL species		x5	
Column Totals:		(A)	(B)

Prevalence Index = B/A _____

Hydrophytic Vegetation Indicators:

- x Rapid Test for Hydrophytic Vegetation
- _____ Dominance Test is >50%
- _____ Prevalence Index is ≤3.0[1]
- _____ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- _____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** x **No** _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL **Sampling Point:** WE_Wet

Profile Description: (Describe the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR2/1	100					Silty loam	
1-10	10YR3/2	95	7.5YR4/4	5	C	M	Silty loam	
10-18	10YR4/3	85	10YR2/2	15	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___	Histosol (A1)	___	Polyvalue Below Surface (S8) (**LRR R, MLRA 149B)**	___	2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___	Histic Epipedon (A2)	___	Thin Dark Surface (S9) (**LLR R, MLRA 149B**)	___	Coast Prairie Redox (A16) (**LRR K, L, R**)
___	Black Histic (A3)	___	Loamy Mucky Mineral (F1) (**LRR K, L**)	___	5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___	Hydrogen Sulfide (A4)	___	Loamy Gleyed Matrix (F2)	___	Dark Surface (S7) (**LRR K, L, M**)
___	Stratified Layers (A5)	___	Depleted Matrix (F3)	___	Polyvalue Below Surface (S8) (**LRR K, L**)
___	Depleted Below Dark Surface (A11)	x	Redox Dark Surface (F6)	___	Thin Dark Surface (S9) (**LRR K, L**)
___	Thick Dark Surface (A12)	___	Depleted Dark Surface (F7)	___	Iron-Manganese Masses (F12) (**LRR K, L, R**)
___	Sandy Mucky Mineral (S1)	___	Redox Depressions (F8)	___	Piedmont Floodplain Soils (F19)(**MLRA 149B**)
___	Sandy Gleyed Matrix (S4)			___	Mesic Spodic(TA6)(**MLRA 144A, 145, 149B**)
___	Sandy Redox (S5)			___	Red Parent Material (F21)
___	Stripped Matrix (S6)			___	Very Shallow Dark Surface (TF12)
	Dark Surface (S7) (**LRR R, MLRA 149B**)			___	Other (Explain in Remarks)

Indicators for Problematic Hydric Soils[3]:

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes x No**

Remarks:

SOIL BORING LOG

Client: New York City Department of Environmental Protection	Boring No.: GB-1	HDR/GF JV 480 Forest Avenue Locust Valley, NY 11560 (516) 671-8440
Project # : 48649.WO12	Sheet 1 of 1	
Site Location: Drewville Rd.	Date: 9/29/2009	
Drilling Co: Aquifer Drilling and Testing, Inc. Method: Mud Rotary Personnel: Jessica Ferngren Total Depth: 10' Depth to Water: ~8'	Location of boring (not to scale) ~270 feet northeast and ~45 feet northwest of access area	

depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classification	Remarks
	0.0	Weight of Hamme 1	0'-2'	0'-2'	Slightly Moist	8"/24"	2"-Light Brown Silty F SAND	
1		2					3"-Dark Brown Silty F SAND	
		3					3"-Brown Silty F SAND	
2	0.0	4	2'-4'	2'-4'	Slightly Moist	18"/24"	Light Brown Silty F SAND, trace	
		6					Clay and Gravel	
3		11						
		9						
4	0.0	11	4'-6'	4'-6'	Slightly Moist	12"/24"	Same as above	
		11						
5		14						
		13						
6	0.0	10	6'-8'	6'-8'	Slightly Moist	12"/24"	Same as above	
		9						
7		9						Moist at bottom
		10						2 inches of spoon
8	0.0	11	8'-10'	8'-10'	Saturated	18"/24"	Same as above	
		14						
9		11						
		16						
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

