


NYC's Watershed Protection Land Acquisition Program


Moderator:
Daniel A. Ruzow, Esq.

Presented By:
Hilary Meltzer, Esq.
Helly Johnson-Bennett
Timothy E. Cox, Esq.
Jeffrey Senterman



**NYSBA
Environmental & Energy Law Section
2018 Fall Meeting
Mt. Tremper, N.Y.**

NYC's Watershed Protection Land Acquisition Program
An examination of the most peculiar, socially engineered program for the protection of the world's largest unfiltered water supply.
---"Still Crazy After All These Years."



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NYC's Watershed Protection Land Acquisition Program

Statutory & Regulatory Underpinnings (NYS):

- ECL Art 15, Title 15 Water Supply
- 6 NYCRR Part 601 Water Withdrawal Permitting, Reporting and Registration
- DEC Declaratory Ruling 15-06 (Oct 1982)
- 1997 NYC Watershed Memorandum of Agreement, Article II
- NYSDEC Water Supply Permit WSA #11,352 --NYC Watershed Land Acquisition Program December 24, 2010, as modified 06-15-16

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NYC's Watershed Protection Land Acquisition Program

Statutory & Regulatory Underpinnings (Federal):

- SDWA Amendments 1986
- Surface Water Treatment Rule 40 CFR Part 141.71(b)(2)
- 2017 Filtration Avoidance Determination (FAD)

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NYC's Watershed Protection Land Acquisition Program

Statutory & Regulatory Underpinnings (NYC):

**New York City Department of Environmental Protection
Long-Term Watershed Protection Plan December 2016**

**Proposed Modifications to the Long-Term Land Acquisition
Plan 2012-2022 submitted April 2018**

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NYC's Watershed Protection Land Acquisition Program

**NYS
ECL Art 15, Sections 15-1501 Water withdrawals; Permits**

1. Except as otherwise provided in this title, no person ...shall have any power to do the following until such person has first obtained a permit or permit modification from the department pursuant to this title:

b. To take or condemn lands for the protection of any existing sources of public water supply; or for the development or protection of any new or additional sources of public water supply; as amended 2011, c. 401

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**NYS
ECL Art 15, Sections 15-1503 Permits**

2. In making its decision to grant or deny a permit or to grant a permit with conditions, the department shall determine whether: ...

c. the project is just and equitable to all affected municipalities and their inhabitants with regard to their present and future needs for sources of potable water supply;

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NYC's Watershed Protection Land Acquisition Program

NYS
6 NYCRR Section 601 Water Withdrawal Permitting, Reporting and Registration

- 601.3 Applicability.
- This Part applies to any person who is engaged in, or proposes to engage in, ... **the taking, condemnation or acquisition of land for the development or protection of sources of public water supply systems** in excess of the threshold volume[100,000 gpd];

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NYS
6 NYCRR Section 601 Water Withdrawal Permitting, Reporting and Registration

- 601.3 Applicability.
- ... All valid public water supply permits and approvals issued by the department or its predecessors that are in effect as of February 15, 2012 shall remain in full force and effect according to their terms...

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NYS
6 NYCRR Section 601 Water Withdrawal Permitting, Reporting and Registration

- 601.6 Water withdrawal permit.

Except to the extent that it is otherwise explicitly stated in this Part, no person may take any of the following actions without having first obtained a water withdrawal permit:

(a) **take, condemn or acquire lands for a source or for the protection of such source of public water supply** equal to or greater than the threshold [100,000gpd] volume

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NYS
6 NYCRR Section 601 Water Withdrawal Permitting, Reporting and Registration

- 601.11 Actions on permit applications.

(c) In making its decision to grant or deny a permit or to grant a permit with conditions, the department shall determine whether:

3) ***the proposed project is just and equitable to all affected municipalities and their inhabitants with regard to their present and future needs for sources of potable water supply;***

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NYS
DEC Declaratory Ruling 15-06 (See Appendix A)

In the Matter of the Application of Wilmorite, Inc. (Oct 22, 1982) DEC determined that an Art 15, Title 15 water supply permit was required for the City of Schenectady and Town of Niskayuna to take or condemn lands for the protection of their Great Flats Aquifer water supply, even though there was no plan to withdraw additional water for their supply.

Upheld: In re City of Schenectady v Flacke, 100 AD2d 349 (3d Dept. 1984) Lv to App den. 63 N.Y. 2d 603; See also, Williams v City of Schenectady 115 AD 2d 204 (3d Dept. 1985) (upholding DEC's determination that a water supply permit is also required for purchase of water supply lands.

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NYS
NYSDEC Water Supply Permit WSA #11,352 --NYC Watershed Land Acquisition Program December 24, 2010, as last modified 06-15-16
 (See Appendix B)
 See Special Conditions

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DEC GW 0-999-0001/00001 Modified 6/20/2011, last amended 6/15/2016

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1997 NYC Watershed Memorandum Agreement

Article I (See Appendix C)

6. WHEREAS, the Parties recognize that the goals of drinking water protection and economic vitality within Watershed communities are not inconsistent, and it is the intention of the Parties to enter into a new era of partnership to cooperate in the development and implementation of a Watershed protection program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities; and

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1997 NYC Watershed Memorandum Agreement

Article I

7. WHEREAS, after extensive negotiations the Parties now enter into legally enforceable commitments, as set forth in this Agreement, on issues related to the Watershed protection program, including the Watershed rules and regulations, the land acquisition program, and Watershed partnership initiatives; and

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1997 NYC Watershed Memorandum Agreement

Article I
 8. WHEREAS, the Parties agree that the City land acquisition program, as described below in Article II, **is a purely voluntary program** which provides the opportunity to the Watershed communities to review parcels and to provide comments to the City on potential acquisitions, and **that Towns and Villages may exempt areas of their communities from purchase under the City's land acquisition program**, and

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1997 NYC Watershed Memorandum Agreement

Article I
 9. WHEREAS, the Parties agree that the City's land acquisition program, the City's Watershed Regulations, and the other programs and conditions contained in this Agreement, when implemented in conjunction with one another, **would allow existing development to continue and future growth to occur in a manner that is consistent with the existing community character and planning goals of each of the Watershed communities; and that the City's land acquisition goals insure that the availability of developable land in the Watershed will remain sufficient to accommodate projected growth without anticipated adverse effects on water quality and without substantially changing future population patterns in the Watershed communities;**

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1997 NYC Watershed Memorandum Agreement

Article II NYC WATERSHED LAND ACQUISITION PROGRAM
 (See Appendix D)

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1997 NYC Watershed Memorandum Agreement

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Federal
SDWA Amendments 1986 Pub Law 99-339 June 19, 1986
 The 1986 amendments required the EPA to (1) issue regulations for 83 specified contaminants by June 1989 and for 25 more contaminants every three years thereafter, (2) **promulgate requirements for disinfection and filtration of public water supplies**, (3) limit the use of lead pipes and lead solder in new drinking water systems, (4) establish an elective wellhead protection program around public wells, (5) establish a demonstration grant program for state and local authorities having designated sole-source aquifers to develop ground water protection programs, and (6) issue rules for monitoring underground injection wells that inject hazardous wastes below a drinking water source. The amendments also increased the EPA's enforcement authority.

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NYC's Watershed Protection Land Acquisition Program

Federal
Surface Water Treatment Rule --40 CFR Part 141.71 June 1989

- The purpose of the Surface Water Treatment Rules (SWTRs) is to reduce illnesses caused by pathogens in drinking water. The disease-causing pathogens include *Legionella*, *Giardia lamblia*, and *Cryptosporidium*.
- The SWTRs requires water systems to filter and disinfect surface water sources. Some water systems are allowed to use disinfection only for surface water sources that meet criteria for water quality and watershed protection.

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NYC's Watershed Protection Land Acquisition Program

Federal
Surface Water Treatment Rule --40 CFR Part 141.71 June 1989
 § 141.71 Criteria for avoiding **filtration**.
 A **public water system** that uses a **surface water** source must meet all of the conditions of paragraphs (a) and (b) of this section, and is subject to **paragraph (c)** of this section, beginning December 30, 1991, unless the **State** has determined, in writing pursuant to § 1412(b)(7)(C)(iii), that **filtration** is required.

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Federal
 SWTR 40 CFR 141.71 (b)Site-specific conditions. ... (2) The [public water system](#) must maintain a watershed control program which minimizes the potential for contamination by Giardia lamblia cysts and [viruses](#) in the source water. The [State](#) must determine whether the watershed control program is adequate to meet this goal. The adequacy of a program to limit potential contamination by Giardia lamblia cysts and [viruses](#) must be based on: the comprehensiveness of the watershed review; the effectiveness of the system's program to monitor and control detrimental activities occurring in the watershed; and the extent to which the water system has maximized land ownership and/or controlled land use within the watershed. At a minimum, the watershed control program must:

- (i) Characterize the watershed hydrology and [land ownership](#);
- (ii) Identify watershed characteristics and activities which may have an adverse effect on source water quality; and
- (iii) Monitor the [occurrence](#) of activities which may have an adverse effect on source water quality.

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Federal/NYSDOH
 NYC Filtration Avoidance Determinations

- January 1993
- December 1993
- May 1997
- November 2002
- July 2007
- May 2014 Modification (NYSDOH in consultation with EPA)
- December 2017 (NYSDOH) (See Appendix E)

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Federal/NYSDOH
 2017 Filtration Avoidance Determination (FAD) December 2017
 Section 4.2 Land Acquisition Program (Appendix E pp 35-43)
 The Land Acquisition Program (LAP) seeks to prevent future degradation of water quality by acquiring environmentally-sensitive lands. The overarching goal of the LAP is to ensure that these high priority Watershed lands are placed into permanently protected status, either through fee simple purchase or conservation easements (CEs), so that the Watershed continues to be a source of high-quality drinking water for the City and upstate counties. In pursuit of this goal, since 1997 the City has secured over 140,000 acres of land and CEs. Prior to 1997, the City owned 34,193 acres of reservoir buffer land. Now more than 38% of the more than one million acres covered by the Catskill/Delaware Watershed is currently protected the City, the State, and/or other entities such as municipalities and land trusts.

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NYC's Watershed Protection Land Acquisition Program

NYC Long-Term Plan in support of Renewal of its Filtration Avoidance Determination for the Catskill/Delaware System December 2016 (See Appendix F Land Acquisition Program (pp 31-34))
http://www.nyc.gov/html/dep/pdf/reports/2016_long-term_watershed_protection_program_plan.pdf

LAP was initiated in 1997 following execution of the Watershed Memorandum of Agreement, the Water Supply Permit, and the 1997 FAD. In the last twenty years, the City has secured over 140,000 acres of land and conservation easements ("CEs"), which is added to 34,193 acres of protected buffer land surrounding the reservoirs that was owned by the City as of 1997.

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NYC's Watershed Protection Land Acquisition Program

Proposed Modifications to the Long-Term Land Acquisition Plan 2012-2022 submitted April 2018
Prepared in accordance with Section 4.2 of the NYSDOH 2017 Filtration Avoidance Determination (see Appendix G)
http://www.nyc.gov/html/dep/pdf/reports/fad_4.2_land_acquisition_program_proposed_modifications_to_the_long-term_strategy_2012-2022_04_18.pdf

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NYC's Watershed Protection Land Acquisition Program

And the saga continues...

Questions?

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NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the Application of
WILMORITE, INC.

DEC 15-06

for a Declaratory Ruling Pursuant to the
State Administrative Procedure Act
Section 204 and 6 NYCRR Part 619

I. INTRODUCTION

On August 5, 1982, Wilmorite, Inc. of Rochester, New York, by its attorney, John A. Shields, requested a determination from the General Counsel as to applicability of Section 15-1501 of the Environmental Conservation Law ("ECL") to the proposed "Great Flats Critical Aquifer Area Project" of the City of Schenectady and Town of Niskayuna. Wilmorite's inquiry has been deemed a request for a Declaratory Ruling under Section 204 of the State Administrative Procedure Act and the Department's rules thereunder, 6 NYCRR Part 619.

Comments, information and authorities have been provided to this Department on the issue by counsel for Wilmorite, the Town of Niskayuna, the City of Schenectady, and the Town of Rotterdam.

Wilmorite contends that the City of Schenectady (hereafter "City"), and the Town of Niskayuna (hereafter "Town") are required to obtain a permit from the Department of Environmental Conservation ("DEC") pursuant to Sections 15-1501 et seq. of the ECL prior to furtherance of any proceedings pursuant to Article 2

of the Eminent Domain Procedure Law ("EDPL"). The City and Town have undertaken the Great Flats Critical Aquifer Area Project, pursuant to resolutions, for the stated purpose of "the protection, preservation and conservation of the water resources located within [the Great Flats Critical] Aquifer." A hearing was held August 10, 1982 pursuant to Section 203 of the EDPL to inform the public, take comment and form the basis of a City and Town determination concerning the project's public use, benefit, purpose, location, effect on the environment and residents and other factors cited in Section 204 of the EDPL. Counsel for the City and Town contend that the project does not come within those enumerated acts for which a permit is required under the ECL and that EDPL Section 207 provides the exclusive mechanism for judicial challenge by those persons who feel aggrieved by the City's and Town's administrative determination of the need, location or environmental impact of the proposed public project. This administrative determination is due ninety (90) days from the conclusion of the August 10, 1982 hearing.

II. THE PROJECTS

The proposed project of the City and Town is to acquire property and/or property rights. No construction is proposed. The stated intent and purpose of the City and Town is to protect, preserve and conserve the groundwater resources of the Great Flats section of the Schenectady Aquifer which is the sole source aquifer of the City of Schenectady and the major source for the

Town of Niskayuna. (Several neighboring communities likewise depend on this aquifer either through their own wells or by purchase of water from the City.)

According to the Report prepared by the City's Water Department for the August 10, 1982 hearing the project will accomplish the following:

1. Place the entire Great Flats Critical Area, Well Head Protection Area under public protection.
2. Provide protection of the Great Flats Wetlands, an integral part of the Aquifer.
3. Remove a major source of potential groundwater contamination.
4. Place 23% of the Aquifer Recharge within the Great Flats area under public control or ownership.

All the lands the City and Town are moving to condemn are in the Town of Rotterdam. A substantial portion of the land sought to be condemned consists of parcels subject to options of Wilmorite, Inc., or in other instances lands owned by Genesee Management, Inc., an affiliated corporation of Wilmorite, Inc. These lands are part of Wilmorite's proposed "Rotterdam Square Project", a retail shopping enterprise with a planned 650,000 square feet of gross leasable area, on about 83 acres of land. The Great Flats Critical Aquifer project, if undertaken, would leave the City and Town in control of approximately 200 acres. Approximately 31 acres of the Aquifer Project overlap with Wilmorite's 83 acres of planned shopping complex. The taking of this portion of land from Wilmorite would have the likely effect of preventing the construction of Rotterdam Square. (The

Aquifer Project also affects approximately 69 acres that the Town of Rotterdam was to receive from Wilmorite for parkland use.)

The Rotterdam Square Project was recently the subject of a State Environmental Quality Review hearing, hearing report and a Commissioner's Decision in connection with Wilmorite's application for several environmental permits (Project #447-07-01488, decision May 18, 1982). The Commissioner's Decision states:

Foremost among the environmental issues and the one which ultimately led the Department to seek lead agency status was the concern for the Project's impact on the Schenectady/Rotterdam aquifer (the "Aquifer"). After a comprehensive, expert investigation and extensive testimony the conclusion reached in the Report is that the proposed Project, modified by certain conditions described below, will not have a significant effect on the Aquifer. Indeed, the proposed shopping center represents a far lesser risk than the existing land uses and transportation corridors in the area.

This decision approved issuance of permits contingent on several changes being made to Wilmorite's original project. DEC concluded that Wilmorite had met its burden of proof with respect to the requirements for various permits with the exception of the freshwater wetlands permit and an impoundment permit. Issuance of these permits depends on further submittals addressing what DEC considered to be the primary potential adverse environmental impacts of Wilmorite's project, namely the increased risk of flooding due to the filling of the wetland.

The City and Town have moved forward with the Great Flats project because they deem public control of the lands as necessary to protect the quality of the water supply notwithstanding the Commissioner's Decision to condition the development of Wilmorite's lands with measures to protect the aquifer.

Wilmorite has alleged that the City and/or Town are moving forward with the acquisition project more out of a motive to prevent commercial competition rather than the stated motive to protect the Great Flats Aquifer from contamination.

III. ISSUE

Despite the extensive hearings and public controversy surrounding the two projects, the question presented for Declaratory Ruling in this case is a narrow one: Do the City and Town need to apply for a permit from the Department in order to purchase or exercise eminent domain powers to acquire property for the protection of existing water supplies without contemplation of the construction of additional wells or increased quantities of withdrawals from the Great Flats aquifer source? This question can be stated as a generic issue of whether a person or public corporation must obtain a permit pursuant to Section 15-1501 et seq. of the ECL in order to acquire, take, or condemn lands for the purpose of protecting the aquifer that is the water supply for that person or public corporation.

I conclude that the ECL does require a permit in such a case and that the City of Schenectady and the Town of Niskayuna must apply to this Department prior to acquisition or exercise of eminent domain power to acquire lands and property rights to protect the Great Flats Aquifer.

IV. ANALYSIS

This ruling can be based entirely on the explicit provisions of the Environmental Conservation Law.

Section 15-1501 reads in pertinent part as follows:

1. Except as otherwise provided in this title, no person or public corporation who is authorized and engaged in, or proposing to engage in, the acquisition, conservation, development, use and distribution of water for potable purposes ... shall have any power to do the following until such person or public corporation has first obtained a permit from the department pursuant to this title:

a. To acquire or take a water supply or an additional water supply from an existing approved source; or

b. To take or condemn lands for any new or additional sources of water supply or for the utilization of such supplies; or

2. [Describes exemptions from permit requirements.]

3. [Refers to requirements that certain plans for facilities must be submitted to and approved by the Commissioner of Health.]

I have reviewed the judicial and Attorney General's opinions cited by counsel and find therein no conflict with the ruling made today. On the contrary, although no cases cited are specifically on point with the issue raised here, the

overwhelming weight of opinion supports the conclusion reached, namely that as in the words of the Legislative Findings for Article 15:*(1)

Article 15 shall be construed and administered in light of the following findings of fact:

1. The sovereign power to regulate and control the water resources of the state ever since its establishment has been and now is vested exclusively with the State of New York except to the extent of any delegation of power to the United States;
(Section 15-0103(1))

Hence, the State has the duty and authority to regulate water supply and the City's and Town's project to obtain additional control over the aquifer in question must be done pursuant to Departmental permit. Further explicit statutory policy is set out at Section 15-0105 as:

In recognition of its sovereign duty to conserve and control its water resources for the benefit of all inhabitants of the state, it is hereby declared to be the public policy of the State of New York that:

1. The regulation and control of the water resources of the state of New York be exercised only pursuant to the laws of this state;

A close reading of Section 15-1501 in light of the foregoing provisions of Article 15 compels the result of this ruling.⁽²⁾

The introductory paragraph of Section 15-1501 refers to the terms "acquisition", "conservation", "use" of water for potable purposes as objectives for which actions to control water supply must be authorized by permit. These same objectives are goals of the City and Town. Notwithstanding the City's and Town's intent

* Case Notes follow this ruling.

to seek no greater quantities of water, the acts to take and/or acquire the lands forming the aquifer and water supply is the determinative fact which requires DEC oversight, according to Section 15-1501(1)(a).

Section 15-1501(1)(b) provides a complementary and independent basis for assertion of DEC's jurisdiction. The City and Town seek rights to land to conserve, and utilize water. The phrase "new or additional sources" is not defined in the statute.⁽³⁾ However, the City's and Town's effort to obtain in fee or other property rights connotes the acquisition of additional rights to control a water supply not now so owned. Contrast this to the extent of ownership the City and Town possess with respect to their existing well fields.

The total and exclusive control of the land or the possession of certain development rights in the land which are related to water supply protection put the City and Town in a position of acquiring or taking lands for new or additional sources of water supply even if the City and Town choose not to seek permits to withdraw waters from the source below the lands.

Thus the fact that any waters within the Great Flats Aquifer may now already be transmitted to the water supply sources, i.e., the wells of the City and Town, does not alter the conclusion that when title is acquired to additional lands, it becomes part of the City's and Town's water supply and must be considered as a new or additional source of water supply, requiring a DEC permit.⁽⁴⁾

Additionally, Section 15-1501(2) does not include the acquisition of land for the purpose of protection of water supply as one of the exemptions from requirements to obtain a permit.

And lastly, there is the interpretation of the statutory requirements provided in Part 601 of Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR Part 601). The foregoing elements of this ruling are consistent with this interpretation. 6 NYCRR §601.1 sets out the jurisdiction and applicability of the Conservation Law from which Section 15-1501 of the ECL is derived. The approval requirements of Part 601 are applicable to identified entities proposing to:

(b) acquire, take or develop any source of water supply in connection with such system;

(c) acquire, take or develop any source of water supply in connection with an existing water supply system;

(d) take or condemn any lands or other rights for water supply purposes; ...


(m) perform any other acts covered by the statute, but not here specifically mentioned.

The predecessor statute to Section 15-1501 had been interpreted to require state approval prior to acquisition of any lands or other rights in connection with water supply purposes, except as specifically exempted in 6 NYCRR §601.3 of the regulations.⁽⁵⁾ The noted exceptions do not pertain to the circumstances of this matter.

V. CONCLUSION

Section 15-1501 of the ECL applies to the project proposed to be undertaken. In order to proceed with the project the City and Town should make application through the Department's Regional Permit Administrator at the Region 4 Office, 2176 Guilderland Avenue, Schenectady, New York 12306.

DATED: Albany, New York
October 22, 1982


for Richard A. Persico
General Counsel/Deputy Commissioner

CASE NOTES

1. In Blomquist v. Orange County, 69 Misc.2d 1077, 332 N.Y.S.2d 546, the Supreme Court, Orange County held that the county was without any authority to purchase or condemn land for future reservoir purposes and the Court would enjoin any further acquisition of land for that purpose until the County complied with the Water Resources Law and obtained Water Resources Commission approval.

2. The Appellate Division, Third Department, in 1961, in the Petition of Suffolk County Water Authority, 12 A.D.2d 198, 209 N.Y.S.2d 978 upheld a decision of the Water Power and Control Commission involving allocation of water supply service area between local governmental entities as follows:

The broad responsibilities to make determinations affecting the access to water resources of the State rests by law in the Commission (Conservation Law, Article V [Water Resources Law]). It must "control and conserve" the water resources "for the benefit of all the inhabitants of the state". City of Syracuse v. Gibbs, 283 N.Y. 275, 28 N.E.2d 835, 838.

3. Prior approval is required for a municipal corporation or other civil divisions to take or condemn lands for any "new or additional source of water supply". The term "source" does not indicate a whole territory from some part of which a municipality has taken a portion of its water supply, hence the taking of additional lands adjacent to New York City's existing "source" was deemed to be a taking of a new additional source of water supply in the 1909 case of Queens County Water Company v. O'Brien, 131 App. Div. 91, 115 N.Y.S.495.

4. The closest case paralleling the instant one is a 1945 Attorney General's opinion declaring that the Village of Liberty was required to obtain the consent of the Water Power and Control Commission prior to the purchase of 192 acres adjacent to its existing surface supply. Like the City's and Town's project, the acquisition was aimed solely at protecting the existing source and supply of the Village. The Attorney General stated:

I am of the opinion that the acquisition of these lands as an addition to the present water system requires the approval of your Commission. The proper protection of the water supply and the water shed is a subject within the jurisdiction of the Commission (Conservation Law §523). The fact that Mud Pond now flows into Lilly Pond, the present source of water supply of the Village, does not alter the conclusion that when title to Mud Pond is acquired by the Village, it becomes part of the Village's water supply system and must be considered as a new or additional source of water supply, requiring your approval (Conservation Law §§521, 523).

5. Consistent with the regulation exemptions is the case of Mitchell v. Village of Croton-on-Hudson, 45 Misc.2d 910, 258 N.Y.S.2d 201 (1965). Prior approval of the State Water Resources Commission was not needed for condemnation of certain land by a village and for erection of a water storage tank where the reservoir was to draw water from the present village supply and would not result in an increase in the supply taken.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, NY 12167-9503

P: (607) 652-7741 | F: (607) 652-3672

www.dec.ny.gov

June 15, 2016

Honorable Emily Lloyd
Commissioner
NYC Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-0051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acq. Program

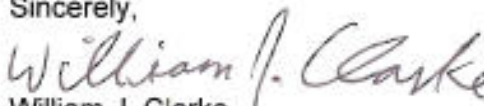
Dear Commissioner Lloyd:

The Department hereby modifies the above referenced Water Supply Permit in regard to the City-Funded Flood Buyout Program.

Specifically, Special Condition 7(b) was modified to add wording reflecting the program. The revisions are incorporated into page 8 of the permit which is attached in its entirety hereto. All other conditions of the permit remain in effect. Please attach this modified document and letter to the permit.

If you have any questions, please feel free to contact Martha A Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely,



William J. Clarke
Regional Permit Administrator
Region 4

Cc: List attached



NEW YORK
STATE OF
ENVIRONMENTAL
CONSERVATION
Department of
Environmental
Conservation

Cc: A. Rosa
D. Frazier
D. Ruzow
G. Rodenhausen
J. Baker
K. Young
M. Sterthouse
N. Franzese
T. Cox
B. Clarke
C. Cashman
D. Tobias
E. Goldstein
F. Huneke
H. Meltzer
J. Tierney
K. Hudson
L. Taylor
M. Matsil
M. Brand
M. VonWergers
M. Schwab
M. Holt
P. Young
P. Gallay
R. Williams
R. Levine
R. Sokol
T. Snow
K. Goertz
D. Warne
D. Pabst
A. Coiro
M. Oliver
M. Brand
M. VanRossum
B. Dolph
J. Senterman
J. Parker
K. Lynch
P. Rush

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



PERMIT
Under the Environmental
Conservation Law (ECL)

DEC PERMIT NUMBER 0-9999-00051/00001
FACILITY/PROGRAM NUMBER(S) WSA #11,352 Date Filed: January 20, 2010 Ext. No.

EFFECTIVE DATE Original: December 24, 2010 Last modification: June 15, 2016
EXPIRATION DATE(S) As per Special Condition 3

TYPE OF PERMIT (Check All Appropriate Boxes)
<input checked="" type="checkbox"/> NEW <input checked="" type="checkbox"/> RENEWAL <input checked="" type="checkbox"/> MODIFICATION <input type="checkbox"/> PERMIT TO CONSTRUCT <input checked="" type="checkbox"/> PERMIT TO OPERATE

<input type="checkbox"/> ARTICLE 15, TITLE 5: PROTECTION OF WATER	<input type="checkbox"/> ARTICLE 17, TITLES 7, 8: SPDES	<input type="checkbox"/> ARTICLE 27, TITLE 9; 6NYCRR 373: HAZARDOUS WASTE MGMT.
<input checked="" type="checkbox"/> ARTICLE 15, TITLE 15: WATER SUPPLY	<input type="checkbox"/> ARTICLE 19: AIR POLLUTION CONTROL	<input type="checkbox"/> ARTICLE 34: COASTAL EROSION MANAGEMENT
<input type="checkbox"/> ARTICLE 15, TITLE 15: WATER TRANSPORT	<input type="checkbox"/> ARTICLE 23, TITLE 27: MINED LAND RECLAMATION	<input type="checkbox"/> ARTICLE 36: FLOODPLAIN MANAGEMENT
<input type="checkbox"/> ARTICLE 15, TITLE 15: LONG ISLAND WELLS	<input type="checkbox"/> ARTICLE 24: FRESHWATER WETLANDS	<input type="checkbox"/> ARTICLES 1, 3, 17, 19, 27, 37, 6NYCRR 380: RADIATION CONTROL
<input type="checkbox"/> ARTICLE 15, TITLE 27: WILD, SCENIC & RECREATIONAL RIVERS	<input type="checkbox"/> ARTICLE 25: TIDAL WETLANDS	<input type="checkbox"/> ARTICLE 27, TITLE 3, 6NYCRR 364: WASTE TRANSPORTER
<input type="checkbox"/> 6NYCRR 608: WATER QUALITY CERTIFICATION	<input type="checkbox"/> ARTICLE 27, TITLE 7: 6NYCRR 360: SOLID WASTE MANAGEMENT	<input type="checkbox"/> OTHER:

PERMIT ISSUED TO New York City Department of Environmental Protection		TELEPHONE NUMBER 718-595-6586	
ADDRESS OF PERMITTEE 59-17 Junction Boulevard, Flushing, NY 11373			
CONTACT PERSON FOR PERMITTED WORK Caswell F. Holloway, Commissioner		TELEPHONE NUMBER	
NAME AND ADDRESS OF PROJECT/FACILITY N/A			
LOCATION OF PROJECT/FACILITY Counties of Putnam, Westchester, Dutchess, Greene, Sullivan, Schoharie, Ulster, Delaware			
COUNTY Multiple	TOWN/CITY/VILLAGE Multiple	WATERCOURSE/WETLAND NO. N/A	NYTM COORDINATES E: N:

DESCRIPTION OF AUTHORIZED ACTIVITY:

Land and easement acquisition and management program (Land Acquisition Program or LAP) within the New York City water supply watershed for the purpose of water quality protection.

Original permit issued 12/24/10
 Modification 1: Exhibit 10, paragraph 24.c modified May 27, 2011
 Modification 2: Special Condition 8.c. 180 days changed to 360 days (2011 only), modified June 20, 2011.
 Modification 3: Special Condition 23: 6 months changed to 4 months, modified July 15, 2011.
 Modification 4: Special Condition 8(c), and 29a & b modified February 24, 2012.
 Modification 5: Special Condition 7(b) modified January 14, 2014 (Fair Market Value determination).
 Modification 6: Special Condition 7(b) modified June 15, 2016 (City-funded Buyouts)

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

REGIONAL PERMIT ADMINISTRATOR William J. Clarke	ADDRESS NYSDEC, Region 4 Headquarters 1130 North Westcott Road, Schenectady, NY 12306
<i>William J. Clarke</i>	DATE 6/15/2016
Page 1 of 30	

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

GENERAL CONDITIONS**1. Facility Inspection by the Department**

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications for Permit Renewals or Modifications

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

The permittee must submit a renewal application at least:

- a) 180 days before expiration of permits for State Pollutant Discharge Elimination System (SPDES), Hazardous Waste Management Facilities (HWMF), major Air Pollution Control (APC) and Solid Waste Management Facilities (SWMF); and
- b) 30 days before expiration of all other permit types.

Submission of applications for permit renewal or modification are to be submitted to:

NYSDEC Regional Permit Administrator, Region 4		NYSDEC Deputy Regional Permit Administrator, Region 4
1150 North Westcott Road, Schenectady, NY 12306		Stamford Field Office, 65561 SH 10, Stamford, NY 12167
(for Albany, Columbia, Greene, Rensselaer,		(for Delaware, Otsego, & Schoharie Counties)
Montgomery, & Schenectady Counties)		

4. Permit Modifications, Suspensions and Revocations by the Department

The Department reserves the right to modify, suspend or revoke this permit in accordance with 6 NYCRR Part 621.

The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

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1. **Authorization.** As authorized by and pursuant to all the terms and conditions of this permit, including attached exhibits, the City of New York ("City"), through the New York City Department of Environmental Protection ("NYCDEP"), may acquire fee title to, or Watershed Conservation Easements (which also include Watershed Agricultural Easements, Watershed Forest Easements, and Riparian Buffer Easements) on, parcels of land located within the Watershed of the New York City water supply system (Watershed). The terms and conditions of this permit draw their statutory authorization from and are designed to ensure that the project is consistent with, section 15-1503(2) and 15-1503(4) of the Environmental Conservation Law and implementing regulations 6NYCRR601. Nothing herein shall be construed to diminish any obligation of the City arising out of the prior approvals or permits issued by NYSDEC, or its predecessors, including the Water Supply Commission, Conservation Commission and Water Power and Control Commission. This authorization shall not exceed 106,712 acres in total City acquisitions in fee title and Watershed Conservation Easements across the entire Watershed which are acquired (i.e. executed contract to purchase) from January 1, 2010 forward of which no more than 105,043 acres shall be located in the West of Hudson watershed.

2. **Scope.** The 2007 USEPA filtration avoidance determination requires the City to commit Two Hundred Forty One Million Dollars (\$241,000,000) in funding a Land Acquisition Program ("LAP") to acquire fee title to, or Watershed Conservation Easements on, parcels of land in the Catskill and Delaware Watershed. This follows upon an earlier filtration avoidance determination embodied in the 1997 Water Supply Permit and the intergovernmental 1997 New York City Watershed Memorandum of Agreement or MOA that required the City to allocate Two Hundred Fifty Million Dollars (\$250,000,000) to the LAP and an additional Fifty Million Dollars (\$50,000,000) to the LAP between 2002 and 2008. The City's LAP, the City's Watershed Regulations, and the other programs and conditions contained in the Watershed MOA, when implemented in conjunction with one another, are intended to protect water quality while allowing existing development to continue and future growth to occur in a manner that is consistent with the existing community character and planning goals of each of the Watershed communities. The City's land acquisition goals recognize the importance of ensuring that the availability of developable land in the Watershed will remain sufficient to accommodate projected growth without adverse effects on water quality and without substantially changing future population patterns in the Watershed communities.

3. **Permit Duration.** The following special conditions shall expire 15 years from the effective date of this permit: Special Conditions 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 22, 25, 26, 27, 29, 30, 31, 33, and 34. All other special conditions shall remain in effect unless modified pursuant to 6NYCRR621. Operational non expiring permit conditions shall consist of:
 3. Permit Duration
 4. Definitions
 15. Recreational Uses: City Property Owned in Fee Simple for Watershed Protection.
 16. Uses: LAP Fee and Easement Property
 18. Real Property Taxes: Newly Acquired In Fee
 19. Real Property Taxes: Watershed Conservation Easements
 20. Limitation on Transfers to Tax Exempt Entities
 21. Land Held in Perpetuity for Watershed Protection
 23. Water Conservation Program Updates and Approval
 24. Water Conservation Program Implementation
 28. Notices and Submittals
 32. Forest Management Plan

4. **Definitions.** The following terms, as used in this permit, shall have the meaning set forth below:
 - a. "CAPA" means the City Administrative Procedure Act, chapter 45 of the New York City Charter.

- b. "Catskill and Delaware System" means the Ashokan, Cannonsville, Kensico, Neversink, Pepacton, Rondout, Schoharie, and West Branch/Boyd's Corner Reservoirs, and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs.
- c. "Catskill and Delaware Watershed" means the drainage basins of the Catskill and Delaware System. A map of this watershed is set forth in Exhibit 1.
- d. "Catskill Watershed Corporation" or "CWC" means an independent locally-based and locally administered not-for-profit corporation, organized under Section 1411 of the Not For Profit Corporation Law (the "CW Corporation") established in order to foster a working partnership between the City and the WOH Communities, and to manage certain programs more fully described in Special Condition 25 and Exhibit 14 required by this permit under contract to New York City.
- e. "City" means the City of New York, a municipal corporation with its principal office at City Hall, New York, New York 10007. The City is subject to all the terms and conditions in this Water Supply Permit through its implementing agency the NYC Department of Environmental Protection and is responsible for assuring all of its contractors adhere to the same.
- f. "Cluster Development" means the concentrated grouping of residential or commercial development so as to protect water quality and preserve the open space of the development parcel. Cluster Development is also defined within NYS Town Law Section 278 as follows: cluster development shall mean a subdivision plat or plats, approved pursuant to this article, in which the applicable zoning ordinance or local law is modified to provide an alternative permitted method for the layout, configuration and design of lots, buildings and structures, roads, utility lines and other infrastructure, parks, and landscaping in order to preserve the natural and scenic qualities of open lands.
- g. "Coalition of Watershed Towns" or "Coalition" means the inter-municipal body composed of the municipalities located wholly or partially within that portion of the New York City Watershed that lies west of the Hudson river, which have duly entered into a cooperative agreement, pursuant to § 119-o of the New York General Municipal Law, having its principal office at Tannersville, New York.
- h. "Croton System" means the Amawalk, Bog Brook, Cross River, Croton Falls, Diverting, East Branch, Middle Branch, Muscoot, New Croton, and Titicus Reservoirs, Kirk Lake, Lake Gleneida and Lake Gilead, and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs and controlled lakes.
- i. "Croton Watershed" means the drainage basins of the Croton System. A map of this watershed is set forth in Exhibit 1.
- j. "Drainage Basin" or "Reservoir Basin" means, for purposes of defining the boundaries of the drainage basin of each reservoir or controlled lake, the area of land that drains surface water into, or into tributaries of, a reservoir or controlled lake of the Catskill and Delaware or Croton Systems.
- k. "East of Hudson" or "EOH" means the drainage basins of the specific reservoirs and controlled lakes of the New York City Watershed located east of the Hudson River in the New York counties of Dutchess, Putnam, and Westchester.
- l. "Effective Date" means the date as shown on Page 1 of the issued permit.
- m. "Executive Committee" means the Executive Committee of the WPPC.
- n. "Individual Landowner Forest Management Plan" means a document prepared by a professional forester that is based upon the goals and objectives that individual owners have for their forested properties and updated on a ten year basis. It is a document which shows by maps, tables and written text, the boundaries and size of the forest, what kind and sizes of trees it contains, what needs to be done to produce and harvest forest products or to achieve other non-timber related objectives and how such activities should be designed in order to minimize negative impacts to water quality.

- o. "Filtration Avoidance Determination or "FAD" means the written determination of the United States Environmental Protection Agency, or the New York State Department of Health, determining that surface source waters may be used as a public water supply without filtration.
- p. "Land" means fee title in real property or Watershed Conservation easements on real property, unless a different meaning is clearly intended by the context.
- q. "NYCDEP" means the New York City Department of Environmental Protection, a mayoral agency of the City of New York organized and existing pursuant to the New York City Charter and its contractors.
- r. "NYSDEC" means the New York State Department of Environmental Conservation, an executive agency of the State of New York organized and existing pursuant to the New York Environmental Conservation Law.
- s. "NYSDOH" means the New York State Department of Health, an executive agency of the State of New York organized and existing pursuant to the New York Public Health Law.
- t. "Primacy Agency" means the United States Environmental Protection Agency or the New York State Department of Health, whichever has primary enforcement responsibility for implementation of the federal Surface Water Treatment Rule (40 CFR §141.70 et seq.) pursuant to §1413 of the federal Safe Drinking Water Act (42 U.S.C. §300g-2).
- u. "Riparian Buffer Easement" means a Watershed Conservation Easement, as defined below in paragraph (cc.) on real property (including floodplains) adjacent to streams, lakes, rivers, wetlands, and/or water bodies acquired pursuant to the Riparian Buffer Program described in Special Condition 29.
- v. "Riparian Buffer in fee" means real property (including floodplains) adjacent to streams, lakes, rivers, wetlands, and/or water bodies acquired in fee pursuant to the Riparian Buffer Program described in Special Condition 29.
- w. "TMDL" means Total Daily Maximum Load. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations for point source discharges, load allocations for nonpoint sources, and a margin of safety.
- x. "Uninhabitable Dwelling" means a dwelling which is deteriorated to the extent that: either the cost of rehabilitation which would prevent the continued deterioration of primary components will exceed sixty percent (60%) of the fair market value of the structure (as established by the City's appraisal) or rehabilitation will not prevent the continued deterioration of primary components of the dwelling which will result in unsafe living conditions; and it has not been occupied for one year immediately prior to the signing of an option. As used herein, the term "primary components of a dwelling" shall include: foundations, exterior wall framing, rafters, roof decks, roof coverings, porches, floor joists, sills, headers, electrical systems, heating systems, plumbing systems and septic systems.
- y. "USEPA" means the United States Environmental Protection Agency, an executive agency of the United States, organized and existing under the laws of the United States, with its principal office at 401 M Street, S.W., Washington, D.C. 20460.
- z. "Watershed" or "New York City Watershed" means the drainage basins of the Catskill and Delaware and Croton Systems.
- aa. "Watershed Agricultural Council" or "WAC" means an independent locally-based and locally administered not-for-profit corporation, organized under Section 1411 of the Not For Profit Corporation Law (the "Watershed Agricultural Council") established in order to foster a working partnership between the City and the WOH Communities, and to implement and manage certain programs under contract to New York City including but not limited to Watershed Agricultural Easements.

- bb. "Watershed Agricultural Easement" means a Watershed Conservation Easement, as defined below in paragraph (cc.), on real property in active agricultural production or designated for future agricultural production. Such easements shall allow agricultural production.
- cc. "Watershed Conservation Easement" means an easement, covenant, restriction or other interest in real property, created under and subject to the provisions of Article 49 of the New York Environmental Conservation Law, which limits or restricts development, management or use of such real property for the purpose of maintaining the open space or natural condition or character of the real property in a manner consistent with the protection of water quality generally and the New York City drinking water supply specifically. It also includes Watershed Agricultural Easements, Watershed Forest Easements, and Riparian Buffer Easements)
- dd. "Watershed Forest Easement" means a Watershed Conservation Easement, as defined in paragraph (cc.), on real property in forest production or designated for future forest production. Such easements shall allow forest production.
- ee. "Watershed MOA" or "MOA" means the agreement, entered on January 21, 1997, among the State of New York, the City of New York, the United States Environmental Protection Agency, Catskill Watershed Corporation, the Coalition of Watershed Towns, certain watershed municipalities, and certain environmental groups which established a framework for a "partnership to cooperate in the development and implementation of a Watershed protection program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities."
- ff. "Watershed Protection and Partnership Council" or "WPPC" shall mean a group formed to aid in the protection of drinking water quality and the economic vitality of the Watershed communities. The Council will represent a broad-based diverse group of interests that share the common goal of protecting and enhancing the environmental integrity of the Watershed and the social and economic vitality of the Watershed communities. The Council shall consists of twenty-seven (27) members (sixteen (16) members constituting an executive Committee and eleven (11) additional members), which shall include representatives from the State and City of New York, local governments in the Watershed, the USEPA, business, the environmental community, and water supply consumers.
- gg. "Watershed Regulations" means the watershed rules and regulations applicable to the New York City Watershed, codified as Rules of the City of New York ("RCNY"), Title 15, Chapter 18 and New York Codes, Rules and Regulations, Title 10, Part 128 pursuant to Public Health Law Section 1100.
- hh. "1997 Designated Areas" means the villages, village extensions, hamlets, and commercial or industrial areas designated in accordance with paragraph 68 of the Watershed MOA.
- ii. "1997 Water Supply Permit" means the water supply permit issued by NYSDEC on January 21, 1997, DEC Permit Number 0-9999-00051/00001.
- jj. "Water Supply System" means the system of reservoirs, controlled lakes, structures and facilities such as dams, tunnels, and aqueducts which collect source water for the New York City drinking water supply and transport it to the City of New York.
- kk. "West of Hudson" or "WOH" means the Catskill and Delaware drainage basins of the specific reservoirs of the New York City Watershed located west of the Hudson River in the New York counties of Greene, Delaware, Ulster, Schoharie, and Sullivan.
- ll. "WWTP" means wastewater treatment plant.