TRACE = 1 - 10% LITTLE = 11 - 20 % SOME = 21 - 35% AND = 36 - 50%

SOIL BORING LOG

Client: New York City Department of Environmental Protection	Boring No.: GB-2	HDR/GF JV 480 Forest Avenue Locust Valley, NY 11560 (516) 671-8440
Project # : 48649.WO12	Sheet 1 of 1	
Site Location: Drewville Rd.	Date: 9/29/2009	
Drilling Co: Aquifer Drilling and Testing, Inc. Method: Mud Rotary Personnel: Jessica Ferngren Total Depth: 14' Depth to Water: ~6'	Location of boring (not to scale) ~340 feet northeast and ~120 feet northwest of access area	

depth (feet)	PID (ppm)	Blow Counts	Sample ID	Depth (From-To)	Moisture Content	Recovery	Soil Classification	Remarks
	0.0	Weight of Hamme Weight of Hammer	0'-2'	0'-2'	Slightly Moist	18"/24"	10"-Brown Silty F SAND, some organics	
1		4 8					8 "-Light Brown Silty F SAND, trace Clay and Gravel	
2	0.0	13 15	2'-4'	2'-4'	Slightly Moist	10"/24"	Light Brown Silty F SAND, trace Clay and Gravel	
3		16 13						
4	0.0	11 10	4'-6'	4'-6'	Slightly Moist	10"/24"	Light Yellowish Brown SILT, little F Sand, trace Gravel	
5		12 17						Moist at bottom 2 inches of spoon
6	0.0	8 8	6'-8'	6'-8'	Slightly Moist	12"/24"	Light Brown Silty F SAND, some C Gravel	
7		7 10						
8	0.0	8 9	8'-10'	8'-10'	Saturated	10"/24"	Same as above	
9		11 12						
10	0.0	45 50	10'-12'	10'-12'	Saturated	6"-24"	4"-Same as above 2"-Crushed GNEISS	
11		19 8						
12	0.0	8 11	12'-14'	12'-14'	Saturated	12"/24"	Light Brown Silty F SAND, some C Gravel	
13		9 9						
14								
15								
16								
17								
18								
19								
20								

TRACE = 1 - 10% LITTLE = 11 - 20 % SOME = 21 - 35% AND = 36 - 50%

NYSDEC FRESHWATER WETLAND BOUNDARY VALIDATION

The freshwater wetland boundary as represented on these plans accurately depicts the limits of Freshwater Wetland LC-63 as delineated by _____ on _____.

DEC Staff: Jonathan Russell 6 11 2015 Surveyor/Engineer: _____

Date Valid: 6/11/2015 Expiration Date: 6/11/2020 SEAL

Wetland boundary delineations as validated by the New York State Department of Environmental Conservation remain valid for five (5) years **unless** existing exempt activities, area hydrology, or land use practices change (e.g., agricultural to residential). **After five (5) years the boundary must be revalidated by DEC staff.** Revalidation may include a new delineation and survey of the wetland boundary.

Any proposed construction, grading, filling, excavating, clearing or other regulated activity in the freshwater wetland or within 100 feet of the wetland boundary as depicted on this plan requires a permit from the NYS Department of Environmental Conservation under Article 24 of the Environmental Conservation Law (Freshwater Wetlands Act) prior to commencement of work.

LEGEND:
WA_XX – WETLAND A FLAG NUMBER
WB_XX – WETLAND B FLAG NUMBER
WC_XX – WETLAND C FLAG NUMBER
WD_XX – WETLAND D FLAG NUMBER
WE_XX – WETLAND E FLAG NUMBER
WCA_XX– WATERCOURSE A FLAG NUMBER
WCB_XX– WATERCOURSE B FLAG NUMBER
WCC_XX– WATERCOURSE C FLAG NUMBER

CROTON FALLS RESERVOIR

LC-63 WETLAND BOUNDARY

100 FOOT ADJACENT WETLAND AREA BOUNDARY

20' SAW EASEMENT

8"ø DIP FORCE MAIN

EXISTING GRASS ROAD

REMOVE CABLE ACCESS GATE AND WOOD POSTS

REMOVE SECTIONS OF STONE WALL AND STABILIZE REMAINING WALL ENDS SEE NOTE 8

BREACH IN STONE WALL, STORMWATER ENTRY POINT TO SITE

24"ø CORRUGATED PLASTIC PIPE CULVERT TO BE REMOVED

GAS VALVE

BENCHMARK EL. 342.05' SPIKE IN POLE

BENCHMARK SPIKE IN POLE N:931872.06 E:721151.93 EL. 328.71'

RESERVOIR WATER LINE 05.2015

GB-1 N: 931909.49 E: 721009.24

GB-2 N: 932008.53 E: 721044.53

MERRITT RYDER

BOARD OF MANAGERS OF CLEARING IN THE WOODS C/O QUANTUM PROPERTY MANAGEMENT LTD 2269 SAW MILL RIVER RD ELMFORD, NY 10523

HOPE OF LIFE CHURCH

J. HOLT & C. WINNER

PARCEL OWNER UNKNOWN

PARCEL OWNER UNKNOWN

DREWVILLE ROAD

STONE WALL

GUIDE RAIL

GAS MAIN

18"ø CMP

15"ø CMP

24"ø CMP

Scale In Feet 0 30

No.	DESCRIPTION	DATE	BY
	REVISIONS		

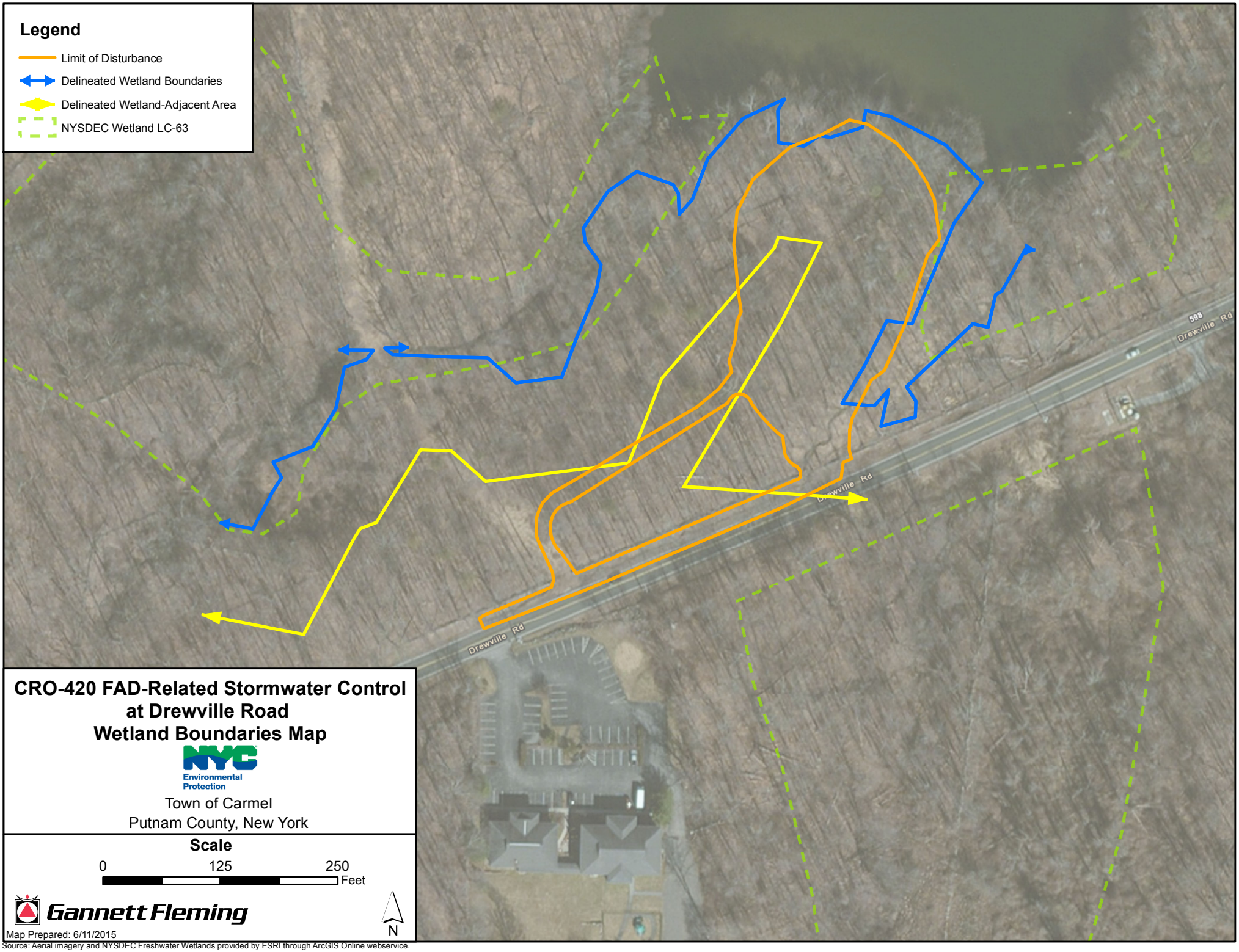
DRAWN	LK
DESIGNED	MS
APPROVED	SH
SCALE	1"=30'
JOB No.	48649.W012
DATE	JAN. 2015

HDR ◆ Gannett Fleming
A Joint Venture

PROJECT
CITY OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER SUPPLY
CONTRACT CRO-420
FAD RELATED STORMWATER CONTROL
DREWVILLE ROAD, NEW YORK

TITLE
WETLANDS AND WATERWAYS PLAN

SHEET No.
F-01



CRO-420 FAD-Related Stormwater Control at Drewville Road Wetland Boundaries Map

NYC Environmental Protection

Town of Carmel
Putnam County, New York

Scale

0 125 250 Feet