5. **Willing Sellers/No Eminent Domain.** The City may acquire fee title to, or Watershed Conservation easements on, real property from willing sellers only. This permit does not authorize the use of any powers of eminent domain.

6. Mapping of Priority Areas.

- a. The Catskill and Delaware Watershed has been mapped, in descending order of priority for acquisition and protection, into Priority Areas 1A, 1B, 2, 3, and 4 by the City as shown in Exhibits 2 (West of Hudson) and 3 (East of Hudson).
- i. Priority Area 1A is the highest priority. It consists of portions of reservoir basins that are within 60-day travel time to distribution and are in close proximity to an aqueduct intake. It consists of portions of the basins of the Kensico, West Branch, Ashokan, Rondout, Neversink, Pepacton, and Cannonsville Reservoirs. Priority Area 1B consists of portions of reservoir basins that are within 60-day travel time to distribution and not Priority Area 1A. It consists of: all of Boyd's Corners Reservoir basin; the remaining portions of the basins of Kensico, West Branch, and Rondout Reservoirs; and portions of the basins of Ashokan, Cannonsville, and Pepacton Reservoirs.
 - ii. Priority Area 2 consists of the remaining portion of the Ashokan Reservoir basin (portions of terminal reservoir basins that are not within priority areas 1A or 1B).
 - iii. Priority Area 3 consists of portions of reservoir basins with identified water quality problems that are not in priority areas 1A, 1B, or 2.
 - iv. Priority Area 4 is the lowest priority. It consists of the remaining areas within the Watershed.
 - b. The Croton Watershed has been mapped by the City into Priority Areas A, B, and C; A being the highest priority.
 - i. The Croton Watershed priority areas are as follows: A (New Croton, Croton Falls, and Cross River Reservoirs); B (Muscoot and portions of Amawalk and Titicus Reservoirs within 60-day travel time to distribution); C (remaining reservoir basins and sub-basins beyond 60-day travel time to distribution).

A map of the boundaries of these Priority Areas is set forth in Exhibit 3 of this permit.

7. Eligibility and Authorization for Acquisition.

a. To be eligible and authorized for acquisition by the City in fee, parcels of land must be vacant, as defined in Special Condition 8, and meet the size and natural features criteria, as set forth in Special Condition 9, and not fall under the acquisition exclusions (hamlet or village designations), as set forth in Special Condition 10. Acquisition eligibility and authorization for Riparian Buffer fee parcels shall be determined solely based upon their meeting the surface water features thresholds (but not steep slopes thresholds) in Special Condition 9.a.2.a - d. and falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10 unless such exclusion is waived in individual municipalities by the town or village boards by resolution authorizing the Riparian Buffer Program and the specific parcels described and covered by such program.

b. Parcels of land participating in a federal, state, or City flood buy-out program need neither be vacant, as defined in Special Condition 8, nor meet the size and natural features criteria, as set forth in Special Condition 9 nor are such parcels subject to the acquisition exclusions (hamlet or village designations) in Special Condition 10. Fair Market Value for parcels of land participating in a federal, state, or City flood buy-out program may be determined in accordance with either the process established by the Federal Emergency Management Agency, or as set forth in Special Condition 13. Any parcels of land acquired under a federal, state, or City flood buy-out program which will be held in fee by a local government rather than the City which are protected from development in perpetuity by deed in accordance with the provisions of 42 U.S.C. § 5170c or equivalent protections enforceable by the department, are not subject to Special Condition 21(a). The City flood buy-out program referred to in this condition is defined and governed by the process, procedures and criteria defined in the document entitled "City-Funded Flood Buyout Program Property Evaluation and Selection Process", dated June 1, 2016. In the event the City proposes a material modification to the Process such proposed modification shall be publicly noticed by NYSDEC for public comment and shall be subject to NYSDEC approval as a permit modification under 6NYCRR Part 621 Uniform Procedures prior to City implementation of such proposed modification. The City flood buy-out program shall provide for the opportunity prior to acquisition for the municipality to review and approve, conditionally approve or reject the proposed parcels within its boundaries.

c. To be eligible and authorized for acquisition as Watershed Conservation Easements (except for Watershed Agricultural Easements and Riparian Buffer Easements) by the City, parcels of land must meet the size and natural features criteria set forth in Special Condition 9 and not fall under the acquisition exclusions (hamlet or village designations) in Special Condition 10. All Watershed Conservation Easements may be acquired on land regardless of whether the land is vacant, as defined in Special Condition 8. Acquisition eligibility and authorization for Watershed Agricultural Easement parcels shall be determined solely based upon falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10.

Acquisition eligibility and authorization for Riparian Buffer Easement parcels shall be determined solely based upon their meeting the surface water features thresholds (but not steep slopes thresholds) in Special Condition 9.a.2.a - d and falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10 unless such exclusion is waived in individual municipalities by the town or village boards by resolution authorizing the Riparian Buffer Program and the specific parcels described and covered by such program.

8. Vacant Lands Defined.

- a. Vacant land West of Hudson means land on which there are no structures, other than uninhabitable dwellings or accessory structures (sheds, barns, etc.). If a parcel contains a habitable dwelling, the City will acquire the parcel in fee only if the owner subdivides the parcel so that the City only takes title to the portion of the parcel without the habitable dwelling. The subdivided parcel containing the habitable dwelling must include an adequate area for septic field, reserve area and well. If a parcel acquired in fee contains an uninhabitable dwelling or accessory structure, the City will remove it within two years of acquiring title if requested to do so by the respective town or village during the local consultation period.
- b. Vacant land East of Hudson means land on which there are no inhabited structures at the time the City acquires title. If the City is interested in a parcel that contains a structure that would be inhabited at the time the City acquires title, the parcel must be subdivided so that the City only takes title to the portion of the parcel without the inhabited structure.
- c. The City shall be authorized to use land trusts operating under the Enhanced Land Trust Program established pursuant to Special Condition 33 for WOH as LAP contractors to acquire lands described in this special condition providing that the following requirements are adhered to: the subdivision of the parcels is carried out according to the criteria in 8.a above, the vacant land is conveyed to the City, the portion of the properties containing the habitable dwellings are fully maintained so as to not diminish their monetary value, all local tax (including ad valorem) payments are kept current and such subdivided habitable dwelling properties are placed for sale in the open real estate market. In order for this provision to take effect the Town or Village Board shall adopt a resolution pursuant to such procedures determined to be applicable by such Board within 390 days of the Effective Date of this Permit. Every five years, from the Effective Date of the Permit any Town or Village Board shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to implement the provisions of this paragraph or rescind any prior adopted resolution. All such resolutions shall be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption.

9. Size and Natural Features Criteria.

Applicability defined herein and within Special Condition 7 above.

- a. West of Hudson:
 1. Size

All eligible and authorized parcels must:

 - a. In Priority Area 1A be at least one acre in size.
 - b. In Priority Area 1B must be at least five acres in size.
 - c. In Priority Areas 2, 3, and 4 must be at least ten acres in size
 2. Surface Water Features/Slopes:

All eligible and authorized parcels only in Priority Areas 2, 3, and 4 must either:

 - a. Be at least partially located within 1,000 feet of a reservoir; or
 - b. Be at least partially located within the 100-year flood plain; or
 - c. Be at least partially located within 300 feet of a watercourse, as defined in the Watershed Regulations; or

d. Contain in whole or in part a federal jurisdiction wetland greater than five (5) acres or NYSDEC mapped wetland; or

e. Contain ground slopes greater than fifteen percent (15%).

3. Special Criteria:

All eligible and authorized parcels only in Priority Areas 2, 3 and 4 must either:

a. Be no less than seven percent (7%) Surface Water Features, as set forth in 9.a.2.a - d above, or

b. Be no less than fifty percent (50%) slopes of 15% or greater as set forth in 9.a.2.e above.

- b. Parcels which meet the natural features criteria, as set forth in subparagraph a.2, adjoining to lands owned in fee by the City or owned in fee by the State and which would otherwise not be eligible and authorized under the above Special Criteria, as defined in subparagraph a.3 of this special condition, are eligible and authorized for acquisition in fee by the City subject to the following restrictions: 1) individual acquisitions cannot exceed 25 acres, 2) total acquisitions cannot exceed 1,500 acres in West of Hudson over the life of this permit condition, 3) total acquisitions cannot exceed 300 acres in any one county over the life of this permit and 4) such acquisitions must be for one or more of the following purposes of: a) enhancing recreational access or use, b) addressing access deficiencies such as proposed or existing recreational trail interconnections or trailheads, c) State or City owned in fee parcel access, d) addressing land management issues such as preventing unauthorized uses on State or City owned lands, or e) to provide for linking City or State owned lands or to achieve consolidation by purchasing private in-holdings found within City or State owned land.
- c. The City may acquire parcels of land West of Hudson that do not meet the above size requirements applicable to Priority Areas 1B, 2, 3 and 4 throughout a town or village or only for those parcels located, at least partially, in a 100-year floodplain, if the Town or Village Board waives the size requirements by resolution adopted pursuant to such procedures determined to be applicable by such Board within 180 days of the Effective Date of this Permit. Every five years, from the Effective Date of the Permit any Town or Village Board shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to implement the provisions of this paragraph or revoke a prior waiver if granted. All such resolutions shall be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption.
- d. There are no parcel size requirements East of Hudson.
- e. In the Croton Watershed, the City will prioritize its acquisitions based on the Priority Area in which the parcel is located and the natural features of the parcel which could affect water quality.
- f. The City may aggregate adjoining tax parcels being acquired at one time, or being aggregated with adjoining City-owned land, to meet the minimum acreage (size) requirements as set forth in 9.a.1 above.
- g. The City may aggregate adjoining tax parcels being acquired at one time to meet the Natural Features Criteria as set forth in 9.a. above so long as the parcels are under related family member ownership or related corporate ownership.
- h. The natural features criteria determinations of parcel eligibility and authorization shall be based upon information contained in the City's geographic information system, or if available site inspection information, as of the parcel appraisal order date. Where and if available, new, verified, more up to date information shall be used to govern parcel eligibility and authorization up to the conclusion of the local consultation process as set forth in Special Condition 12 including the dispute resolution process as set forth in 12.h.
- i. Any unacquired parcels not meeting the Special Criteria in this condition but which have appraisal orders which precede the Effective Date of this Permit shall continue to be considered eligible and authorized for acquisition for up to 12 months from the effective date of this permit whereupon such eligibility ceases unless a purchase contract has been signed between the City and the seller.

10. Exclusions from Acquisition (Designated Hamlet and Village Areas).

- a. West of Hudson. The following land areas described in subparagraphs i - iv below are hereby excluded from acquisition by the City in fee and Watershed Conservation Easement only if a town or a village designates them as Designated Hamlet (or Village) Areas by Town (or Village) Board resolution within 180 days of the Effective Date of the permit. Such Town or Village Board designation resolutions shall describe the excluded (hamlet or village) land parcels within their jurisdiction covered in subparagraphs i - iv below. Towns and Villages shall have the option to remove parcels from coverage so they would not be part of the designated hamlet or village area. Towns and Villages considering such resolutions shall provide for the following: 1) written notification via regular US Postal Service mail to the affected landowners within their jurisdiction as shown in Exhibits 4 and 5 using the mailing addresses found in the most current municipal tax rolls, 2) general notice to the public via local newspapers, and 3) a public comment period of no less than 30 days following such notices. Then within 21 days following their adoption, Town or Village Board designation resolutions must be submitted by the towns or villages to NYSDEC, the City and affected landowners with a certification and documentation that all requirements of this Special Condition and all applicable laws and regulations have been followed. Thereupon the resolution will take effect and becomes binding upon the City. NYSDEC retains final authority to resolve any dispute under this special condition between the City and Town or Village using the process as set forth in Special Condition 12.h. Towns may designate hamlet areas under subparagraphs ii. and/or land areas under iii. and iv. below. The excluded land areas under this paragraph can consist of only:
- i. land within an incorporated village designated by the Village Board (Designated Village Area); and
 - ii. land parcels within a town and designated as hamlet in whole or in part by the Town Board (Designated Hamlet Area) from the list of tax parcels and maps in Exhibits 4 and 5; and
 - iii. up to 50 acres of land within a town designated by the Town Board; provided that the lands are outside Priority Area 1A, are identified as whole tax map parcels, and are identified as commercial or industrial areas and provided that any acreage previously so designated by Town Boards is set forth in Exhibits 4 and 5; and
 - iv. lands within a town designated by the Town Board; provided that the lands are designated by tax map parcel and are located within one-quarter mile of a village and abutting the roads set forth in Exhibit 6 of this permit.
- b. The 1997 Town or Village Board Designated Areas by resolution which implemented an acquisition in fee only exclusion made pursuant to the provisions of the 1997 Water Supply Permit shall continue (except for the Town of Shandaken) unless superseded by the new designations authorized in Paragraph a of this Special Condition.
- c. Commencing on the Effective Date of this Permit except for Riparian Buffers in fee or Easements, the City shall not solicit the purchase of either land in fee or Watershed Conservation Easements from any landowner in the Town of Shandaken directly. Specifically, the City will not intentionally initiate contact with any landowner concerning opportunities to sell real property interests, whether by mail, by telephone, in person, or otherwise. Notwithstanding the City's agreement not to solicit landowners directly, nothing herein shall prevent the City from receiving, responding to, or acting upon unsolicited inquiries from owners of land in the Town of Shandaken.
- d. East of Hudson, the City shall not acquire fee title to property zoned commercial or industrial as of the date of the City's solicitation, except that the City may acquire up to five percent (5%) of the total acreage of such property within any town or village unless a town or village in Westchester County agrees, by resolution, to a higher percentage in such town or village.

- e. Any unacquired parcels which become part of the area excluded from acquisition (hamlet designation) under paragraph a. of this condition and have appraisal orders that precede the Effective Date of this Permit shall continue to be considered eligible and authorized for acquisition for up to 12 months from the Effective Date of this Permit whereupon such eligibility ceases unless a purchase contract has been signed between the City and the seller.
- f. Every five years, from the Effective Date of the Permit any town or village shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to: 1) implement the provisions of Paragraph a. of this Special Condition or 2) rescind any prior designation pursuant to such procedures determined to be applicable by such Board with such resolutions provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption in order for them to take effect. If the Town of Shandaken exercises this option then the provisions of paragraph c. in this special condition are no longer in effect. In order to maintain eligibility and acquisition authorization for any pending parcel specific land acquisition process in those communities the City shall have three months after receiving the town or village board resolution in which to order an appraisal and 12 months for purchase contracts to be signed by the City and the seller otherwise such parcels become excluded from acquisition. The City shall not solicit additional acquisitions upon passage and subsequent submittal to NYSDEC and the City of the designation resolution.
- g. As provided for in Special Condition 7.c above, Riparian Buffer in fee or easements may be acquired by the City even if within a Designated Village or Hamlet Area if the Town or Village Board waives by resolution which may be adopted at any time pursuant to such procedures determined to be applicable by such Board thereby authorizing the Riparian Buffer Program and the specific parcels described and covered. Such resolutions must be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption in order for them to take effect.
- h. For the Towns of Ashland, Delhi, Hamden, Walton and Windham, the parcels referenced in the cluster development Town Board resolutions attached as Exhibit 13 shall be eligible for coverage under this Special Condition only if such resolutions remain in force. Such resolutions shall encourage and authorize town planning boards to approve cluster development projects.

11. Acquisition Procedures.

At request of a town or village, the City shall make a presentation describing the process the City intends to use to solicit acquisitions.

- a. West of Hudson, the City may make a joint presentation to groups of up to three towns and/or villages. With the consent of the involved towns or villages, the City may also make a joint presentation to groups of more than three towns and/or villages West of Hudson, or to any number of towns and/or villages East of Hudson.
- b. Such presentation shall also include an indication of what land is eligible for acquisition in such town or village (including a map of the town or village reflecting the priority areas and applicable Natural Features Criteria) and the estimated acreage that the City expects to acquire.
- c. The City may solicit landowners directly and acquire such land except as restricted by Special Conditions (SC) 7 – Eligibility and Authorization for Acquisition, SC 8 – Vacant Lands Defined, SC 9 – Size and Natural Features Criteria and SC 10 – Exclusions from Acquisition. The City may also receive, and act upon, unsolicited inquiries from landowners at any time subject to the restrictions of Special Conditions 7, 8, 9 and 10.

12. Local Consultation.

- a. Prior to acquiring any land or Watershed Conservation Easements, the City will consult with the town or village in which the parcel is located. The consultation will ensure that the City is aware of and considers the town's or village's interests and that the terms of this permit are complied with.

- b. The City will provide a local government consultation package with copies to NYSDOH, EPA and NYSDEC that will: 1) identify for the town or village, and for the appropriate County and for NYSDEC, the parcels of any land or Watershed Conservation Easements for which the City has entered into an option or contract to purchase, any structures which may be located on the property; 2) state the City's determination of whether structures are uninhabitable or accessory; 3) include a map or maps depicting the tax parcel boundary of the acquisition property, including the location and attributes of "envelopes" within the proposed acquisition; 4) include an aerial photo of the affected property (if available); 5) identify exclusions (if any) from the acquisition; 6) describe any proposed recreational uses; 7) describe all historical uses including natural resources; 8) identify known available natural resources; 9) include the Community Review Fact Sheet; 10) include a brief summary concerning and map depicting the proposed acquisition and any adjacent proposed City acquisitions in fee or easements including rights of way or adjacent existing City or State owned land in fee or easement; 11) describe any proposed fencing and signing; 12) include the form of easement agreement (if an easement is being acquired); and 13) state that the parcel meets these acquisition criteria: a) Special Condition 9 Size and Natural Features Criteria, b) Special Condition 8 Vacant Lands Defined, c) Special Condition 7 Eligibility and Authorization for Acquisition and d) Special Condition 10 Exclusions from Acquisition.
- c. The City will diligently attempt to group together parcels for review by the town or village and to minimize the number of times it submits parcels for review, and will submit such parcels for review no more frequently than on a monthly basis. The City shall allow the town or village a total of 120 days to undertake all the following:
- review and assess the information contained in the City's submission;
 - conduct public review and interagency consultation where so desired by the town or village; and
 - submit comments to the City.
- e. The town or village review and comments (which may be supplemented with comments from the county) may include:
- consistency with the natural features criteria in Special Condition 9;
 - consistency with the size requirements in Special Condition 9;
 - consistency with the vacancy requirements in Special Condition 8;
 - consistency with local land use laws, plans and policies;
 - the City's proposed fencing and signing;
 - proposed recreational uses;
 - available natural resources and access thereto;
 - access to any development areas;
 - potable water;
 - sewage disposal;
 - consistency with set-back requirements and local land use regulation; and
 - natural resource criteria.
- f. In the event of a mortgage foreclosure, tax foreclosure or judgment sale, the City may submit a parcel for review to a town or village without obtaining an option or contract to purchase.
- g. The City will respond to local government comments and provide notice of any proposed City actions, within thirty (30) days of receipt. Unless a town or village notifies the City of its intent to file an appeal within thirty (30) days of receiving the City's response and an appeal is filed pursuant to paragraph h. below the City may proceed to acquire the parcels

identified in the local consultation process in the village or town. In the event of any dispute, the acquisition of any specific parcel involved shall not proceed except under the dispute resolution/final decision provisions of paragraph h. below.

- h. Disputes between the City and the town or village over whether a particular parcel meets the vacancy, size, or natural features criteria contained in this permit in Special Conditions 8 and 9 will be submitted by the City to NYSDEC (attention: NYSDEC Office of Hearings) prior to the City's acquisition or may be submitted by the disputing town or village no later than thirty (30) days of receiving the City's response to comments under paragraph g above. This dispute, will be resolved based upon the facts as submitted and the terms and conditions of this permit by NYSDEC through a designated Administrative Law Judge in the NYSDEC Office of Hearings. The responding party (the town or village, or the City) may make a submission to NYSDEC in response to the position advocated by the party initiating the dispute resolution process within fifteen (15) days following the City's receipt of the initial submission. NYSDEC shall resolve such dispute or issue a final binding decision within thirty (30) days of the responding party's submittal deadline. NYSDEC's decision shall be a final decision for purposes of Article 78 of the New York Civil Practice Law and Rules. Unless otherwise specified, either party (the City or the community) has sixty (60) days from the date of the NYSDEC decision to commence an Article 78 proceeding in respect of NYSDEC's decision. In the event NYSDEC does not resolve the dispute or issue a final decision within the thirty (30) day time period specified herein then the City may send a request to NYSDEC in writing by certified mail, return receipt requested with copies to the disputing town or village, to issue a final decision pursuant to this paragraph. The Petition in an Article 78 proceeding shall name the City as a Respondent. If within thirty (30) days of the receipt of this letter the dispute is not resolved or a final decision by NYSDEC is not issued then a final NYSDEC decision finding that the disputed acquisition parcels have met the vacancy, size, or natural features criteria contained in this permit in Special Conditions 8 and 9 shall be deemed to have been granted.
- i. To assist towns and villages in the Watershed in their review and comment on proposed City land acquisition in such towns and villages, and the designation of hamlets, commercial/industrial areas, and village extensions and periodic determinations with respect to such designations in Special Condition 10, the City will reimburse each town or village where the City seeks to acquire lands or Watershed Conservation Easements, for actual costs incurred, up to Thirty Thousand Dollars (\$30,000), in the West of Hudson Watershed, up to Twenty Thousand Dollars (\$20,000) in the East of Hudson portions of the Catskill and Delaware Watershed, and up to Ten Thousand Dollars (\$10,000), per town or village in the Croton Watershed and not in the Catskill/Delaware Watershed, Such funding has previously been allocated pursuant to MOA ¶ 148 and the 2007 FAD.

13. Fair Market Value.

- a. The purchase price of all land and Watershed Conservation Easements acquired shall reflect fair market value, as determined by an independent appraisal obtained at the direction of the City and performed by an independent, New York State certified appraiser.
- b. Notwithstanding (a) above, the City may acquire property at less than the fair market value at public auction or at a directly negotiated sale from a bank, other financial institution, or taxing authority in the context of a mortgage foreclosure, tax foreclosure, or legal judgment.
- c. Fair market value shall be determined in accordance with the following definition from the Uniform Standards of Professional Appraisal Practice adopted by the Appraisal Standards Board of the Appraisal Foundation, or in accordance with relevant successor language.
The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this

definition is the consummation of the sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
 2. Both parties are well informed or well advised, and acting in what they consider their best interest;
 3. A reasonable time is allowed for exposure in the open market;
 4. Payment is made in terms of cash in U.S. dollars, or in terms of financial arrangements comparable thereto; and
 5. The price represents the normal consideration for the property, sold unaffected by special or creative financing sales concessions granted by anyone associated with the sale.
- d. For purposes of determining fair market value if all other required governmental permits and approvals have been granted, the appraiser shall assume that any necessary City approvals have also been granted.
- e. In determining the fair market value, the independent appraisers hired by the City will consider information from a second appraisal, provided by the landowner and made at the landowner's or a third party's expense, provided the second appraisal is made by a New York State certified appraiser and was completed no earlier than one year prior to the City's appraisal and no later than six (6) months after the owner received the City's appraisal. Upon request by the landowner or a third party, the City may extend the time period for completion of a second appraisal.

14. Schedule. The City will solicit acquisitions in accordance with the applicable solicitation plan prepared and submitted to NYSDEC, NYSDOH and USEPA pursuant to the 2007 FAD or its successor (Exhibits 7: 2007, Exhibit 8: 2008-10). The City may, at any time, respond to direct inquiries from property owners anywhere in the Watershed, subject to all applicable Special Conditions in this permit.

15. Recreational Uses: City Property Owned in Fee Simple for Watershed Protection.

- a. The City will consult during the 120-day review period specified in Special Condition 12 with NYSDEC, NYSDOH, USEPA local governments, and the appropriate regional Sporting Advisory Subcommittee, if any, regarding the recreational uses the City deems appropriate on newly acquired parcels in fee.
- b. The City shall allow historic recreational uses, including fishing, trapping, hiking, and hunting, to continue on newly acquired parcels in fee, subject to rules and regulations adopted or permits issued by NYCDEP, unless NYCDEP determines, on a rational basis, that such uses threaten public safety or threaten to have an adverse impact on water quality or NYCDEP operations related to water supply.
- c. The following recreational uses are more likely to be allowed on City land, if appropriate, subject to rules and regulations adopted, or permits issued, by NYCDEP: fishing (including fishing by boat) under regulation; hiking, especially where parcels intersect State trails, snowshoeing; cross country skiing; bird watching, educational programs, nature study and interpretation; and hunting (only in certain areas under certain conditions).
- d. The following activities are not likely to be allowed on City property even if the property was historically utilized for these purposes: boating (other than for permitted fishing by boat and the pilot boating program in paragraph g. of this condition); snowmobiling (except as per paragraph f. of this condition); camping; motorcycling; mountain bicycling; and horseback riding.
- e. Seven (7) years from the Effective Date of the Permit the City shall consult pursuant to paragraph 15.a above regarding recreational uses on City owned property owned in fee simple using the procedures in this special condition and based upon such consultation evaluate if there should be any changes in the allowable recreational uses specified herein. A report shall be prepared and submitted to NYSDEC within 6 months after such consultation. Thereafter, upon

request from NYSDEC, the City shall follow the consultation procedures described in 15.a above and prepare and submit a report to NYSDEC within twelve (12) months after receiving such request. Such requests will be made in writing, will include specific recommendations concerning changes in the allowable recreational uses for the City to consider, and may be made no more often than once every ten (10) years.

- f. Snowmobile Trails. The City will continue to allow snowmobile access on specific City-owned parcels under the following conditions:
 - i. A qualified organization must obtain a land use permit for trails that are part of a regional NYSDEC-sanctioned network to cross City property;
 - ii. Use of the trails must not pose a threat to water quality or NYCDEP operations related to water supply; and
 - iii. A qualified organization must take responsibility for establishment and maintenance of trails.
- g. Expanded Boating Program. The City will continue the Cannonsville Pilot Boating Program (for the purposes of this paragraph, the "Boating Program") including cooperating with CWC to complete the evaluation study to gather data from the Boating Program regarding its impact, if any, upon water quality, and providing recreational opportunities as well as establishing criteria for evaluating the Program. With this study in hand, NYCDEP shall consult with NYSDEC and NYSDOH prior to making any determination if the Boating Program should be continued and/or expanded to other City owned reservoirs.

16. Uses: LAP Fee and Easement Property.

- a. Permitted uses on land acquired in fee by the Land Acquisition Program (LAP): As described in Special Condition 15.b and c.
- b. Uses not likely to be allowed on LAP-acquired fee land: As described in Special Condition 15.d. above.
- c. Prohibited Uses on LAP-acquired fee land: as described in the declaration of restrictions contained in the grant of conservation easement to NYSDEC as shown in Exhibit 9 or as revised by NYSDEC in consultation with NYCDEP.
- d. Reserved Uses/Reserved Rights:
 1. The Reserved Uses/Reserved Rights that may be available on LAP Fee and Easement Property include, but are not limited to: communication towers, wind turbines, Farm Support Housing and other buildings used for rural enterprises (Watershed Agricultural Easements only), Commercial Forestry, Commercial Bluestone Mining, and public or private rights of way and utility easements.
 2. Watershed Conservation Easements Acquired after the Effective Date of this Permit.
 - a. The City will incorporate into NYCDEP Watershed Conservation Easements appraised on or after the Effective Date of this Permit provisions for the reserved uses/reserved rights listed in subparagraph d.1. above and also provide that the City must review such applications to exercise reserved uses/reserved rights on a case by case basis subject to the terms of the Easement and a determination that the proposed use will not pose a threat to water quality or NYCDEP operations related to water supply.
 - b. The City will ensure that Watershed Agricultural Easements appraised on or after the Effective Date of the Permit shall conform to the WAC model easement found in Exhibit 10, and shall provide the rights provided in paragraphs 2.s, 3, 8, 19, 20, and 24 of the model easement dated September 2, 2010.
 - c. Any unacquired easement parcels shall not be subject to paragraphs d.2.a. and b. of this condition if their appraisal orders precede the Effective Date of this

Permit and the landowner has declined the opportunity to convert the easement to the versions of the NYCDEP and WAC model easements described in paragraphs 16.d.2.a and 16.d.2.b above and a purchase contract has been signed between the City and the landowner/seller within 12 months from the Effective Date of this Permit. Otherwise paragraphs 16.d.2.a. and b. apply.

3. Watershed Conservation Easements Executed Prior to the Effective Date of this Permit.
 - a. Upon request from a grantor of an easement acquired prior to the Effective Date of this Permit, based on a specific proposal to undertake a use that would be a Reserved Use under this Permit but is not included in the existing easement, the City shall make (or shall ensure that its contractor makes) diligent efforts to execute and record amendments to the easement, or otherwise to allow the use if it is permissible without such an amendment, subject to reasonable conditions, so long as:
 - i. The grantor provides the following information about the proposed use:
 1. A project description;
 2. A map depicting the proposed area for the activity and approximate area(s) of disturbance;
 3. A list of all required regulatory approvals associated with the proposed use; and
 4. Information demonstrating that the proposed use will not pose a threat to water quality or NYCDEP operations related to water supply.
 - ii. Any modification to the easement is made subject to all applicable laws and requirements.
 - b. The City shall ensure the following actions: 1) within 180 days of the Effective Date of this Permit, WAC will send a letter to grantors of Agricultural Easements offering to amend existing Agricultural Easements; 2) the letter will specifically propose to add new language to the existing Easement, including but not necessarily limited to sections 2.s, 3, 8, 19, 20, and 24 of the updated model Agricultural Easement, attached as Exhibit 10; 3) the letter will state that WAC will pay for all costs associated with such amendments where grantors agree to amend; and 4) implementation of these provisions.
4. The NYS Conservation Easement for new fee parcels may include the reserved uses/rights as defined in 16.d.1 above. Such NYS Conservation Easements shall provide for the review and approval by the NYSDEC of each proposed wind energy tower/structure or communications tower/structure in accordance with the model NYS Conservation Easement attached as Exhibit 9 unless the NYSDEC waives such individual project review and approval in writing. The City may request on a case by case basis for specific project proposals that NYSDEC amend specific NYS Conservation Easements in order to provide for the wind energy or communications tower reserved uses enumerated in d.1 above. Any modification to such an easement or to the model easement shall be subject to all applicable laws and requirements.

17. Watershed Conservation Easements. In addition to acquisition in fee, the City may acquire Watershed Conservation Easements in accordance with Article 49 of the New York State Environmental Conservation Law and any implementing regulations. The Watershed Conservation Easements will be acquired at fair market value in accordance with Special Condition 13. Watershed Conservation Easements shall consist of Watershed Conservation Easements, Watershed Agricultural Easements, Watershed Forest Easements and Riparian Buffer Easements acquired by either the City or on behalf of the City as part of a contractual agreement between the

City and organizations or governmental agencies, individuals or companies pursuant to all the provisions of this permit.

18. Real Property Taxes: Newly Acquired in Fee under the City's Land Acquisition Program.

- a. The City will not challenge the initial assessed value or adjustments to the assessed value of parcels to be acquired pursuant to the land acquisition program set forth in this permit provided the initial assessed or adjusted value for such parcel does not exceed the fair market value of the parcel multiplied by the applicable equalization rate or a special equalization rate for that assessing unit. For purposes of this paragraph, fair market value equals the parcel's appraised value as finally determined by the City's independent appraiser.
- b. The City will not challenge future assessments on any parcel acquired pursuant to the land acquisition program set forth in this permit or the 1997 Water Supply Permit, provided that in any Town or Village both of the following two conditions are met: (1) the rate of increase of the total assessed value of all parcels purchased by the City under the land acquisition program, as measured from the assessment roll in any year over the assessment roll of the prior year is not greater than the equivalent rate of increase in total assessed value of all non-City-owned parcels classified as forest or vacant; and (2) the ratio of the total assessed value of all parcels purchased by the City under the land acquisition program in the town to the total assessed value of all taxable parcels in the town does not increase from the prior year (after excluding any City acquisitions not included in the prior year's calculation). With respect to each parcel purchased by the City, since the beginning of the LAP in 1997 as well as after the Effective Date of this Permit, this commitment with respect to challenges of future assessments shall last for thirty (30) years from the date of each purchase.
- c. The City will not seek to have any parcels acquired pursuant to this land acquisition program consolidated for purposes of reducing the City's property taxes.
- d. The City shall retain its right as a property owner to challenge in court, or otherwise, assessments of parcels purchased under the land acquisition program if the provisions of paragraphs (a) and (b) are not satisfied. In any such challenge, the City will not seek to have the assessed value of the parcel reduced below the highest value which would result in the assessed value of the parcel satisfying the limitation set forth in paragraph (a) or in the total assessed value of all parcels purchased by the City under the land acquisition program in the town satisfying the limitations set forth in paragraph (b) above.
- e. Except as provided in paragraph (c), the City retains all legal rights held by property owners with respect to any town-wide or county wide revaluation or update (as those terms are defined in Section 102, subdivisions (12-a) and (22) of the RPTL) currently being undertaken or which may be undertaken in the future.
- f. The City shall also make payment for real property tax and ad valorem levies upon properties covered by this Special Condition.
- g. The City shall assure the provisions of this special condition are incorporated into an instrument binding upon the recipient and if successors or assignees in the event of any property transfer or sale.

19. Real Property Taxes: Watershed Conservation Easements. The City shall support the enactment by the State Legislature of amendments as set forth in Exhibit 11 or its equivalent. Among other changes such amendments in Exhibit 11 would extend this statute so its provisions do not expire on 12/31/2016 and also expand property tax payment obligations by the City to include agriculturally exempt Watershed Agricultural Easements pursuant to Article 25-AA Agricultural and Markets Law acquired after 12/31/2010.

- a. Article 5, Title 4-a of the New York Real Property Tax Law is the applicable state law which applies to Watershed Conservation Easements and Watershed Agricultural Easements. After December 31, 2010 the City shall also be bound by the proposed amended provisions in Exhibit 11 unless it or its equivalent has been enacted into law. Should the current statute expire then the

City shall be bound by the provisions of Exhibit 11 in its entirety. Unless Exhibit 11 or its equivalent is enacted into statute the City may not enter into purchase contracts to acquire Watershed Conservation Easements (WCE) or Watershed Agricultural Easements (WAE) except in those towns or villages where the City has entered into agreements with each applicable local property tax and assessing authority or jurisdiction (Local Authority[ies]) to implement the proposed amended provisions of Exhibit 11 on the following schedule: 1) WAEs proposed for acquisition after 12/31/2010, 2) WCEs (including continuation for WAEs) proposed for acquisition after 12/31/2016. In the event the Local Authority[ies] does/do not execute within ninety (90) days a signed agreement provided by the City then the City may execute purchase contracts within that town or village. Exhibit 11 includes the City paying local property tax levies for agriculturally exempt Watershed Agricultural Easements pursuant to Article 25-AA Agricultural and Markets Law which are acquired after December 31, 2010 as well as the continuation past December 31, 2016 of the City's obligation to pay local property taxes for Watershed Conservation Easements and Watershed Agricultural Easements acquired by the City under the LAP. Such agreements shall expire only if Exhibit 11 or its equivalent is enacted into law.

- a. The City will provide to the respective Towns and Villages, as part of the local consultation process, and to the respective sellers, a generic description in plain language of the real property tax consequences to a seller arising from the City's purchase of a Watershed Conservation Easement.
- b. The City shall assure the provisions of this special condition are incorporated into an instrument binding upon the recipient and if successors or assignees in the event of any property transfer or sale.

20. Limitation on Transfers to Tax Exempt Entities. The City will not transfer land including Watershed Conservation Easements, acquired pursuant to this land acquisition program to a tax exempt entity unless the entity executes a binding agreement with the City to comply with the provisions of Special Conditions 18 and 19.a plus 19.c which includes payments in place of property taxes and ad valorem levies as well as with any agreements and requirements that run with the land. This binding agreement shall also provide for the tax exempt entity to enter into its own written agreements acceptable to and with each applicable local property tax and assessing authority or jurisdiction to make payments equal to real property tax and ad valorem levies to satisfy the provisions of this special condition and the binding agreement. The City shall also in each such binding agreement entered into pursuant to this Special Condition make each such local property tax and assessing authority or jurisdiction in which the land subject to transfer to a tax exempt entity is situated, a third party beneficiary. Such agreement will grant each such third party beneficiary the right to enforce against the tax exempt entity and obtain specific performance as a remedy as well as shall run with the land and apply to future grantees or assignees.

21. Land Held in Perpetuity for Watershed Protection. (a) The City will grant a conservation easement that shall run with the land on all land acquired in fee under the land acquisition program to NYSDEC to ensure that such land is held in perpetuity in an undeveloped state in order to protect the Watershed and the New York City drinking water supply. Such easement shall also provide that the Primacy Agency shall have enforcement rights or be specified as a third-party beneficiary with a right to enforce the easement. With respect to lands in Priority Areas 3, 4 or C, such easements will provide that, with the prior agreement of USEPA and NYSDOH, the City may sell such lands free of the easement restriction, in order to purchase already identified replacement lands located in a higher Priority Area. In addition, any lands to be sold shall be offered in the first instance to NYSDEC for the option to acquire pursuant to applicable New York State and NYC laws at fair market value or a mutually agreed upon acquisition price. If so, the replacement lands thus acquired will similarly be subject to conservation easements. The City will not use the granting of conservation easements to reduce property tax liability on the property it acquires. In order to acquire any replacement lands during the term of the land acquisition program, the City shall comply with all of the requirements of this permit. Replacement LAP land

acquisition shall be governed by the provisions of this permit which shall survive expiration for this express LAP purpose.

(b) Watershed Conservation Easements acquired by the City shall be held in perpetuity in order to protect the Watershed and the New York City drinking water supply.

22. Acquisition Reports. The City shall submit acquisition reports every six months from the Effective Date of the Permit to the Primacy Agency (USEPA or NYSDOH), NYSDEC, and the Watershed Protection and Partnership Council. Such reports will include the following information for all parcels and easements acquired during the reporting period: address; description of the property, including any easement; county and town where property is located; tax map number; acreage; closing date; and map of property. The acquisition report shall also contain cumulative totals of acreage solicited and acreage acquired identified by town and Priority Area. Such Reports may be consolidated with reports required to be submitted under a Filtration Avoidance Determination.

23. Water Conservation Program Updates and Approval. The City shall update its current Water Conservation Program dated December, 2006 (Exhibit 13) ("Program") every 5 years thereafter and submit four (4) copies and one electronic copy in PDF, or similar form, of the updated Program to the NYSDEC for approval by no later than four (4) months prior to the end of the five year period. The written Water Conservation Program must be submitted to NYSDEC with sufficient detail and analysis to explain any data, objectives, proposals, estimated savings, measurements, milestones, methods of documentation, results or conclusions contained therein.

24. Water Conservation Program Implementation. The City shall continue to carry out all elements of its approved Water Conservation Program ("Program"). Within one year after the approval of the latest Program by the NYSDEC, and annually thereafter, the permittee must submit to the NYSDEC four (4) copies and one electronic copy in PDF, or similar form, of a Water Conservation Report ("Report"). The Report must address each element of the approved Program and any additional water conservation measures planned or being carried out by the permittee. The Report must be in the same format as the Program and must also include an update on the progress of implementation of all elements of the Program to date, an identification of accomplishments over the previous year; and an explanation for any failure to accomplish an element of the Program. The Report shall also specifically include, but not be limited to, a table that includes the number of meters installed; leaks repaired; miles of water main repaired and replaced; miles of water main leak surveyed; hydrants repaired or replaced; water fixtures rebated and water conservation surveys completed for the City's five boroughs. Each category shall also include the estimated daily gallons of water saved by each action.

25. Programs to Foster Cooperation and Requirement to Fund Watershed Protection and Partnership Programs.

a. Pursuant to Section 15-1503(4) of the Environmental Conservation Law, in addition to the foregoing conditions, NYSDEC has determined that the implementation, by the City, of the following programs, originally established by the 1997 Watershed MOA, incorporated as conditions in the 1997, 2002 and 2007 FADs and made a condition of the 1997 Water Supply Permit, as well as those programs identified below will foster cooperation with persons affected by the land acquisition program and assure the LAP is just and equitable to all affected municipalities and their inhabitants and in particular with regard to their present and future needs for sources of water supply. Except as otherwise provided in this permit, the City is required to execute and maintain Valid and Enforceable Program Contracts which implement the programs set forth below and as further described in the following provisions of the MOA which are incorporated by reference as Exhibit 14, and the following Watershed Protection and Partnership Programs: Septic Remediation and Replacement Program; Septic Maintenance Program; Community Wastewater Management Program; Stormwater Retrofit Program; Local Consultation Program; Education and Outreach Program; Tax Litigation Avoidance Program; CWC Operating Funds; Watershed Agricultural Program; Stream Management Program; and East of Hudson Non-Point Source

Pollution Control Program. The City's obligation to execute and maintain Valid and Enforceable Program Contracts for such programs is an independent requirement of this permit and shall continue whether or not the Watershed MOA is valid and enforceable. Nothing in this Permit limits the City's obligations under the MOA.

<u>Exhibit 14 Paragraph</u>	<u>Description</u>
120	Funding of the Catskill Watershed Corporation.
121	SPDES Upgrades.
122	New Sewage Treatment Infrastructure Facilities for Towns, Villages and Hamlets and Community Wastewater Management Program
125	Stormwater Retrofits, including continuation thereof.
126	Sand and Salt Storage Facilities, including continuation thereof.
131	Public Education, including continuation thereof
136	Tax Consulting Fund, which is hereby replaced by the Tax Litigation Avoidance Program
141	Upgrades to Existing WWTPs to comply with Watershed Regulations.
144	Phosphorus Controls in Cannonsville.
148	Local Consultation on Land Acquisition Program., including continuation thereof.

For purposes of this Special Condition, a Valid and Enforceable Program Contract shall mean a contract: (i) for which the City has appropriated sufficient funds to fulfill its obligations under this special condition and to make payments as they become due and owing; (ii) which has been registered pursuant to section 328 of the City Charter; and (iii) which remains in full force and effect and enforceable under applicable law during the term required by this permit. A failure by the City to comply with the condition requiring a valid and enforceable program contract for a program shall not be a violation of this permit if (i) the City continues to make timely payments for the program in accordance with the terms of the relevant paragraph of the MOA and the applicable program contract or (ii) the City has properly terminated the contract pursuant to the terms thereof and the City complies with its obligations to continue to fund or complete the subject program. For purposes of this Special Condition, a payment to be made by the City shall not be considered made to the extent such payments are required to be refunded to the City. In order to ensure the continuity of the programs in paragraph "b" below, the City shall meet annually with CWC prior to the end of CWC's fiscal year (December 31) to evaluate and confirm the availability of adequate and sufficient funding to meet the City's obligations.

b. Watershed Protection and Partnership Programs. In order to continue watershed protection and partnership programs, the City shall provide adequate levels of funding for continuation of all of the Watershed Protection and Partnership Programs required in this permit and in the 2007 FAD and any subsequent FAD or FAD amendment including adequate funding to the CWC and WAC, as described and set forth below:

1. Septic Remediation and Replacement Program:
 - i. Through October 2013, consistent with the terms of the 2007 FAD and pursuant to the City's Program Agreement with CWC, the City shall continue to pay CWC One Million, Three Hundred Thousand Dollars (\$1,300,000) each quarter to fund the Septic Remediation and Replacement Program as established pursuant to Watershed MOA paragraph 124 and as subsequently modified under the 2002 and 2007 FADs. These funds include funds available

- for the Small Business Program and the Cluster System Program as set forth below. For the duration of this Permit, the City will continue to fund the Septic Remediation and Replacement Program at a level to allow a minimum of three hundred (300) septic systems per year to be remediated or replaced, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Septic Remediation and Replacement Program (including the Small Business Program and the Cluster System Program) shall be incorporated herein and made enforceable conditions of this Permit.
- ii. The City shall support the continued use of the Four Million Dollars (\$4,000,000) allocated under the 2007 FAD for the Small Business Program for the duration of this Permit for the purposes described in the 2007 FAD, as refined through the development of the Program Rules. For the duration of this Permit, the City will provide comparable and adequate funding for the Small Business Program, provided that CWC demonstrates that the need for such funding continues.
 - iii. The City shall support the continued use of the Two Million Dollars (\$2,000,000) allocated under the 2007 FAD for the Cluster System Program for the duration of this Permit for the purposes described in the 2007 FAD, as refined through the development of the Program Rules. The City agrees that cluster systems may be an effective solution to address certain problematic septic systems on lots with inadequate space and/or soils to accommodate individual systems in compliance with applicable regulations, and that rather than simple cooperative agreements among common users to a proposed cluster system that are only subject to private enforcement, municipal management and sewer district formation will be needed. Pursuant to the 2007 FAD, the City has identified thirteen areas/small hamlets that may be candidates for or in need of cluster systems. To determine the feasibility of such cluster systems, the City shall, in cooperation with CWC, consider the following issues: determining whether an individual town agrees that there is a need for a collective engineered intervention in a specific identified hamlet; identifying a willing host site for a collective system; establishing a sewer use ordinance; and overseeing project management by CWC or its agents. NYCDEP shall work with CWC to explore implementation of projects under these terms and to continue to examine the program terms to facilitate the advancement of cluster systems. In the event that CWC determines that it is not feasible to further pursue this program, the City shall allow CWC to allocate any remaining funds to either or both the Septic Remediation and Replacement Program or the Small Business Program.
2. **Septic Maintenance Program:** The City shall support the continued use of the One Million, Five Hundred Thousand Dollars (\$1,500,000) allocated and paid to CWC under the 2002 FAD for the Septic Maintenance Program. For the duration of this Permit, the City will provide additional funding, if necessary, to allow maintenance each year of 20% of the total number of septic systems eligible for maintenance under CWC's Septic Maintenance Program Rules, as revised February 28, 2008, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Septic Maintenance Program shall be incorporated herein and made enforceable conditions of this Permit.
 3. **Community Wastewater Management Program:** As set forth in the 2007 FAD and as a continuation of the New Infrastructure Program established pursuant to Paragraph 122 of the Watershed MOA, the City shall provide sufficient funding to design and complete Community Wastewater Management Program projects for the remaining communities as set forth in the list contained in MOA Paragraph 122. This includes the hamlets of Trout Creek, Lexington, South Kortright, Shandaken, West Conesville, Claryville, Halcottsville, and New Kingston. Consistent with the City's Program Agreement with CWC, the City shall make payment based on invoices from CWC as needed for project design and implementation costs. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Community Wastewater

Management Program shall be incorporated herein and made enforceable conditions of this Permit.

4. Stormwater Retrofit Program: Through October 2013, the City shall support the continued use of the Four Million, Six Hundred Fifty Thousand Dollars (\$4,650,000) allocated under the 2007 FAD for the Stormwater Retrofit Program established pursuant to Paragraph 125 of the Watershed MOA. For the duration of the Permit, the City shall continue to fund the Stormwater Retrofit Program to allow the Program to continue at a level of activity that has been maintained since the inception of the Program, consistent with the processes set forth in CWC's Stormwater Retrofit Program Rules, as revised October 6, 2009, provided CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Stormwater Retrofit Program shall be incorporated herein and made enforceable conditions of this Permit.
5. Local Consultation on Land Acquisition Program: The City shall continue to make available up to Thirty Thousand Dollars (\$30,000) per town or village in the West of Hudson Watershed allocated pursuant to Paragraph 148 of the Watershed MOA and the 2007 FAD for the Local Consultation Program, for purposes described in MOA Paragraph 148 and the 2007 FAD, for the duration of this Permit. The City shall also continue to make available up to Twenty Thousand Dollars (\$20,000) per town or village in the East of Hudson portions of the Catskill/Delaware Watershed allocated pursuant to MOA Paragraph 148 for the Local Consultation Program, for purposes described in the 1997 MOA, for the duration of this Permit. The City shall also continue to make available up to Ten Thousand Dollars (\$10,000) per town or village in the Croton Watershed and not in the Catskill/Delaware Watershed, for purposes described in the 1997 MOA, for the duration of this Permit.
6. Education and Outreach Program: As set forth in the 2007 FAD, the City shall continue to make available up to Eight Hundred Thousand Dollars (\$800,000) to fund the Education and Outreach Program as established pursuant to Paragraph 125 of the Watershed MOA. Consistent with the City's Program Agreement with CWC, the City shall make payment based on invoices from CWC as needed for eligible projects. For the duration of the Permit, the City will continue to fund the Education and Outreach Program at a minimum level of Two Hundred Three Thousand, Seven Hundred Thirty Four Dollars (\$203,734) per year, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Education and Outreach Program shall be incorporated herein and made enforceable conditions of this Permit.
7. Catskill Watershed Corporation General Operating Expenses:
 - i. General Operating Expenses: For the duration of this permit, the City will continue to fund CWC General Operating Expenses as needed, based on requests for such funding from CWC, which the City shall not unreasonably deny. The City estimates that the total funding will be approximately Four Million, Three Hundred Seventy-Three Thousand, Six Hundred Twenty-Five Dollars (\$4,373,625) over the duration of this Permit. The City shall be bound to provide no less than this amount to fulfill such CWC funding requests.
 - ii. Stormwater Coordination Position: Through 2013, consistent with the terms of the 2007 FAD and pursuant to the City's Stormwater Technical Assistance contract with CWC, the City shall continue to pay CWC Forty-Eight Thousand Dollars (\$48,000) each year to fund a position at CWC to assist the regulated community in complying with the stormwater provisions of the City's Watershed Regulations. For the duration of this Permit, the City will ensure adequate funding and continue to fund an appropriate engineering position at CWC (salary plus cost of standard fringe benefits) to assist applicants undertaking regulated activities to comply with the stormwater provisions of the City's Watershed Regulations. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund such an engineering position at the Catskill Watershed Corporation, including annual salary

plus cost of standard fringe benefits, shall be incorporated herein and made enforceable conditions of this Permit.

8. **Tax Litigation Avoidance Program:** For the duration of this Permit, the City will fund the Tax Litigation Avoidance Program (TLAP) pursuant to which the City will provide funds in an initial amount of Five Hundred Thousand Dollars (\$500,000), and continued funding up to a cap of Two Million Dollars (\$2,000,000) plus a one time additional reasonable amount for any individual Assessing Authority to be used for the purposes of the TLAP to be administered by the CWC, for use by the jurisdictional local property tax assessing authorities (Assessing Authority[ies]) for the purpose of seeking to avoid the costs and risks of litigation over taxes assessed on dams, reservoirs, wastewater treatment plants and, to the extent applicable, sewer lines (Unique Properties) owned by the City. The City will seek to enter into a Program Agreement with CWC within nine months of the date of this Permit, setting forth the terms and conditions under which TLAP funds may be used by CWC to retain an expert to assist the Assessing Authority in (i) applying and updating templates for assessing Unique Properties owned by the City; (ii) evaluating a Valuation Report provided by the City to an Assessing Authority; and (iii) valuing Unique Properties where the Assessing Authority has undertaken a town-wide revaluation. In addition, under certain limited circumstances, the City will provide limited reimbursement for costs of litigation. The City will not challenge future assessments of Unique Properties, where templates have been established and the Assessing Authorities have used those templates, provided that the City does not dispute the manner in which the Assessing Authority has applied the template. Disputes will be resolved in accordance with the TLAP Program Agreement. The City shall provide a copy of the program agreement to NYSDEC when executed.
9. **Gap Funding:** The City will provide reimbursement to CWC of any funds transferred from CWC's Future Stormwater Program to the CWC Septic Program and/or the CWC Stormwater Retrofit Program for the purpose of ensuring continuation of those programs and from the Catskill Fund for the Future to CWC Operating accounts and/or the TLAP pending final funding agreements under the terms of the Second Five Years of the 2007 Filtration Avoidance Determination ("2012 FAD Reauthorization") or of a subsequent Filtration Avoidance Determination, if such a Determination is issued ("2017 FAD" and/or 2022 FAD"). Such reimbursement from the City, including interest foregone by CWC by virtue of having temporarily allocated money from the Future Stormwater Program and/or the Catskill Fund for the Future, shall be provided for in agreements or change orders. The City shall not oppose such agreements and/or change orders being included as conditions of the 2012 FAD Reauthorization or the 2017 FAD.
10. **Geographic Information System:** As set forth in the 2007 FAD, the City shall continue to disseminate data to stakeholders and the public as appropriate, including notification of data availability to communities and responses to requests for data.
11. **Watershed Agricultural Program:** Through October 2012, consistent with the terms of the 2007 FAD and pursuant to the City's Program Agreement with WAC, the City shall continue to make available up to Thirty-Two Million Dollars (\$32,000,000) to fund the Watershed Agricultural Program. Consistent with the City's Program Agreement with WAC, the City shall make payment based on quarterly invoices from WAC, subject to the terms of the Program Agreement, for farm plans and associated best management practices (BMPs), forest plans and forest BMPs, and other eligible costs relating to WAC's farm and forestry programs. For the duration of this Permit, the City's commitments to fund the Watershed Agricultural Program pursuant to any subsequent FAD or FAD amendment shall be incorporated herein and made enforceable conditions of this Permit.
12. **Stream Management Program:** Consistent with the terms of the 2007 FAD and pursuant to the City's contracts with Soil and Water Contract Districts in Delaware County (\$8,251,000), Greene County (\$10,748,506), Ulster County (\$4,460,000), and Sullivan County (\$3,292,684) and with

Ulster County Cornell Cooperative Extension (\$3,647,570), the City shall provide funding for the continuation of each of the existing Stream Corridor Management Program contracts. For the duration of this Permit, the City commits to fund the Stream Corridor Management Program pursuant to any subsequent FAD or FAD amendment which shall be incorporated herein and made an enforceable condition of this permit.

26. Restriction on Acquisition of Title.

a. The City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraph (c) if (1) the City has not appropriated funds for one or more of the programs listed in subparagraph (c) below and thereafter the City fails to make a payment that would otherwise be due and owing under a contract for such unappropriated program and (2) the City has not cured the failure to make such payment within thirty (30) days of the date the payment was due and owing. For purposes of this paragraph only, a failure to make a payment shall be deemed cured if the City makes such payment, with interest at 9% compounded annually from the date such payment was due and owing.

b. Except as provided in paragraph (a) above, the City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraph (c) if (1) for one or more of the programs listed below, the City does not have a valid and enforceable program contract during the term set forth in Exhibit 14 and thereafter the City fails to make a payment that would otherwise be due and owing under such invalid or unenforceable contract and (2) the City had not cured the failure to make such payment within 8 months of the date the payment would otherwise have been due and owing. The 8 month period is intended to provide the City with time to attempt to resolve the matter which caused the program contract to become invalid and unenforceable without interruption to the land acquisition program. For purposes of this paragraph only, a failure to make a payment shall be deemed cured if the City makes such payment, with interest at 6.5% compounded annually from the date such payment was due and owing.

c. The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit under this subpart are: (1) with respect to acquisitions in West of Hudson: Catskill Watershed Corporation Funding, SPDES Upgrades; New Sewage Treatment Infrastructure Facilities; Sand and Salt Storage; Septic Remediation and Replacement Program; Septic Maintenance Program; Community Wastewater Management Program; Stormwater Retrofit Program; Education and Outreach Program; Tax Litigation Avoidance Program; Stream Management Program, (2) with respect to acquisitions in East of Hudson: Non-Point Source Control Program, and (3) with respect to acquisitions in the entire Watershed: Upgrades to Existing WWTPs to Comply with Watershed Regulations; Watershed Agricultural Program and Local Consultation on Land Acquisition.

d. If the water supply permit is Restricted under this Special Condition, the City shall not acquire title to land or Watershed Conservation Easements on land under this permit until, with respect to the program for which the failure to pay led to the Restrictions, the City has made all missed payments which the City failed to pay and which would otherwise be due and owing except that the City failed to maintain a valid and enforceable contract, as provided in paragraphs (a) and (b), as well as interest on such missed payments at the rate set forth in paragraphs (a) or (b), whichever is applicable.

e. The following process shall govern Restrictions on the City's acquisition of an interest in land or Watershed Conservation Easements on land pursuant to this water supply permit under this paragraph:

(i) The City shall notify in writing NYSDEC (Attention: Chief Permit Administrator) the individual members of the Executive Committee, and the CW Corporation as soon as practicable of the commencement of any litigation seeking to invalidate one or more program contracts. The

purpose of the notice is to provide the Parties at the earliest possible point in the litigation an opportunity to discuss such dispute. Additionally, the City will keep such parties advised of the status of the litigation.

(ii) If the conditions set forth in paragraphs (a) or (b) are met, the party to whom the City would otherwise have owed the missed payment ("Contracting Party") may notify the City, the Executive Committee, and NYSDEC in writing that the condition of this permit requiring a valid and enforceable program contract has been violated and that thereafter the City missed a payment under such contract, and that the City has not cured the failure to make such missed payment. The City shall have 10 days from its receipt of the notice to respond in writing to the Contracting Party, the Executive Committee and NYSDEC. If the City agrees with the notice or does not respond within 10 days, the City's permit shall be restricted without further proceedings and the City will not acquire title to land or Watershed Conservation Easements on land under this permit. If the City disputes the notice, NYSDEC shall have 15 days from its receipt of the City's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the condition requiring a valid and enforceable program contract has been violated and whether thereafter the City has missed a payment under such contract and whether the City has not cured the failure to make such missed payment. If NYSDEC determines that these criteria exist, it shall notify the City, the Executive Committee and the Contracting party of its determination within 5 days and the City will not acquire title to land or Watershed Conservation Easements on land under this permit.

(iii) If the water supply permit has been Restricted pursuant to subparagraph (d)(ii) above, and the City believes it has met the conditions set forth in paragraph (c) above so that the Restrictions should be lifted, the City may notify the Executive Committee, NYSDEC and the Contracting Party in writing. The Contracting Party shall have 10 days from its receipt of the City's notice to respond in writing to the City, the Executive Committee and NYSDEC. If the Contracting Party agrees with the City's notice or does not respond within 10 days, the City may resume land acquisition without further proceedings. If the Contracting Party disputes the notice, NYSDEC shall have 15 days from its receipt of the Contracting Party's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the missed payments have been paid with interest at the applicable rate. If NYSDEC determines that such missed payments have been paid with interest, it shall notify the City, the Executive Committee and the Contracting Party of its determination in writing within 5 days, and the City may thereafter resume land acquisition under this permit.

27. Primacy Agency Determination. The Primacy Agency has regulatory authority under the federal Safe Drinking Water Act and Surface Water Treatment Rule to review and approve any request by the City for a filtration waiver for the Catskill and Delaware portions of the Watershed and to incorporate and enforce conditions to any such Filtration Avoidance Determination it may issue. The Primacy Agency's authority is undiminished by this Water Supply Permit. If the Primacy Agency determines, as part of its review and approval process for such a request that the Natural Features Criteria as contained in Special Condition 9 and/or acquisition exclusions (hamlet or village designations) contained in SC 10 are having or have had a detrimental impact on the ability of the City to protect water quality by unduly restricting the acquisition of land in fee and Watershed Conservation Easements, the Primacy Agency may notify NYSDEC in writing (with copies to the MOA signatories and others upon request) to request the Natural Features Criteria be modified through the formal modification process as a new permit application as set forth in 6 NYCRR621.

28. Notices and Submittals. Except to the extent that any other paragraph specifically requires or authorizes a different form of notice, any notice required or permitted to be given hereunder shall be in writing, and shall be delivered by certified mail, postage prepaid, or by hand, or by overnight courier, or by telecopy confirmed by any of the previous methods, addressed to the receiving party at its address as shown on Exhibit 15 or at such

other or further address as the receiving party shall provide to the other parties in writing from time to time. If any organizations which are to receive any notice, material or information from the City under the terms of this permit are not established or cease to exist, such notice, material or information shall be submitted by the City to NYSDEC.

29. Riparian Buffers Program.

- a. The City shall allocate initially Five Million Dollars (\$5,000,000) of the LAP funds for a program for acquiring Riparian Buffers -in easement or fee as part of a Riparian Buffers Program (RBP) which shall be implemented by November 1, 2014, and run for no less than 3 years thereafter. The City shall cause to be completed the Riparian Buffer Program Development Initiative (PDI Report) Report by May 1, 2013 and a copy provided to NYSDEC.
- b. The goals, acquisition criteria, procedures (including implementing agency), and evaluation criteria for the RBP will be developed into a Report (PDI Report) with full City participation through an intergovernmental cooperative effort (RBP Program Development Initiative [PDI] between the City, Coalition of Watershed Towns (CWT), [the Town of Hunter and Greene Land Trust] and the Catskill Center for Conservation and Development (CCCD) (lead implementing organization) funded by a grant from the Catskill Watershed Corporation (CWC) Local Technical Assistance Program ("LTAP Grant") or, if for any reason the lead implementing organization fails to develop the PDI Report, the City, in either event with the input of a consultative working group including but not limited to NYCDEP, NYSDEC, NYSDOH, CWC, CWT, Delaware County, Greene County, Schoharie County, NRDC, Riverkeeper and NYPIRG.
- c. The City shall submit to NYSDEC a written recommendation regarding the implementation of the Program no less than 3 months before the implementation deadline in paragraph a. of this special condition. If the City's recommendation identifies a need to modify this permit then such recommendation shall be accompanied by a permit modification application. NYSDEC will, after consultation with NYSDOH, NYCDEP, and other agencies or local governments, make a written determination on whether or not it should be implemented and/or expanded beyond the Schoharie Reservoir Basin. Such written determination shall include addressing NYCDEP recommendations.
- d. Pursuant to Special Condition 7 above RBP acquisitions in fee or easement shall be subject only to the eligibility criteria of surface water features in Special Condition 9 Natural Features Criteria and the acquisition excluded areas (hamlet designations) in Special Condition 10. The acquisition exclusion areas (hamlets) may be waived in individual municipalities by the town or village boards by resolution which shall cover the Riparian Buffer Program and the specific parcels described and covered by such program.
- e. The RBP will be implemented in conjunction with one or more Stream Management Plans developed under the City's Stream Management Program, and will be carried out in partnership with one or more land trusts which shall be bound by contract to the City to implement and comply with the provisions of this permit. Consistent with the PDI Report, the land trust(s) will be responsible for coordinating with NYCDEP on tasks that may include but are not limited to: landowner outreach and contact, establishing eligibility and criteria; drafting legal documents; coordinating with NYCDEP to minimize multiple program solicitations; obtaining local approval to pursue acquisitions under the RBP that do not comply with the terms and conditions otherwise applicable to the LAP pursuant to this Permit; ordering appraisals and making purchase offers; acquiring eligible property interests; managing the Local Consultation process; identifying and implementing management practices linked to the goals of riparian buffer protection; stewarding, administering, monitoring, and enforcing the terms of riparian buffer easements or fee acquisitions; and allowing for public access on land acquired in fee simple where applicable. In the event a qualified land trust is not found then the City shall fully implement the program itself.
- f. An evaluation report on the effectiveness of the RBP meeting the requirements of this permit and Filtration Avoidance Determination as well as the goals and evaluation criteria to emerge from the PDI, including recommendations on any proposed changes, if necessary, to improve the program, shall be submitted by NYCDEP to NYSDEC within 6 months before the end of the initial 3 year program period in paragraph a. of this special condition. NYSDEC will evaluate

this program and, after consultation with NYSDOH, NYCDEP, as well as other agencies or local governments, make a written determination on whether or not it should be continued and/or expanded beyond the Schoharie Reservoir Basin. Such written determination shall include addressing NYCDEP recommendations.

30. Revocable Permits for Use of Watershed Property Owned In Fee by NYCDEP.

The City shall amend its revocable permit regulation Title 15, Chapter 17 (Issuance of Temporary Permits for the Occupation of City Property), Section 17-06 (Fees and Charges) of the Rules of the City of New York (RCNY) permit fee schedule to provide for a waiver or reduction for certain municipal and recreational uses.

31. Watershed Forest Conservation Easement Program.

a. The City shall develop and implement a Watershed Forest Conservation Easement Program within 12 months from the Effective Date of the permit. The Watershed Forest Conservation Easement Program shall be implemented by the City and through WAC or another qualified local and/or regional land trust or by the City on its own. This program shall include the acquisition of Watershed Conservation Easements on eligible lands. The City shall initially commit Six Million Dollars (\$6,000,000) to support this program. Eligible lands shall include the following:

- i. Land enrolled in WAC's Forest Management Program for which an Individual Landowner Forest Management Plan has been developed; or
- ii. Land enrolled in NYSDEC's Forest Stewardship Program or Section 480A Forest Tax Law for which an Individual Landowner Forest Management Plan has been developed; or
- iii. Other land important for watershed, water quality and/or forestry protection.

b. This program shall be implemented for an initial period of (5) five years. NYCDEP shall submit a written evaluation on the effectiveness of the Watershed Forest Conservation Easement Program in meeting the requirements of this permit and Filtration Avoidance Determination and include recommendations concerning continuation and funding of this Program as well as on any proposed changes, if necessary, to improve the Program. This written evaluation is to be submitted to NYSDEC and NYSDOH (4) four years and (3) three months from the date on which the Watershed Forest Conservation Easement Program commences. NYSDEC will evaluate this Program and, after consultation with NYSDOH, NYCDEP, as well as other agencies or local governments, make a written determination on whether or not it should be continued and/or expanded. Such written determination shall include addressing the recommendations of NYCDEP. If the Program is implemented by WAC or another qualified local and/or regional land trust and a determination is made not to continue the program, all unused funds, including earnings thereon, shall be returned to the City and shall remain available for land acquisition.

32. Forest Management Plan. The City is preparing a forest management plan for its watershed lands, pursuant to Section 4.3 of the 2007 FAD, which is due in November 2011. The plan will include a comprehensive forestry inventory on all lands owned by the City. The NYCDEP Forest Management Plan will include a discussion of fire risk management. The City will conduct a consultation process commencing no less than three months prior to the completion of the plan that will at a minimum include NYSDEC and Delaware County, as well as other Counties and any other interested stakeholders, to cover fire risk management aspects of the plan, forestry practices (including those of NYSDEC) and forest health. The plan shall contain an implementation schedule that shall go into effect once the plan has been submitted to and accepted by the Primacy Agency. The implementation schedule shall also provide for updating the plan 7 years from the Effective Date of the Permit and every 10 years thereafter when

requested in writing by either the Primacy Agency or NYSDEC. Such plan updates shall be in accordance with the provisions and process specified in this special condition.

- 33. Enhanced Land Trust Program.** The City shall develop and implement a program to collaborate with land trusts to acquire properties including but not limited to land with habitable dwellings, in accordance with the provisions of Special Condition 8. Through this Program, in municipalities that have adopted resolutions allowing one or more specified land trusts to work with NYCDEP on acquisitions under this Program, land trusts may acquire property on behalf of the City in accordance with this permit. The City shall continue to participate in the Land Trust Working Group, with representatives of land trusts, the Coalition of Watershed Towns, CWC, and Delaware County, which has developed a number of terms and conditions for the Enhanced Land Trust Program and which will continue to provide guidance as the Program is implemented.
- 34. East of Hudson Non-Point Source Stormwater Program.**
- a. In order to foster continued partnership and cooperation in the protection of the City's water supply watershed, the City shall provide a total of Fifteen Million, Five Hundred Thousand Dollars (\$15,500,000) ("EOH NPS Fund") to the EOH Watershed Communities to help fund the first five year plan for the stormwater retrofit program to be implemented under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities. The City shall make Ten Million Dollars (\$10,000,000) of the EOH NPS Fund available within 12 months of the Effective Date of this Permit. Provided that no East of Hudson Community brings a legal challenge to this Special Condition of this Permit within 120 days of the Effective Date of this Permit, the City shall make the remaining Five Million, Five Hundred Thousand Dollars (\$5,500,000) of the EOH NPS Fund available within 6 months of receiving written notification that the first Ten Million Dollars (\$10,000,000) have been committed via binding agreements.
- b. Up to Two Hundred Thousand Dollars (\$200,000) of the EOH NPS Fund will be available to the EOH Watershed Communities to prepare a report analyzing the potential opportunities for phosphorus reduction in stormwater runoff on lands owned by the City in the EOH Watershed, including a calculation of the total possible phosphorus reduction, the drainage area captured and treated, the estimated cost of such reduction, a description of the retrofit projects on City lands and a timetable for possible implementation of such projects.
- c. Up to Fifty Thousand Dollars (\$50,000) of the EOH NPS Fund will be available for the establishment of a Regional Stormwater Entity to administer and coordinate compliance with the MS4 Program.
- d. On or before December 31, 2013, the City shall enter into discussions with the NYSDEC and the EOH Watershed Communities regarding requirements for future EOH phosphorus reductions in stormwater as required under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities. In these discussions, the City will consider, among other things, any projects on City lands in the EOH Watershed that would be appropriate for the EOH Communities' Stormwater Management Programs identified in the report prepared pursuant to Paragraph b. above. The City shall make lands available for such projects so long as it determines that the projects will not pose a threat to water quality or NYCDEP operations related to water supply.
- e. On or before December 31, 2014, if the City agrees to provide additional assistance to the EOH Communities to achieve the heightened requirements for phosphorus reductions applicable in the EOH Watershed, including but not limited to additional funding, the City shall request that this special condition be modified to incorporate such commitments. If City lands are identified as appropriate for stormwater management projects pursuant to Paragraphs b. and d. above, the City's making such lands

available shall constitute all or a portion of any additional assistance it agrees to provide. Any such required amendment of this special condition shall not require or constitute a reopening of any other provision of this permit. For the duration of this Permit, any City agreement to provide additional funding for the East of Hudson Non-Point Source Stormwater Program as described in this subparagraph shall be incorporated herein and made enforceable conditions of this Permit.

f. Consistent with the terms of the 2007 FAD, the City shall make available Four Million, Five Hundred Thousand Dollars (\$4,500,000) to the EOH Watershed Communities to help fund the first five year plan for the stormwater retrofit program implemented under the heightened requirements for phosphorus reduction in stormwater applicable to the EOH Watershed Communities in the Croton Falls and Cross River basins within the East of Hudson Watershed and any upstream/hydrologically connected basins and shall be made available on the same expedited basis as the funding set forth in subsection "a" hereof.

g. For the duration of this Permit, the City's commitment to fund the heightened requirements of the East of Hudson Non-Point Source Program (which encompasses the stormwater retrofit program and related projects) pursuant to any subsequent FAD or FAD amendment shall be incorporated herein and made enforceable conditions of this Permit. Consistent with the terms of the 2007 FAD, and as set forth in the MS4 SPDES General Permit No. GP-0-10-002 issued by NYSDEC on April 29, 2010 ("the MS4 Permit") (which contains the NYSDEC TMDL reduction requirements, including the heightened requirements applicable to the EOH Watershed Communities), the MS4 requirements are requirements of federal and State law. As stated in the MS4 permit, meeting those requirements is the responsibility of the EOH Watershed Communities.

h. On or before June 30, 2011, the City shall work with the NYSDEC and the EOH Watershed Communities to develop program rules that assure that the funds provided by the City pursuant to this special condition will be easily accessible by the EOH Watershed Communities and will be fully allocated for the implementation of the pending five-year plans for the stormwater retrofit program to be implemented under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities, consistent with all applicable legal requirements and the City's fiduciary obligations.

Exhibits:[Corresponding Special Condition]

1. Map of Catskill and Delaware Water Supply and Watershed and Map of Croton Water Supply and Watershed [4c]
2. Catskill and Delaware Watershed Priority Areas West-of-Hudson [6.a]
3. Catskill, Delaware and Croton Watershed Priority Areas East-of-Hudson [6.a, 6.b]
4. List of Tax Parcels in West of Hudson Hamlet Areas [10.a.ii]
5. Maps of West of Hudson Hamlet Areas [10.a.ii]
6. Defined West of Hudson Roads Eligible for Land Acquisition Exemption [10.a.iv]
7. 2007 Solicitation Schedule [14]
8. 2008-2010 Solicitation Plan [14]
9. Model Conservation Easement to be Held by NYSDEC on City Fee Lands [16.c]
10. Model WAC Conservation Easement [16.d.2.b]
11. Draft Legislation to Amend Article 5, Title 4-a of the RPTL for Taxation of Watershed Conservation Easements [19]
12. City's Water Conservation Program dated December 2006 [23]
13. Cluster Development Resolutions [10.h]
14. Watershed Memorandum of Agreement [25 & 26] [incorporated by reference]
15. Notice Addresses

**New York State Department of Environmental Conservation
Division of Environmental Permits, Region 4**

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503
Phone: (807) 652-7741 FAX: (607) 652-3672
Website: www.dec.state.ny.us



Peter M. Iwanowicz
Acting Commissioner

December 24, 2010

Honorable Caswell F. Holloway
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

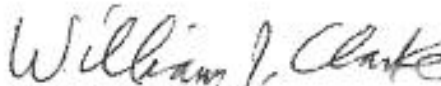
Dear Commissioner Holloway:

Please find enclosed a Water Supply Permit issued pursuant to Article 15, Title 15 and Article 70 (Uniform Procedures) of the Environmental Conservation Law (ECL), authorizing land and easement acquisition within New York City's water supply watersheds.

The Department appreciates the cooperative efforts of your agency to fully address all concerns raised and work to achieve the agreement among the many parties to this process. We believe the outcome is protective of this vital water supply for 9 million of New York State's inhabitants while being fair and equitable to the watershed communities.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely Yours,


William J. Clarke
Regional Permit Administrator
Region 4

Permit Mods Listed Within

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503

Phone: (607) 652-7741 FAX: (607) 652-3672

Website: www.dec.state.ny.us



Joseph Martens
Commissioner

May 27, 2011

Honorable Caswell F. Holloway
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

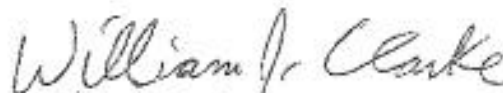
Dear Commissioner Holloway:

As per the April 19, 2011 request to modify the above referenced Water Supply Permit, the permit is hereby modified in regard to Exhibit 10.

Specifically, section 24.c of Exhibit 10 is modified to reflect new language and is attached as a revised Exhibit 10 hereto and replaces the prior Exhibit 10 which was part of the permit issued December 24, 2010. All other conditions of the permit remain in effect. Please attach this modified document and letter to the permit.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely,



William J. Clarke
Regional Permit Administrator
Region 4

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503

Phone: (607) 652-7741 FAX: (607) 652-3672

Website: www.dec.state.ny.us



Joseph Martens
Commissioner

June 20, 2011

Honorable Caswell F. Holloway
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

Dear Commissioner Holloway:

The Department hereby modifies the above referenced Water Supply Permit in regard to Enhanced Land Trusts.

Specifically, Special Condition 8.c is modified to extend the time available for local communities to adopt a resolution for such program from 180 day to 360 days from permit issuance on 12/24/2010. This change applies to 2011 only. The revision is incorporated into the permit which attached in its entirety hereto. All other conditions of the permit remain in effect. Please attach this modified document and letter to the permit.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely,

William J. Clarke
Regional Permit Administrator
Region 4

cc: List attached

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503

Phone: (607) 652-7741 FAX: (607) 652-3672

Website: www.dec.state.ny.us



Joseph Martens
Commissioner

July 15, 2011

Caswell F. Holloway
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

Dear Commissioner Holloway,

In response to NYCDEP's request of June 27, 2011 for a 60 day submittal extension the Department hereby modifies the above referenced Water Supply Permit in regard to Special Condition 23 Water Conservation Program ("Program") Updates and Approval.

Specifically, Special Condition 23 is modified to change the Program update submittal deadline from six months (June 30, 2011) to four months (August 31, 2011) before the end of the five year Program period (December 31, 2011). The revision putting this new deadline into effect is incorporated into the permit which is attached in its entirety hereto. All other conditions of the permit remain in effect.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely Yours,

William J. Clarke
Regional Permit Administrator
Region 4

cc: List attached

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503

Phone: (607) 652-7741 FAX: (607) 652-3672

Website: www.dec.state.ny.us



Joseph Martens
Commissioner

February 24, 2012

Honorable Carter H. Strickland, Jr.
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

Dear Commissioner Strickland:

The Department hereby modifies the above referenced Water Supply Permit in regard to the Riparian Buffers Program and the Vacant Lands Defined (Enhanced Land Trust Program).

Specifically, Special Conditions 29a, 29b and 8(c). The revisions are incorporated into the permit which is attached in its entirety hereto. All other conditions of the permit remain in effect. Please attach this modified document and letter to the permit.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely,

William J. Clarke
Regional Permit Administrator
Region 4

cc: List attached

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 4

65561 State Highway 10, Suite 1, Stamford, New York 12167-9503

Phone: (607) 652-7741 FAX: (607) 652-3672

Website: www.dec.state.ny.us



Joseph Martens
Commissioner

January 17, 2014

Honorable Carter H. Strickland, Jr.
Commissioner
New York City Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Re: DEC ID# 0-9999-00051/00001
Water Supply Permit WSA#11,352
NYC Watershed Land Acquisition Program

Dear Commissioner Strickland:

The Department hereby modifies the above referenced Water Supply Permit in regard to the Eligibility and Authorization for Acquisition.

Specifically, Special Condition 7(b) was modified to add Fair Market Value determination wording. The revisions are incorporated into page 8 of the permit which is attached in its entirety hereto. All other conditions of the permit remain in effect. Please attach this modified document and letter to the permit.

If you have any questions, please feel free to contact Martha A. Bellinger, Project Manager/Environmental Analyst of our Region 4 Division of Environmental Permits Stamford Office, or myself.

Sincerely,

William J. Clarke
Regional Permit Administrator
Region 4

cc: List attached

Cc: A. Rosa
A. White
D. Frazier
D. Ruzow
G. Rodenhausen
J. Baker
J. Grossman
K. Young
M. Sterthouse
N. Franzese
T. Cox
W. Harding
B. Clarke
C. Spreitzer
C. Noteboom
C. Breen
C. Cashman
D. Tobias
E. Goldstein
F. Huneke
H. Meltzer
J. Tierney
J. Graf
J. Nye
K. Hudson
L. Taylor
M. Matsil
M. Brand
M. Murphy
M. VonWergers
M. Schwab
M. Holt
M. Griffen
P. Young
P. Gallay
R. Williams
R. Levine
R. Sokol
P. Sweeney
T. Snow
G. Kelly
C. Stuendel
D. Warne

NEW YORK CITY WATERSHED MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT, dated as of January 21, 1997, agreed to and executed by and among the following parties (collectively, the "Parties" and individually a "Party"):

The City of New York, a municipal corporation with its principal office at City Hall, New York, New York 10007 (the "City");

The State of New York, with its principal office at The Capitol, Albany, New York 12224 (the "State");

The United States Environmental Protection Agency, an executive agency of the United States, organized and existing under the laws of the United States, with its principal office at 401 M Street, S.W., Washington, D.C. 20460 ("USEPA");

The Coalition of Watershed Towns, an inter-municipal body composed of the municipalities located wholly or partially within that portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement pursuant to Section 119-o of the New York General Municipal Law, having its principal office at Delhi, New York (the "Coalition");

The Catskill Watershed Corporation, an independent locally-based and locally administered not-for-profit corporation, organized and existing under section 1411 of the New York State Not-For-Profit Corporation Law and having its principal office in Margaretville, New York ("CW Corporation")

The County of Putnam, New York, a municipal corporation with its principal office at 40 Gleneida Avenue, Carmel, New York 10512 ("Putnam County");

The County of Westchester, New York, a municipal corporation with its principal office at the Michaelian Office Building, 148 Martine Avenue, White Plains, New York 10601 ("Westchester County");

Each of the counties, towns and villages identified in Attachment A appended hereto and made a part hereof, constituting municipal corporations and having their principal offices at the respective addresses shown for each in Attachment XX (collectively, the "Municipal Parties" and individually a "Municipal Party"); and

Each of the environmental organizations identified in Attachment B appended hereto and made a part hereof, constituting not-for-profit corporations and having their principal offices at the respective addresses shown for each in Attachment XX (collectively, the "Environmental Parties" and individually an "Environmental Party").

WITNESSETH:

1. WHEREAS, the Parties, being the State of New York, the City of New York, the Coalition of Watershed Towns (whose membership is set forth in Attachment E), the CW Corporation, the United States Environmental Protection Agency, Westchester County, Putnam County, the Municipal Parties, and the Environmental Parties recognize that an adequate supply of clean and healthful drinking water is vital to the health and social and economic well being of the People of the State of New York; and

2. WHEREAS, it is the intention of the Parties to assure the continued adequate supply of exceptional quality drinking water for the eight million residents of the City of New York and the one million New York State residents outside the City who depend upon the New York City drinking water supply system; and

3. WHEREAS, the New York City water supply system is a monumental hydraulic and civil engineering achievement, consisting of an interconnected series of reservoirs, controlled lakes, and several hundred miles of underground tunnels and aqueducts that collect and transport approximately 1.5 billion gallons of water daily to a customer distribution system containing thousands of miles of water mains; and

4. WHEREAS, the primary sources of water for the New York City water supply system originate in portions of the Catskill Mountain Region and the Hudson River Valley, commonly referred to as the watershed of the New York City water supply and its sources (the "Watershed"), which span over 1,900 square miles and portions of eight counties, sixty towns, and twelve villages; and

5. WHEREAS, the Parties agree that the New York City water supply is an extremely valuable natural resource that must be protected in a comprehensive manner; and

6. WHEREAS, the Parties recognize that the goals of drinking water protection and economic vitality within Watershed communities are not inconsistent and it is the intention of the Parties to enter into a new era of partnership to cooperate in the development and implementation of a Watershed protection program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities; and

7. WHEREAS, after extensive negotiations the Parties now enter into legally enforceable commitments, as set forth in this Agreement, on issues related to the Watershed protection program, including the Watershed rules and regulations, the land acquisition program, and Watershed partnership initiatives; and

8. WHEREAS, the Parties agree that the City land acquisition program, as described below in Article II, is a purely voluntary program which provides the opportunity to the Watershed communities to review parcels and to provide comments to the City on

potential acquisitions, and that Towns and Villages may exempt areas of their communities from purchase under the City's land acquisition program; and

9. WHEREAS, the Parties agree that the City's land acquisition program, the City's Watershed Regulations, and the other programs and conditions contained in this Agreement, when implemented in conjunction with one another, would allow existing development to continue and future growth to occur in a manner that is consistent with the existing community character and planning goals of each of the Watershed communities; and that the City's land acquisition goals insure that the availability of developable land in the Watershed will remain sufficient to accommodate projected growth without anticipated adverse effects on water quality and without substantially changing future population patterns in the Watershed communities; and

10. WHEREAS, the City is currently under a stipulation with the New York State Department of Health which requires the City to design and construct a filtration facility for the Croton System; and

11. WHEREAS, the City has applied for and received an interim filtration avoidance determination from USEPA which declares that the source waters of the Catskill and Delaware Watershed may continue to be used as a public drinking water supply without filtration provided that the City implement measures to assure the continued protection of water quality and the objective criteria of the Surface Water Treatment Rule continue to be met; and

12. WHEREAS, the Parties have agreed to act in good faith and to take all necessary and appropriate actions, in cooperation with one another, to effect the purposes of this Agreement.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the other parties, the Parties do hereby promise and agree as follows:

ARTICLE I DEFINITIONS

The following terms, as used in this Agreement, shall have the meaning set forth below:

13. "CAPA" means the City Administrative Procedure Act, chapter 45 of the New York City Charter.

14. "Catskill and Delaware System" means the Ashokan, Cannonsville, Kensico, Neversink, Pepacton, Rondout, Schoharie, and West Branch/Boyd's Corner Reservoirs, and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs.

15. "Catskill and Delaware Watershed" means the drainage basins of the Catskill and Delaware System. A map of this watershed is set forth in Attachment C.

16. "City" means the City of New York, a municipal corporation with its principal office at City Hall, New York, New York 10007.

17. "Coalition of Watershed Towns" or "Coalition" means the inter-municipal body composed of the municipalities located wholly or partially within that portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement, pursuant to §119-o of the New York General Municipal Law, having its principal office at Delhi, New York. A list of the members of the Coalition is set forth in Attachment E.

18. "Croton System" means the Amawalk, Bog Brook, Cross River, Croton Falls, Diverting, East Branch, Middle Branch, Muscote, New Croton, and Titicus Reservoirs; Kirk Lake, Lake Gleneida and Lake Gilead ("controlled lakes"); and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs and controlled lakes.

19. "Croton Watershed" means the drainage basins of the Croton System. A map of this watershed is set forth in Attachment D.

20. "December 1993 Filtration Avoidance Determination" or "December 1993 FAD" means the written determination of the United States Environmental Protection Agency, dated December 30, 1993 and signed by Acting Region II Administrator William J. Muszynski, entitled Surface Water Treatment Rule Determination New York City's Catskill and Delaware Water Supplies, declaring that the source waters of the Catskill and Delaware Watershed could continue to be used as a public drinking water supply without filtration provided that the City implement measures to assure the continued protection of water quality and the objective criteria of the Surface Water Treatment Rule continue to be met.

21. "Drainage Basin" means, for the purpose of defining the boundaries of the drainage basin of each reservoir or controlled lake, the area of land that drains surface water into, or into tributaries of, a reservoir or controlled lake of the Catskill and Delaware or Croton Systems.