Gannett Fleming

N

Map Prepared: 6/11/2015

Source: Aerial imagery and NYSDEC Freshwater Wetlands provided by ESRI through ArcGIS Online webservice.

APPENDIX H

PHOTOGRAPHS

Photographs of Project Study Area
CRO-420 FAD-Related Stormwater Control/Management
at Drewville Road
Town of Carmel, Putnam County, New York

Photograph 1: Drewville Road and existing drainage ditch. View is to the east/northeast. Photograph taken March, 2015.

Photograph 2: Drewville Road and existing drainage ditch. View is to the west. Photograph taken March, 2015.

Photographs of Project Study Area
CRO-420 FAD-Related Stormwater Control/Management
at Drewville Road
Town of Carmel, Putnam County, New York

Photograph 3: Existing grass road opening in stone wall and plastic pipe culvert to be replaced. Photograph taken March, 2015.

Photograph 4: Existing grass road opening in stone wall. Photograph taken March, 2015.

Photographs of Project Study Area
CRO-420 FAD-Related Stormwater Control/Management
at Drewville Road
Town of Carmel, Putnam County, New York

Photograph 5: Grass Road. Photograph taken June 2015.

Photograph 6: Woodlands associated with proposed project. Photograph taken June 2015.

Photographs of Project Study Area
CRO-420 FAD-Related Stormwater Control/Management
at Drewville Road
Town of Carmel, Putnam County, New York

Photograph 7: Erosion in wooded area. Photograph taken June, 2015.

Photograph 8: Reservoir erosion. Photograph taken June, 2015.