22. "East of Hudson" or "EOH" means the drainage basins of the specific reservoirs and controlled lakes of the New York City Watershed located east of the Hudson River in the New York counties of Dutchess, Putnam, and Westchester.

23. "East of Hudson Communities" or "EOH Communities" means the municipal corporations (as defined by § 66(2) of the New York General Construction Law, but not including school districts) which are located wholly or partially within the EOH portion of the Watershed. The EOH Communities are set forth below in Attachment G.

24. "ECL" means the New York Environmental Conservation Law.
25. "Effective Date of Agreement" shall be January 21, 1997.
26. "Environmental Parties" means the not-for-profit corporations listed in Attachment B.
27. "GOL" means the New York General Obligations Law.
28. "Governor" means the Governor of the State of New York.
29. "Hamlet" or "Hamlets" means the population centers listed in Attachment R with the boundaries to be established by the Towns pursuant to the procedure set forth in paragraph 68 of this Agreement.
30. "Mayor" means the Mayor of the City of New York.
31. "NYCDEP" means the New York City Department of Environmental Protection, a mayoral agency of the City of New York organized and existing pursuant to the New York City Charter.
32. "NYCDOH" means the New York City Department of Health, a mayoral agency of the City of New York organized and existing pursuant to the New York City Charter.
33. "NYSDEC" means the New York State Department of Environmental Conservation, an executive agency of the State of New York organized and existing pursuant to the New York Environmental Conservation Law.
34. "NYSDOH" means the New York State Department of Health, an executive agency of the State of New York organized and existing pursuant to the New York Public Health Law.
35. "NYSEFC" means the New York State Environmental Facilities Corporation, a public benefit corporation organized pursuant to New York Public Authorities Law § 1280 et seq.
36. "PHL" means the New York Public Health Law.
37. "Primacy Agency" means the United States Environmental Protection Agency or the New York State Department of Health, whichever has primary enforcement responsibility for implementation of the federal Surface Water Treatment Rule (40 CFR § 141.70 et seq.) pursuant to §1413 of the federal Safe Drinking Water Act (42 U.S.C. § 300g-2).
38. "RPTL" means the New York State Real Property Tax Law.

39. "SAPA" means the New York State Administrative Procedure Act and regulations promulgated pursuant thereto (9 NYCRR Part 260).

40. "SEQR" means the New York State Environmental Quality Review Act (ECL Article 8) and regulations promulgated pursuant thereto (6 NYCRR Part 617).

41. "Total Maximum Daily Loads" or "TMDLs" means the sum of the wasteload allocations for point sources plus the load allocations for nonpoint sources plus a margin of safety to account for uncertainties in the development process. (From the USEPA guidance document, "Guidance for Water Quality Based Decisions; The TMDL Process - April 1991.")

42. "Uninhabitable Dwelling" means a dwelling which is deteriorated to the extent that: either the cost of rehabilitation which would prevent the continued deterioration of primary components will exceed sixty percent (60%) of the fair market value of the structure, or rehabilitation will not prevent the continued deterioration of primary components of the dwelling which will result in unsafe living conditions; and it has not been occupied for one year immediately prior to the signing of an option. The fair market value of the existing dwelling shall be as established by the City's appraisal. As used herein, the term "primary components of a dwelling" shall include: foundations, exterior wall framing, rafters, roof decks, roof coverings, porches, floor joists, sills, headers, electrical systems, heating systems, plumbing systems and septic systems.

43. "UPA" means the Uniform Procedures Act (ECL Article 70) and the regulations promulgated pursuant thereto (6 NYCRR Part 621).

44. "USEPA" means the United States Environmental Protection Agency, an executive agency of the United States, organized and existing under the laws of the United States, with its principal office at 401 M Street, S.W., Washington, D.C. 20460.

45. "Watershed" or "New York City Watershed" means the drainage basins of the Catskill and Delaware and Croton Systems. Maps of the Watershed are set forth in Attachments C and D.

46. "Watershed Agricultural Council" or "WAC" means the Watershed Agricultural Council for the New York City Watershed, Inc., a not-for-profit organization with its principal place of business at NYS Route 10, Walton, New York 13856.

47. "Watershed Agricultural Easement" means a Watershed Conservation Easement, as defined below in paragraph 48, on real property in active agricultural production or designated for future agricultural production. Such easements shall allow agricultural production.

48. "Watershed Conservation Easement" means an easement, covenant, restriction or other interest in real property, created under and subject to the provisions of Article 49 of the New York Environmental Conservation Law, which limits or restricts development,

management or use of such real property for the purpose of maintaining the open space or natural condition or character of the real property in a manner consistent with the protection of water quality generally and the New York City drinking water supply specifically.

49. "Watershed Regulations" means the watershed rules and regulations applicable to the New York City Watershed which were submitted by New York City Department of Environmental Protection to the New York State Department of Health for approval pursuant to Public Health Law Section 1100 consistent with this Agreement and which are appended hereto as Attachment W.

50. "Water Supply System" means the system of reservoirs, controlled lakes, structures and facilities such as dams, tunnels, and aqueducts which collect source water for the New York City drinking water supply and transport it to the City of New York.

51. "West of Hudson" or "WOH" means the drainage basins of the specific reservoirs of the New York City Watershed located west of the Hudson River in the New York counties of Greene, Delaware, Ulster, Schoharie, and Sullivan.

52. "West of Hudson Communities" or "WOH Communities" means the municipal corporations (as defined by § 66(2) of the New York General Construction Law, but not including school districts) which are located wholly or partially within the WOH portion of the Watershed. The WOH communities are set forth below in Attachment F.

53. "WWTP" means wastewater treatment plant.

NEW YORK CITY WATERSHED MEMORANDUM OF AGREEMENT

January 21, 1997

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ARTICLE II NYC WATERSHED LAND ACQUISITION PROGRAM

54. Overview. This Article sets forth the elements of the New York City land acquisition program in the Watershed that will be implemented by the City. The program defined by these elements satisfies federal and New York State filtration avoidance criteria applicable to the Catskill and Delaware System. It also provides needed additional protection to the Croton System. Unless a different meaning is clearly intended by a particular provision of this Article, the term "land" (especially used in the term "land acquisition") includes fee title in real property and/or Watershed Conservation Easements on real property.

55. Prior Permit Application Discontinued. The City has withdrawn its application for a water supply permit, which was the subject of the administrative adjudicatory proceeding entitled In the Matter of the Application of New York City Department of Environmental Protection, NYSDEC Project No. 3-9903-00023/00001-9; WSA No. 9010.

56. New Permit Application. NYCDEP has submitted an application to NYSDEC for a water supply permit for the City land acquisition program set forth in this Article to acquire land in the Catskill and Delaware Watershed and in the Croton Watershed for watershed protection purposes and in furtherance of the programs set forth in the December 1993 Filtration Avoidance Determination and the new Filtration Avoidance Determination referred to in paragraph 159.

57. Processing of New Permit Application. Consistent with SEQR and the UPA, NYSDEC determined that the NYCDEP application is complete and has issued a draft water supply permit which is appended hereto as Attachment V. The comment period on the application remained open until December 6, 1996.

58. Permit Issuance. The Parties, other than NYSDEC, consent to and agree not to oppose the issuance of a final water supply permit for a land acquisition program that is consistent with this Agreement and the draft water supply permit appended hereto as Attachment V. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties agree to support the issuance of the water supply permit by NYSDEC that is consistent with this Agreement and the draft water supply permit appended hereto as Attachment V. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties also agree to support one another's application for full party status to support the issuance of the water supply permit by NYSDEC that is consistent with this Agreement and the draft water supply permit appended hereto as Attachment V. Such support does not require any Party to become a party to any proceeding.

59. Limitation on Eminent Domain. The City will not acquire fee title or Watershed Conservation Easements through eminent domain for purposes of the land acquisition program set forth in this Article and the water supply permit issued pursuant to paragraph 58. Nothing in this Agreement shall act as a waiver of any rights any Party may have to challenge an application by the City for a water supply permit allowing the exercise of the City's power of eminent domain. Moreover, nothing herein shall relieve the City from obtaining any necessary permits or approvals from the State of New York or complying with SEQR prior to exercising any power of eminent domain in the future.

60. Willing Buyer/Willing Seller; Solicitation. Under the City's land acquisition program, the City will acquire fee title to, or Watershed Conservation Easements on, real property in the Watershed through a willing buyer/willing seller process only. Before beginning to solicit acquisitions in a Town or Village, the City shall notify the chief elected official of the Town or Village and appropriate county that the City is commencing solicitation. At the request of a Town or Village, the City shall make a presentation describing the process the City intends to use to solicit acquisitions. West of Hudson, the City may make a joint presentation to groups of up to three Towns and/or Villages. With the consent of the involved Towns or Villages, the City may also make a joint presentation to groups of more than three Towns and/or Villages West of Hudson, or to any number of Towns and/or Villages East of Hudson. Such presentation shall also include an indication of what land is eligible for acquisition in such Town or Village (including a map of the

Town or Village reflecting the priority areas and applicable Natural Features Criteria) and the estimated acreage that the City expects to acquire. The City may solicit landowners directly except that in areas where acquisition in fee by the City has been restricted pursuant to paragraphs 68 and 70, the City may only solicit acquisition of Watershed Conservation Easements. Further, public meetings may also be held with the consent of the chief elected official of the Town or Village. The City may also receive, and act upon, unsolicited inquiries from landowners at any time.

61. Fair Market Value. The purchase price shall reflect fair market value, as determined by an independent appraisal obtained at the direction of the City and performed by an independent, certified New York State appraiser, except that the City may acquire property at less than the fair market value at a public auction or at a directly negotiated sale from a bank, other financial institution, or taxing authority in the context of a mortgage foreclosure, tax foreclosure, or legal judgment. In determining the fair market value, the City's independent appraisers will consider information from a second appraisal, provided by the owner and made at the owner's or a third party's expense, provided the second appraisal is made by a certified New York State appraiser and was completed no earlier than one year prior to the date of the City's appraisal or the later of six (6) months after the owner received the City's appraisal or six (6) months from the Effective Date of this Agreement. Upon request, the City may extend the time period for completion of a second appraisal.

62. Duration and Schedule. The water supply permit for the City's land acquisition program shall be valid for ten (10) years and shall be renewable for an additional five (5) years upon written request from the City to NYSDEC with notice to the individual members of the Executive Committee. Additional requests for extensions may be made through an application for permit modification as provided by NYSDEC regulations. The Parties retain their full legal rights with respect to such additional requests by the City. The permit will provide that the City may acquire any parcel of land, in fee or by Watershed Conservation Easement, that is eligible for acquisition. The schedule the City currently intends to follow in carrying out its land acquisition program is set forth in Attachment H for informational purposes. The City may modify the schedule without the approval of any Party other than the Primacy Agency. The City will, however, notify all Parties of any proposed changes to the schedule. The City will solicit acquisitions drainage basin by drainage basin, commencing with the priority basins in the Catskill and Delaware Watershed in 1997, including Kensico, West Branch/Boyd's Corner, Rondout and Ashokan; and the priority basins in the Croton Watershed in 1998, including New Croton, Cross River and Croton Falls. The City may, at any time, respond to direct inquiries from property owners anywhere in the Watershed.

63. Natural Features Criteria: Catskill and Delaware Watershed.

(a) The Catskill and Delaware Watershed has been divided into Priority Areas 1A, 1B, 2, 3, and 4 by the City; 1A being the highest priority. The Catskill and Delaware Watershed priority areas are as follows: 1A (sub-basins within 60-day travel time to distribution that are near intakes), 1B (sub-basins within 60-day travel time to distribution that are not

near intakes), 2 (sub-basins within terminal reservoir basins that are not within priority areas 1A and 1B), 3 (sub-basins with identified water quality problems that are not in priority areas 1A, 1B, and 2), and 4 (all remaining sub-basins in non-terminal reservoir basins). A map of the boundaries of Priority Areas 1 (1A and 1B combined), 2, 3, and 4 is set forth in Attachment I. The boundaries of Priority Area 1A in the Cannonsville, Pepacton, Neversink, Rondout, Ashokan, West Branch, and Kensico Reservoir basins are provided in Attachments K-Q.

(b) To be eligible for acquisition, land must satisfy the following criteria ("Natural Features Criteria"):

(i) Parcels in Priority Area 1A must be at least one acre in size;

(ii) Parcels in Priority Area 1B must be at least five acres in size;

(iii) Parcels in Priority Areas 2, 3, and 4 must be at least ten acres in size and must:

(A) Be at least partially located within 1,000 feet of a reservoir; or

(B) Be at least partially located within the 100-year flood plain; or

(C) Be at least partially located within 300 feet of a watercourse, as defined in the Watershed Regulations; or

(D) Contain in whole or in part a federal jurisdiction wetland greater than five (5) acres or a NYSDEC mapped wetland; or

(E) Contain ground slopes greater than fifteen percent (15%).

(c) In any priority area, adjoining parcels, including City-owned parcels, may be aggregated to meet any minimum size requirements. Notwithstanding the above, the City may acquire parcels of any size in the West Branch/Boyd's Corner and Kensico Reservoir drainage basins. Any West of Hudson Town or Village may waive the acreage requirement in priority areas 1B, 2, 3 or 4 pursuant to the procedures set forth in paragraph 68. The foregoing Natural Features Criteria shall not apply to any parcels which are part of an Acquisition and Relocation Program administered pursuant to the Hazard Mitigation Grant Program of the Federal Disaster Assistance Act.

64. Catskill and Delaware Watershed Acquisition Goals. In the Catskill and Delaware Watershed, the 1997 Filtration Avoidance Determination issued as described in paragraph 159 ("1997 FAD") will not require the City to spend at least Two Hundred One Million Dollars (\$201,000,000) to acquire at least 80,000 acres of land. Instead, the 1997 FAD will require the City to solicit, consistent with paragraph 60 above, owners of 61,750 acres of eligible land in Priority Areas 1A and 1B; 42,300 acres of eligible land in Priority Area 2; 96,000 acres of eligible land in Priority Area 3; and 155,000 acres of eligible land in Priority Area 4 for a total of 355,050 acres of eligible land. Consistent

with the conditions set forth in the protocol appended hereto as Attachment Z, the 1997 Filtration Avoidance Determination will also require that upon receipt of a positive response from a landowner to a solicitation from the City and after a field visit by the City, the City, except under certain limited situations, shall proceed through the specified series of steps, set forth in Attachment Z, to acquire an interest in such parcel if the landowner so desires.

65. Catskill and Delaware Watershed Acquisition Milestones. The 1997 FAD will require the City to annually solicit owners of the following acres of eligible land: 56,609 acres within the first year after a water supply permit is issued by NYSDEC; 51,266 acres within the second year after a water supply permit is issued by NYSDEC; 42,733 acres within the third year after a water supply permit is issued by NYSDEC; 52,846 acres within the fourth year after a water supply permit is issued by NYSDEC; 55,265 acres within the fifth year after a water supply permit is issued by NYSDEC; 48,531 acres within the sixth year after a water supply permit is issued by NYSDEC; 0 acres within the seventh year after a water supply permit is issued by NYSDEC; 47,800 acres within the eighth year after a water supply permit is issued by NYSDEC; and 0 acres within the ninth and tenth years after a water supply permit is issued by NYSDEC. Acreage will be further specified by approximation of priority acreage in each reservoir basin.

66. Land Acquisition Criteria: Croton Watershed. The Croton Watershed has been divided into Priority Areas A, B, and C; A being the highest priority. The Croton Watershed priority areas are as follows: A (New Croton, Croton Falls, and Cross River Reservoirs); B (Muscoot and portions of Amawalk and Titicus Reservoirs within 60-day travel time to distribution); C (remaining reservoir basins and sub-basins beyond 60-day travel time to distribution). A map of the boundaries of these Priority Areas is set forth in Attachment J. The City will prioritize its acquisition of lands in the Croton Watershed considering the priority of the basin in which the parcel is located, in conjunction with the natural features of the parcel that could impact water quality.

67. Vacant Property West of Hudson. Except with respect to the acquisition of a Watershed Conservation Easement or acquisition of any parcel acquired through an Acquisition and Relocation Program administered pursuant to the Hazard Mitigation Grant Program of the Federal Disaster Assistance Act, property West of Hudson may not be acquired by the City unless there are no structures other than uninhabitable dwellings or accessory structures. If the City is interested in a parcel that contains a habitable dwelling, the parcel must be subdivided so that the City only takes title to the portion of the parcel without the habitable dwelling. The subdivided parcel containing the habitable dwelling must include an adequate area for a septic field, reserve area and well. The local government will provide for subdivision review in the most expeditious time frame consistent with State and local law. If a parcel acquired in fee contains a structure other than a habitable dwelling, then during the 120 day local review period set forth in paragraph 71, the local government may direct the City to demolish such structure within one (1) year of taking title to the property.

68. Designation of Non-Acquirable Land West of Hudson. The Parties recognize that any land acquisition program designed to protect water quality should provide reasonable opportunities for growth in and around existing population centers and that local communities have an interest in policies that affect local land use. To preserve community character and to accommodate these and other important local concerns, any West of Hudson Town or Village may take the following actions:

(a) By resolution adopted within 105 days of the Effective Date of this Agreement, West of Hudson Towns and Villages may exercise their option under the water supply permit to designate parcels to be excluded from acquisition in fee by the City, but not acquisition of Watershed Conservation Easements, in the following manner:

(i) Defined hamlets and villages. A list of hamlets and villages, and a listing of the maximum acreage which may be excluded from acquisition in such hamlets, are set forth in Attachments R and S. A Town shall delineate the boundaries of an existing hamlet by designating contiguous whole tax map parcels reasonably reflective of the existing population concentrations, up to the acreage identified and set forth in Attachment R and may exclude such hamlet from acquisition in fee. A Town may designate less than whole tax map parcels in delineating the boundaries of a hamlet to the extent necessary to reflect existing population concentrations, provided the Town demonstrates that, in light of the acreage limitations in Attachment R, limiting the designation to whole tax parcels will result in a designation which excludes existing population concentrations. A Village may exclude all the land in the Village from acquisition in fee.

(ii) Each Town may also designate up to fifty (50) acres in priority areas 1B, 2, 3, or 4 as a commercial or industrial area where acquisition in fee is prohibited. The designation shall be by whole tax map parcels.

(iii) A Town may also designate tax map parcels which are located within one-quarter mile of a village abutting defined road corridors to be excluded from acquisition in fee by the City. Attachment T lists the eligible road corridors.

(b) By resolution adopted within 105 days of the Effective Date of this Agreement, a Town or Village may choose to waive the acreage requirement for Priority Areas 1B, 2, 3 and 4 throughout the Town or Village or only for those parcels located, at least partially, in a 100-year flood plain.

(c) A decision by a Town or Village, pursuant to subparagraphs (a) and (b), shall remain binding on the Town or Village until the end of the City's land acquisition program under the water supply permit unless:

(i) Between January 1 and June 30, 2001, a Town or Village reassesses its earlier decision under subparagraphs (a) and (b) and adopts a resolution rescinding or exercising its rights under subparagraph (a) and (b); and/or

(ii) Between January 1, and June 30, 2006 a Town or Village reassesses its earlier decision(s) under subparagraphs (a), (b) and (c)(i) and adopts a resolution rescinding or exercising its rights under subparagraph (a) and (b).

69. Vacant Property East of Hudson. Except with respect to the acquisition of a Watershed Conservation Easement, property East of Hudson may not be acquired by the City unless the property is uninhabited at the time the City acquires title. If the City is interested in a parcel that contains a structure that would be inhabited at the time the City acquires title, the parcel must be subdivided so that the City only takes title to the portion of the parcel without the inhabited structure.

70. Designation of Non-Acquirable Land East of Hudson. East of Hudson, property zoned commercial or industrial as of the date of the City's solicitation will be excluded from the City's acquisition program, except that the City may acquire up to five percent (5%) of the total acreage of such property within any town or village unless a Town or Village in Westchester County agrees, by resolution, to a higher percentage in such Town or Village.

71. Local Consultation. Prior to acquiring any land under the land acquisition program or Watershed Conservation Easements, other than Watershed Agricultural Easements, the City will consult with the Town or Village in which the parcel is located. The consultation will ensure that the City is aware of and considers the Town's or Village's interests and that the terms of the land acquisition program agreed to by the Parties are complied with. The City will identify for the Town or Village, and for the appropriate County if the parcels are located EOH, and for NYSDEC, the land or Watershed Conservation Easements the City seeks to acquire, any structures which may be located on the property, the City's determination of whether structures are uninhabitable or accessory, any proposed recreational uses, and any proposed fencing and signing. The City will diligently attempt to group together parcels for review by the Town or Village and to minimize the number of times it submits parcels for review, and will submit such parcels for review no more frequently than on a monthly basis. At or prior to the first submission of parcels for review in an individual Town or Village, the City shall comply with the presentation requirement in paragraph 60. The Town or Village will have 120 days to: a) review and assess the information contained in the City's submission; b) conduct public review where so desired by the Town or Village; and c) submit comments to the City. The Town or Village review may include consistency with the Natural Features Criteria; consistency with local land use laws, plans and policies; the City's designation of any structure on the property as uninhabitable or an accessory structure; the City's proposed fencing and signing, if any; and proposed recreational uses. In the event of a mortgage foreclosure, tax foreclosure or judgment sale, the City may submit a parcel for review to a Town or Village without obtaining an option or contract to purchase, and the Town or Village will use its best efforts to complete its review expeditiously in order to allow the City to submit a bid to acquire such parcel in a timely manner. The City will respond to local government comments within thirty (30) days. After responding to the local government's comments, the City may proceed immediately to acquire any parcel, provided, however, that disputes over whether a particular parcel

meets the Natural Features Criteria or whether a structure is an uninhabitable dwelling or accessory structure will be submitted to NYSDEC and will be resolved by NYSDEC within thirty (30) days. NYSDEC's decision shall be a final decision for purposes of Article 78 of the Civil Practice Law and Rules. The City will provide funds for technical consultants and in-house municipal staff to review the information provided by the City pursuant to the terms and conditions set forth in paragraph 148 of Article V.

72. Recreational Uses: Newly Acquired Property. The City will consult with NYSDEC, USEPA (for the Catskill and Delaware Watershed), the appropriate local governments, and the appropriate regional Sporting Advisory Subcommittee (as defined below) during the 120-day review period specified in paragraph 71, regarding the recreational uses the City deems appropriate on newly acquired fee property. Whatever recreational use by the public the City determines to permit on a given parcel, the City is not obligated to provide, construct, or maintain any facilities for the public. By virtue of executing this Agreement or by allowing recreational use of its property, the City does not assume any liability for the recreational use by the public of its land beyond that provided in GOL Section 9-103. Historic recreational uses, including fishing, hiking, and hunting, will be allowed to continue on newly acquired fee property, subject to rules and regulations adopted, or permits issued, by NYCDEP, provided that they neither threaten public safety nor threaten to have an adverse impact on water quality. The Parties agree that the following recreational uses are more likely to be allowed on City land, if appropriate, subject to rules and regulations adopted, or permits issued, by NYCDEP: fishing (including fishing by boat) under regulation; hiking, especially where parcels intersect State trails; snowshoeing; cross country skiing; bird watching; educational programs, nature study and interpretation; and hunting (only in certain areas under certain conditions). The following activities are not likely to be allowed on City property even if the property was historically utilized for these purposes: boating (other than for permitted fishing by boat); snowmobiling; camping; motorcycling; mountain bicycling; and horseback riding.

73. Recreational Uses: Currently Owned City Property. In consultation with NYSDEC, USEPA (for the Catskill and Delaware Watershed), the appropriate local governments, and the appropriate regional Sporting Advisory Subcommittee, the City will also undertake a comprehensive review of existing and potential recreational uses on currently owned City property. The City will submit a preliminary report, within two years of the Effective Date of this Agreement, to the Watershed Protection and Partnership Council established pursuant to Article IV of this Agreement regarding recreational uses on currently owned and newly acquired City property.

74. City Financial Commitments for Land Acquisition.

(a) The 1997 FAD will require the City to commit the sum of Two Hundred, Fifty Million Dollars (\$250,000,000) for acquisition of land in the Catskill and Delaware Watershed under the land acquisition program contemplated by this Agreement; up to Ten Million Dollars (\$10,000,000) of that sum may be used by the City to acquire Watershed Agricultural Easements on farms that have a Whole Farm Plan approved by

WAC. After five (5) years, the City, USEPA and NYSDOH will confer on the sufficiency of the Two Hundred Fifty Million Dollars (\$250,000,000) in light of the land acquisition program's progress. If the Primacy Agency determines it is necessary, the City will at that time commit up to an additional \$50 million for the Catskill and Delaware land acquisition program (any additional monies committed to such program pursuant to this sentence shall be referred to as "Supplemental Land Funds").

(b) The City commits to spend Ten Million Dollars (\$10,000,000) to acquire fee title to, or Watershed Conservation Easements on, real property in the Croton Watershed within ten years of the Effective Date of this Agreement consistent with the acquisition schedule appended hereto as Attachment H. The City agrees to spend at least ninety percent (90%) of the Ten Million Dollars (\$10,000,000) on acquisition in Westchester and Putnam Counties. The City agrees that it will seek to acquire similar amounts of land in both Westchester and Putnam Counties in the Croton system to the extent that such a result is practical and consistent with the Criteria set forth in paragraph 66.

75. Land Acquisition Segregated Account.

(a) The 1997 FAD will require the City to maintain a segregated account for purposes of the land acquisition program in the Catskill and Delaware Watershed contemplated by this Agreement.

(b) The 1997 FAD shall require that the City deposit or cause to be deposited, into the segregated account, its Two Hundred Fifty Million Dollar (\$250,000,000) funding commitment for such program (as referred to in paragraph 74), in the following manner:

(i) By not later than the date the Interim Filtration Avoidance Determination is issued as described in paragraph 159 of this Agreement (the "Interim FAD"), the sum of Eighty-Eight Million Dollars (\$88,000,000) shall be deposited into the segregated account.

(ii) The balance of the \$250,000,000 commitment shall be deposited into the segregated account as follows: During the period between the issuance of the Interim FAD and December 31, 2001, the City, USEPA, and NYSDOH shall jointly review the sufficiency of funds in the segregated account at least bi-annually. Such review shall be based on the progress of the land acquisition program to date and the projected level of acquisitions over the next two-year period. If the Primacy Agency determines that additional funds are needed to ensure appropriate funding for the land acquisition program over the following two years, the City shall promptly deposit such additional funds into the segregated account.

(iii) If, as of December 31, 2001, the sum of all deposits theretofore made by the City pursuant to clauses (i) and (ii) above is less than \$250,000,000, the City shall immediately deposit the difference into the segregated account.

(iv) Any Supplemental Land Funds determined to be necessary by the Primacy Agency, pursuant to paragraph 74, shall be deposited into the segregated account in such amounts,

and at such times, as shall be decided upon by the Primacy Agency pursuant to, and in accordance with, a bi-annual review process as described in clause (ii) above.

(c) Anything in this Agreement to the contrary notwithstanding, in no event shall the City be required to deposit, in aggregate, funds into the segregated account in excess of \$300,000,000.

(d) All interest earned on funds deposited in the segregated account shall belong to the City, and the City shall not be required to spend any portion of such interest on the land acquisition program in the Catskill and Delaware Watershed contemplated by this Agreement. The City may use such interest for any lawful purpose that it, in its sole discretion, deems appropriate.

(e) The City may remove or cause to be removed funds from the segregated account only to pay for costs of the land acquisition program. The foregoing notwithstanding, if at any time the proceeds of tax-exempt bonds are deposited in the account, and bond counsel to the issuer of such bonds determines that federal or state tax laws, rules, or regulations require that such proceeds be expended within a certain time period in order to preserve the tax-exempt status of such bonds, the City may take such actions as it reasonably determines to be necessary or appropriate in order to preserve such tax-exempt status. Such actions include expenditure of such proceeds for eligible purposes, other than the land acquisition program, in order to ensure that all such proceeds are properly expended within such time period. In this situation, the City shall promptly replace all funds taken from the segregated account for other purposes.

76. The State's Croton Land Acquisition Program. The State commits to spend Seven Million Five Hundred Thousand Dollars (\$7,500,000) to acquire fee title to, or Watershed Conservation Easements on, real property in the Croton Watershed beginning in State fiscal year 1998-99 and concluding no later than calendar year 2006. The State, in consultation with the City, will identify parcels or Watershed Conservation Easements for State acquisition. Parcels shall be acquired pursuant to this paragraph only upon the mutual agreement of the State and City, and the State and City shall not unreasonably withhold such agreement. Upon acquisition by the State, the real property or Watershed Conservation Easement shall be promptly transferred by the State to the City consistent with the requirements of this Article and the draft legislation appended hereto as Attachment U. The City will be responsible for paying real property taxes or PILOTs, in accordance with the provisions of paragraphs 79 and 80, on said lands or Watershed Conservation Easements as set forth in this Agreement. The State's land acquisition under this program, and the City's participation therein, shall conform to the requirements of this Article applicable to the City's land acquisition program. The real property or Watershed Conservation Easements acquired by the State and transferred to the City shall be held in perpetuity for the protection of the Croton Watershed and the New York City drinking water supply, in accordance with the provisions of paragraphs 82 and 83.

77. Watershed Agricultural Easements Program Overview. A program to acquire Watershed Agricultural Easements would further the protection of sensitive lands based

on water quality criteria, provide added economic incentive to farmers for pollution prevention linked to Whole Farm Plans, and assist the inter-generational transfer of farm lands and operations. To be successful, a City funded Watershed Agricultural Easements program must be carried out in partnership with the WAC. The WAC will be responsible for landowner outreach and contact, identifying and implementing management practices linked to the Watershed Agricultural Easements and administering, monitoring and enforcing the terms of such easements. The WAC will work closely with NYCDEP on these tasks, as well as working with individual farmers and NYCDEP in the survey, appraisal and closing processes.

78. Watershed Agricultural Easements Program.

(a) As specified in paragraph 74, the City may spend up to Ten Million Dollars (\$10,000,000) of the Two Hundred Fifty Million Dollars (\$250,000,000) committed to the Catskill and Delaware land acquisition program on a program for acquiring Watershed Agricultural Easements.

(b) If the City undertakes the program identified in subparagraph (a), the City will provide funding for the acquisition of Watershed Agricultural Easements and for Watershed Conservation Easements on non-agricultural lands under common ownership with farms from property owners who have Whole Farm Plans approved by WAC. The Watershed Conservation Easements will be acquired at fair market value as determined by an independent appraisal ordered by the City and performed by an independent, certified New York State appraiser. In determining fair market value, the City's independent appraisers will consider information from a second appraisal, provided by the property owner and made at the owner's or a third party's expense, provided the second appraisal is made by a certified New York State appraiser and was completed no earlier than one year prior to the date of the City's appraisal or no later than the later of six (6) months after the owner has received the City's appraisal or six (6) months after the Effective Date of this Agreement. Upon request, the City may extend the time period for completion of a second appraisal.

(c) The City and the WAC will jointly determine:

(i) Procedures and standards for appraising the fair market value of the proposed Watershed Agricultural Easement; and

(ii) The appropriate terms and conditions of the Watershed Agricultural Easements and Watershed Conservation Easements on non-agricultural lands under common ownership with farms owned by property owners who have Whole Farm Plans approved by WAC.

(d) The WAC, in consultation with NYCDEP, will be responsible for property owner contact and outreach for the Watershed Agricultural Program and the identification and implementation of management practices designed to enhance pollution prevention.

(e) The easements may be held either by WAC or by the City together with WAC. If held by WAC, the City shall have third party enforcement rights. In either case, the WAC shall have primary responsibility for administering, monitoring and enforcing the terms of the easements. The City and WAC shall reach an agreement on how WAC shall administer, monitor, and enforce the easements and under what circumstances the City would be allowed to step in and perform such functions, such as WAC's failure to enforce the terms of the easements. In the event WAC is dissolved, declared insolvent, or otherwise ceases to do business on an ongoing basis, all such easements shall revert to, and be enforceable by, the City. The City and WAC may agree to engage another third party, to which all such easements and enforcement responsibilities shall revert prior to reversion to the City, in the event WAC is dissolved, declared insolvent, or otherwise ceases to do business on an ongoing basis.

(f) Watershed Agricultural Easements on land qualifying for and receiving an agricultural assessment pursuant to Article 25AA of the Agriculture and Markets Law shall be exempt from real property taxation, consistent with the legislation appended hereto as Attachment U. Watershed Agricultural Easements on lands which do not receive an agricultural assessment pursuant to Article 25AA of the Agriculture and Markets Law shall be subject to real property taxation for all purposes, consistent with the legislation appended hereto as Attachment U.

79. Real Property Taxes: Newly Acquired in Fee Under the City's Land Acquisition Program.

(a) An assessing unit (applicable County, Town or Village), shall initially assess each parcel acquired pursuant to the land acquisition program set forth in this Agreement at the uniform percentage of value applied to other parcels in the assessing unit. The City will not challenge the initial assessed value of such parcel provided the initial assessed value for such parcel does not exceed the fair market value of the parcel multiplied by the latest state equalization rate or a special equalization rate for that assessing unit. For purposes of this paragraph, fair market value equals the parcel's appraised value as finally determined by the City's independent appraiser.

(b) The City will not challenge future assessments on any parcel acquired pursuant to the land acquisition program set forth in this Agreement provided that in any Town both of the following two conditions are met: (1) the rate of increase of the total assessed value of all parcels purchased by the City under the land acquisition program, as measured from the assessment roll in any year over the assessment roll of the preceding year, except in cases of county-wide or town-wide revaluations or updates as provided in paragraph (e) below, is not greater than the equivalent rate of increase in total assessed value of all non-City-owned parcels classified as forest or vacant; and (2) the ratio of the total assessed value of all parcels purchased by the City under the land acquisition program in the Town to the total assessed value of all taxable parcels in the Town does not increase from the prior year. With respect to each parcel purchased by the City, the agreement set forth in this paragraph shall last for twenty (20) years from the date of purchase.

(c) The City will not seek to have any parcels acquired pursuant to this land acquisition program consolidated for purposes of the City reducing taxes.

(d) The City shall retain its right as a property owner to challenge in court, or otherwise, assessments of parcels purchased under the land acquisition program if the provisions of paragraphs (a) and (b) are not satisfied. In any such challenge, the City will not seek to have the assessed value of the parcel reduced below the highest value which would result in the assessed value of the parcel satisfying the limitation set forth in paragraph (a) or in the total assessed value of all parcels purchased by the City under the land acquisition program in the Town satisfying the limitations set forth in paragraph (b) above.

(e) Except as provided in paragraph (c), the City retains all legal rights held by property owners with respect to any Town-wide or County-wide revaluation or update (as those terms are defined in Section 102, subdivisions (12-a) and (22) of the RPTL) currently being undertaken or which may be undertaken in the future.

80. Real Property Taxes: Watershed Conservation Easements.

(a) The Parties agree to support State legislation, in the form of Attachment U, requiring City-held Watershed Conservation Easements to be taxed and authorizing transfer of State lands to the City. If the water supply permit issued pursuant to paragraph 58 and attached in draft as Attachment V is renewed or extended beyond December 31, 2016, the Parties agree to support legislation extending the term of the conservation easement legislation to be consistent with any extension of the water supply permit.

(b) The City will not acquire Watershed Conservation Easements in any given Town or Village prior to the passage of such proposed State legislation unless the City enters into an agreement to make payments in lieu of taxes ("PILOTs") with such Towns or Villages in the manner set forth in the model PILOT agreement appended to this Agreement as Attachment X which agreement shall be submitted to the applicable Villages and Towns by the City together with a letter noting the requirements of this paragraph. The Villages and Towns that are Parties to this Agreement agree to execute a PILOT agreement, appended hereto as Attachment X, with the City. If a Village or Town does not execute the PILOT agreement within ninety (90) days of submission of a signed PILOT agreement by the City, the City may acquire Watershed Conservation Easements in such Village or Town notwithstanding the absence of an executed PILOT agreement. The local consultation process set forth in paragraph 71 may run concurrently with the ninety day period for signing of the PILOT agreement, but the City may not close on a Watershed Conservation Easement prior to either the Town or Village signing the PILOT agreement or the expiration of the ninety days. A PILOT agreement executed by the City shall remain a valid contract offer as long as the City owns said easement, provided that State legislation for the taxation of such Watershed Conservation Easements is not effective. If a Town or Village executes the PILOT agreement after the ninety day period, then the City shall make PILOTs only from the effective date of the PILOT agreement, and shall not be liable for PILOTs under such agreement prior to the effective date of such agreement. In addition, the City shall not acquire any Watershed Conservation

Easements if the PILOT agreement for said Town or Village is determined to be unenforceable by any court of competent jurisdiction and if there is no State legislation providing for the taxation of Watershed Conservation Easements pursuant to paragraph 167.

(c) The City will provide to the respective Towns and Villages, as part of the local consultation process, and to the respective sellers, a generic description in plain language of the real property tax consequences to a seller arising from the City's purchase of a Watershed Conservation Easement.

81. Limitation on Transfers to Tax Exempt Entities. The City will not transfer land it acquires pursuant to this land acquisition program to a tax exempt entity unless the entity enters into a written agreement acceptable to and with the assessing unit to make payments in lieu of full real property tax and ad valorem levies to each applicable taxing entity. Consent of the assessing unit to entering into such an agreement shall not be unreasonably withheld.

82. Land Held in Perpetuity for Watershed Protection. The City will grant to NYSDEC a conservation easement that shall run with the land on all land acquired in fee under the land acquisition program to ensure that such land is held in perpetuity in an undeveloped state in order to protect the Watershed and the New York City drinking water supply. Such easement shall also provide that the Primacy Agency shall have enforcement rights or be specified as a third-party beneficiary with a right to enforce the easement. With respect to lands in Priority Areas 3, 4 or C, such easements will provide that, with the prior agreement of USEPA and NYSDOH, the City may sell such lands free of the easement restriction, in order to purchase already identified replacement lands located in a higher Priority Area. If so, the replacement lands thus acquired will similarly be subject to conservation easements. The City will not use the granting of conservation easements to reduce property tax liability on the property it acquires. In order to acquire any replacement lands during the term of the land acquisition program, the City shall comply with all of the requirements of this Article. Prior to acquiring any replacement lands after the expiration date of the land acquisition program, the City shall obtain all necessary permits and comply with SEQRA.

83. Conservation Easements Held in Perpetuity for Watershed Protection.

(a) Watershed Conservation Easements, including Watershed Agricultural Easements, acquired by or on behalf of the City under the land acquisition program set forth in this Agreement, shall be held in perpetuity in order to protect the Watershed and the New York City drinking water supply.

(b) The New York State Attorney General shall be granted full third party enforcement rights over all such Watershed Conservation Easements, including Watershed Agricultural Easements, subject to the following provisions:

(i) The City may not materially amend the express terms of the Watershed Conservation Easement without the approval of the Attorney General.

(ii) The Attorney General may bring an action to enforce a Watershed Conservation Easement in a court of competent jurisdiction provided that:

(A) Such action shall only be brought in the case of a material breach of the easement; and

(B) Before commencing such an action, the Attorney General must first notify the City and the landowner of the parcel encumbered by the Easement and give the City sixty (60) days to take appropriate action, including commencing an enforcement action; and

(C) If the City is diligently prosecuting an enforcement action, in either an administrative or judicial proceeding, the Attorney General shall not have a right to prosecute an action for the same breach of the easement.

(iii) The Attorney General shall not be given the right to inspect any property burdened by a Watershed Conservation Easement.

(c) The City shall inspect any property burdened by a Watershed Conservation Easement at least twice each year. Such inspections may include aerial inspections. The City shall provide the Attorney General with reports of all inspections.

84. Acquisition Reports.

(a) The City will submit copies of its acquisition reports which are submitted to the Primacy Agency, pursuant to the Interim and 1997 FADs, to NYSDEC, and to the Watershed Protection and Partnership Council. Such reports will include the following information for all parcels and easements acquired during the reporting period: address; description of the property, including any easement; county and town where property is located; tax map number; acreage; closing date; and map of property. The acquisition report shall also contain cumulative totals of acreage solicited and acreage acquired identified by Town and Priority Area. The Watershed Protection and Partnership Council shall review such reports and may make recommendations on the adequacy of the land acquisition program to the Primacy Agency. The Council may not recommend that the City increase its financial commitment to the land acquisition program, without the City's consent.

(b) The State will submit annual progress reports on its Croton land acquisition program within thirty (30) days of the end of each State fiscal year to the Watershed Protection and Partnership Council. Such reports will contain the following information for all parcels and easements acquired during the previous fiscal year: address; description of the property, including any easement; county and town where property is located; tax map number; acreage; closing date; and map of property. The acquisition report shall also contain cumulative totals of acreage acquired identified by Town and Priority Area and

money spent. The Watershed Protection and Partnership Council shall review such reports and may make recommendations on the adequacy of the land acquisition program to the State.

85. Permit Conditions.

(a) In order, in part, to provide additional security for the agreements set forth in Article V, the water supply permit for the land acquisition program issued pursuant to paragraph 58 shall be conditioned on the City executing and maintaining valid and enforceable program contracts which include the terms and conditions required by Article V of this Agreement for the following programs: Catskill Watershed Corporation Funding (paragraph 120); SPDES Upgrades (paragraph 121); New Sewage Treatment Infrastructure Facilities (paragraph 122); Septic System Rehabilitations and Replacements (paragraph 124); Stormwater Retrofits (paragraph 125); Sand and Salt Storage Facilities (paragraph 126); WOH Future Stormwater Controls (paragraph 128); Alternate Design Septic Systems (paragraph 129); Public Education (paragraph 131); WOH Economic Development Study (paragraph 134); Catskill Fund for the Future (paragraph 135); Tax Consulting Fund (paragraph 136); Funding of the Watershed Protection and Partnership Council (paragraph 137); Watershed Planning in the Croton System (paragraph 138); Sewage Diversion Feasibility Studies (paragraph 139); EOH Water Quality Investment Program (paragraph 140); Upgrades to Existing WWTPs (paragraph 141); Phosphorus Controls in Cannonsville (paragraph 144); Payment of Costs and Expenses (paragraph 146); Good Neighbor Payments (paragraph 147); and Local Consultation on Land Acquisition (paragraph 148). For purposes of this paragraph, a Valid and Enforceable Program Contract shall mean a contract (i) for which the City has appropriated sufficient funds to allow it to make payments as they become due and owing; (ii) which has been registered pursuant to section 328 of the City Charter; and (iii) which remains in full force and effect and enforceable under applicable law during the term required by this Agreement ("Valid and Enforceable Program Contract"). A failure by the City to comply with the permit condition requiring a Valid and Enforceable Program Contract for a program shall not be a violation of the permit if (i) the City continues to make timely payments for the program in accordance with the terms of this Agreement and the applicable program contract or (ii) the City has properly terminated the contract pursuant to the terms thereof and the City complies with its obligation to continue to fund or complete the subject program. For purposes of this paragraph, a payment to be made by the City shall not be considered made to the extent such payments are required to be refunded to the City.

(b) The water supply permit shall provide that, except where payment under a program is suspended pursuant to paragraphs 155, 156, or 157 below, the City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraphs (i), (ii) and (iii) if (1) the City has not appropriated funds for one or more of the programs listed below and thereafter the City fails to make a payment that would otherwise be due and owing under a contract for such unappropriated program and (2) the City has not cured the failure to make such payment within 30 days of the date the payment was due and owing. For purposes of this

subparagraph only, a failure to make a payment shall be deemed cured if the City makes such payment, with interest at 9% compounded annually from the date such payment was due and owing.

(i) The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit with respect to acquisitions West of Hudson under this subparagraph are: Catskill Watershed Corporation Funding, but only for City fiscal year 1997 (paragraph 120); SPDES Upgrades (paragraph 121); New Sewage Treatment Infrastructure Facilities (paragraph 122); Septic System Rehabilitations and Replacements (paragraph 124); Stormwater Retrofits (paragraph 125); Sand and Salt Storage Facilities (paragraph 126); WOH Future Stormwater Controls (paragraph 128); Alternate Design Septic Systems (paragraph 129); Public Education, but only for City fiscal year 1997 (paragraph 131); WOH Economic Development Study, but only for City fiscal year 1997 (paragraph 134); Catskill Fund for the Future, but only for City fiscal year 1997 (paragraph 135); Tax Consulting Fund, but only for City fiscal year 1997 (paragraph 136); and Phosphorus Controls in Cannonsville (paragraph 144).

(ii) The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit with respect to acquisitions East of Hudson under this subparagraph are: Watershed Planning in the Croton System, but only for City fiscal year 1997 (paragraph 138); Sewage Diversion Feasibility Studies (paragraph 139); and EOH Water Quality Investment Program (paragraph 140).

(iii) The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit for the entire watershed under this subparagraph are: Funding of the Watershed Protection and Partnership Council, but only for City fiscal year 1997 (paragraph 137); Upgrades to Existing WWTPs (paragraph 141); Payment of Costs and Expenses (paragraph 146); Good Neighbor Payments (paragraph 147); and Local Consultation on Land Acquisition (paragraph 148).

(c) The water supply permit shall provide that, except where payment under a program is suspended pursuant to paragraphs 155, 156 or 157 below, and except as provided in subparagraph (b) above, the City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraphs (i), (ii) and (iii) if (1) for one or more of the programs listed below, the City does not have a Valid and Enforceable Program Contract during the term required by this Agreement and thereafter the City fails to make a payment that would otherwise be due and owing under such invalid or unenforceable contract and (2) the City has not cured the failure to make such payment within eight (8) months of the date the payment would otherwise have been due and owing. The eight (8) month period is intended to provide the City with time to attempt to resolve the matter which caused the program contract to become invalid and unenforceable without interruption to the land acquisition program. For purposes of this subparagraph only, a failure to make a payment shall be

deemed cured if the City makes such payment, with interest at 6.5% compounded annually from the date such payment was due and owing.

(i) The programs for which such failure to make payment or to timely cure late payment shall lead to Restrictions to the water supply permit with respect to acquisitions West of Hudson under this subparagraph are: Catskill Watershed Corporation Funding (paragraph 120); SPDES Upgrades (paragraph 121); New Sewage Treatment Infrastructure Facilities (paragraph 122); Septic System Rehabilitations and Replacements (paragraph 124); Stormwater Retrofits (paragraph 125); Sand and Salt Storage Facilities (paragraph 126); WOH Future Stormwater Controls (paragraph 128); Alternate Design Septic Systems (paragraph 129); Public Education (paragraph 131); WOH Economic Development Study (paragraph 134); Catskill Fund for the Future (paragraph 135); Tax Consulting Fund (paragraph 136) and Phosphorus Controls in Cannonsville (paragraph 144).

(ii) The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit with respect to acquisitions East of Hudson under this subparagraph are: Watershed Planning in the Croton System (paragraph 138); Sewage Diversion Feasibility Studies (paragraph 139); and EOH Water Quality Investment Program (paragraph 140).

(iii) The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit with respect to acquisitions for the entire watershed under this subparagraph are: Funding of the Watershed Protection and Partnership Council (paragraph 137); Upgrades to Existing WWTPs (paragraph 141); Payment of Costs and Expenses (paragraph 146); Good Neighbor Payments (paragraph 147); and Local Consultation on Land Acquisition (paragraph 148).

(d) If the water supply permit is Restricted under this paragraph 85, the City shall not acquire title to land or Watershed Conservation Easements on land under the permit until, with respect to the program for which the failure to pay led to the Restrictions, the City has made all missed payments which the City failed to pay and which would otherwise be due and owing except that the City failed to maintain a Valid and Enforceable Program Contract, as provided in subparagraphs (b) and (c), as well as interest on such missed payments at the rate set forth in subparagraphs (b) or (c), whichever is applicable.

(e) The following process shall govern Restrictions on the City's acquisition of an interest in land or Watershed Conservation Easements on land pursuant to the water supply permit under this paragraph 85.

(i) The City shall notify in writing NYSDEC, the individual members of the Executive Committee, and the CW Corporation as soon as practicable of the commencement of any litigation seeking to invalidate one or more program contracts or this Agreement. The purpose of the notice is to provide the Parties at the earliest possible point in the litigation an opportunity to discuss such dispute. Additionally, the City will keep such Parties advised of the status of the litigation.

(ii) If the conditions set forth in subparagraph (b) or (c) are met, the party to whom the City would otherwise have owed the missed payment ("Contracting Party") may notify the City, the Executive Committee, and NYSDEC in writing that the condition of the permit requiring a Valid and Enforceable Program Contract has been violated and that thereafter the City missed a payment under such contract, and that the City has not cured the failure to make such missed payment. The City shall have 10 days from its receipt of the notice to respond in writing to the Contracting Party, the Executive Committee and NYSDEC. If the City agrees with the notice or does not respond within 10 days, the City's permit shall be Restricted without further proceeding and the City will not acquire title to land or Watershed Conservation Easements on land under the permit. If the City disputes the notice, NYSDEC shall have 15 days from its receipt of the City's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the permit condition requiring a Valid and Enforceable Program Contract has been violated and whether thereafter the City has missed a payment under such contract, and whether the City has not cured the failure to make such missed payment. If NYSDEC determines that these criteria exist, it shall notify the City, the Executive Committee and the Contracting Party of its determination within 5 days and the City will not acquire title to land or Watershed Conservation Easements on land under the permit.

(iii) If the water supply permit has been Restricted pursuant to subparagraphs (e)(ii) above, and the City believes it has met the conditions set forth in subparagraph (d) above so that the Restrictions should be lifted, the City may notify the Executive Committee, NYSDEC and the Contracting Party in writing. The Contracting Party shall have 10 days from its receipt of the City's notice to respond in writing to the City, the Executive Committee and NYSDEC. If the Contracting Party agrees with the City's notice or does not respond within 10 days, the City may resume land acquisition without further proceedings. If the Contracting Party disputes the notice, NYSDEC shall have 15 days from its receipt of the Contracting Party's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the missed payments have been paid with interest at the applicable rate. If NYSDEC determines that such missed payments have been paid with interest, it shall notify the City, the Executive Committee and the Contracting Party of its determination in writing within 5 days, and the City may thereafter resume land acquisition under the permit.

(f) Notwithstanding any provision in this Agreement to the contrary, the City agrees herein to comply with its obligations under the conditions of the water supply permit identified in subparagraphs (b) and (c) above and during the term of such permit and any renewal thereof, to refrain from seeking a modification to the permit which would authorize the City to acquire title to land or Watershed Conservation Easements on land while the conditions set forth in subparagraph (b) and (c) are met.

86. Funding of Permit Programs in City Budget. During the term of the water supply permit, the City shall notify NYSDEC and the Executive Committee each City fiscal year as to whether the City budget for that fiscal year includes sufficient funding to allow the City to meet its financial obligations for the programs listed in paragraph 85 for such

fiscal year. The City will provide such notification within 30 days of the beginning of the fiscal year. Failure to provide such notice shall not be grounds for suspending the permit.

2017 FAD

New York City Filtration Avoidance Determination

Prepared By

New York State Department of Health

in consultation with

United States Environmental Protection Agency

December 2017

2017 Surface Water Treatment Rule Determination for
New York City's Catskill/Delaware Water Supply System

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Acronyms

AOC	Administrative Order on Consent
BMPs	Best Management Practices
CAP	<i>Cryptosporidium</i> Action Plan
CATUEC	Catskill Aqueduct Upper Effluent Chamber
CDUV	Catskill/Delaware Ultraviolet Facility
CCE	Cornell Cooperative Extension
CE	Conservation Easement
CFI	Continuous Forest Inventory
CFR	Code of Federal Regulations
CREP	Conservation Reserve Enhancement Program
CSBI	Catskill Streams Buffer Initiative
CT	Concentration-Time (chlorine contact time)
CWC	Catskill Watershed Corporation
DDBPR	Disinfection and Disinfectant Byproducts Rule
EOH	East-of-Hudson
EOHWC	East-of-Hudson Watershed Corporation
FAD	Filtration Avoidance Determination
FBO	Flood Buy-Out
FEMA	Federal Emergency Management Agency
FIRMs	Flood Insurance Rate Maps
GIS	Geographic Information System
HAA5	Haloacetic Acids (sum of five)
IESWTR	Interim Enhanced Surface Water Treatment Rule
LAP	Land Acquisition Program
LFHMP	Local Flood Hazard Management Program
LT2	Long Term 2 Enhanced Surface Water Treatment Rule
MAP	Forestry Management Assistance Program
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
MOA	New York City Watershed Memorandum of Agreement
MOU	Memorandum of Understanding
NPS	Nonpoint Source
NYC	New York City
NYCDEP	New York City Department of Environmental Protection
NYCRR	New York [State] Codes, Rules, and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operations and Maintenance
OST	Operations Support Tool
PFM	Precision Feed Management
PHL	Public Health Law
RWBT	Rondout West Branch Tunnel
SAP	Streamside Acquisition Program
SDWA	Safe Drinking Water Act
SEQRA	State Environmental Quality Review Act
SOEM	New York State Office of Emergency Management
SMP	Stream Management Program
SMP	Stream Management Implementation Grant Program
SPDES	State Pollutant Discharge Elimination System

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SWPPP	Stormwater Pollution Prevention Plan
SRP	Septic Repair Program
SWTR	Surface Water Treatment Rule
TAP	Turbidity Action Plan
TCR	Total Coliform Rule
TTHM	Total Trihalomethanes
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	Ultraviolet
WAC	Watershed Agricultural Council
WAP	Watershed Agricultural Program
WDRAP	Waterborne Disease Risk Assessment Program
WECC	Watershed Enforcement Coordination Committee
WIG	Watershed Inspector General
WFP	Whole Farm Plan
WOH	West-of-Hudson
WPS	Wetlands Protection Strategy
WR&Rs	Watershed Rules and Regulations
WSP	Water Supply Permit
WWTP	Wastewater Treatment Plant
WQIP	Water Quality Investment Program

2017 Filtration Avoidance Determination

Executive Summary

Since 1993, New York City (“the City”) has met the requirements of the 1989 Surface Water Treatment Rule (SWTR) and, after 1998, the Interim Enhanced SWTR (IESWTR). This has allowed the City to avoid filtering its Catskill/Delaware water supply. The conditions that the City must meet to maintain filtration avoidance are described in the City’s Filtration Avoidance Determination (FAD).

The first FAD was issued by the United States Environmental Protection Agency (USEPA) in 1993, with USEPA issuing subsequent FADs in 1997, 2002, and 2007. The 2007 FAD required the City to undertake a ten-year land acquisition program and included specific commitments to activities in other programs for the first five years. After the 2007 FAD was issued, USEPA transferred primacy for regulatory oversight of the City’s FAD to the New York State Department of Health (NYSDOH). In May 2014, NYSDOH, in consultation with USEPA, issued the Revised 2007 FAD, which defined the City’s requirements for the remaining period of the 2007 FAD. In accordance with NYSDOH’s certification of the 2007 FAD, the next FAD was scheduled to be issued in 2017.

This 2017 FAD supersedes the Revised 2007 FAD and will remain effective until a further determination is made, currently scheduled for July 2027. As the primacy agency, NYSDOH has authority to determine whether the City’s Watershed program provides adequate protection of the City’s water supply, pursuant to the SWTR/IESWTR and/or other avoidance criteria in the SWTR/IESWTR. If NYSDOH were to determine that the City was not adequately protecting the Catskill/Delaware water supply, NYSDOH also has authority to require the City to filter the water from that water supply.

1. Background and Basis for Determination

As required under the Safe Drinking Water Act (SDWA) Amendments of 1986, USEPA promulgated the SWTR on June 29, 1989, specifying the criteria pursuant to which filtration is required as a treatment technique for public water systems supplied by a surface water source. The SWTR is codified in the Code of Federal Regulations (CFR) at Subpart H of 40 CFR, Part 141 - National Primary Drinking Water Regulations. The SWTR was promulgated to reduce the risk of waterborne disease occurrence from microbial contaminants at public water systems with surface water sources, either through filtration or by meeting the stringent water quality, disinfection, and site-specific avoidance criteria that make filtration unnecessary.

In response to requirements set forth in the 1996 Amendments to the SDWA, USEPA amended the SWTR on December 16, 1998 with the IESWTR, which is codified in Subpart P of 40 CFR, Part 141. USEPA amended the SWTR again on January 5, 2006 with the Long Term 2 Enhanced Surface Water Treatment Rule (LT2), which is codified in Subpart W of 40 CFR, Part 141. The IESWTR requires unfiltered systems to meet additional provisions to remain unfiltered, including compliance with more stringent disinfection byproduct maximum contaminant levels (MCLs) and the requirement to address *Cryptosporidium* in their watershed control programs. The LT2 provisions for unfiltered systems are not specifically identified as requirements for filtration avoidance, but do require that unfiltered systems provide treatment for *Cryptosporidium*.

The following sections of the SWTR (40 CFR §141.71 and §141.72) and the IESWTR (40 CFR §141.171), define the criteria that must be met to maintain filtration avoidance. Applicable sections of Title 10 of the New York State Codes, Rules and Regulations (NYCRR), Subpart 5-1 are cited following the corresponding federal code citations.

Source water quality conditions:

§141.71 (a)(1), §5-1.30(c)(1): Fecal or total coliform concentration requirements
 §141.71 (a)(2), §5-1.30(c)(2): Turbidity level requirements

Site-specific conditions:

§141.71 (b)(1)(i)/§141.72(a)(1), §5-1.30(c)(3): Disinfection and CT requirements.
 §141.71 (b)(1)(ii)/§141.72(a)(2), §5-1.30(c)(4): Redundant disinfection components and auxiliary power supply requirements.
 §141.71 (b)(1)(iii)/141.72(a)(3), §5-1.30(c)(5): Entry point residual disinfectant concentration requirements.
 §141.71 (b)(1)(iv)/§141.72(a)(4), §5-1.30(c)(6): Distribution system residual disinfectant concentration requirements.
 §141.71(b)(2), §5-1.30(c)(7)(i)-(vii): Maintain a watershed control program which minimizes contamination by *Giardia lamblia* cysts and viruses.
 §141.71 (b)(3) and §141.171(b): Be subject to an annual on-site inspection, which includes determination of adequacy of the watershed protection

- program to limit potential contamination from *Cryptosporidium*.
- §141.71 (b)(4), §5-1.30(c)(8): Must not be identified as a source of a waterborne disease outbreak.
- §141.71 (b)(5), §5-1.30(c)(10): Must comply with the MCL for total coliforms in at least 11 of the 12 previous months (starting April 1, 2016, comply with MCL for *Escherichia coli*).
- §141.71 (b)(6), §5-1.30(c)(9): Must comply with disinfection byproduct requirements (this provision of Subpart H was amended as part of the IESWTR).
- §141.171(a), §5-1.30(c)(7): Minimize the potential for contamination by *Cryptosporidium* oocysts in the source water.

If, at any time, a system fails to meet the avoidance criteria, it will be required to provide filtration within 18 months of such failure.

Additional National Primary Drinking Water Regulations that apply to unfiltered systems, but that are not specifically identified as filtration avoidance criteria, are included in the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2) and LT2. The Stage 2 DDBPR strengthens public health protection by tightening compliance monitoring requirements for trihalomethanes (TTHM) and haloacetic acids (HAA5). Systems must identify specific locations in the distribution system with the highest disinfection byproduct concentrations. Systems must further comply with MCLs for TTHM and HAA5 based on a locational running annual average, rather than averaging all monitoring locations across the system, as was previously allowed. April 1, 2012 was the compliance date for these tighter monitoring and compliance requirements. Although implementation of Stage 2 has changed which sites are being sampled, unfiltered systems are still required to calculate a system-wide running annual average based on the results from the Stage 2 sample sites. These averages must comply with the TTHM and HAA5 MCLs for the water system to maintain filtration avoidance.

LT2 established important new requirements for both filtered and unfiltered systems. LT2 requires all systems to conduct source water sampling and provide effective treatment for *Cryptosporidium*. For unfiltered systems, LT2 requires use of two disinfectants. April 1, 2012 was the compliance date for this rule, although up to two additional years were provided for certain systems that were making capital improvements. A schedule for the City's compliance with LT2 requirements was established by an Administrative Order on Consent (AOC) that was issued by the USEPA in February 2007. Milestones for this AOC were also included in the 2007 FAD. The City selected water treatment using ultraviolet (UV) light, in addition to chlorine disinfection, to meet the LT2 requirements. The AOC was revised in September 2012 to accommodate the need for additional UV light treatment unit validation testing. The revised UV AOC terminated upon the City's completion of all activities required by the AOC, and as reflected in a USEPA letter dated July 7, 2016. The Catskill/Delaware UV (CDUV) facility has been on line since December 1, 2012, providing UV treatment to all Catskill/Delaware water delivered to the City.

Revisions to the 1989 Total Coliform Rule (TCR) were published February 13, 2013. Starting April 1, 2016, compliance with the Revised TCR is based on an MCL for *Escherichia coli* (§141.63(c)), rather than total coliforms.

Previous Filtration Avoidance Determinations

USEPA's January 1993 Determination: Following the City's July 1992 submission of an application not to filter its Catskill/Delaware water system, USEPA began an in-depth review of the City's water supply to determine whether the Catskill/Delaware system could fully meet the avoidance criteria. USEPA concluded that the system met each of the objective criteria for filtration avoidance. USEPA also concluded that the City's existing Watershed protection programs were adequate and met the SWTR goal for a Watershed control program, but that the program's ability to meet the criteria in the future was uncertain. Accordingly, on January 19, 1993, USEPA issued a conditional determination granting filtration avoidance until a further determination was made, on or before December 31, 1993.

USEPA's December 1993 Determination: In September 1993, the City submitted *New York City's 1993 Long-Term Watershed Protection and Filtration Avoidance Program* to demonstrate that the Catskill/Delaware system could and would continue to meet the filtration avoidance criteria in the future. USEPA reviewed historic and 1993 water quality data, *New York City's 1993 Long-Term Watershed Protection and Filtration Avoidance Program*, the City's achievements meeting the conditions contained in USEPA's January 19, 1993 conditional determination, the USEPA March 23, 1993 Expert Panel Report, public comments received, and additional documentation submitted by the City and interested parties relating to the Watershed. USEPA concluded that the Catskill/Delaware system met each of the SWTR objective criteria for filtration avoidance. USEPA also concluded that the City's existing Watershed protection programs continued to be adequate and met the SWTR's criteria for a Watershed control program, but that the program's ability to meet the criteria in the future was still uncertain. USEPA determined that progress had been made toward enhanced Watershed protection programs. However, USEPA sought a more refined characterization of the Watershed and more specific data concerning the identification and location of the activities within the Watershed. USEPA also wanted the City's Watershed protection programs to operate for a longer time period, to evaluate the effectiveness of the programs' long-term ability to monitor and control activities that have the potential to pollute the water supply.

On December 30, 1993, USEPA issued a second conditional determination which allowed the City's Catskill/Delaware public water system to remain unfiltered. This second determination was intended to be effective until a further determination was made, scheduled for December 15, 1996. The second determination also contained conditions primarily related to enhanced Watershed protection and monitoring programs, pathogen studies, reservoir modeling, and other efforts to characterize the Watershed and human activities. The conditions included continued design of filtration facilities should USEPA deem filtration necessary in the future, as well as a requirement that the City remove bottom sediment from and cover Hillview Reservoir. Hillview Reservoir was believed to be the cause of violations of the Total Coliform Rule in 1993 and again in 1994. Hillview remediation requirements are now part of an AOC that was issued by

USEPA. The milestones of USEPA's AOC have also been incorporated into an AOC issued by NYSDOH and, therefore, are no longer FAD requirements.

USEPA's January and May 1997 Determinations: By 1995, implementation of a number of conditions of the 1993 determination had not yet occurred. At that time, USEPA and other interested stakeholders urged the Governor of New York State to intercede. Then Governor George E. Pataki brought the parties together in a consensus-building approach to negotiate reasonable, effective, and scientifically-defensible Watershed protection programs.

The January 1997 New York City Watershed Memorandum of Agreement (MOA), signed by New York State, the City, Watershed towns and counties, environmental parties, and USEPA, enabled the City to implement Watershed protection programs necessary to continue to avoid filtration. On January 21, 1997, the New York City Department of Environmental Protection (NYCDEP), which operates the Catskill/Delaware system, received a Water Supply Permit (WSP) from the New York State Department of Environmental Conservation (NYSDEC). This permit authorized NYCDEP to acquire land and conservation easements in the Watershed of the City's water supply system. The City promulgated new Watershed Rules and Regulations (effective on May 1, 1997) and established economic partnerships with Watershed communities to assist the City and stakeholders in their efforts to protect the Watershed. In addition, the MOA mandated wastewater treatment plant (WWTP) upgrades, nonpoint source pollution controls, and the review of the existing monitoring program.

USEPA issued a four-month interim FAD on January 21, 1997, followed by a FAD in May 1997, granting the City conditional relief from filtering its Catskill/Delaware water system until the agency made a further determination, scheduled for April 15, 2002.

USEPA's November 2002 Determination: Based on NYCDEP's *2001 Long-Term Watershed Protection Program*, USEPA issued a FAD in November 2002, which included significant enhancements to the overall Watershed protection program. In addition, the 2002 FAD highlighted two major themes in the City's program: a long-term commitment to Watershed protection programs, and a reliance on Watershed partners (such as the Catskill Watershed Corporation (CWC) and the Watershed Agricultural Council (WAC)) to enhance program acceptance and implementation.

Program enhancements in the 2002 FAD included expansion of the agricultural program to include small farms and East-of-Hudson (EOH) farms; commitment to seven new wastewater projects for communities on the MOA prioritized list; an expanded stream management program (SMP); study of Catskill turbidity and evaluation of control alternatives; and commitment to construction of a UV light disinfection plant for the Catskill/Delaware water supply.

USEPA's July 2007 Determination: In accordance with the provisions of the 2002 FAD, the 2007 FAD development process was initiated by the City's submittal of a report entitled *2006 Watershed Protection Program Summary and Assessment* in March 2006. After extensive consultation with USEPA, NYSDOH and NYSDEC, the City submitted its *2006 Long-Term Watershed Protection Program* in December 2006. In developing its *2006 Long-Term Watershed Protection Program*, the City, among other things, committed to take additional steps to address

several significant issues and challenges that are important to the continuation of filtration avoidance: 1) excessive turbidity in the Catskill system that is produced by large storm events; 2) compliance with new, more stringent national standards for disinfection byproducts; and 3) the potential for changes in development patterns, and how to refine the City's land acquisition program. The *2006 Long-Term Watershed Protection Program* was premised on the 2007 FAD being issued for a period of five years and thus geared its various programs and activities to such a five-year period.

After the City submitted its *2006 Long-Term Watershed Protection Program*, and based on input received from interested stakeholders and discussions among the parties, the City, USEPA, and NYSDOH agreed that the 2007 FAD would cover a term of ten years, consisting of two five-year periods: 2007-2012 ("First Five Year Period"), and 2012-2017 ("Second Five Year Period"). As part of this agreement, the City committed to a land acquisition program covering ten years, rather than five as originally proposed. The City also agreed that, by January 21, 2010, it would apply for a WSP from NYSDEC covering a ten-year period. The 2007 FAD included requirements for programs other than land acquisition for the First Five Year Period, with provisions for developing program commitments for the Second Five Year Period. A mid-term review of the 2007 FAD would consider what programs should be continued during the Second Five Year Period; whether and how any of the continuing programs should be modified; and/or whether additional programs were needed to justify the continuation of the FAD for the second five years of its term. Proposed requirements for the Second Five Year Period were subject to USEPA and NYSDOH review and approval. USEPA and NYSDOH would seek input from Watershed stakeholders regarding the commitments to be established for the Second Five Year Period and would then issue a mid-term revision to the FAD in 2012 memorializing the new commitments.

On April 12, 2007, USEPA released a draft 2007 FAD which incorporated a land acquisition program covering ten years, as described above. Based on public response to this draft, the City made several additional commitments to enhance its Watershed protection program. Program enhancements in the 2007 FAD included:

- expanding the Septic Remediation and Replacement Program to include cluster systems and small businesses;
- funding wastewater management systems in the final five communities listed in Paragraph 122 of the Watershed MOA;
- providing additional funds for wastewater treatment plant upgrades West-of-Hudson (WOH);
- funding an additional engineering position at the CWC to assist applicants in complying with storm water provisions of the Watershed Rules and Regulations (WR&Rs);
- funding WAC to: implement a forest easement program, support easement stewardship activities, make the Nutrient Management Credit more widely available, and report on a study of Precision Feed Management (PFM); and
- funding local consultation activities to support review of proposed City land acquisitions.

In July 2007, USEPA, in consultation with NYSDOH, determined that the City's *2006 Long-Term Watershed Protection Program*, along with the milestones, clarifications, and additions set

forth in the 2007 determination, would achieve the objectives of the SDWA and the SWTR for unfiltered systems.

Developments Following the Issuance of the 2007 FAD: In September 2007, USEPA granted NYSDOH primary regulatory responsibility for the SWTR as it applies to the Catskill/Delaware water supply, making NYSDOH the primacy agency for oversight of the City's FAD.

On April 4, 2010, the City adopted amendments to its *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources* (WR&Rs). These amendments made the City's WR&Rs consistent with the State's requirements for storm water pollution prevention plans (SWPPPs), and revised the definition of "phosphorus-restricted basin" to include basins for source water reservoirs whose phosphorus levels exceed 15 micrograms/liter.

After significant discussion among the City, the State, USEPA, and Watershed stakeholders on the conditions that would apply to the City's Land Acquisition Program, the City applied to NYSDEC for a WSP in 2010, and the City was issued a fifteen-year WSP on December 24, 2010.

NYSDOH's Revised 2007 FAD: At the end of the First Five-Year Period, NYSDOH, as the recently-designated primacy agency, took the lead on conducting a review of the City's implementation of its *2006 Long-Term Watershed Protection Plan* and compliance with the requirements of the FAD. NYSDOH, in consultation with USEPA, issued an assessment in September 2011. This assessment, along with multiple meetings with the City, stakeholder outreach and public input, formed the basis for the Revised 2007 FAD.

In May 2014, NYSDOH issued the Revised 2007 FAD. In general, the activities set forth for the First Five Year Period of the 2007 FAD remained relevant and formed the basis for program implementation during the remaining period of the 2007 FAD. However, a number of program requirements were revised to enhance program effectiveness or to improve efficiency of implementation. In particular, severe flooding due to tropical storms that occurred in 2011 demonstrated the detrimental impacts flooding can have on water quality. In response, a new focus was placed on flood hazard mitigation in the Revised 2007 FAD. A City-funded Flood Buy-Out (NYCFFBO) program and Local Flood Hazard Mitigation Programs (LFHMPs) associated with the Stream Management Program (SMP) and CWC were developed to address flood-related water quality issues. Other program enhancements included a Septic Repair Program for the EOH FAD Basins (i.e., West Branch, Boyd Corners, Croton Falls, and Cross River Reservoirs and Lake Gleneida), a requirement to work with the National Research Council (NRC) to convene an Expert Panel to review the City's use of the Operations Support Tool (OST), and a requirement to begin the process of convening an Expert Panel to review the City's overall Watershed protection strategy and provide recommendations for improving Watershed protection programs.

NYSDOH's 2017 FAD: With the next determination regarding the City's filtration avoidance status scheduled for July 2017, preparations began for development of the 2017 FAD in early 2016. As required by the Revised 2007 FAD, the City submitted its *2016 Watershed Protection*

Program Summary and Assessment (March 2016). Based on this report, ongoing review of the City's Watershed protection activities, and water system inspections, NYSDOH issued its report entitled *Implementation of New York City's Watershed Protection Program and Compliance with the Revised 2007 Filtration Avoidance Determination* (July 2016). This report concluded that "NYSDOH finds that the City has a comprehensive and robust Watershed protection program, which, overall, is being effectively implemented by the City and its partners. The City continues to provide drinking water to NYC and upstate consumers that meets all requirements of the Surface Water Treatment Rule (SWTR)."

Other key components of the NYSDOH FAD reissuance process include:

- Multiple meetings with the City, including USEPA and NYSDEC, to discuss and come to agreement on proposed FAD program requirements;
- Outreach to Watershed Stakeholders;
- Public Information Sessions in June and July of 2016, held in Delhi, Hunter, Somers, New York City, and by webinar;
- *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* ("2016 Long-Term Plan," submitted by the City on December 15, 2016), which compiled the City's proposed commitments for FAD programs for a ten-year period;
- NYSDOH's Draft 2017 FAD, the requirements of which are based on the City's 2016 Long-Term Plan and subsequent input;
- A 45-day public comment period; and
- State Environmental Quality Review Act (SEQRA) review of the City's 2016 Long-Term Plan, amended as necessary to reflect the requirements of the 2017 FAD.

In 2015, representatives from WOH communities expressed concerns about the City's implementation and enforcement of its WR&Rs. Community representatives requested that the City commit to addressing these concerns in a supplemental side agreement to a modification to the City's WSP, which was required for the City to implement a City-Funded Flood Buy-Out Program. This side agreement, then under negotiation, followed on two prior agreements relating to the City's WSP and memorialized commitments by the City, the WOH communities and partner organizations, and a number of environmental stakeholders. These supplemental agreements essentially serve as updates to the MOA.

In early 2016, community representatives and the CWC met with NYSDOH, USEPA and NYSDEC to discuss these issues. Subsequently, many more meetings were held with WOH community representatives, later including the City and representatives from key Watershed stakeholder environmental groups, with the scope of the topics discussed expanding to include issues related to the City's Watershed program partnerships and to FAD programs. The results of these discussions have been documented in a Supplemental Agreement associated with the 2017 FAD. Many of the resolutions resulting from these discussions have been included in the 2017 FAD as new or revised program requirements.

The City's 2016 Long-Term Plan and the 2017 FAD have been developed to cover a ten-year period from 2017-2027, documenting the City's long-term commitment to its Watershed

protection programs. Unlike the 2007 FAD, the 2017 provides for a ten-year commitment for all Watershed protection programs. The 2017 FAD also provides for a focused review of the City's Watershed protection programs around the halfway point of the FAD term to ensure that the programs are adequate for the City to continue to meet the requirements of filtration avoidance in the future. This review will be informed by the findings of an independent panel of experts ("Expert Panel"), who will be convened by the National Academies of Sciences or NRC (now called the National Academies of Sciences, Engineering, and Medicine (NASEM)). The City was required to engage with the NRC by the Revised 2007 FAD. A similar review was conducted by the NRC as the City was developing its Watershed protection programs in the late 1990s. Stakeholder input received during the development of the Revised 2007 FAD suggested that, as nearly 20 years had passed since that review was conducted, a new review was timely. In early 2015, NYSDOH solicited input from stakeholders on the scope of work for this review and worked with the City to develop a scope of work.

The 2017 FAD requires the City to commence the Expert Panel review by January 31, 2018. The Panel is anticipated to issue a report on its findings 33 months after it commences work (anticipated by October 31, 2020). Four months after the release of the report (anticipated late February 2021), the City, in cooperation with NYSDOH, will convene a meeting or meetings of Watershed stakeholders to present the Expert Panel's findings and solicit stakeholder input. Stakeholder input on the findings of the NASEM review and matters relevant to the FAD programs will be accepted during a 60-day comment period following the stakeholder meeting(s). The City, in consultation with regulators, will evaluate the Expert Panel findings, along with stakeholder input relevant to the FAD programs. NYSDOH will review the Expert Panel report, the March 2021 Watershed Protection Program Summary and Assessment Report, and stakeholder input. If NYSDOH, in consultation with USEPA, determines that changes to the Long-Term Watershed Protection Plan are warranted and necessary to ensure that filtration avoidance criteria continue to be met, NYSDOH will instruct the City to incorporate these changes into the 2021 Long-Term Watershed Protection Plan. The City will submit the 2021 Long-Term Watershed Protection Plan to NYSDOH by December 15, 2021. Concurrently, NYSDOH, in consultation with USEPA, will complete a FAD compliance assessment report, which is a comprehensive review of the City's performance in meeting the terms of the 2017 FAD. It is anticipated that this report will be issued in July 2021. Any revisions to the City's Long-Term Watershed Protection Plan will be incorporated into a draft Revised 2017 FAD, which will be made available for a 45-day public comment period. A final Revised 2017 FAD is scheduled to be issued in July 2022.

In general, the activities set forth in the Revised 2007 FAD remain relevant and form the basis for program implementation during the 2017 FAD period. However, several program requirements have been revised to enhance program effectiveness or to improve efficiency of implementation. The following new or revised program elements have been included in the 2017 FAD:

Septic System and Sewer Programs: The City's various Septic System and Sewer Programs have successfully reduced the potential for sanitary waste from failing septic systems to contaminate the City's Catskill/Delaware water supply. However, during the 2016 WOH stakeholder meetings, community representatives noted that there were gaps in who could

receive assistance from the City's Septic System and Sewer Programs, and suggested that in some cases the high cost of septic system rehabilitation or replacement in the NYC Watershed deterred these system owners from implementing repairs or, in the case of business owners, compelled them to go out of business or leave the Watershed. To address these gaps, the City has modified its Small Business Septic System Rehabilitation and Replacement Program to now cover not-for-profit and government-owned facilities (including firehouses), and all or some of the costs of qualifying alterations or modifications to existing septic systems covered by the program. In addition, the communities and the City agreed that the CWC would be given discretion to cover costs associated with seasonal high groundwater level determinations made by the City, when such a determination is disputed by an applicant's professional engineer. Funding to support such determinations would be allocated from the CWC's Alternate Septic Fund. These new program elements have been included as commitments in the 2017 FAD.

The 2017 FAD has clarified that in all the septic system programs, where sewer extensions to City-owned WWTPs or to WWTPs not owned by the City are more cost-effective than stand-alone solutions, the City will support the design and construction of such sewer extensions. The City will charge households served by a sewer extension to a City-owned WWTP no more in annual operation and maintenance costs than the maximum for households served by WWTPs in the New Infrastructure and Community Wastewater Management Programs pursuant to MOA Paragraph 122. Where a sewer extension to a WWTP not owned by the City is warranted, the City will provide additional funding to the owner of the WWTP to cover any annual operation and maintenance costs above the household maximum established in MOA Paragraph 122. Where a sewer extension serves an entity other than a household, the City will provide supplemental funding to ensure that the entity's annual operation and maintenance costs are comparable to those of non-residential sewer users served by WWTPs in the New Infrastructure or Community Wastewater Management Programs.

Community Wastewater Management Program: The Revised 2007 FAD required the City to complete a study to determine the need for a community wastewater management system for the Hamlet of Shokan. Based on available data, NYSDOH has required the City to provide funding for development and installation of an appropriate wastewater management solution for Shokan pursuant to a timeline defined in the 2017 FAD.

Stormwater Programs: Included in the list of concerns from the WOH communities, raised in 2015, was the City's enforcement of its WR&Rs in regard to stormwater management issues. In some instances, the communities and the City disagreed as to which components of the Storm Water Pollution Prevention Plan (SWPPP) design and implementation constituted incremental differences between State-required measures and City-required measures. In accordance with the MOA, the City is required to compensate for the costs of such incremental differences. The City and CWC are developing a more effective way to identify incremental costs for reimbursement under this program. In addition, certain Future Stormwater costs that the City, in accordance with paragraph 145 of the MOA, had formerly paid directly to applicants, will now be addressed through the CWC's program. The 2017 FAD commits the City to replenishing the CWC's Future Stormwater Fund to ensure continuity of the Future Stormwater Programs.

Land Acquisition Program: The Environmental Impact Statement (EIS) completed by the City in conjunction with issuance of its WSP in 2010 analyzed the potential impacts of the City's Land Acquisition Program (LAP) on selected towns in the Watershed. The EIS determined there would be no adverse environmental impacts at the levels of acreage projected for the analysis. During the 2016 WOH stakeholder meetings, the WOH communities expressed concern that the City was nearing the projected levels of acquisition in some towns. In response, the City committed to updating or completing assessments for 21 towns. The City accepted public comments for 180 days following the release of those updated assessments, until October 31, 2017. Based on the updated Town Level Assessments and its review of comments received, the City will consider whether it should modify its 2012-2022 Long-Term Land Acquisition Plan and discuss its conclusions with NYSDOH, USEPA, and NYSDEC. The City will share any proposed modifications to its solicitation plan, or the basis for a conclusion that no modifications are warranted, with the WOH stakeholders. While the study was being conducted and until the City's adoption of a modified solicitation plan or conclusion that no modifications are necessary, the City agreed to stop or reduce solicitation of land in Delhi, Windham, Andes, Roxbury, Walton, Kortright, Bovina, Middletown, and Halcott. The City will continue solicitation in those towns for the Streamside Acquisition Program (SAP) and the City-Funded Flood Buy-Out Program (NYCFFBO), and the City may accept incoming solicitations initiated by landowners. To continue to ensure that Watershed communities have adequate funding to review the City's land acquisitions, the City will increase the cap on local consultation funding from \$30,000 to \$40,000 per incorporated town and village, and funding will be available for towns to review the updated town level assessments.

The 2017 FAD commits the City to continue to solicit landowners for a total of 350,000 acres over the seven-year period, 2017 through 2024; however, some changes have been made to the LAP. The credit allowed for solicitation done under WAC's easement programs, NYCFFBO Program, and SAP has been increased from 10,000 acres per year in the Revised 2007 FAD to 20,000 acres per year in the 2017 FAD. The City will now receive five acres credit for every one acre solicited under the NYCFFBO program and the SAP. Although the 2017 FAD covers program requirements through 2027, the FAD acknowledges that the City's WSP, which permits the City to conduct a land acquisition program, expires in 2025. To address this, the 2017 FAD provides that the City solicit landowners only through 2024 and assess funding annually, with review by NYSDOH, USEPA, and NYSDEC, to ensure program funds are adequate to cover program needs. In addition, all FAD requirements for this program beyond 2025 are conditioned upon reissuance of the City's WSP. However, NYSDOH anticipates that land acquisition will continue to be an important component of the City's overall Watershed protection strategy. To avoid a potential gap in program activities, and to allow adequate time for stakeholder input on the LAP, the 2017 FAD requires that the City apply in 2022 for a water supply permit to succeed the 2010 WSP, three and a half years before the permit expires. In addition, the City must develop a Long-Term Land Acquisition Plan covering the period 2023-2033. This long-term plan will provide continuity as the City transitions from the City's last plan, covering the period 2012-2022, and will consider the findings of the NASEM Expert Panel regarding the LAP. The Expert Panel findings, the Long-Term Land Acquisition Plan, and public input will also help inform the conditions of the WSP reissuance.

2017 FAD

The 2017 FAD continues to require the City to support WAC's Agricultural Easement Program and a stewardship fund to provide for continuing oversight of WAC's acquisitions. The 2017 FAD also ensures that adequate funding will be available for the WAC Forest Easement Program, in anticipation that this program will be continued beyond its pilot phase.

The 2017 FAD commits the City to providing additional funding to support the SAP. The 2017 FAD acknowledges that, in accordance with the City's WSP, and in consultation with NYSDOH, NYCDEP and other agencies or local governments, NYSDEC may make a written determination whether or not the SAP should be expanded beyond the Schoharie Reservoir Basin. A workgroup will be convened to explore payment approaches or incentives that may be applied to purchasing streamside lands.

The City commits to continue to explore opportunities to enhance the LAP through partnerships with land trusts, including a new program that may help protect farms that are not currently protected by an easement, when the current owners no longer wish to farm. This program will help transition these farms to new farm owners, with a conservation easement in place.

The City will also work with stakeholders to explore opportunities to use certain City-owned lands that have lower water quality protection values to facilitate relocation of development out of the floodplain.

Watershed Agricultural Program: As the Watershed Agricultural Program (WAP) has developed and matured over two decades, the metrics employed to measure the achievements of this program have evolved. The focus of the WAP has moved from maximizing farmer participation and development of Whole Farm Plans (WFPs) to implementing, maintaining, and repairing the Best Management Practices (BMP) that have been recommended by the WFPs. The 2017 FAD requires that the program implement at least 50% of the new BMPs that have been identified and repair 50% of the BMPs in need of repair by the end of 2024. Program funding will be reviewed to allow for greater levels of implementation and repair if feasible. WAP metrics will be evaluated in 2023 to determine if they are adequate to assess program efficacy and whether the metrics should be continued or modified.

Watershed Forestry Program: The Watershed Forestry Program continues to develop new ways to engage foresters and forest landowners and promote the stewardship of healthy, sustainable forests in the Watershed. The 2017 FAD promotes the use of tools like NYS's forest tax abatement program, the MyWoodlot.com website, and the Conservation Awareness Index to achieve program goals.

Stream Management Program: The Stream Management Program will continue to inventory stream features in the Watershed and work to prioritize stream restoration work based on water quality protection benefits. To support these efforts, the City will continue to pursue a study evaluating stream management projects' effectiveness in turbidity reduction. The 2017 FAD sets requirements for accomplishments for the Stream Management Program, including completing 24 stream projects, revegetating at least 5 miles of streambanks through the Catskill Streams Buffer Initiative (CSBI), and funding at least 100 community-driven projects through the Stream Management Implementation Program (SMIP). Through programs administered by both the

SMP partners and the CWC, the City also commits to funding flood mitigation projects that are generated from the Local Flood Analyses (LFAs) that have been done in a number of WOH communities.