APPENDIX I
INSPECTION REPORTS

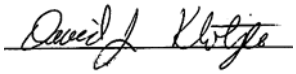
David J Klotzle Wetland Inspector

Carmel Town Hall
60 McAlpin Avenue Mahop
New York ,10541
845 628-1500
E-Mail: dklotzle@bestweb.net

To: CARMEL ECB
Re: NYCDEP – Drewville road – TM # – 66.-2-53 –
Stormwater detention system &
wetland delineation/mitigation proposal
Date:7/7/2015

I have inspected the wetland determination and mapping and find them correct according to Town Code. The proposal for mitigating any damage to the existing wetland and buffer area is satisfactory although I will await the report from the Town Forestry Consultant on this matter.
Trees planted should be guaranteed through three growing seasons .
New plantings should be tagged for easy identification .
Open areas should be planted with a good riparian/woodland seed mixs.
Wetland inspector must be contacted five days in advance before the commencement of actual work and at all stages of the actual work through Rose Trombetta at Carmel Town Hall or by e mail at dklotzle@bestweb.net.

Yours Truly



David J Klotzle

Wetland Inspector

East-West Forestry Associates, Inc.
Consulting Foresters

22 Deana Loop
LaGrangeville, NY 12540

Phone/Fax: 845-226-2628
Email: dougramey2@yahoo.com

July 9, 2015

Environmental Conservation Board
Town of Carmel
Town Hall
Mahopac, NY 10541

RE: Application for Tree Cutting Permit on NYCDEP lands – Stormwater Control project on Drewville Road

Dear Environmental Conservation Board:

At your request, I have reviewed the application materials submitted by NYCDEP for the above referenced project. I reviewed the work area site today with Gloria Gutierrez and found the project to be as explained and laid out in the permit application materials. The following report addresses my findings and recommendations concerning this project in relation to the guidelines found in the town code.

The proposed work involves removing 197 live trees and 48 dead trees within the Limit of Disturbance zone outlined in the plans, or a total of 245 trees. The purpose of the tree removal is to allow for construction of the proposed access road and stormwater control structures. Each of the trees to be removed has been tagged and numbered, identified by species and diameter and plotted on a survey map. I observed the trees tagged for removal during my inspection. Aside from the 48 dead trees, an additional 16 white ash trees are tagged for removal. These ash trees can be expected to die in the coming years once the Emerald Ash Borer insect infests this area.

Many of the 245 trees to be removed are poor quality or poor health specimens, many of which are red maple. There are very few large diameter trees in the removal zones. The areas outside of the project area are forested lands and the removal of the designated trees will have minimal visual impact to the surrounding area. There is an area measuring 70 to 90 feet in width that is heavily forested separating the access road and Drewville Road, and these trees will screen the cleared access area from Drewville Road. The beginning of the access road at the entrance to Drewville Road is in a currently open area with few trees.

The applicant's planting plan will also serve to provide additional screening and will serve to restore the areas disturbed in the construction process. I have reviewed the planting plan and agree with species chosen for planting as well as planting locations. The placement of trees and shrubs has been well planned. I have also reviewed the wetland mitigation plan and I feel that the planned protection and restoration measures are adequate to protect and restore the site.

The actual tree removal work will be contracted out through a bid process which has not occurred to date. Therefore I was not able to learn exactly what procedures would be used in the tree removal procedure. I would request that this information be provided for review before any of the actual tree removal work begins.

I have no concerns with the proposed work in relation to the guidelines listed in the town code.

Recommendations: I recommend granting the permit covering the work detailed in the application and make the following further recommendations:

1. I recommend that the applicant provide the name of the tree removal contractor chosen to perform the work with a detailed explanation of the anticipated tree removal process and time frame for the work.
2. I recommend that I receive notification when the tree removal work is starting and I will make a site inspection of the work during the process.
3. I recommend a final inspection of the project when all reclamation is completed to confirm that all work was completed as proposed, and that the work sites are left in a safe and environmentally sound manner.

My review shows that this project necessary for water quality protection has been carefully planned, and it is my opinion that this project can be successfully accomplished with minimum environmental impacts by following these guidelines and recommendations. I would request that the escrow amount to cover my fees be set at $1,500.

Respectfully submitted,

Doug Ramey

cc. Gloria Gutierrez