A few issues related to the SMP were identified by stakeholders during the 2016 WOH stakeholder meetings. Stakeholders raised concerns that the City was requiring LFA-generated projects to undergo a benefit-cost analysis (BCA), using a procedure developed for the Federal Emergency Management Agency (FEMA), and meet a cost-benefit ratio (BCR) greater than 1.0. The City and WOH stakeholders have agreed that projects generated from the LFAs will undergo a FEMA BCA for the purposes of applying for State and federal funds, should they become available. However, projects will not be required to meet a specific FEMA BCR to be eligible for SMIP or CWC funding. The stakeholders will continue to work to develop a method for evaluating water quality benefits of LFA-generated projects to help prioritize project implementation.

Delaware County and WAC proposed a pilot program to make use of a new funding opportunity from the Conservation Reserve Enhancement Program (CREP). CREP now provides funding to vegetate riparian buffers on fallow agricultural lands. The City and stakeholders have agreed that Delaware County will use SMP funds allocated to DCSWD to implement a pilot program to integrate this new CREP program with the CSBI. The City will work with the CSBI programs in Greene, Schoharie, Sullivan, and Ulster Counties to make use of CREP where applicable through the CSBI framework.

Representatives from environmental advocacy groups suggested that the City participate in a workgroup composed of regulators and Watershed stakeholders to develop a plan for in-stream and riparian emergency recovery procedures following flood events. The plan would identify the locations of equipment and other key resources, provide contact information for local professionals trained to perform emergency recovery procedures, and outline a regulatory approval process that expedites emergency stream work while maintaining water resource protection. A requirement to participate in such a workgroup has been added to the 2017 FAD. The City will continue to support emergency stream intervention training in furtherance of these efforts.

Ecosystem Protection Program: The City's 2016 *Long-Term Watershed Protection Plan* introduced a new program, the Ecosystem Protection Program, which is a combination of several of the City's existing programs. Watershed protection efforts under the Forestry, Wetlands, and Invasive Species programs have been brought together under the Ecosystems Protection Program. During the term of the 2017 FAD, the City will submit updated Watershed Forest Management Plans and updated strategies for implementation of the Wetlands Protection and Invasive Species program elements.

East-of-Hudson (EOH) Nonpoint Source Pollution Control Program: The 2017 FAD commits the City to continue to implement an EOH Septic Repair Program in the four Catskill/Delaware FAD basins (West Branch, Boyd's Corner, Croton Falls, and Cross River Reservoirs), and will extend the availability of this program to the basins that are upstream and hydrologically connected to the Croton Falls Reservoir. To date, the existing program, as established by the

2017 FAD

Revised 2007 FAD, has had little participation. The 2017 FAD requires the City to continue to provide funding to cover at least 50% of the cost of repair or replacement of 35 septic systems per year. The City will also report on efforts to enhance the awareness of potential program participants to program availability.

The 2007 FAD included a requirement that the City provide \$4.5 million to address stormwater pollution in the Cross River and Croton Falls Reservoir basins, as well as the basins upstream/hydrologically connected to these reservoirs. This funding was to be used to provide a 50% match to local funding, and was directed at funding stormwater retrofit projects that would help EOH communities meet their requirements under the NYSDEC Municipal Separate Storm Sewer Systems (MS4) State Pollutant Discharge Elimination System (SPDES) general permit. The requirements for the MS4 permit are based on meeting specified phosphorus reduction goals. The Revised 2007 FAD included reference to additional funding for these projects, specifically \$15.5 million that had been committed by the City's 2010 WSP. The \$20 million previously allocated has been spent by the EOH communities to meet the requirements set for the first five-year period of the MS4 general permit. The 2017 FAD requires the City to provide \$22 million of additional funding to EOH communities to continue efforts to reduce phosphorus inputs to EOH FAD basins. The City will also provide a new source of funds to facilitate the preliminary planning of community wastewater solutions for areas in the EOH FAD basins where poorly functioning individual septic systems have the potential to impact water quality. These stormwater and wastewater programs will work together to provide the most benefit toward achieving the goal of reducing phosphorus inputs, as well as other pollutants, to the City's EOH FAD reservoirs.

Catskill Turbidity Control Program: The Revised 2007 FAD required the City to fund an Expert Panel review of its use of the Operations Support Tool (OST). The City has contracted with the NASEM to convene a panel to conduct this review. The first meetings of the Expert Panel, which included public participation, were held in Kingston, NY on January 5 and 6, and April 24 and 25, 2017. The 2017 FAD continues the requirement for the Expert Panel review. The 2017 FAD also continues requirements for the City to report and meet with regulators on the EIS being done in relation to proposed modifications to the City's Catalum SPDES permit. Modifications to the City's Catskill turbidity control strategies may result from this environmental impact study.

Multi-tiered Water Quality Modeling Program: At the request of NYSDOH, the City has added a commitment to this program to hold an annual progress meeting with the regulators to present and discuss results of the modeling program's work. As the activity in this program continues to expand and as modeling has become an increasingly important tool used in planning for, managing, and operating the Catskill/Delaware water system, these meetings will help ensure that NYSDOH is up-to-date and understands the modeling the City uses to meet its Watershed protection goals.

Watershed Rules and Regulations: Many of the issues raised during the 2016 WOH stakeholder meetings pertained to the City's WR&Rs, in particular those related to septic systems, sewer systems, and stormwater. Working with the WOH stakeholders, and in consultation with NYSDOH and NYSDEC, the City has proposed revisions to the WR&Rs to address these concerns and to ensure that the WR&Rs incorporate the most recent State wastewater and

stormwater requirements. The 2017 FAD requires the City to report semi-annually on the progress of the proposed changes to the WR&Rs until they are adopted.

Within this program, the City also commits to provide NYSDOH with an annual update on the capital replacement of equipment and methods at eligible WWTPs that are required by the WR&Rs and not otherwise required by State or federal law.

Catskill/Delaware Filtration Plant Design: Since the 2002 FAD, the City has been required to report on any updates to its preliminary design for filtration facilities for the Catskill/Delaware water supply, which was initially required by the 1993 FAD. While some updates to the preliminary design have been made, the City has determined, and NYSDOH agrees, that a comprehensive review of this design should be conducted and that a new conceptual design should be developed, using the knowledge and technologies that are currently available. The 2017 FAD requires the City to report on the status of the design development process, conduct bench-scale and larger scale pilot studies and submit a conceptual design in 2026.

FAD Administration: During the 2016 WOH stakeholder meetings, the City's Watershed program partners (i.e., the County Soil and Water Conservation Districts, Cornell Cooperative Extension (CCE), WAC, and CWC) noted some commonly-experienced issues with the City's contracting and funding processes. In some cases, these issues have led to delays in program implementation. The City has initiated dialog between its partners and its contract and budget staff to better identify and address these issues to the extent possible. Consequently, the 2017 FAD requires the City to report annually on the status of key partnership contracts and funding projections. In addition, NYSDOH may request to meet with the City and program partners to discuss and foster resolution to any contract or funding issues that may be interfering with FAD program implementation.

References to program partner contracts throughout this FAD require the City to "execute and register" the contract by the specified due date. In accordance with the City's contracting procedures, an "executed" contract has been signed by the City and the program partner. Once an executed contract has been "registered", funding becomes available so that the program partner may begin invoicing to fund program activities.

Co-location of NYCDEP and CWC staff in the Watershed: NYSDOH recognizes that the success of many of the City's Watershed protection efforts relies on cooperation from the City's FAD program partners and Watershed stakeholders. The City has proposed to enhance opportunities for collaboration and cooperation with WOH partners and communities by co-locating some of the NYCDEP staff with CWC staff in a new office planned to be constructed in Arkville, NY. NYSDOH supports this effort in the FAD with the recognition that it may help facilitate Watershed protection program implementation. The 2017 FAD requires the City to sign a binding commitment to lease space in the new Arkville office building and to assign at least 40 NYCDEP staff to this location by December 31, 2026.

Other Stakeholder Issues: The WOH stakeholders also discussed efforts to enhance communication and coordination during emergencies related to the City's reservoir dams and forest fires on City lands. The City has agreed to meet with emergency management staff to

discuss these issues. While these efforts are outside of the scope of the FAD, NYSDOH recognizes that such coordination activities are integral to maintaining relationships that will sustain the City's ability to manage its water supply system into the future.

Revisions Made in Response to Public Comments

The Draft 2017 FAD was released to the public for review and comment July 21, 2017, followed by a 45-day comment period, which ended on September 5, 2017. Several revisions were made to the FAD in response to those public comments. Most of comments focused on the need for a midterm, or 5-year, review of the 2017 FAD. The text on page 8 and 15 of this FAD was revised to make clear the timeline of activities following the release of the NASEM Expert Panel report and the formal midterm review.

The Office of the Watershed Inspector General (WIG) submitted several recommendations related to the evaluation and regulation of stormwater associated with new development in the City's Watershed and the particular practices used in phosphorus-restricted basins. This submission included a report commissioned by the WIG titled, "Review of Stormwater Phosphorus Characteristics and Treatment for New Development in the New York City Watershed." Stormwater in the Watershed is regulated by NYSDEC and by the City's Watershed Rules and Regulations. The information submitted by the WIG, along with all other comments submitted during the 45-day comment period for the draft 2017 FAD, will be provided to the NASEM Expert Panel for consideration in its evaluation of the City's Watershed Protection Program. NYSDOH encourages the WIG to continue to work with the City and NYSDEC on new scientific developments related to stormwater practices and enhanced phosphorus removal.

In Conclusion

The 2017 FAD is one component of the City's comprehensive Watershed protection program, which has been established within the context of the MOA and previous FADs. Many of the program activities will be implemented through partnerships with Watershed stakeholders that the City has developed and maintained since the signing of the Watershed MOA. This FAD includes all the commitments made by the City in their 2016 Long-Term Plan. Note that the City is required to meet the requirements and due dates as set forth in this determination, rather than those in the 2016 Long-Term Plan, in instances where they differ from those in the 2016 Long-Term Plan.

In addition, the 2017 FAD requires continued implementation of the WR&Rs (effective May 1, 1997 and amended April 4, 2010) and compliance with the WSP issued by NYSDEC for land acquisition (last reissued December 24, 2010). The 2017 FAD also requires that the City continue to meet the filtration avoidance criteria, detailed in 40 CFR §§141.71, 141.72, 141.171, and 141.712; and 10 NYCRR Part 5, Subpart 5-1, Section 1.30(c).

The 2017 FAD supersedes the Revised 2007 FAD and will be effective until a further determination is made, currently scheduled for July 2027. Looking ahead, NYSDOH, in consultation with USEPA, will commence a mid-term review of the City's compliance with the

terms of the 2017 FAD, and issue a compliance assessment report on this review by July 31, 2021. By December 15, 2021, the City will submit the 2021 Long-Term Watershed Protection Plan to NYSDOH for review, which will address the findings of the compliance assessment report and incorporate any FAD program changes required by NYSDOH. These changes will then be incorporated into a draft Revised 2017 FAD, with a final Revised 2017 FAD scheduled for issuance in July 2022. To transition from the Revised 2017 FAD into the 2027 FAD, NYSDOH expects that the City will undertake a comprehensive evaluation of its Watershed protection program to be completed by March 31, 2026. NYSDOH will conduct a FAD compliance review, and issue a compliance assessment report on this review by July 31, 2026. This report will assist the City in its development of a new Long-Term Watershed Protection Plan due on December 15, 2026. The 2026 Long-Term Watershed Protection Plan will serve as the principal reference for the next FAD reissuance, scheduled for July 2027. The dates above are tentative and may be re-evaluated by NYSDOH as necessary.

Regulatory Authority

NYSDOH possesses authority under both State and federal law to enforce the 2017 FAD and the City's Long-Term Watershed Protection Plan, as revised in December 2016. Collectively, these documents, along with the City's WR&Rs and related requirements of the State Sanitary Code, *see* 10 NYCRR § 5-1.30, and federal regulations, *see* 40 CFR § 141.71(b), and 141.171, embody the "watershed control program" for filtration avoidance under State law and under the federal Safe Drinking Water Act, 42 USC § 300f *et seq.*

The City would be in violation of State and federal filtration avoidance requirements if it failed to comply with its obligations to fully maintain the watershed control program, including any failure by the City to make adequate, timely, and approvable submissions to NYSDOH required by that program. *See* 40 CFR § 141.71(b)(2) and (3) (watershed control program and disinfection treatment process must be "adequately designed and maintained" to "the State's satisfaction"); 10 NYCRR § 5-1.30(d). The City also would be in violation of State and federal filtration avoidance requirements if it were to fail to meet applicable standards for water quality and disinfection. *See* 40 CFR § 141.71(a)(1) and (2); 141.71(b)(1), (4), (5), and (6); 141.71(c)(2); 10 NYCRR § 5-1.30(d).

NYSDOH may take enforcement action against the City to address any such violations through the Commissioner's assessment of civil penalties of up to \$25,000 per day for each violation, *see* Public Health Law § 206(4)(d), and in a State or federal court action brought by the Attorney General on NYSDOH's behalf to compel the City to comply with the watershed control program or, in the alternative, to compel the City to filter its Catskill/Delaware water supply.

2. SWTR Filtration Avoidance Criteria Requirements

The Surface Water Treatment Rule (SWTR) at 40 CFR §141.71, the Interim Enhanced Surface Water Treatment Rule (IESWTR) at 40 CFR §141.171, and 10 NYCRR, Subpart 5-1, §5-1.30 require that all surface water supplies provide filtration unless certain source water quality, disinfection, and site-specific avoidance criteria are met. In addition, the supplier must comply with: (1) the Revised Total Coliform Rule (RTCR); and (2) the Stage 1 Disinfectants and Disinfection Byproducts Rule. Further, the Stage 2 Disinfectants and Disinfection Byproducts Rule and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) establish additional important requirements for unfiltered systems, although these provisions are not identified in USEPA regulations as filtration avoidance criteria.

The City will continue to report to NYSDOH and USEPA on two items not specifically required by the SWTR as conditions of filtration avoidance. The requirements are to: (1) report on the operational status of the Catskill/Delaware Ultraviolet Disinfection Facility, as required by LT2; and (2) notify NYSDOH and USEPA within 24 hours of learning that a sample from a distribution system RTCR compliance site has tested positive for *E. coli*.

Expert Panel Review

The 2017 FAD continues the requirement from the Revised 2007 FAD that the City convene an Expert Panel to review the City's Long-Term Watershed Protection Plan, water quality and water quality trends, and anticipated future activities that might adversely impact the City's water supply. The City will contract with the National Academies of Science, Engineering, and Medicine (NASEM) to conduct this review. Following the release of the Expert Panel's final report, the City will convene a public meeting with NYSDOH, USEPA, NYSDEC, and Watershed stakeholders to discuss the findings and recommendations of the Expert Panel. NYSDOH may request additional stakeholder meetings if necessary.

NYSDOH expects that this process will inform changes to the City's Long-Term Watershed Protection Plan and, correspondingly, some requirements of this FAD. The anticipated timeline for these activities would see revisions to the City's Long-Term Watershed Protection Plan in late 2021, and revisions to this FAD in mid-2022. Any revisions to this FAD would be subject to a 45-day public comment period.

The City's Filtration Avoidance Criteria Requirements are described in Section 2.1 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the SWTR Objective Criteria requirements in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p>Continue to meet SWTR filtration avoidance criteria (40 CFR §141.71 and §141.171, and 10 NYCRR §5-1.30) and submit reports and certification of compliance on:</p> <ul style="list-style-type: none"> • §141.71(a)(1) and §5-1.30(c)(1) – raw water fecal coliform concentrations • §141.71(a)(2) and §5-1.30(c)(2) – raw water turbidity sampling • §141.71(b)(1)(i)/§141.72(a)(1) and §5-1.30(c)(3) – raw water disinfection CT values • §141.71(b)(1)(ii)/§141.72(a)(2) and §5-1.30(c)(4) – operational status of Kensico and Hillview disinfection facilities, including generators and alarm systems • §141.71(b)(1)(iii)/§141.72(a)(3) and §5-1.30(c)(5) – entry point chlorine residual levels • §141.71(b)(1)(iv)/§141.72(a)(4) and §5-1.30(c)(6) – distribution system disinfection levels (the City will include a discussion of any remedial measures taken if chlorine residual levels are not maintained throughout the distribution system) • §141.71(b)(5) and §5-1.30(c)(10) – distribution system coliform monitoring, including a summary of the number of samples taken, how many tested positive for total coliform, whether the required number of repeat samples were taken at the required locations, and which, if any, total coliform positive samples were also <i>E. coli</i> positive. For each <i>E. coli</i> positive sample, include the investigation of potential causes, problems identified and what has or will be done to remediate problems. Include copies of any public notices issued as well as dates and frequency of issuance. 	Monthly ¹
<p>All requirements described in §141.71(b)(4) and §5-1.30(c)(8) must continue to be met. Notify NYSDOH and USEPA within twenty-four hours of any suspected waterborne disease outbreak.</p>	Event Based
<p>All requirements described in §141.71(b)(6) and §5-1.30(c)(9) must continue to be met. Submit report on disinfection byproduct monitoring results.</p>	Quarterly ²

<p>Notify NYSDOH/USEPA within twenty-four hours, if at any time the chlorine residual falls below 0.2 mg/L in the water entering the distribution system.</p>	<p>Event Based</p>
<p>Notify NYSDOH/USEPA by the close of the next business day, whether or not the chlorine residual was restored within four hours.</p>	<p>Event Based</p>
<p>Report on the operational status of Kensico Reservoir, West Branch Reservoir (on-line or by-pass), Hillview Reservoir, and whether any of these reservoirs experienced unusual water quality conditions.</p>	<p>Monthly¹</p>
<p>Regarding the emergency/dependability use of Croton Falls and Cross River source water:</p> <ul style="list-style-type: none"> • The City shall not introduce Croton Falls or Cross River source water into the Catskill/Delaware water supply system without the prior written approval of NYSDOH. • As a condition of approval, the City must demonstrate continuing, substantial compliance with the Watershed protection program elements being implemented in the Croton Falls and Cross River watersheds that are contained in this Determination. • As a condition of approval, the City will submit water quality data and monitor water quality at Croton Falls and/or Cross River, pursuant to the approved sampling plan submitted to NYSDOH and USEPA in December 2016, or as revised by the City, and approved by NYSDOH and USEPA, thereafter. <p>NYSDOH approval under this Section may include additional conditions including, but not limited to, project schedules or specific operating goals or parameters for the City’s water supply facilities (such as maximizing use of the Croton Filtration Plant, or operation of the Catskill/Delaware UV Plant at 3-log inactivation). In evaluating requests for approval from the City, NYSDOH shall consult with USEPA.</p>	<p>Continuous</p>

2017 FAD

<p>Contract with the National Academies to conduct an Expert Panel review of the City’s Long-Term Watershed Protection Plan, water quality and water quality trends, and anticipated future activities that might adversely impact the water supply and its ability to comply with 40 CFR §141.71 and §141.171, and 10 NYCRR §5-1.30. Evaluate the adequacy of the City’s Watershed Protection Programs for addressing these concerns and provide recommendations, as necessary, for improving programs.</p> <ul style="list-style-type: none"> • Issue Commence Work notice to National Academies. • Upon request of the National Academies, provide any necessary background information and respond to any pertinent questions within the scope of the review. • Ensure the schedule for public meetings is widely available either on a project-specific website, National Academies website or the NYCDEP website. • Report on the status of the Expert Panel review in the FAD Annual Report. • Provide the final report to NYSDOH, USEPA, and NYSDEC. • Convene a public meeting with the regulators and Watershed stakeholders to discuss the major findings and recommendations of the Expert Panel review. 	<p>1/31/2018</p> <p>Ongoing</p> <p>Ongoing</p> <p>Annually³</p> <p>Commence Work + 33 months</p> <p>Date of Final Report + 4 months</p>
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Report Description	Due Date
Submit 2021 Long-Term Watershed Protection Plan	12/15/2021
Submit 2026 Long-Term Watershed Protection Plan	12/15/2026
Report on program implementation in the FAD Annual Report.	Annually ³

¹ Monthly means reports for a monthly reporting period must be submitted no later than ten days after the end of each month.

² Quarterly means reports for a calendar quarter reporting period must be submitted no later than ten days after the end of each quarter.

³ Annually means reports for a calendar year reporting period must be submitted no later than March 31 of the following year.

3. Environmental Infrastructure Programs

3.1 Septic and Sewer Programs

The City implements a comprehensive set of programs that serve to reduce the number of failing or potentially failing septic systems in the Watershed.

The goals for the Sewer and Septic Program under the 2017 FAD are to:

- Provide adequate funding for the Septic Remediation and Replacement program.
- Provide adequate funding for the Small Business Program.
- Provide adequate funding for the Cluster System Program.
- Continue to fund the Septic Maintenance Program.
- Complete the currently active Sewer Extension Projects.
- Provide funding for the Alternate Design Septic Program.

In all the septic system programs, where sewer extensions to City-owned WWTPs or to WWTPs not owned by the City are more cost-effective than stand-alone solutions, the City will support the design and construction of such sewer extensions. The City will charge households served by a sewer extension to a City-owned WWTP no more in annual operation and maintenance costs than the maximum for households served by WWTPs in the New Infrastructure and Community Wastewater Management Programs pursuant to MOA Paragraph 122. Where a sewer extension to WWTP not owned by the City is warranted, the City will provide additional funding to the owner of the WWTP to cover any annual operation and maintenance costs above the household maximum established in MOA Paragraph 122. Where a sewer extension serves an entity other than a household, the City will provide supplemental funding to ensure that the entity's annual operation and maintenance costs are comparable to those of non-residential sewer users served by WWTPs in the New Infrastructure or Community Wastewater Management Programs.

Septic Remediation and Replacement Program

The Septic Remediation and Replacement Program provides for pump-outs and inspections of septic systems serving single or two-family residences in the WOH Watershed; upgrades of substandard systems; and remediation or replacement of systems that are failing or reasonably likely to fail in the near future. Participation is currently available to residential properties within 700 feet of a watercourse or within the 60-day Travel Time Area. The goal is to ensure funding is in place to remediate or replace approximately 300 failing or likely-to-fail septic systems per year.

Small Business Program

The Small Business Septic System Rehabilitation and Replacement Program helps pay for repair or replacement of failed septic systems serving small businesses (those employing 100 or fewer people) in the WOH Watershed. Through CWC, eligible business owners are reimbursed for a

percentage of the cost of septic repairs. The goal is to ensure funding is in place to remediate or replace failing septic systems serving small businesses.

As part of discussions with Watershed stakeholders in 2016, the City agreed to fund an expansion of the CWC Small Business Septic System Program. This expansion will include funding 100% of the costs of repairs and qualifying alterations and modifications to septic systems for: small businesses with 20 or fewer employees; not-for-profit organizations with 5 or fewer locally-based employees; and governmental entities. The City will also fund 75% of the costs of repairs of, and qualifying modifications to, septic systems up to \$100,000 for a single system, plus 100% of any cost over \$100,000 for: small businesses with 21 or more employees; and not-for-profit organizations with 6 or more locally-based employees. For any equipment or methods of operation required solely by the WR&Rs and not otherwise required by State or federal law, the City will fund 100% of the cost for a septic system serving a population center or an entity that is “public” for purposes of Public Health Law (PHL) Section 1104.

Cluster System Program

The Cluster System Program funds the planning, design, and construction of cluster systems in thirteen communities in the WOH Watershed. Through CWC, eligible communities may elect to establish districts that would support cluster systems and tie multiple properties to a single disposal system. This enables communities to locate disposal systems on larger sites in areas where existing structures were sited on insufficiently-sized lots. The goal is to ensure funding is in place to remediate failing septic systems through construction of cluster systems. The City will also work with CWC to modify the program rules and program agreement for this program to help ensure that projects are implemented in a timely manner and that eligible operation and maintenance costs are adequately funded by the City.

Septic Maintenance Program

The Septic System Maintenance Program is a voluntary program open to home owners who constructed new septic systems after 1997 or participated in the septic repair program, and is intended to reduce the occurrence of septic system failures through regular pump-outs and maintenance. Through CWC, home owners are reimbursed 50% of eligible costs for pump-outs and maintenance. As part of the program, CWC also develops and disseminates septic system maintenance educational materials. The goal is to continue to fund 50% of the cost for septic pump-outs to qualified properties to enhance the functioning, and reduce the incidence of failures, of septic systems throughout the WOH Watershed.

Sewer Extension Program

The Sewer Extension Program has funded the design and construction of wastewater sewer extensions connected to City-owned WWTPs discharging in the WOH Watershed. The goal of this program is to reduce the number of failing or potentially failing septic systems by extending WWTP service to priority areas. The City has completed projects in the towns of Roxbury (Grand Gorge WWTP); Hunter-Haines Falls (Tannersville WWTP); Neversink (Grahamsville WWTP); and Hunter-Showers Road (Tannersville WWTP). The City anticipates that the sewer extension projects now under construction in Shandaken (Pine Hill WWTP) and Middletown (Margaretville WWTP) will be completed before the 2017 FAD is in place. The long-term goal for this program will depend upon future determination of need for projects.

Alternate Design Septic Program

The Alternate Design Septic Program funds the eligible incremental compliance costs of the septic provisions of the WR&Rs for new septic systems to the extent they exceed state and federal requirements. The City funded the Alternate Design Septic Program under the Watershed MOA. The goal is to support the use of funding to cover the eligible incremental costs to comply with the septic system provisions of the WR&Rs. This may include, at the CWC Board’s discretion, incremental costs associated with a NYCDEP determination of high groundwater based on soils tests, when such a determination is disputed by an applicant’s professional engineer.

The City’s Septic and Sewer program is described in Section 2.2.1 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Septic and Sewer Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p>In accordance with CWC Program Rules, contract with CWC to provide adequate funding in support of the Septic Remediation and Replacement Program at a funding level sufficient to address 300 septic systems per year and to cover the future costs of additional septic systems as they are identified and enrolled in the program.</p>	<p>Ongoing</p>
<p>In accordance with CWC Program Rules, contract with CWC to provide adequate funding in support of the Small Business Septic System Program provided that the need for such funding has been demonstrated.</p> <ul style="list-style-type: none"> • Make additional funding available to the Small Business Septic System Program to address a total of 15 systems per year. A minimum of \$13 million shall be made available to this program through 2027. • Reimburse CWC for funding used to support the Small Business Septic System Program prior to contract execution. 	<p>Ongoing</p> <p>6/30/2019</p> <p>6/30/2019</p>
<p>In accordance with CWC Program Rules, contract with CWC to provide adequate funding in support of the Cluster System Program component of the Septic Remediation and Replacement Program.</p> <ul style="list-style-type: none"> • Work with CWC to modify the Cluster System Program Rules, if the City and CWC conclude that modifications are necessary to facilitate implementation of cluster systems. Such modifications may include, but are not limited to: (i) 	<p>Ongoing</p> <p>6/30/2018</p>

<p>incorporating defined time frames for milestones in project schedules (e.g., Study Phase to be completed 1 year after community agrees to participate in the program; funding for project to be approved or denied within 90 days after receipt of completed Study Phase report); (ii) indicating that if the Study Phase determines that a cluster system(s) is not the most cost-effective wastewater solution for an area identified with septic system failures, then the consultant may recommend a more cost-effective solution (e.g., sewer extension or other wastewater management system); (iii) clarifying that where a sewer extension to a City-owned WWTP or to a WWTP not owned by the City is the most cost-effective solution, the City will provide funding to ensure that operation and maintenance costs charged to the entities served by such a sewer extension are comparable to what they would be under the New Infrastructure and Community Wastewater Management Programs; and (iv) identifying operation and maintenance costs of cluster systems that are eligible for funding under the program.</p> <ul style="list-style-type: none"> • Make an additional \$1 million available to the Cluster System Program to cover the eligible operation and maintenance costs of cluster systems that are implemented under the program. The need for additional funding for this program will be assessed annually. 	<p>6/30/2019</p>
<p>Contract with CWC to provide funding, if necessary, to allow maintenance each year of 20% of the total number of septic systems eligible under the Septic Maintenance Program Rules.</p>	<p>Ongoing</p>
<p>Construct sewer extension projects in Shandaken (Pine Hill WWTP), Middletown (Margaretville WWTP).</p>	<p>Completed</p>
<p>Support the use of the already provided funding to cover the eligible incremental costs for septic systems serving population centers or entities that are “public” for purposes of PHL Section 1104 to comply with the septic system provisions of the WR&Rs to the extent that they are not otherwise required by state or federal regulations.</p>	<p>Ongoing</p>

2017 FAD

Report Description	Due Date
Report on program implementation in the FAD Annual Report: <ul style="list-style-type: none">• Septic Remediation and Replacement Program• Small Business Program• Cluster System Program• Septic Maintenance Program• Sewer Extension Program• Alternate Design and Other Septic Systems	Annually, 3/31

3.2 New Sewage Treatment Infrastructure Program

This program was concluded under the Revised 2007 FAD.

3.3 Community Wastewater Management Program

The Community Wastewater Management Program (CWMP) funds construction of community septic systems and/or septic maintenance districts in communities identified in Paragraph 122 of the MOA (the 8-22 communities). This program is designed to improve water quality and protect public health by reducing the transport of pathogens, nutrients and organic matter into waterways. Much of this work has already been completed under prior FADs, and final projects have been completed for the following communities: Bloomville, Boiceville, Hamden, DeLancey, Bovina, Ashland, Haines Falls, Trout Creek, Lexington, and South Kortright. The Shandaken, Claryville, West Conesville, and Halcottsville projects have received block grant approval and are eligible to start the Design Phase. The remaining of the MOA-identified communities (New Kingston) is currently in the Study Phase. For all projects, the timeline of the Design Phase commences when the proposed project outlined in the Study Phase is approved by the parties, the timeline of the Construction Phase commences when the plans drafted during the Design Phase are approved.

The potential need for a community wastewater management system for the Hamlet of Shokan was identified subsequent to the MOA. The Revised 2007 FAD required the City to complete a study to determine that potential need. Under the 2017 FAD, NYSDOH, in consultation with NYSDEC, has directed the City to fund an engineering study to determine the appropriate community wastewater management system to serve the hamlet of Shokan in the Town of Olive, as well as to fund the design and construction of that system.

The City's CWMP is described in Section 2.2.2 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the CWMP in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Complete preliminary study for Halcottsville and New Kingston.	Completed
Approve block grant for Halcottsville.	Completed
Approve block grant for New Kingston.	Six months from date of completed Study Phase (estimated 3/31/2018)
<p>Complete design for the following projects:</p> <ul style="list-style-type: none"> • Shandaken • Claryville • West Conesville • Halcottsville • New Kingston 	<p>One year from date of town approval to enter Design Phase</p> <p>Estimated 9/30/2018 Estimated 10/31/2018 Estimated 12/31/2018 Estimated 12/31/2018 Estimated 6/30/2019</p>
<p>Complete construction for the following projects:</p> <ul style="list-style-type: none"> • Shandaken • Claryville • West Conesville • Halcottsville • New Kingston 	<p>Two years from date of completed Design Phase)</p> <p>Estimated 9/30/2020 Estimated 10/31/2020 Estimated 12/31/2020 Estimated 12/31/2020 Estimated 6/30/2021</p>

<p><u>Community Wastewater System for the Hamlet of Shokan</u></p> <ul style="list-style-type: none"> • Work with CWC to provide funding for the engineering study for a community wastewater system for the Hamlet of Shokan. • Contract with CWC to provide funding to implement the Shokan project. • Complete preliminary study for Shokan, which includes the proposed service area to be approved by NYSDOH, USEPA and NYSDEC. • Approve block grant for Shokan project. • Complete design for Shokan. • Complete construction for Shokan. 	<p>Completed</p> <p>12/31/2018</p> <p>3/31/2019</p> <p>Six months from date of completed Study Phase (estimated 9/30/2019)</p> <p>One year from date of town approval to enter Design Phase (estimated 12/31/2020)</p> <p>Two years from date of completed Design Phase (estimated 12/31/2022)</p>
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Report Description	Due Date
<p>Report on program implementation in the FAD Annual Report:</p> <ul style="list-style-type: none"> • Shandaken • West Conesville • Claryville • Halcottsville • New Kingston • Shokan 	<p>Annually, 3/31</p>

3.4 Wastewater Treatment Plant Upgrade Program

As of the Revised 2007 FAD, this program was concluded. The City's commitment to pay for Capital Replacement of Watershed Equipment and Methods at eligible WWTPs can be found in Section 6.1 of this FAD.

3.5 Stormwater Programs

As part of the MOA, the City established two Stormwater Cost-Sharing Programs: (1) Future Stormwater Controls paid for by the City for Single Family Houses; Small Businesses and Low Income Housing Program; and (2) the WOH Future Stormwater Controls Program. These programs provide financial support for the cost of designing, constructing and, in some cases, maintaining stormwater controls that are required by the WR&Rs, but not otherwise required by federal or State law, for certain new development projects.

The City has committed to replenish funding for the Future Stormwater Controls Program, in the amount of \$4,720,869, based on projected needs for the program.

The Stormwater Retrofit Program, also administered by the CWC, was established in the MOA. The program addresses existing stormwater runoff problems in the WOH Watershed through the construction of stormwater BMPs. Funding is provided for design, permitting, construction, and maintenance of BMPs that address runoff from concentrated areas of impervious surfaces, as well as community-wide stormwater infrastructure assessment and planning. Program funding can also be used for retrofit projects installed in coordination with the CWMP.

The goals for the Stormwater Program under the 2017 FAD are to:

- Fund eligible incremental costs to comply with the stormwater provisions of the City’s WR&Rs.
- Ensure funding for a position at CWC to assist applicants in complying with the stormwater provisions of the City’s WR&Rs.
- Provide funding for nine stormwater retrofit projects per year.
- Fund operations and maintenance of retrofit projects completed under the Stormwater Retrofit Program.
- Contract with CWC to fund payments under MOA Paragraph 145 via CWC instead of directly from the City.

The City’s Stormwater Programs are described in Section 2.2.3 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Stormwater Programs in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Contract with CWC to provide \$4,720,869 to CWC to replenish the Future Stormwater Funds to be used in accordance with MOA Paragraph 128.	On or Before 5/31/2019

2017 FAD

Fund, in accordance with the MOA, and consistent with the CWC program rules, as amended, the eligible incremental costs to comply with the stormwater provisions of the WR&Rs to the extent that they are not otherwise required by federal or State law.	Ongoing
Contract with CWC to provide adequate funding for an appropriate position at CWC to assist applicants undertaking regulated activities to comply with the stormwater provisions of the WR&Rs.	Ongoing
Continue to contract with CWC to provide the funding needed to allow the Stormwater Retrofit Program to construct nine (9) stormwater retrofit projects per year, consistent with the Stormwater Retrofit Program Rules. Selection and implementation of eligible projects will be based on potential to benefit water quality protection. These projects are in addition to those installed in coordination with CWMP projects.	Ongoing
Support the use of program funding for retrofit projects installed in coordination with CWMP projects.	Ongoing
Continue to contract with CWC to provide the funding needed for the operations and maintenance of retrofit projects funded through the Stormwater Retrofit Program consistent with the Stormwater Retrofit Program Rules, provided the demonstrated need for such funding continues.	Ongoing

Report Description	Due Date
Report on implementation of the Future Stormwater Controls Programs and the Stormwater Retrofit Program in the FAD Annual Report.	Annually, 3/31

4. Protection and Remediation Programs

4.1 Waterfowl Management Program

Surveys of Kensico Reservoir in 1992 established a strong relationship between avian populations and bacteria (fecal coliform) levels in untreated water. As a result, the City instituted a Waterfowl Management Program to reduce or eliminate, where possible, all waterbird activity in order to mitigate seasonal elevations of fecal coliform bacteria. A similar program was established at Hillview Reservoir, and was expanded on an “as needed” basis to several more reservoirs.

“Bird dispersal” refers to use of pyrotechnics, motorboats, airboats, remote control motorboats, propane cannons, and other methods employed to physically chase or deter waterbirds from inhabiting the reservoirs.

“Bird deterrence” refers to preventative methods employed to prevent waterbirds from inhabiting the reservoirs, such as: nest and egg depredation, overhead bird deterrent wires, bird netting on shaft buildings, meadow maintenance, and other methods.

“As needed” refers to implementation of bird management measures based on criteria including fecal coliform concentrations approaching or exceeding 20 colony-forming units at reservoir effluent structures coincident with elevated bird populations. Other criteria include current bird populations, recent weather events, operations flow conditions within the reservoir, reservoir ice coverage and Watershed snow cover, and determination that active bird management measures would be effective in reducing bird populations and fecal coliform bacteria levels.

The goals for the Waterfowl Management Program under the 2017 FAD are to:

- Continue active and “as needed” waterbird management through dispersal and deterrent methods at Kensico Reservoir and Hillview Reservoir.
- Continue “as needed” management at other City Reservoirs.

The City’s Waterfowl Management Program is described in Section 2.3.1 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Waterfowl Management Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Active Waterbird Dispersal – Kensico Reservoir.	Annually, 8/1 to 3/31
Active Waterbird Dispersal – Hillview Reservoir.	Year-round
“As Needed” Bird Dispersal – West Branch, Rondout, Ashokan, Croton Falls, and Cross River Reservoirs.	Annually, 8/1 to 4/15
“As Needed” Bird Deterrent Measures – Kensico, West Branch, Rondout, Ashokan, Croton Falls, Cross River, and Hillview.	Year-round

Report Description	Due Date
Summary of Waterfowl Management Program activities at all reservoirs, including wildlife management at Hillview Reservoir (8/1 to 7/31).	Annually, 10/31

4.2 Land Acquisition Program

The Land Acquisition Program (LAP) seeks to prevent future degradation of water quality by acquiring environmentally-sensitive lands. The overarching goal of the LAP is to ensure that these high priority Watershed lands are placed into permanently protected status, either through fee simple purchase or conservation easements (CEs), so that the Watershed continues to be a source of high-quality drinking water for the City and upstate counties. In pursuit of this goal, since 1997 the City has secured over 140,000 acres of land and CEs. Prior to 1997, the City owned 34,193 acres of reservoir buffer land. Now more than 38% of the more than one million acres covered by the Catskill/Delaware Watershed is currently protected by the City, the State, and/or other entities such as municipalities and land trusts.

The City's strategy for prioritizing lands for acquisition is defined in its 2012-2022 Long-Term Land Acquisition Plan. This plan focuses its core land acquisition activities for this period toward less-protected basins and sub-basins, in particular the Schoharie, Pepacton, and Cannonsville Reservoir basins. The plan also seeks to develop parcel selection procedures that will maximize the water quality benefits of acquisitions. While the long-term plan favors the purchase of more cost-effective parcels in the less protected areas of the Watershed, the City has continued to look for opportunities to acquire properties in the well-protected Kensico and EOH FAD basins when properties important to water quality protection become available.

In addition to the City's core land acquisition activities, the LAP includes some other important land acquisition efforts in the Watershed. The City-funded Flood Buy-Out (NYCFFBO) Program was initiated by the Revised 2007 FAD and allows the City to acquire high-priority improved parcels that are important from a flood mitigation and water-quality perspective, but which did not participate in or qualify for a federal and/or State flood buy-out program. The City supports, through partnership with WAC, an Agricultural and a Forest Easement Program. The Revised 2007 FAD committed the City to fund the costs of stewardship and enforcement of the current and future portfolio of these CEs. The Streamside Acquisition Program (SAP) is being piloted by the Catskill Center, in partnership with the City, to focus on securing, in fee simple or CE, streamside (riparian) buffer lands and floodplains in the Schoharie Reservoir basin. The City will convene a work group to explore payment approaches or incentives that might increase participation in this program. This FAD requires that an additional \$3 million will be committed to support the SAP pilot. If it is determined that a streamside acquisition program should be continued for the duration of the FAD, the 2017 FAD requires the City to commit an additional \$8 million to the program. If needed, additional funding for acquisitions made under the SAP may be drawn from the funding appropriated for the core LAP.

The City will continue to work with land trusts to explore and implement additional ways to enhance the efforts of the LAP. A focus for this FAD period will be to consider the feasibility of a program, in partnership with land trusts and stakeholders, that will protect the majority of each transitioning farm (for example, a farm that is at risk of foreclosure or farms with retiring farmers). This program would seek to secure a conservation easement on the majority of the farm.

The City is authorized to implement the LAP by a Water Supply Permit (WSP) issued by NYSDEC. The current WSP became effective December 2010 and expires in 2025. While the term of the 2017 FAD extends into 2027, solicitation and funding requirements for the LAP beyond 2024 are contingent upon reissuance of the WSP. Application for a WSP to succeed the 2010 WSP is required by June 2022 to ensure adequate time for stakeholder input on the conditions of the successor WSP. In addition, the FAD requires the City to develop a new Long-Term Land Acquisition Plan, which will cover the period 2023-2033 and will consider the findings of the National Academies Expert Panel review of the City's Watershed Protection Program. It is anticipated that the long-term plan and the Expert Panel findings will also help inform the conditions of the successor WSP.

NYSDOH projects that the funding needed to support the level of solicitation required through 2024 for the City's core LAP will be a minimum of \$69.3 million. The City shall deposit \$23 million into a segregated account for land acquisition funds every two years starting in July 2018 through 2022. Funding for the remaining term of the 2017 FAD will be based on projections for program activity consistent with the 2023-2033 Long-Term Land Acquisition Plan.

Pursuant to discussions with WOH stakeholders, on April 28, 2017, the City provided new or updated Town Level Assessments for 21 WOH towns to NYSDOH, USEPA, NYSDEC, and WOH stakeholders. Following the release of those assessments, the City will accept stakeholder comments for 180 days. Based on the updated Town Level Assessments and its review of comments received, the City will evaluate the need for modification of its 2012-2022 Long-Term Land Acquisition Plan and discuss its conclusions with NYSDOH, USEPA, and NYSDEC. The City will share any proposed modifications to its solicitation plan, or the basis for a conclusion that no modifications are warranted, with the WOH stakeholders. During the period between February 14, 2017 and the City's adoption of a modified solicitation plan or conclusion that no modifications are necessary, the City agreed to limit solicitations in certain towns.

The City provides funding through the Local Consultation Funds program, administered by the CWC, to cover the eligible costs to communities related to their review of the City's proposed land acquisitions. The cap on this funding will be increased from \$30,000 to \$40,000 for each incorporated town and village, and up to \$5,000 will be made available for municipalities to review the updated Town Level Assessments.

The goals for the LAP under the 2017 FAD are to:

- Continue to acquire land and CEs in accordance with all program requirements set forth in the MOA, FAD, and WSP;
- Develop a new Long-Term Land Acquisition Plan for the period 2023-2033, which will consider the recommendations of the Expert Panel review of the City's Watershed Protection Program;
- Continue to work with and support partners to secure properties and CEs pursuant to the applicable programs (i.e., the NYCFFBO Program, the Agricultural and Forest Easement Programs, and the SAP, which are funded outside the traditional land acquisition segregated account) and related requirements.

2017 FAD

The City’s LAP is described in Section 2.3.2 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the LAP in accordance with the milestones below.

Activity	Due Date
<p>Continue to provide sufficient funding to support the LAP in accordance with the 2010 Water Supply Permit (WSP) and program objectives.</p> <ul style="list-style-type: none"> • The City shall deposit or cause to be deposited \$23 million into the land acquisition segregated account. • The City shall deposit or cause to be deposited \$23 million into the land acquisition segregated account. • The City shall deposit or cause to be deposited \$23 million into the land acquisition segregated account. 	<p>7/01/2018</p> <p>7/01/2020</p> <p>7/01/2022</p>
<p>During annual budget discussions with NYSDOH, USEPA and NYSDEC, discuss potential need for any additional monies beyond that already committed to all land acquisition programs. If such funding is needed, sequester the funds within six (6) months from written request by NYSDOH.</p>	<p>Annually, 11/30</p>
<p>Submit plans for each two-year period to solicit 350,000 acres through 2024.¹</p> <p>SAP and NYCFFBO acres may be credited 5 acres for every 1 acre solicited pursuant to the agreed methodology. Up to a total of 20,000 acres per year of WAC, SAP, and NYCFFBO acres may be credited towards solicitation goals.</p>	<p>Biennially, beginning October 2018</p>
<p>Accept stakeholder comments on updated Town Level Assessments.</p> <p>If warranted based on the updated Town Level Assessments and comments received, modify the 2012-2022 Long-Term Land Acquisition Plan and submit to NYSDOH for approval. Such a submission may include recommendations for modifications to the solicitation and funding milestones for the core LAP.</p>	<p>Completed</p> <p>4/30/2018</p>

2017 FAD

<p>Submit a Long-Term Land Acquisition Plan, subject to NYSDOH approval, for the period 2023-2033. This plan will consider the findings of the National Academies Expert Panel review of the City’s Watershed protection programs, including the LAP, as well as public input received in response to the Expert Panel review. Based on the approved plan, solicitation rates for 2025 through 2027 will be determined by NYSDOH, in consultation with USEPA and NYSDEC.²</p>	<p>5/31/2022</p>
<p>Submit application for a WSP to succeed the 2010 WSP.</p>	<p>6/30/2022</p>
<p>Contingent upon issuance of a successor WSP to the 2010 WSP, continue to implement the LAP for the remainder of the 2017 FAD term.</p>	<p>Upon issuance of a successor WSP</p>
<p>The City shall deposit or cause to be deposited into the land acquisition segregated account sufficient funds to support projected program activity based on solicitation rates approved for 2025 through 2027.³</p>	<p>6/30/2025</p>
<p>Revise program rules for the Local Consultation Funds Program and execute and register contract change with CWC to increase the cap on funding to \$40,000 per incorporated town or village.</p> <p>Amend agreement with CWC for the Local Consultation Funds Program to provide \$5,000 per municipality to review updated Town Level Assessments.</p>	<p>6/30/2018</p> <p>6/30/2018</p>
<p>Continue to work with land trusts regarding large properties with dwellings that could be pre-acquired by land trusts and vacant portions conveyed to the City, subject to support by the local town and interested land trust(s).</p>	<p>Ongoing, in accordance with the 2010 WSP</p>
<p>Execute and register a contract or contract amendment with WAC to provide \$11 million in funding to continue the WAC Agricultural Easement program for the entire duration of the 2017 FAD.³</p>	<p>3/31/2020</p>

2017 FAD

<p>Continue to work with stakeholders to explore the feasibility of a program that will protect the majority of each transitioning farm (agricultural land that is at risk of foreclosure or farms with retiring farmers). This program would seek to secure a conservation easement on the majority of the farm.</p> <ul style="list-style-type: none"> • Report on the findings of this workgroup. • Meet with NYSDOH, USEPA, and NYSDEC to discuss findings of the workgroup. • If NYSDOH determines, informed by the findings of the workgroup, that a farm transition program would be feasible, compatible with Community goals, and beneficial to Watershed protection, the City, in consultation with NYSDOH, USEPA, NYSDEC, and stakeholders, shall propose a plan to implement such a program in the Watershed. • If required, submit a request to NYSDEC to modify the Water Supply Permit to incorporate this new program. 	<p>6/30/2018</p> <p>7/31/2018</p> <p>1/31/2019</p> <p>2/28/2019</p>
<p>Based on the requirements of the 2010 WSP, submit a program evaluation report on the NYCFFBO Program.</p> <ul style="list-style-type: none"> • First evaluation report • Second evaluation report <p>The City shall ensure that funding for full implementation of this program is continued during the evaluation period.</p>	<p>6/15/2018</p> <p>6/15/2021</p>

<p><u>WAC Forest Conservation Easement</u></p> <p>Based on the requirements of the 2010 WSP, submit a written evaluation of the WAC Forest Conservation Easement acquisition program, making recommendations as to whether the program should be continued, modified, or terminated, as well as any proposed improvements to the program.</p> <p>If, in accordance with the City’s 2010 WSP, a written determination is made by NYSDEC, in consultation with NYSDOH, the City, and other agencies or local governments, to authorize that the WAC Forest Easement Program be continued, the City shall provide WAC a minimum of \$8 million to continue the program for the remainder of the 2017 FAD.³ Such determination will consider the recommendations of the City’s evaluation of its ancillary programs.</p> <ul style="list-style-type: none"> • Complete contract amendment with WAC, including the transfer of funds. <p>If authorization is not given to continue the program, all unused funds, with any earnings thereon, are to be returned to the City to be deposited in the LAP-segregated account for use by the LAP.</p> <p>Submit a status report on the WAC Forest Conservation Easement acquisition program.</p>	<p>Completed</p> <p>Within 18 months from written determination</p> <p>12/15/2020</p>
<p><u>SAP</u></p> <p>Continue implementation of a \$5 million Pilot SAP.</p> <p>Based on the requirements of the 2010 WSP, submit a written evaluation of the SAP, making recommendations as to whether the program should be continued, modified, or terminated, as well as any proposed improvements to the program.</p> <p>The City shall execute and register a contract or contract amendment to make an additional \$3 million available to the Catskill Center to continue to implement the SAP through at least 2022.³</p> <p>Submit a status report on the SAP.</p>	<p>Ongoing, in accordance with the 2010 WSP</p> <p>Completed</p> <p>6/30/2019</p> <p>12/15/2020</p>

2017 FAD

<p>If, in accordance with the City’s 2010 WSP, a written determination is made by NYSDEC, in consultation with NYSDOH, the City, and other agencies or local governments, to authorize that a streamside acquisition program be continued and expanded beyond the Schoharie Reservoir Basin, execute and register a contract to make a minimum of \$8 million available to the Catskill Center to implement or continue to implement such a program for the remainder of the 2017 FAD.³ Consistent with the WSP, such written determination will include addressing the City’s recommendations for the program.</p> <p>If authorization is not given to continue the program, all unused funds, with any earnings there on, are to be returned to the City to be deposited in the LAP-segregated account for use by the LAP.</p> <p>If NYSDOH determines that additional funding is required for acquisitions under the SAP or other streamside acquisition program, funds may be drawn from the City’s LAP-segregated account.</p> <p>The City shall convene a working group of stakeholders to explore payment approaches or incentives that might increase participation by landowners in SAP.</p> <ul style="list-style-type: none"> • Convene stakeholder group. • Submit to NYSDOH, USEPA, and NYSDEC for review and NYSDOH approval a proposed approach to provide payment or incentives to increase participation in SAP. If a WSP modification is required to implement this new approach, submit a request to NYSDEC to modify the WSP. 	<p>Within 18 months of such written determination</p> <p>As needed</p> <p>2/28/2018</p> <p>3/31/2019</p>
<p>Submit a report that evaluates the need, opportunities, and options for enhancing riparian buffer protection efforts in the Kensico and EOH FAD Basins, including, but not limited to, establishing a riparian acquisition program for these basins, either through the City’s existing programs or another entity. The report shall discuss the metrics used for evaluating these options.</p>	<p>9/30/2018</p>
<p>Participate in a workgroup convened to assess opportunities to use certain potentially developable LAP-acquired lands that have lower water quality protection value to facilitate relocation of development out of floodplains.</p> <ul style="list-style-type: none"> • Report on the progress of this workgroup. 	<p>6/30/2018</p>

2017 FAD

<p>If requested by a local governmental entity which has applied to FEMA for funding, the City will engage in good faith negotiations to participate in any future FEMA/SOEM Flood Buy-out (FBO) Program, providing up to 25% of the eligible costs as the local match for each NYC Watershed property that is participating in the program and deemed eligible and acceptable by the willing buyer, whether it be the City or local community.</p>	<p>As required by FEMA/SOEM FBO program rules</p>
<p>Continue to implement a NYCFFBO program pursuant to the 2010 WSP, as amended, and agreements with local stakeholders. Properties may be eligible for the Program based on municipal concurrence, referral, expected flood mitigation, and water quality benefits derived.</p>	<p>Ongoing</p>

¹ Solicitation beyond 2024 is contingent upon re-issuance of a NYSDEC WSP authorizing continuation of the LAP beyond 2025. Solicitation rates beyond 2024 will be evaluated based on the NASEM Expert Panel review of the City’s Watershed protection programs and public input and will be consistent with the Long-Term Land Acquisition Plan.

² Implementation of this Long-Term Land Acquisition Plan beyond 2025 will be contingent upon re-issuance of a NYSDEC WSP authorizing continuation of the LAP beyond 2025.

³ The requirement to allocate funding for purchases beyond 2025 is contingent upon re-issuance of a NYSDEC WSP authorizing continuation of the LAP beyond 2025. Funding amounts may be re-assessed by NYSDOH based upon the 2023-2033 Long-Term Land Acquisition Plan. With respect to the determinations following the evaluations of the WAC Forest Conservation Easement program and the SAP, the City will not be required to allocate additional funds for those programs unless and until such acquisitions are also authorized under a NYSDEC WSP.

2017 FAD

Report Description	Due Date
Submit a modified solicitation plan or a statement that the City does not intend to modify the 2012-2022 Long-Term Land Acquisition Plan at this time.	Completed
Submit the first evaluation report on the NYCFFBO Program.	6/15/2018
Report on progress of workgroup convened to assess opportunities to use LAP-acquired lands to facilitate relocation of development out of the floodplain.	6/30/2018
Submit report evaluating need, opportunities, and options for enhancing riparian buffer protection efforts in Kensico and EOH FAD Basins.	9/30/2018
Submit proposed approach for providing payments or incentives that might increase participation by landowners in SAP.	3/31/2019
Submit a status report on the WAC Forest Conservation Easement acquisition program.	12/15/2020
Submit a status report on the SAP.	12/15/2020
Submit the second evaluation report on the NYCFFBO Program.	6/15/2021
Submit a Long-Term Land Acquisition Plan for the period 2023-2033.	5/31/2022
Submit semi-annual reports on program activities and status.	Semi-annually, 3/31 in FAD Annual Report and 7/31

4.3 Land Management Program

The City has made a significant investment in purchasing water supply lands and conservation easements. However, to maximize the utility of these lands in protecting the long-term water supply for the City, they must be monitored, managed and secured properly. Effective and routine monitoring of lands and easements is vital to discovering encroachments, timber trespass, and overuse of lands that the City has purchased, and potential violations for easements. The City inspects the lands it has purchased on a prioritized basis per its fee monitoring policy (up to once per year) and easements semi-annually, which enables the City to identify and address encroachments expeditiously.

The City supports and provides for many recreational uses of its land. As the second largest public land holder in the Watershed, the City has been successful in opening many of its lands and waters for expanded recreational uses, consistent with its mission to protect water quality. Improving some of these lands for recreational access, particularly along the reservoirs can help address the impacts of overuse if they arise. City lands can also be an important economic component to local communities, and the City continues to allow various uses of its lands, such as for agriculture, and issues revocable land use permits.

The goals for the Land Management Program under the 2017 FAD are to:

- Conduct routine monitoring and inspection of City Watershed protection lands to meet the primary mission of water quality protection.
- Ensure encroachments and other unauthorized uses of City land are dealt with in a timely manner.
- Facilitate and coordinate the protection and wise use of City lands and natural resources.
- Provide community benefits through allowing compatible recreation and agricultural uses and issuing revocable land use permits.
- Ensure the long-term protection and management of the City's significant investment in purchased lands and conservation easements.
- Ensure that conservation easements held by the City and WAC are administered effectively, including regular monitoring, consideration of activity requests, and documentation and correction of any violations that occur; provide for stewardship funding to WAC as previously agreed.
- Engage recreational users through education and outreach.

The City's Land Management Program is described in Section 2.3.3 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Land Management Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Monitor and actively manage water supply lands.	Ongoing
Monitor and enforce City Watershed conservation easements, including those held by WAC.	Ongoing
Continue to assess and implement strategies to increase the public’s recreational use of water supply lands.	Ongoing
Inform regulators when recreational use policies or proposals are substantively modified.	Ongoing
Engage recreational users of City land through outreach and events.	Ongoing

Report Description	Due Date
Report on program implementation in the FAD Annual report.	Annually, 3/31

4.4 Watershed Agricultural Program

The Watershed Agricultural Program (WAP) is a voluntary program that represents a successful longstanding partnership between the City and the Watershed Agricultural Council (WAC). The program began as a pilot in 1992 with the main goal to reduce pollution associated with agricultural land use and to protect source water quality. The WAP's primary activities include the development of Whole Farm Plans (WFPs) and the implementation of agricultural Best Management Practices (BMPs), along with the establishment of riparian buffers through the federal Conservation Reserve Enhancement Program (CREP). The WAP also supports nutrient management planning, precision feed management, and diverse educational programs that collectively provide farmers with a comprehensive suite of technical assistance and financial incentives to improve farm management and reduce pollution risks.

After two decades of expansion, the WAP has accumulated technical experience, established strong local leadership, and achieved extensive on-the-ground accomplishments. However, the WAP's historical focus on recruiting new participants and developing WFPs for these participants has resulted in the accumulation of a large BMP workload that needs to be addressed and managed in a more sustainable manner moving forward.

During the term of the 2017 FAD, source water quality protection will remain the WAP's programmatic priority. However, the program will continue to be flexible and responsive to participant needs and pollution risks in the context of shifting farmer demographics and evolving agricultural operations. The priority WAP activities will include the need to repair or replace existing BMPs in a timely manner and managing the growing complexity of an extensive portfolio of voluntary WFPs in various stages of implementation. During the 2017 FAD, the WAP will increase its focus on reducing the backlog of BMPs and improving the timeliness of BMP implementation for already approved WFPs.

To assure effective water quality protection and to sustain working relationships with hundreds of WAP's voluntary participants, the goals under the 2017 FAD include:

- Develop a new approach for investigating and repairing certain WAP-implemented BMPs using an in-house field crew of WAP technicians, with a goal of reducing the BMP backlog and becoming more responsive to the BMP repair needs of participants.
- Offer the Nutrient Management Credit Program to all eligible farms.
- Maintain up to 60 eligible farms in the Precision Feed Management Program.
- Engage greater numbers of WAP participants in farmer education programs in order to improve and enhance farm operation decisions and management behaviors.

The City's Watershed Agricultural Program is described in Section 2.3.4 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to contract with WAC to implement the Watershed Agricultural Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Manage the current portfolio of active WFPs, including the revision of existing plans as needed and the development of new plans on eligible priority farms on a case-by-case basis.	Ongoing
Conduct annual status reviews on at least 90% of all active WFPs every calendar year, with a goal of 100%.	Ongoing
<p>Continue to implement new priority BMPs on active participating farms with WFPs, with the dual goals of reducing the existing backlog of new priority BMPs and limiting the potential backlog for newly identified BMPs, according to the following milestones:</p> <ul style="list-style-type: none"> • Design, encumber, and schedule for implementation within two years of being encumbered at least 50% of all BMPs within pollutant categories I-VI that were identified by WAC as of January 1, 2017. Program funding will be sufficient to achieve a goal of implementing 60% of identified new BMPs based on BMP backlog cost estimates as of January 1, 2017. • Implement all viable BMPs that were designed and encumbered through calendar year 2022. 	<p>Ongoing</p> <p>12/31/2022</p> <p>12/31/2024</p>
<p>Continue to repair or replace existing BMPs on active participating farms with WFPs, with the dual goals of reducing the backlog of existing BMPs in need of repair or replacement and limiting the potential backlog for newly identified BMPs, according to the following milestones:</p> <ul style="list-style-type: none"> • Design, encumber, and schedule for implementation within a two-year timeframe at least 50% of all BMPs needing repair or replacement that were identified by WAC as of January 1, 2017. Program funding will be sufficient to achieve a goal of implementing 70% of identified BMPs needing repair or replacement. • Repair or replace all viable BMPs that were designed and encumbered through calendar year 2022. 	<p>Ongoing</p> <p>12/31/2022</p> <p>12/31/2024</p>
In consultation with WAC, assess the adequacy of current WAP metrics and submit a report that recommends the continuation of current metrics and/or the consideration of potential new metrics.	6/30/2023

2017 FAD

Meet with NYSDOH, USEPA, and NYSDEC to discuss the WAP's metrics and future BMP implementation milestones for calendar year 2024 and beyond.	9/30/2023
Continue to develop and update nutrient management plans on active participating farms that require such a plan, with a goal of maintaining current nutrient management plans on 90% of all active participating farms that require one.	Ongoing
Continue to offer the Nutrient Management Credit Program to all eligible farms.	Ongoing
Continue to implement the PFM Program on up to 60 eligible farms.	Ongoing
Continue to develop new CREP contracts and re-enroll expiring contracts as needed.	Ongoing
Continue to implement a Farmer Education Program.	Ongoing
Continue to implement an Economic Viability Program.	Ongoing

Report Description	Due Date
<p>Report on program implementation in the FAD Annual Report including:</p> <ul style="list-style-type: none"> • Number of new and revised WFPs completed and approved, as well as the total number and percentage of active plans in relation to the current universe of WAP participants. • Number, types and dollar amounts of both new BMPs and repaired or replaced BMPs implemented each year. • Number, types, and dollar amounts of both new BMPs and repaired or replaced BMPs designed and scheduled for implementation in the following year. • Cumulative percentage of BMP backlog reduced (designed, implemented, or scheduled for implementation) in relation to projected BMP implementation milestones for 2022. • Number and percentage of annual status reviews completed on active Whole Farm Plans. • Number of new and updated nutrient management plans completed, as well as the percentage of current plans on all active participating farms that require such a plan. • Number of farms participating in the Nutrient Management Credit Program, including number of farms that are eligible for the program at the time of the report and efforts made to offer Nutrient Management Credit to all eligible farms. • Number of farms participating in the PFM Program and a summary of accomplishments. • Number of new and re-enrolled CREP contracts completed, along with a summary of total enrolled and re-enrolled acres. • Summary of Farmer Education Program accomplishments. • Summary of Economic Viability Program accomplishments. 	<p>Annually, 3/31</p>
<p>WAP Metrics Assessment and Recommendations Report.</p>	<p>6/30/2023</p>

4.5 Watershed Forestry Program

The Watershed Forestry Program is a longstanding partnership between the City, WAC, and the United States Forest Service that began in 1997. The primary objective of the Watershed Forestry Program is to encourage long-term management of the Watershed forests for both water quality protection and economic viability purposes. A secondary objective is to promote good forest stewardship through the development and implementation of forest management plans; the implementation of BMPs during and after timber harvesting; professional training for loggers and foresters; educational forums for Watershed landowners; teacher training and educational programs for upstate and downstate students; and coordination of a Watershed model forest program that supports demonstration purposes as well as education and outreach.

The goals of the Watershed Forestry Program under the 2017 FAD are to:

- Continue to monitor the use and progress of the new MyWoodlot.com website as a tool for understanding the needs and interests of Watershed landowners.
- Explore potential modifications and improvements to the Management Assistance Program (MAP) that may be needed to support and compliment the recently redesigned WAC Forest Management Planning Program.

The City’s Forest Management Program is described in Section 2.3.5 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to contract with WAC to implement the Watershed Forestry Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Continue to support a Watershed forest management planning program that encourages landowner participation in New York’s forest tax abatement program.	Ongoing
Continue to support the development of forest management plans and the implementation of these plans through the Management Assistance Program (MAP), with a goal of completing at least 60 MAP projects per year.	Ongoing
Continue to support the implementation of forestry BMPs, with a focus on road BMP projects and forestry stream crossing projects.	Ongoing
Continue to support the Croton Trees for Tribs Program, enhancing program efforts to promote and install riparian plantings in the Kensico, West Branch, and Boyd’s Corner Reservoir basins, with a goal of completing six (6) projects per year in the EOH Watershed.	Ongoing

2017 FAD

Use MyWoodlot.com and forest landowner education programs to provide family forest owners access to the knowledge they need to make positive conservation decisions for their Watershed forests.	Ongoing
Evaluate the effectiveness of the Watershed forest management planning program and landowner education programs once every five years using Conservation Awareness Index (CAI).	Ongoing
Continue to support professional training for loggers and foresters.	Ongoing
Continue to support educational programs for landowners.	Ongoing
Continue to support school-based education programs for teachers and students in both the Watershed and New York City.	Ongoing
Continue to support and coordinate four (4) Watershed model forests.	Ongoing

Report Description	Due Date
<p>Report on program implementation in the FAD Annual report including:</p> <ul style="list-style-type: none"> • Number of forest management plans completed and acres of forestland enrolled in New York’s forest tax abatement program. • Number and types of MAP projects completed. • Number and types of forestry BMP projects completed. • Number of Croton Trees for Tribs projects completed. • Summary of logger and forester training accomplishments. • Summary of landowner education accomplishments. • Summary of school-based education accomplishments. • Summary of model forest accomplishments. 	Annually, 3/31
Report on CAI evaluation results for the Watershed forest management planning program and landowner education programs.	12/31/2021 and 12/31/2026

4.6 Stream Management Program

The Stream Management Program (SMP) seeks to improve water quality through the protection and restoration of stream stability and ecological integrity for WOH Watershed streams and floodplains. Program components include annual action planning for each reservoir basin based on stream assessments and stakeholder input; water quality-driven Stream Projects; stakeholder-driven Stream Management Implementation Program (SMIP) projects; the Catskill Streams Buffer Initiative (CSBI); Flood Hazard Mitigation projects; and Education, Outreach and Training.

Some of the goals for the SMP under the 2017 FAD include:

- Conduct stream feature inventories to support project site prioritization.
- Construct at least 24 Stream Projects.
- Continue stream studies investigating turbidity reduction from stream projects.
- Complete revegetation of at least five streambank miles in the WOH Watershed.
- Complete Local Flood Analyses (LFAs), and provide funding for the implementation of LFA-recommended projects through SMP and CWC.
- Explore the coordination of CSBI and CREP with local partners to increase riparian buffers on fallow agricultural lands.
- Convene a workgroup to develop a coordinated plan for in-stream and riparian emergency recovery activities that may become necessary following flooding events.
- Evaluate the LFHMP for its contribution to the protection of water quality and recommend steps for enhancing this protection in the future.

The City’s SMP is described in Section 2.3.6 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the SMP requirements in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p><u>Ashokan Projects</u> As required by the Revised 2007 FAD, complete the construction of 7 stream management projects within the Ashokan basin with a goal of protecting water quality, in particular by reducing turbidity.</p>	<p>11/30/2018</p>

2017 FAD

<p>Execute and register contracts or contract amendments with SMP partners (Delaware County, Greene County, Sullivan County, and Ulster County Soil and Water Conservation Districts and Ulster County Cornell Cooperative Extension) to ensure continuity of funding sufficient to continue all SMP programs for the duration of the 2017 FAD. Funding shall be, at a minimum, equivalent, on an annual basis, to the level of funding provided to the SMP under the Revised 2007 FAD SMP partner contracts (excluding LFHM funding), with the addition of an annual inflation adjustment. Total funding for the 10-year FAD period shall be a minimum of \$90 million.</p>	<p>Ongoing</p>
<p><u>Water-Quality Based Stream Projects and Site Selection</u></p> <ul style="list-style-type: none"> • The City and SMP Contract Partners will meet to review water quality analyses to outline the water quality basis for project site selection and to prioritize the main stems and/or sub-basins for stream feature inventories. • Six stream feature inventories will be conducted in the prioritized tributaries/main stems of the major SMP basins (Schoharie, Ashokan, Neversink/Rondout, and Cannonsville/Pepacton) to identify water quality threats and support project site prioritization. • Design and complete construction of at least 24 Stream Projects that have a principal benefit of water quality protection or improvement. A minimum of 3 of the 24 shall be in the Stony Clove watershed (Ashokan) to support the Water Quality Monitoring Study and a total of at least 8 of the 24 projects shall be in the Ashokan watershed. Stream Projects will be selected based on a water quality-based site selection process and in accordance with the review and prioritization of basin-scale water quality priorities described above. Beginning in 2017, projects completed beyond those required for the Revised 2007 FAD will be counted towards this requirement. <p>Stream Projects may be delayed due to flood events, which can change project priorities and temporarily shift the program focus to response and recovery operations, as well as changes in landowner cooperation.</p> <ul style="list-style-type: none"> • The City will propose projects for FAD approval in November of each year. 	<p>12/31/2018</p> <p>12/31/2022</p> <p>12/31/2027</p> <p>Annually, 11/30</p>

<p><u>CSBI</u></p>	<p>Continue implementation of CSBI by providing technical assistance and conservation guidance to riparian landowners according to the following milestones:</p>	<p>Annually, 2/28</p>
<ul style="list-style-type: none"> • Convene annual meetings of the Riparian Buffer Working Group. 	<p>Ongoing</p>	
<ul style="list-style-type: none"> • Facilitate the supply of native plant materials to the CSBI. 	<p>Ongoing</p>	
<ul style="list-style-type: none"> • Implement Education, Outreach, and Marketing Strategy with partners. 	<p>Ongoing</p>	
<ul style="list-style-type: none"> • Seek to establish a partnership between the CSBI program and the CREP program to enable CREP to be implemented on fallow agricultural lands through the CSBI in the WOH Watershed. 	<p>Completed</p>	
<ul style="list-style-type: none"> • Within Delaware County, support the use of funding for a pilot program to be administered by DCSWCD and WAC that will coordinate CSBI and CREP programs to implement CREP on fallow agricultural lands in Delaware County. 	<p>11/30/2018</p>	
<ul style="list-style-type: none"> • Establish metrics, agreed upon by NYSDOH, USEPA, NYSDEC, Delaware County SWCD, WAC, and the City, to evaluate the effectiveness of the Delaware County CSBI/CREP pilot program. 	<p>11/30/2019</p>	
<ul style="list-style-type: none"> • Review progress in extending CREP to eligible fallow agricultural lands through CSBI in the WOH Watershed, including progress of the Delaware County CSBI/CREP pilot program. 	<p>11/30/2019</p>	
<ul style="list-style-type: none"> • Submit to NYSDOH recommendations for establishment of a permanent program and estimated funding needs, or discontinuation of the program. 	<p>Within 18 months of determination</p>	
<ul style="list-style-type: none"> • If NYSDOH determines the Delaware County CSBI/CREP pilot program is an effective tool for riparian buffer protection, execute and register contracts or contract changes with DCSWCD and WAC, if needed, to fund such a program in Delaware County. The City will ensure adequate funding is available to allow continuity of program activities while contract changes are being implemented. 		

<ul style="list-style-type: none"> • Complete revegetation of a minimum of 5 streambank miles throughout the WOH Watershed. This metric may be adjusted following the determination regarding the Delaware County CSBI/CREP pilot program. 	<p>11/30/2027</p>
<p><u>SMIP</u></p> <ul style="list-style-type: none"> • Continue the local funding programs for the enhanced implementation of stream management plan recommendations, including LFA recommended projects, in the Schoharie, Cannonsville, Pepacton, Neversink, Rondout and Ashokan basins. • Complete commitment of funds for a minimum of 100 SMIP projects throughout the WOH Watershed. 	<p>Ongoing</p> <p>By 5/31/2027</p>
<p><u>Local Flood Hazard Mitigation Program (LFHMP)</u></p> <ul style="list-style-type: none"> • Complete LFAs and provide funding toward implementation of LFA-recommended projects through both the SMP and the CWC in the WOH Watershed. <ul style="list-style-type: none"> • Execute and register contracts or contract amendments with SMP partners (Delaware County, Greene County, Sullivan County, and Ulster County Soil and Water Conservation Districts and Ulster County Cornell Cooperative Extension) to make \$15 million available to support a minimum of 50 LFA-generated projects. • Where such projects include relocations of homes and businesses and the corresponding need to relocate sewer infrastructure, the City will support the use of funding either for onsite sewage disposal or for sewer extensions to City-owned WWTPs or to WWTPs not owned by the City, based on what solutions are most cost-effective. If a relocation results in a sewer extension, the City will make funding available to ensure that sewer charges are comparable to what they would be under the New Infrastructure and Community Wastewater Management Programs. • With NYSDOH, USEPA, and NYSDEC, assess use of \$10.1 million committed to the SMP and \$17 million committed to the CWC for LFHMPs in accordance with the Revised 2007 FAD, and \$15 million committed in 2017 FAD for support of LFA-generated projects, and determine if remaining funding is adequate to meet program needs. 	<p>12/31/2027</p> <p>Ongoing, as SMP partner contracts are updated</p> <p>Ongoing</p> <p>Annually, 11/30 (during FAD annual budget meeting)</p>

<ul style="list-style-type: none"> • Commit additional LFHMP funding, as needed, to meet program needs. • Coordinate the LFHMP funding program with State and federal flood hazard mitigation agencies to ensure consistency and thereby maximize funding to the Watershed communities. • Continue to provide technical support, education, and training to Watershed communities to support their use of Flood Insurance Rate Maps (FIRMs) and their participation in a variety of floodplain management, flood hazard mitigation, and flood preparedness programs. 	<p>Within 18 months of determination of need</p> <p>Ongoing</p> <p>Ongoing</p>
<p><u>Water Quality Monitoring Studies</u></p> <ul style="list-style-type: none"> • Submit the final Esopus Creek Watershed Turbidity/Suspended Sediment Study Design. • Continued collection and analysis of data for the Esopus Creek Watershed Turbidity/Suspended Sediment Study. • Submit 3 proposed Stony Clove restoration projects for approval. 	<p>Completed</p> <p>Ongoing</p> <p>1/31/2019</p>
<p><u>Annual Meeting and Action Plans</u></p> <p>Meet annually with county contracting partners to review progress made in the previous year within each program area (Stream Projects, CSBI, SMIP, LFHMP, and Education/Outreach/Training) and re-evaluate priorities as the basis for preparing new Action Plans for the coming year, especially after major flood events. Action plans and program activities should place priority on projects that will enhance water quality, and restore or protect stream system stability.</p> <p>This meeting will also provide an opportunity for discussion on the research advanced by each basin team and the City during the year, as well as next steps.</p>	<p>Annually, 2/28</p>

<p><u>Addendum A</u></p> <p>Coordinate with NYSDEC regarding the implementation of Addendum A to the 1993 Memorandum of Understanding between NYSDEC and the City as it pertains to the review of Article 15 Stream Disturbance Permits, to enhance coordination between the agencies with the goal of ensuring consistency with the recommendations in stream management plans and implementation of stream management projects.</p>	<p>As Needed</p>
<p><u>Watershed Emergency Stream Response and Recovery Plan</u></p> <ul style="list-style-type: none"> • Participate in a workgroup convened by NYSDEC with Watershed stakeholders to develop a coordinated plan for in-stream and riparian emergency recovery activities that may become necessary following flooding events. Consistent with Addendum A to the 1993 Memorandum of Understanding between NYSDEC and the City, the workgroup will provide an opportunity for coordination between the City and NYSDEC on permits NYSDEC issues under Articles 15 and 24 of the Environmental Conservation Law. • Report on the workgroup’s development of a Watershed Emergency Stream Response and Recovery Plan. 	<p>When convened</p> <p>Within 12 months of NYSDEC convening the workgroup</p>
<p><u>Education/Outreach/Training</u></p> <p>Continue to implement the Education/Outreach/Training strategy for municipal officials with program partners and maintain base education and outreach existing programming in the SMP basin programs, including emergency stream intervention training.</p>	<p>Ongoing</p>
<p><u>Progress Meeting</u></p> <p>Convene progress meetings with NYSDOH, USEPA, and NYSDEC. An office-based meeting shall be held by 8/30, and a field-based meeting shall be held following the construction season by 10/31.</p>	<p>Twice per year, by 8/30 and 10/31</p>

Report Description	Due Date
<p><u>Water Quality Based Stream Projects and Site Selection</u></p> <p>Submit brief basin specific reports outlining the water quality basis for Stream Project Site Selection in the basin during the FAD period and that prioritize main stem and/or sub-basins for stream feature inventories.</p>	6/30/2019
<p>Submit descriptions of proposed stream projects to be considered toward the required 24 Stream Projects.</p>	Annually, 11/30
<p><u>CSBI</u></p> <ul style="list-style-type: none"> • Report on metrics that have been established to evaluate the effectiveness of the Delaware County CSBI/CREP pilot program. • Report on progress in extending CREP to eligible fallow agricultural lands through CSBI in the WOH Watershed, including progress of the Delaware County CSBI/CREP pilot program. Report will include recommendations for establishment of a permanent program and estimated funding needs, or discontinuation of the program. 	<p>11/30/2018</p> <p>11/30/2019</p>
<p><u>Local Flood Hazard Mitigation Program (LFHMP)</u></p> <p>Evaluate the LFHMP for its contribution to the protection of water quality and recommend steps for enhancing this protection in the future.</p> <ul style="list-style-type: none"> • First evaluation • Second evaluation 	<p>6/30/2020</p> <p>6/30/2023</p>
<p><u>Water Quality Monitoring Studies</u></p> <ul style="list-style-type: none"> • Submit biennial status reports on study findings. • Submit first five-year study findings. • Submit final study findings. 	<p>Beginning 3/31/2019</p> <p>11/30/2022</p> <p>11/30/2027</p>
<p><u>Action Plans</u></p> <p>Each year, submit a rolling two-year Action Plan for each basin that outlines the upcoming projects in the program areas (Stream Projects, CSBI, SMIP, Education/Outreach/Training, LFHMP).</p>	Annually, 5/31

2017 FAD

<p><u>Watershed Emergency Stream Response and Recovery Plan</u></p> <ul style="list-style-type: none"> • Report on the workgroup’s development of a Watershed Emergency Stream Response and Recovery Plan. • Update report on the workgroup’s development of a Watershed Emergency Stream Response and Recovery Plan. 	<p>12/31/2018</p> <p>12/31/2023</p>
<p>Report on program implementation in the FAD Annual Report:</p> <ul style="list-style-type: none"> • Site selection of water quality based projects and status of projects. • CSBI, including miles of streambank revegetated. • Stream Management Implementation Projects, including number of projects funded. • Local Flood Hazard Mitigation Program, including number of LFHM and LFA-generated projects funded, funding amounts, and number of completed projects. • Water Quality studies. • Watershed Emergency Stream Response Plan. 	<p>Annually, 3/31</p>

4.7 Riparian Buffer Protection Program

The Riparian Buffer Protection Program, initiated under the 2007 FAD, now consists of several separate efforts undertaken by different City units, including the Land Acquisition, Watershed Agricultural, Stream Management, and Forestry Programs. The multi-program approach to protecting and restoring buffers ensures buffers on both public and private land are protected, managed and in many cases restored.

The Riparian Buffer Protection Program is enhanced by the City’s Streamside Acquisition Program (SAP) which is currently piloting the acquisition of riparian buffers in designated areas within the Schoharie Watershed. The requirement to acquire riparian buffers is included in both this section and the LAP section.

The goals for the Riparian Buffer Protection Program under the 2017 FAD are to:

- Continue existing programs that are protective of riparian buffers.
- Continue implementation of the Pilot SAP.
- Explore options for synergies between CREP and CSBI to increase riparian buffers on fallow agricultural lands.

The City’s Riparian Buffer Protection Program is described in Section 2.3.7 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Riparian Buffer Protection Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Continue existing programs that are protective of riparian buffers including, but not limited to, Watershed regulations, agricultural programs, land acquisition, stream management, and land management.	Ongoing
Continue implementation of CREP.	Ongoing

<p><u>CSBI</u></p> <p>Continue implementation of CSBI by providing technical assistance and conservation guidance to riparian landowners according to the following milestones:</p> <ul style="list-style-type: none"> • Convene annual meetings of the Riparian Buffer Working Group. • Facilitate the supply of native plant materials to the CSBI. • Implement Education, Outreach, and Marketing Strategy with partners. • Seek to establish a partnership between the CSBI program and the CREP program to enable CREP to be implemented on fallow agricultural lands through the CSBI in the WOH Watershed. • Within Delaware County, support the use of funding for a pilot program to be administered by DCSWCD and WAC that will coordinate CSBI and CREP programs to implement CREP on fallow agricultural lands in Delaware County. • Establish metrics, agreed upon by NYSDOH, USEPA, NYSDEC, Delaware County SWCD, WAC, and the City, to evaluate the effectiveness of the Delaware County CSBI/CREP pilot program. • Review progress in extending CREP to eligible fallow agricultural lands through CSBI in the WOH Watershed, including progress of the Delaware County CSBI/CREP pilot program. • Submit to NYSDOH recommendations for establishment of a permanent program and estimated funding needs, or discontinuation of the program. • If NYSDOH determines the Delaware County CSBI/CREP pilot program is an effective tool for riparian buffer protection, execute and register contracts or contract changes with DCSWCD and WAC, if needed, to fund such a program in Delaware County. The City will ensure adequate funding is available to allow continuity of program activities while contract changes are being implemented. 	<p>Annually, 2/28</p> <p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Completed</p> <p>11/30/18</p> <p>11/30/2019</p> <p>11/30/2019</p> <p>Within 18 months of determination</p>
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2017 FAD

<ul style="list-style-type: none"> • Complete revegetation of a minimum of 5 streambank miles throughout the WOH Watershed. This metric may be adjusted following the determination regarding the Delaware County CSBI/CREP pilot program. • Continue to seek enhanced management agreements (voluntary 10-year or purchased perpetual) for all current and future stream restoration projects. 	<p>11/30/2027</p> <p>Ongoing</p>
<p><u>SAP</u></p> <ul style="list-style-type: none"> • Continue implementation of a \$5 million Pilot SAP. • Based on the requirements of the 2010 WSP, submit a written evaluation of the SAP, making recommendations as to whether the program should be continued, modified, or terminated, as well as any proposed improvements to the program. • The City shall execute and register a contract or contract amendment to make an additional \$3 million available to the Catskill Center to continue to implement the SAP through at least 2022.¹ • Submit a status report on the SAP. • If, in accordance with the City’s 2010 WSP, a written determination is made by NYSDEC, in consultation with NYSDOH, the City, and other agencies or local governments, to authorize that a streamside acquisition program be continued and expanded beyond the Schoharie Reservoir Basin, execute and register a contract to make a minimum of \$8 million available to the Catskill Center to implement or continue to implement such a program for the remainder of the 2017 FAD.¹ Consistent with the WSP, such written determination will include addressing the City’s recommendations for the program. <p>If authorization is not given to continue the program, all unused funds, with any earnings there on, are to be returned to the City to be deposited in the LAP-segregated account for use by the LAP.</p> <ul style="list-style-type: none"> • If NYSDOH determines that additional funding is required for acquisitions under the SAP or other streamside acquisition program, funds may be drawn from the City’s LAP-segregated account. 	<p>Ongoing, in accordance with the 2010 WSP</p> <p>Completed</p> <p>6/30/2019</p> <p>12/15/2020</p> <p>Within 18 months of such written determination</p> <p>As needed</p>

2017 FAD

Continue to support the Croton Trees for Tribs Program, enhancing program efforts to promote and install riparian plantings in the Kensico, West Branch, and Boyd's Corner Reservoir basins, with a goal of completing six (6) projects per year in the EOH Watershed.	Ongoing
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¹ The requirement to allocate funding for purchases beyond 2025 is contingent upon re-issuance of a NYSDEC WSP authorizing continuation of the LAP beyond 2025. Funding amounts may be re-assessed by NYSDOH based upon the 2023-2033 Long-Term Land Acquisition Plan. The City will not be required to allocate additional funds for this program unless and until such acquisitions are also authorized under a NYSDEC WSP.

Report Description	Due Date
<p><u>CSBI</u></p> <ul style="list-style-type: none"> • Report on metrics that have been established to evaluate the effectiveness of the Delaware County CSBI/CREP pilot program. • Report on progress in extending CREP to eligible fallow agricultural lands through CSBI in the WOH Watershed, including progress of the Delaware County CSBI/CREP pilot program. Report will include recommendations for establishment of a permanent program and estimated funding needs, or discontinuation of the program. 	<p>11/30/2018</p> <p>11/30/2019</p>
Submit a status report on the SAP.	12/15/2020
The FAD annual report will reference the other FAD programs where the completed Riparian Buffer Protection Program details will be described.	Annually, 3/31

4.8 Ecosystem Protection Program

The City owns over 165,000 acres of forests, fields, transitional lands, and wetlands within the watersheds of the Croton, Catskill, and Delaware reservoir systems. Well-functioning, intact natural ecosystems are critical for maintaining and enhancing water quality. The City provides multifaceted programming for the protection of wetlands and fisheries along with stewardship of forests and management of invasive species through a combination of research, inventories, assessment, and outreach programs. The Ecosystem Protection Program combines goals and activities from three principle areas, consisting of forestry, wetlands, and invasive species.

The primary goals of the Ecosystem Protection Program under the 2017 FAD are to:

- Continue silvicultural activities to increase diversity of species and age structure where needed to promote forest resiliency.
- Conduct forest inventories on newly acquired lands and adopt appropriate management strategies.
- Assess management strategies to foster adequate forest regeneration in lands heavily browsed by deer.
- Maintain data collection and analysis for the Continuous Forest Inventory (CFI) Project.
- Expand the pilot LiDAR wetland mapping and stream connectivity assessment to the entire Watershed.
- Enhance the Reference Wetland Monitoring Program.
- Implement key aspects of the Invasive Species Management Strategy to promote sustainable native communities.

The City's Ecosystem Protection Program is described in section 2.3.8 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Ecosystem Protection Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p><u>Forestry</u></p> <ul style="list-style-type: none"> • Implement the Watershed Forest Management Plan. • Continue to conduct forest inventories on City-owned lands, including long-term CFI plots. • Continue to assess and mitigate deer impacts on forest regeneration on City-owned lands. • Update the Watershed Forest Management Plan. • Revise Watershed Forest Management Plan. 	<p>Ongoing</p> <p>Ongoing</p> <p>Ongoing</p> <p>Completed</p> <p>3/31/2027</p>
<p><u>Wetlands</u></p> <ul style="list-style-type: none"> • Update Wetland Protection Strategy. • Update the wetland GIS data for the Watershed using LiDAR derived data and high-resolution photography. • Continue reference wetland monitoring. • Review federal, State, and local wetland permit applications. 	<p>3/31/2018</p> <p>3/31/2022</p> <p>Ongoing</p> <p>Ongoing</p>
<p><u>Invasive Species</u></p> <ul style="list-style-type: none"> • Continue to implement the Invasive Species Management Strategy. • Engage Watershed partners and residents to coordinate efforts in invasive species prevention and control. 	<p>Ongoing</p> <p>Ongoing</p>

Report Description	Due Date
Submit updated Watershed Forest Management Plan.	Completed
Submit updated Wetlands Protection Strategy.	3/31/2018
Submit summary of wetland mapping and connectivity assessment results for the Watershed.	3/31/2022
Submit updated Invasive Species Management Strategy.	3/31/2022

2017 FAD

Submit revised Watershed Forest Management Plan.	3/31/2027
Report on program implementation in the FAD Annual Report: <ul style="list-style-type: none">• Forest inventories• Wetland protection• Wetland mapping• Wetland permit reviews• Invasive species management	Annually, 3/31

4.9 East-of-Hudson Nonpoint Source Pollution Control Program

The East-of-Hudson Nonpoint Source (NPS) Pollution Control Program has been developed to reduce inputs of pathogens and nutrients from sanitary sewers, septic systems, and stormwater to the EOH FAD Basins (Boyd’s Corner, West Branch, Cross River, and Croton Falls Reservoirs). The program addresses this concern through the continued implementation of the WR&Rs, involvement in project reviews, and inspection and maintenance of existing stormwater management facilities. The City also supports a grant program to fund the design and construction of stormwater retrofits in the EOH FAD basins.

The goals for the EOH NPS Pollution Control Program under the 2017 FAD are to:

- Maintain EOH Stormwater Facilities.
- Complete construction of two stormwater remediation retrofits remaining from the Revised 2007 FAD.
- Support the EOH Stormwater Retrofit Grant Program.
- Facilitate the preliminary planning of community wastewater solutions for areas in the EOH FAD basins where poorly functioning individual septic systems have the potential to impact water quality.
- Support the EOH Septic Repair Program in the four EOH FAD Basins, Lake Gleneida basin, and the basins upstream/hydrologically connected to Croton Falls Reservoir, as program capacity allows.
- Inspect sanitary sewers.

The City’s EOH NPS Pollution Control Program is described in Section 2.3.9 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the EOH NPS Pollution Control Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Maintenance of DEP’s EOH Stormwater Facilities.	Ongoing
Complete construction of two stormwater retrofit projects: <ul style="list-style-type: none"> • Maple Avenue (Cross River) • Drewville Road (Croton Falls) 	9/30/2020

<p><u>EOH Stormwater Retrofit Grant Program</u></p> <p>Execute and register a contract or contract amendment with the EOH Watershed Corporation to provide \$22 million to support the design and construction of stormwater retrofits in the EOH FAD Basins and in basins upstream and hydrologically connected to the Croton Falls Reservoir. A total of \$7 million shall be specifically committed to support stormwater retrofits within EOH FAD basins and \$15 million shall be specifically committed to support stormwater retrofits within basins upstream and hydrologically connected to the Croton Falls Reservoir or within EOH FAD basins.</p>	<p>9/30/2019</p>
<p>Continue to make City lands available for stormwater retrofit projects constructed by the EOH Watershed communities so long as the City determines that the projects will not pose a threat to water quality or City operations related to the water supply.</p>	<p>Ongoing</p>
<p><u>EOH Community Wastewater Planning Assistance Grants</u></p> <p>Execute and register a contract with the Environmental Facilities Corporation (EFC), or any other organization approved by NYSDOH, to develop and administer a grant program that will provide \$3 million for preliminary planning for community wastewater solutions for areas in the EOH FAD basins where poorly functioning individual septic systems have the potential to impact water quality. The grant program will require that municipalities who apply for this funding will complete preliminary planning studies within four years from issuance of the 2017 FAD.</p> <p>Based on preliminary studies conducted by NYSDEC, wastewater planning assistance grants will be made available to municipalities (“identified municipalities”) in which the following areas have been identified to have the potential to impact water quality from septic systems: areas surrounding Lake Waccabuc, Lake Truesdale, and Lake Kitchawan in the Cross River Reservoir basin; and Palmer Lake, Lake Gilead, Lake Casse, Lake View Road, and Mud Pond Brook in the Croton Falls Reservoir basin. Funds may be used by identified municipalities to finance engineering studies and report generation to assist those municipalities in evaluating wastewater treatment options/solutions that they could undertake to mitigate water quality impacts. The generated reports are intended to be used by the municipalities to appropriately plan and determine costs for the identified wastewater solution project so that municipalities may seek financing through State or federal funding sources, including but not limited to the 2017 Clean Water Infrastructure Act.</p>	<p>12/31/2019</p>

<p><u>EOH Septic Repair Program (SRP)</u></p> <ul style="list-style-type: none"> • The City shall contract with EFC to provide funding to support the repair, replacement, or connection to a WWTP for at least 35 residential septic systems per year in the four EOH FAD basins, including Lake Gleneida basin. • Revise contract with EFC for the EOH SRP to allow eligibility of septic systems located within basins upstream or hydrologically connected to Croton Falls Reservoir. Implementation of the program will be prioritized, with priority given to septic systems in the EOH FAD basins, including Lake Gleneida basin, and expanding within the basins upstream or hydrologically connected to Croton Falls Reservoir as program rules dictate and program capacity allows. • Continue to provide technical assistance in support of EOH septic management programs. • Review strategies used to inform potential SRP participants of the program’s availability. Propose ways to improve education and outreach to enhance participation in the program. • Conduct an assessment of the SRP to determine whether funding for at least 35 systems per year is appropriate to meet demand from eligible EOH communities. Funding made available for this program may be increased or decreased based on this assessment. 	<p>Ongoing</p> <p>12/31/2018</p> <p>Ongoing</p> <p>3/31/2018</p> <p>3/31/2022</p>
<p><u>Video Sanitary Sewer Inspection</u></p> <ul style="list-style-type: none"> • Video Sanitary Sewer Inspection of four EOH CAT/DEL basins. • Complete mapping of new sewer areas (if any). • Complete inspection of targeted areas. • Identify potential defects. • Notify entities responsible for remediation of identified deficiencies. 	<p>3/31/2021</p>

2017 FAD

Report Description	Due Date
Report on implementation of two EOH stormwater retrofit projects (Maple Avenue and Drewville Road).	Quarterly until completed (3/31, 6/30, 9/30, 12/31)
Report on review of strategies used to inform potential SRP participants of the program's availability.	3/31/2018
Report on assessment of funding for the SRP	3/31/2022
<p>Report on program implementation in the FAD Annual Report:</p> <ul style="list-style-type: none"> • Maintenance of EOH Stormwater Facilities • Stormwater retrofit projects • EOH NPS Stormwater Retrofit Grant Program • EOH Community Wastewater Planning Assistance Program • EOH Septic Repair Program, including education and outreach efforts • Video Sanitary Sewer Inspection 	Annually, 3/31

4.10 Kensico Water Quality Control Program

The Kensico Reservoir, located in Westchester County, is the terminal reservoir for the City's Catskill/Delaware water supply. Because it provides the last impoundment of Catskill/Delaware water prior to entering the City's distribution system, protection of this reservoir is critically important to maintaining water quality for the City. The primary goal of the Kensico Water Quality Control Program is to reduce non-point source pollution in the reservoir through implementation of various stormwater and wastewater projects. In addition, the City may conduct wildlife scat surveys around Kensico Reservoir in advance of storm events. These surveys include the recording, collecting, and disposing of wildlife latrines.

The objectives of the Kensico Water Quality Control Program under the 2017 FAD are to:

- Continue proper operation and adequate maintenance through regular inspections of the existing stormwater management facilities and identification of repair needs to maximize pollutant removal efficiency.
- Reduce the risk of water contamination with pathogens through implementation of the Septic Repair Reimbursement Program, monitoring the early warning sanitary sewer overflow protection system, and inspection of targeted sanitary sewers.
- Minimize turbidity levels at effluent chambers by completion of the shoreline stabilization project at Shaft 18 and review timeline for assessing and/or dredging effluent chambers to prevent possible resuspension of sediment.

The City's Kensico Water Quality Control program is described in Section 2.3.10 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Kensico Water Quality Control Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Inspect and maintain non-point source management facilities within the Kensico Reservoir Basin: <ul style="list-style-type: none"> • Stormwater management facilities • Turbidity curtains • Spill containment measures 	Ongoing
Oversee remote monitoring system at Westlake Sewer Extension.	Ongoing
Implement Septic Repair Reimbursement Program.	Ongoing

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<p>Conduct the Video Sanitary Sewer Inspection Program to:</p> <ul style="list-style-type: none"> • Complete mapping of new sewer areas. • Complete reinspection of targeted areas. • Identify potential defects. • Notify entities responsible for remediation of identified deficiencies. 	<p>3/31/2021</p>
<p>Complete Shaft 18 shoreline stabilization project.</p>	<p>12/31/2022</p>

<p>Report Description</p>	<p>Due Date</p>
<p>Report on program implementation in the FAD Annual Report, including:</p> <ul style="list-style-type: none"> • Operation and maintenance of non-point source management facilities • Westlake sewer monitoring program • Shaft 18 shoreline stabilization • Review timeline for assessing or dredging at the effluent chambers • Septic Repair Program • Video Sanitary Sewer Inspection • Kensico Wildlife Scat Sanitary Survey • Westchester County Airport (including capped landfills), as needed 	<p>Annually, 3/31</p>

4.11 Catskill Turbidity Control

The underlying geology of the Catskill System portion of the NYC Watershed makes its streams naturally prone to periods of elevated turbidity when large runoff events destabilize stream banks, mobilize streambeds, and suspend the glacial clays that underlie the streambed armor. The design of the Catskill System accounts for this effect, and provides for settling within Schoharie Reservoir, Ashokan West Basin, Ashokan East Basin, and the upper reaches of Kensico Reservoir. Under most circumstances, the extended detention time in these reservoirs is sufficient to allow the turbidity-causing clay solids to settle out, and the system easily meets the SWTR turbidity standard (5 NTU) at the Kensico Reservoir effluent.

The City's ability to meet this turbidity standard is occasionally threatened after extreme rain and runoff events. Historically, elevated turbidity has been addressed through the addition of the coagulant aluminum sulfate (alum) near the end of the Catskill Aqueduct. This increases the settling of suspended clays as Catskill water enters Kensico Reservoir. However, concern for potential negative environmental impacts of this practice has compelled the City to seek other turbidity management strategies. The City will continue to maintain its ability to use alum in the event other management alternatives are unable to adequately protect Kensico water quality.

Since, 2002, the City has undertaken a number of studies and implemented significant changes to its operations to better manage turbidity in the Catskill System, while minimizing potentially negative local environmental impacts associated with the operation of the Shandaken Tunnel and the use of alum. The City determined that the most effective measures for controlling turbidity while minimizing alum use were: modification of reservoir operations using an Operations Support Tool (OST), interconnection of the Delaware and Catskill Aqueducts at Delaware Aqueduct Shaft 4, and improvements to stop shutters in the Catskill Aqueduct. The system-wide OST allows the City to optimize reservoir releases and diversions to balance between maximizing water supply storage, optimizing water quality, and achieving other environmental objectives. The City's Multi-Tiered Water Quality Modeling Program makes use of this tool to evaluate a variety of operational and water quality scenarios that are used to help support operational decisions. The interconnection between the Catskill Aqueduct and the Delaware Aqueduct at Shaft 4 was established to allow the increased use of Delaware System water during Catskill turbidity events and improve overall system flexibility. Structural improvements made to the Catskill Aqueduct stop shutter facilities help maintain adequate water depths near the intakes of the wholesale community customers with connections to the Catskill Aqueduct during periods when flows are minimized between Ashokan and Kensico Reservoirs.

Catalum SPDES Permit and Environmental Review

The Catalum SPDES Permit sets forth the conditions under which the City is allowed to treat Catskill Aqueduct water with alum prior to entering Kensico Reservoir. On October 4, 2013, NYSDEC executed an Order on Consent (DEC Case No.: D007-0001-11) (CO) with the City in connection with the Catalum SPDES permit. Incorporated into that CO was a modified version of an interim operating protocol for use of the Ashokan Release Channel (ARC), to which the City and NYSDEC had agreed in October 2011. The ARC provides a mechanism for water to be released from the Ashokan Reservoir to the lower Esopus Creek for environmental or economic benefit, flood mitigation, or to mitigate the impacts of turbidity on water diverted to Kensico

Reservoir. The protocol seeks to enhance community benefits, improve flood attenuation, and provide better water quality.

In June 2012, consistent with the then proposed Catalum CO, the City requested a modification to the Catalum SPDES Permit to incorporate measures to control turbidity in water sent from the Ashokan Reservoir to the Kensico Reservoir via the Catskill Aqueduct, and to postpone dredging of alum floc at Kensico Reservoir until completion of certain infrastructure projects. This proposed modification to the Catalum SPDES permit required that an Environmental Impact Statement (EIS) be conducted under the State Environmental Quality Review Act (SEQRA). NYSDEC is lead agency for this review and issued the final scope of work for the EIS on March 22, 2017. Under the CO, the City is required to prepare a draft EIS (DEIS) and draft of the Final EIS (FEIS), which will analyze the potential environmental and socioeconomic impacts resulting from the proposed modifications. Impacts to the Ashokan Reservoir, lower Esopus Creek, and Kensico Reservoir will be considered. The EIS will evaluate a suite of alternatives that could be executed at Ashokan Reservoir, along the Catskill Aqueduct, and at Kensico Reservoir, as well as implementation of the City's turbidity control measures as a whole. Where potential adverse impacts are indicated, reasonable and practicable measures that have the potential to avoid, mitigate, or minimize these impacts will be identified.

Expert Panel Review

As required by the Revised 2007 FAD, the City contracted with the National Academies of Sciences, Engineering, and Medicine (NASEM, formerly known as the National Research Council) to conduct an expert panel ("Expert Panel") review of the City's use of OST. The NASEM is in a unique position to bring together a group of experts with the breadth of experience and expertise needed to undertake this independent study and to ensure a comprehensive and scientifically objective product.

The goals of the Expert Panel are to:

- Evaluate the effectiveness of the City's use of OST for water supply operations, and identify ways in which the City can more effectively use OST to manage turbidity.
- Evaluate the performance measures and criteria that the City uses to assess the efficacy of the Catskill Turbidity Control Program, and recommend additional performance measures, if necessary.
- Review the City's proposed use of OST in evaluating the proposed modification to the Catalum SPDES Permit as well as the alternatives to be considered in the environmental review of those proposed modifications.
- Review the City's existing studies of the potential effects of climate change on the City's water supply to help identify and enhance understanding of areas of potential future concern regarding the use of OST.

The general goals of Catskill Turbidity Control under the 2017 FAD are to:

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- Continue to use OST to manage water system operations to reduce turbidity levels in the Catskill System water entering Kensico Reservoir, while minimizing adverse environmental impacts and alum use.
- Keep NYSDOH informed on plans to manage Catskill turbidity during the planned shutdown of the Rondout-West Branch Tunnel (RWBT) section of the Delaware Aqueduct for repairs.
- Continue to support the Expert Panel review of the City’s use of OST.
- Propose, as necessary, alternative measures for achieving turbidity control based on the Catalum EIS.

The City’s Catskill Turbidity Control measures are described in Section 2.3.11 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Continue to utilize and update OST.	Ongoing
Conduct the Expert Panel review of the City’s use of OST. <ul style="list-style-type: none"> • Upon request of the Expert Panel, provide any information necessary to assess the City’s turbidity and water system modeling programs and to respond to the questions the Panel has been asked to address. • Provide the final report to NYSDOH, USEPA, and NYSDEC and the Watershed Inspector General (WIG). • Submit final revised performance measures and criteria for evaluating the efficacy of Catskill Turbidity Control measures, taking into consideration the Expert Panel recommendations, for review and approval by NYSDOH, USEPA, and NYSDEC. 	Ongoing Anticipated release by 10/31/2018 Six months after submission of Expert Panel report

<p>Annually convene a progress meeting with NYSDOH, USEPA, NYSDEC, and the WIG to provide a forum for discussion of the status of the Catskill Turbidity Control measures, management of turbidity events reported in the March Annual Report and subsequent events, use of performance measures to assess program efficacy, status/results of the DEIS and FEIS, and other matters related to turbidity control. In addition, the City will facilitate discussion of the following items:</p> <ul style="list-style-type: none"> • The Expert Panel Report. This discussion may occur at the next annual meeting after the Report is submitted or NYSDOH may, at its option, request that the City convene a separate meeting to discuss the Expert Panel Report, in addition to the annual meetings. Consistent with NASEM procedures, the City will ask some or all members of the Expert Panel, and/or staff of the organization, to participate in this meeting. • The DEIS. This discussion may occur at the next annual meeting after the DEIS is issued by NYSDEC, or NYSDOH may, at its option, request that the City convene a separate meeting to discuss the DEIS, in addition to the annual meetings. • The Catskill Turbidity Control measures report that is due 3 months after issuance of the FEIS. This discussion may occur at the next annual meeting more than three months after issuance of the FEIS or NYSDOH may, at its option, request that the City convene a separate meeting to discuss this report, in addition to the annual meetings. 	<p>Annually, 10/31</p>
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2017 FAD

Report Description	Due Date
Report on program implementation in the FAD Annual Report.	Annually, 3/31
Provide the final report of National Academies Expert Panel to NYSDOH, USEPA, NYSDEC, and the WIG.	Anticipated release by 10/31/2018
Report on final revised performance measures/criteria for evaluating the efficacy of Catskill Turbidity Controls.	6 months after submission of Expert Panel report
Report on Catskill Turbidity Control Rondout-West Branch Tunnel (RWBT) Shutdown Management Plan, including consideration of maintaining water quality during the RWBT repair and shutdown.	1 year prior to the planned RWBT shutdown
Report on whether, based on the conclusions of the FEIS, the City intends to modify its use of turbidity control measures identified in the Phase III Catskill Turbidity Control Implementation Plan, and/or implement any other turbidity control measures. If so, the City shall submit a modification of the Phase III Plan, proposing alternative measures for achieving turbidity control and a timeline for implementing those alternative measures.	3 months after NYSDEC issuance of FEIS

4.12 Sand and Salt Storage

This program was concluded under the Revised 2007 FAD.

5. Watershed Monitoring, Modeling, and GIS Programs

5.1 Watershed Monitoring Program

The City conducts extensive water quality monitoring throughout the Watershed. Programmatic goals are defined in the 2016 Watershed Water Quality Monitoring Plan, which describes the data gathering protocols for regulatory purposes, FAD program evaluation, modeling, and surveillance (including pathogen surveillance). Significant alterations in the monitoring plan require the City to submit the proposed changes to NYSDOH for review and approval prior to implementation. Changes to the plan are documented using addenda.

Water quality results collected from routine monitoring of reservoirs, streams, and aqueducts throughout the Watershed are stored in a database. The database serves both short- and long-term objectives. The daily results are used for regulatory compliance and operational decisions, and are compiled by the City each year into the Watershed Water Quality Annual Report. Over the longer term, the data generated through the City's monitoring program, in conjunction with other defensible scientific findings, are used to assess water quality status, water quality trends, and the overall effectiveness of the Watershed protection program. This evaluation is described in the Watershed Protection Program Summary and Assessment Report, which is produced every five years. The last submission occurred on March 31, 2016, and the next assessment report shall be submitted by March 31, 2021.

The goals for the Watershed Monitoring Program under the 2017 FAD are to:

- Provide water quality results collected through routine programs.
- Use water quality data to evaluate the source and fate of pollutants.
- Assess the effectiveness of Watershed protection efforts and water supply operations.
- Participate in educational forums on Watershed monitoring, research, and management.
- Coordinate a working group on pathogen research.
- Provide after-action reports to NYSDOH and USEPA on all non-routine chemical treatments and other significant or unusual events that could impact water quality.

The City's Watershed Monitoring Program is described in Section 2.4.1 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

Natural gas drilling using high volume hydraulic fracturing is currently prohibited in New York State¹. However, as a contingency if natural gas drilling is authorized in the New York City Watershed, the City shall work with regulatory partners to develop parameters to revise and enhance its monitoring plan to include sampling for indicator pollutants.

The 2017 FAD requires the City to implement the Watershed Monitoring Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Annual participation in educational seminars on Watershed monitoring and management.	Ongoing
Coordinate Pathogen Technical Working Group meeting.	Annually, 5/31
Provide after-action reports on all non-routine chemical treatments and other significant or unusual events that have the potential to impact water quality.	Upon completion as specified by NYSDOH for each action

Report Description	Due Date
Submit Watershed Water Quality Annual Report, including comprehensive chapters on: <ul style="list-style-type: none"> • Kensico Reservoir water quality • Pathogens • Modeling • Educational seminars on Watershed monitoring and management • Ongoing research 	Annually, 7/31
Submit the 2021 Watershed Protection Program Summary and Assessment Report.	3/31/2021
Submit the 2026 Watershed Protection Program Summary and Assessment Report.	3/31/2026

¹ On June 29, 2015, NYSDEC officially prohibited high-volume hydraulic fracturing (HVHF) in New York State by issuing its formal Findings Statement, completing the State's seven-year review of this activity.

The Findings Statement concludes that there are no feasible or prudent alternatives that adequately avoid or minimize adverse environmental impacts and address risks to public health from this activity. NYSDEC based the Findings Statement on the vast research included in the NYSDOH Report on the subject and the Final Supplemental Generic Environmental Impact Statement (FSGEIS) released in May 2015. The FSGEIS included consideration of extensive public comment and NYSDOH's Public Health Review, which concluded that there is considerable uncertainty as to potential health impacts from HVHF and that HVHF should not move forward in New York State.

5.2 Multi-Tiered Water Quality Modeling Program

The City conducts extensive modeling analysis to inform long-term water supply planning, Watershed program evaluation, and day-to-day operations to ensure FAD compliance and overall system reliability. The models developed and applied by the Water Quality Modeling Program fall into four general classes:

- Watershed models that simulate hydrology and stream water quality, including processes associated with agricultural, forested, and urban lands, and with water quality including turbidity, nutrients, organic carbon, and disinfection byproduct (DBP) precursors.
- Reservoir models that simulate the effects of Watershed hydrology, nutrient inputs, and operations on reservoir nutrient and chlorophyll levels, the production and loss of organic carbon.
- System operation models that simulate the demands, storage, transfer, and quality of water throughout the entire NYC reservoir system.
- Stochastic weather generators, which generate synthetic time series of weather variables such as precipitation and air temperature; which, when combined with Watershed, reservoir, and system models, allows evaluation of the impacts of climate change and extreme events on supply system operation and water quality.

These models encapsulate the key processes and interactions that control generation and transport of water, sediment, organic carbon and nutrients from the land surface, through the watersheds and reservoirs, and the supply system. Research and development is an integral component of the Water Quality Modeling Section's mission that leads to improvements to existing models, adaptation of new models and development of model applications to support water supply planning and operations by evaluating the impacts of changing and evolving management and protections programs, climate, land use, population, reservoir operations, and regulatory requirements.

The goals for the Multi-Tiered Water Quality Modeling Program under the 2017 FAD are the development and application of models in the following areas:

- Prediction of turbidity transport in the Catskill system, and Kensico and Rondout Reservoirs, and to provide guidance for reservoir operations to minimize the impact of turbidity events.
- Integration of the Rondout turbidity model into the OST.
- Development and testing of turbidity models for other Delaware system reservoirs, beginning with Neversink.
- Evaluation of the effectiveness between and within Watershed management programs implemented through the FAD and MOA on maintenance and improvement of water quality.
- Continuation of model development and application to forecast the effects of climate change on water supply quantity and quality.

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- Development and testing of models to simulate Watershed sources, and reservoir fate and transport, of organic carbon and disinfection byproduct precursors.
- Evaluation of impacts of infrastructure improvements (both during and following), including the RWBT repair project.

The City’s Multi-Tiered Modeling Program is described in Section 2.4.2 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Multi-Tiered Water Quality Modeling Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Update and enhance data describing land use, Watershed programs, meteorology, stream hydrology and water quality, reservoir quality and operations data to support modeling.	Ongoing
Provide modeling and technical support for Catskill Turbidity Control measures including the applications of OST.	Ongoing
Use reservoir turbidity models and OST to support operational decisions in response to episodes of elevated turbidity.	Ongoing
Apply and test new models to support Watershed management and long-term planning.	Ongoing
Develop and test fate and transport models for organic carbon and disinfection byproduct precursors in Cannonsville and Neversink Reservoirs.	Ongoing
Develop future climate scenarios for use as inputs to the City’s Watershed and reservoir models; scenarios may be based on: (a) historic time series, and (b) synthetic weather generators.	Ongoing
Develop model applications that simulate the impacts of future climate change on Watershed hydrology, reservoir water quality, and water system operations.	Ongoing
Hold an annual progress meeting with regulators to present and discuss modeling results.	Annually, 10/31

2017 FAD

Report Description	Due Date
Submit program Status Report, including updates on the modeling activities described above in the Watershed Water Quality Annual Report.	Annually, 7/31
Report on Modeling Analysis of FAD Programs as a supplement to the Watershed Protection Program Summary and Assessment Report.	3/31/2021 and 3/31/2026

5.3 Geographic Information System Program

The City’s upstate Geographic Information System (GIS) is used to manage the City’s interests in the lands and facilities of the upstate water supply system, and to display and evaluate the potential efficacy of Watershed protection programs, through maps, queries, and spatial analyses. The GIS is also used to support Watershed and reservoir modeling of water quantity and quality, as well as modeling of water supply system operations. GIS resources are utilized by staff at offices throughout the Watershed, directly and via the Watershed Lands Information System (WaLIS).

The GIS will continue to be a useful tool in four primary areas:

- Inventory and track water supply lands and facilities.
- Perform analyses of land use and terrain to map development, agriculture, forest and hydrography.
- Provide estimation of the effects of Watershed management programs on long-term water quality.
- Support Watershed and reservoir modeling of water quantity and quality, and modeling of system operations.

The goals for the GIS Program under the 2017 FAD are to:

- Continue to provide GIS technical support for protection programs, monitoring programs, and modeling applications.
- Continue to develop and update GIS data and metadata, including acquisition of high-resolution aerial data and their derived products.
- Continue to improve and maintain GIS infrastructure to evolve with changing technology and growing database needs.
- Continue to fulfill requests for GIS data from other agencies and Watershed stakeholders.

The City’s GIS program is described in Section 2.4.3 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Geographic Information System Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Continue to provide GIS technical support for protection programs, monitoring programs, and modeling applications.	Ongoing

2017 FAD

Continue to develop and update GIS data and metadata, including acquisition of high-resolution aerial data and their derived products as needed.	Ongoing
Continue to improve and maintain GIS infrastructure to evolve with changing technology and growing database needs.	Ongoing
Continue to fulfill requests for GIS data from other agencies and Watershed stakeholders.	Ongoing

Report Description	Due Date
<p>Report on program implementation in the FAD Annual Report, including:</p> <ul style="list-style-type: none"> • GIS technical support for protection programs, monitoring programs, and modeling applications • Completion or acquisition of new GIS data layers and aerial products in the City’s GIS spatial data libraries • GIS infrastructure improvement • GIS data dissemination summaries 	Annually, 3/31

6. Regulatory Programs

6.1 Watershed Rules and Regulations and Other Enforcement/Project Review

The City administers and enforces the City's Watershed Rules and Regulations (WR&Rs), including the regulations and standards incorporated by reference in these regulations. The City also participates in environmental reviews under SEQRA for projects in the Watershed. The majority of the regulated activities reviewed by the City involve subsurface sewage treatment systems or stormwater pollution prevention plans to prevent the discharge of sediment, turbidity, nutrients, and pathogens from entering the reservoirs.

The program is coordinated through a Memorandum of Understanding (MOU) between NYSDEC and the City. The MOU established the Watershed Enforcement Coordination Committee (WECC) which meets quarterly to address non-compliance with stormwater pollution prevention plans through formal enforcement and compliance assistance under specific agency protocols. The WECC process is designed to address instances of significant non-compliance in a timely and appropriate manner.

The City, in accordance with Public Health Law Section 1104 and the MOA, is obligated to pay for capital replacement of Watershed Equipment and Methods at all public wastewater treatment plants (WWTPs), as well as all (public or nonpublic) WWTPs that existed or were under construction as of November 2, 1995, and that are required by the WR&Rs and not otherwise required by federal or State law.

The City is working towards revising the WR&Rs to provide for greater consistency with the State's regulatory program for stormwater and wastewater. Revisions have also been proposed in response to concerns raised by stakeholders in WOH communities, in particular related to noncomplying regulated activities, subsurface sewage treatment systems, holding tanks, SWPPPs, and variances.

The goals for Watershed Rules and Regulations and Other Enforcement/Project Review under the 2017 FAD are to:

- Facilitate optional pre-application meeting requests, receive applications for approval of regulated activities, perform a review of SEQR notices and new projects in accordance with the WR&Rs, and monitor construction activity.
- Investigate possible violations of the WR&Rs, Environmental Conservation Law, and Clean Water Act. Document system failures, illicit discharges, and construction site non-compliance; issue Notices of Violation as necessary, and review corrective action plans for all violations. Observe and document remediation efforts and perform close-out actions.
- Enforce environmental and public health requirements, including petroleum/chemical spills, and hazardous and solid waste dumping.
- Continue the City's commitment to pay for Capital Replacement of Watershed Equipment and Methods at eligible WWTPs.

2017 FAD

The City’s WR&Rs program is described in Section 2.5.1 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement Watershed Rules and Regulations and Other Enforcement/Project Review in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Enforce the WR&Rs and other applicable regulations. Continue to promote compliance guidance to applicants seeking approval, through pre-application conferences and providing guidance documents.	Ongoing
Work with NYSDEC, in accordance with Addendum S of the NYCDEP/NYSDEC Memorandum of Understanding, to improve coordination of stormwater enforcement and compliance activities between agencies and with the State Attorney General’s Office. Such enforcement and compliance coordination will apply, but not be limited to, all effective NYSDEC general permits for construction activity. Stormwater WECC meetings with involved agencies will be held at least twice per year or more as needed.	Ongoing
Submit the proposed changes to the WR&Rs and a timeline for completing the rulemaking process.	2/28/2018
Update guidance documents affected by WR&Rs changes to assist applicants undertaking regulated activities in complying with the WR&Rs. Submit the updated guidance documents in accordance with the MOA.	18 months after effective date of revisions to WR&Rs

Report Description	Due Date
Submit the proposed changes to the WR&Rs and a timeline for completing the rulemaking process.	2/28/18
Submit reports consisting of: <ul style="list-style-type: none"> • Summary table, with corresponding maps, of new project activities that may affect water quality including variance activities and review of new/remediated septic systems in the Catskill/Delaware Watershed basins as well as in the Croton Falls and Cross River basins east of the Hudson River. • Summary table (inventory) of all development projects proposed and their SEQRA status, with corresponding maps. • Summary table of projects under construction, by basin, with corresponding maps. 	Semi-annually, 4/30 and 10/31
Submit reports on the status of the City’s regulatory enforcement actions in the Catskill/Delaware Watershed basins, including the Croton Falls and Cross River basins.	Semi-annually, 4/30 and 10/31
Submit report on the progress of the proposed changes to the WR&Rs until adopted.	Semi-annually, 4/30 and 10/31
Submit an update on Capital Replacement of the Watershed Equipment and Methods at eligible WWTPs.	Annually, 3/31
Report on the analyses used to determine the phosphorus-restricted and coliform-restricted status of each reservoir, as part of the Watershed Water Quality Annual Report.	Annually, 7/31

6.2 Wastewater Treatment Plant Compliance and Inspection Program

The goal of the WWTP Compliance and Inspection Program is to prevent degradation of source waters from the threat of contamination from WWTPs discharging in the Watershed. To ensure compliance with the Watershed Regulations and the SPDES permits, the City through the WWTP Compliance and Inspection Group performs onsite inspections, conducts sample monitoring, provides compliance assistance, and takes enforcement actions when needed. The program is coordinated through a Memorandum of Understanding (MOU) between NYSDEC and the City. The MOU established the Watershed Enforcement Coordination Committee (WECC), which meets quarterly to address non-compliance through formal enforcement and/or compliance assistance under specific inter-agency protocols. The WECC process is designed to address instances of significant non-compliance in a timely and appropriate manner. In addition, the City’s Water Quality sampling program regularly monitors the effluent of all treatment plants in the Watershed and uses the results of sampling to assist WWTP operators to meet compliance requirements or to initiate enforcement actions as necessary.

The City’s WWTP Compliance and Inspection Program is described in Section 2.5.2 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Wastewater Treatment Plant Compliance and Inspection Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Perform monitoring at all City-owned WWTPs in accordance with their SPDES permits, and grab sample monitoring monthly at all non-City-owned WWTPs discharging in the Catskill/Delaware Watershed. At least once annually, for the non-City-owned WWTPs, samples shall be collected and analyzed in accordance with the monitoring requirements of each facility’s SPDES permit. Continue to provide technical assistance to owner/operators of non-City-owned WWTPs as needed.	Ongoing
Continue to take timely and appropriate enforcement actions against non-City-owned WWTPs for noncompliance with the City’s WR&Rs and SPDES discharge permit requirements, in accordance with the WECC enforcement coordination protocol specified in the MOU between NYSDEC and the City.	Ongoing
Conduct at least four on-site inspections for year-round SPDES permitted facilities and at least two on-site inspections per year for all seasonal SPDES permitted WWTPs in the watershed.	Ongoing

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Report Description	Due Date
<p>Report on the WWTP Compliance and Inspection Program, including:</p> <ul style="list-style-type: none"> • WWTP inspection summary reports • Enforcement actions 	<p>Semi-annually, 3/31 (July 1 to Dec 31) 9/30 (Jan 1 to June 30)</p>
<p>Submit WWTP Water Quality Sampling Monitoring Report.</p>	<p>Semi-annually, 3/31 (July 1 to Dec 31) 9/30 (Jan 1 to June 30)</p>
<p>Report by email to NYSDOH all sewage spills exceeding 500 gallons within 24 hours of the City becoming aware of the spill.</p>	<p>Ongoing</p>

7. Catskill/Delaware Filtration Plant Design

The 1997 FAD required the City to produce a Final Design and Final Environmental Impact Statement for filtration facilities for the Catskill/Delaware water supply. The 2002 FAD required the City to provide biennial updates to the preliminary filtration plant design for the Catskill/Delaware system (in addition to constructing an ultraviolet light disinfection facility, which was placed into full service in October 2012). The 2007 FAD maintained the requirement for the City to provide a biennial report that updated the preliminary design for filtration facilities.

In 2013 and 2015, the City proposed, and NYSDOH agreed, that because no design changes to the 2009 preliminary plans for the Catskill/Delaware Filtration Facilities were required or issued, no revisions to the 2009 plans were necessary. In recognition that the work supporting the existing preliminary plans is now over 25 years old, the 2017 FAD requires the City to contract for a comprehensive review of filtration methods and technologies, resulting in the development of a new conceptual design for a filtration facility or facilities. This will minimize the overall time to commence filtration, in the event that the City or NYSDOH determines that filtration is necessary.

It is expected that this design review process will include:

- bench studies and modeling;
- larger scale pilot studies;
- independent review from water treatment experts;
- conceptual design that incorporates the latest filtration methods and technologies.

The City's Catskill/Delaware Filtration Plant Design program is described in Section 2.6 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Catskill/Delaware Filtration Plant Design requirements in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Advertise for Request for Proposals.	Completed
Issue Notice to Proceed.	2/28/2018
Complete paper and bench studies.	6/30/2020
Commence conceptual design and larger scale pilot studies.	12/31/2021

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Complete larger scale pilot studies and submit report.	12/31/2024
Submit conceptual design.	12/31/2026

Report Description	Due Date
Report on status of design review.	Annually, 3/31
Submit larger scale pilot studies report.	12/31/2024
Submit Final Report on conceptual design.	12/31/2026

8. In-City Programs

8.1 Waterborne Disease Risk Assessment Program

To maintain filtration avoidance, the City must continue to demonstrate that water consumers served by the NYC water supply are adequately protected against waterborne disease. In particular, the City’s water must not be identified as a source of outbreaks of giardiasis or cryptosporidiosis.

Since the promulgation of the SWTR in 1989, and the initiation of the City’s Waterborne Disease Risk Assessment Program (WDRAP) in 1993, significant changes in water quality regulation and water treatment have occurred. In the City, the Catskill/Delaware UV plant was constructed and began operation in 2012. Also, the Croton filtration plant began delivering water to areas of the City in 2015. With these treatment facilities now in operation, the City has major additional protection against any risk of waterborne disease due to pathogens such as *Giardia* and *Cryptosporidium*.

Providing an additional level of public health protection, the 2017 FAD continues to require that the WDRAP program assess and ensure the safety of the City’s water supply. The main goal of the WDRAP program is to track the incidence of and gather relevant demographic and risk factor data on potentially-waterborne illnesses, in particular giardiasis and cryptosporidiosis, in the population served by the City’s water supply. Also under WDRAP, syndromic surveillance programs have been developed and implemented as a means for observing general community gastro-intestinal illness trends in NYC, as an additional assurance of the safety of the water supply.

The City’s Waterborne Disease Risk Assessment Program is described in Section 2.7 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the WDRAP in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
Continue to operate the Waterborne Disease Risk Assessment Program.	Ongoing
In relation to any water quality “event” involving the NYC water supply (e.g., increased turbidity levels, pathogen detection, disruption of operations), the City will provide NYSDOH and USEPA with syndromic surveillance system information.	Event based

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<p>Notify NYSDOH and USEPA whenever the City is notified by the New York City Department of Health and Mental Hygiene of any signs of community gastrointestinal illness in which public drinking water supply appears to be the source of the illness.</p>	<p>Event based</p>
<p>Continue to implement the Turbidity Action Plan and annually update the contact information.</p>	<p>Event based</p>

<p>Report Description</p>	<p>Due Date</p>
<p>Submit Annual Report on program and program findings, implementation, and analysis.</p>	<p>Annually, 3/31</p>

8.2 Cross Connection Control Program

A cross connection is a physical connection in a drinking water distribution system through which the water supply can become contaminated. By inspections of potential sources of cross connections and follow-up enforcement to ensure backflow prevention devices are installed where necessary, the Cross Connection Control Program is an important tool for preventing contamination of the City's water in distribution system.

Although this program is an important part of the City's drinking water program, NYSDOH, in consultation with USEPA, has determined that it is no longer a necessary component of the Filtration Avoidance Determination. As a requirement of 10 NYCRR Section 5-1.31 and Title 15, Chapter 20 of the Rules of the City of New York, the City will continue to implement a Cross Connection Control Program. As required by New York City Local Law 76/09, the Program will report semi-annually (January and July) to the New York City Council on: the number of facilities for which one or more backflow devices were installed since the last report; the number of facilities that have been newly notified of the need to install devices; and the number of violations issued for failure to install devices. The City will ensure that this information is also posted on its public website http://www.nyc.gov/html/dep/html/forms_and_permits/cross.shtml#faq, and that NYSDOH and USEPA are copied on the report that is sent to the NYC Council.

9. Administration

In order to successfully implement a comprehensive Watershed protection program, dedicated professionals in a variety of fields are needed. The FAD requires the City to maintain the level of staffing, funding, and expertise necessary to support all elements of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016). Annual reporting of staffing, disbursements, and out-year appropriations is important for determining if the City's committed resource levels are sufficient.

In addition to having adequate staffing and funding, the City and its WOH Watershed partners have recognized that the establishment of a physical office in the WOH Watershed would improve implementation of the City's source water protection programs. Providing a central location for certain operations, maintenance, and infrastructure improvement tasks can help ensure the reliable delivery of water to the City from the Catskill/Delaware Watershed. By sharing a work location, centrally located in the Watershed, the City and CWC can further improve coordination and responsiveness to Watershed communities. The City shall work with CWC to co-locate new offices for certain NYCDEP staff. CWC has begun advancing plans for a new facility in Arkville, NY. The City shall take all necessary steps to obtain required City review and approvals for leasing of approximately 13,000 square feet of office, meeting, and storage space for a 20-25-year term, in a time frame to begin relocation of appropriate staff in 2020. The details of its lease of space, including square footage, revisions, if any, to estimated staffing numbers, and timing of occupation (subsequent to receipt by CWC of a certificate of occupancy), shall be updated and reported annually to NYSDOH.

The 2017 FAD requires a new section in the annual report to provide the status of key partnership contracts, such as those with CWC, SWCDs, and WAC. In addition, upon request from NYSDOH, the City will convene a meeting with FAD program partners, as necessary, to discuss program administrative, contract, and/or funding issues. The goal is to maintain continuity in the Watershed protection programs, and prevent the occurrence of funding gaps.

The City's Administration Program is described in Section 2.8 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Administration requirements in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p>NYCDEP, in consultation with the City’s Office of Management and Budget, will make a presentation to NYSDOH, USEPA, and NYSDEC on the amount of money appropriated and spent for Watershed protection programs and its adequacy to meet program objectives and FAD requirements.</p>	<p>Within 60 Days after submission of the Annual Report</p>
<p>Co-location of NYCDEP staff with CWC in new office in Arkville, NY:</p> <ul style="list-style-type: none"> • Sign a binding commitment to lease office space in Arkville, NY for relocation of NYCDEP program staff. • Assign at least 26 NYCDEP staff to new offices in Arkville, NY. • Assign additional staff, as necessary, to ensure that a total of at least 40 NYCDEP staff are assigned to new offices in Arkville, NY. 	<p>By the time the building is complete and ready for occupancy, with best efforts to sign by 12/31/2018</p> <p>12/31/2020, provided building is complete and ready for occupancy</p> <p>12/31/2026</p>

Report Description	Due Date
<p>Report annually on:</p> <ul style="list-style-type: none"> • The actual filled staff position levels versus available staff positions for each division and section involved in supporting FAD Watershed protection programs, and confirm that resource levels are adequate to ensure that all program goals and FAD requirements are met. Contractor support staff will be noted. • The amount appropriated in the City budget for FAD Watershed protection programs for the upcoming fiscal year, specifically the amount (capital and expense) spent during the previous year, the amount appropriated for the current year, and the amount planned for the year thereafter. The amount spent, appropriated, and planned will be broken 	<p>Annually, 9/30</p>

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<p>down by program, to the extent practicable. The report will also include costs for technical consultant contracts identified in the FAD.</p> <ul style="list-style-type: none"> • The status of key partnership contracts including contract issues (i.e., change orders, planning for successor contract) and funding projections. 	
<p>Report on status of lease details and City approvals, estimated staffing numbers, and timing of occupation of leased space in new offices in Arkville, NY.</p>	<p>Annually, 3/31</p>

10. Education and Outreach

The overall goal of the Education and Outreach Program is to raise awareness about the importance of the New York City water supply system and the critical need to protect its sources for current and future generations. Through this collaborative program, the City works with numerous partners in both the Watershed and New York City to educate upstate residents and downstate consumers about the importance of source water protection, and to promote the benefits of environmental protection to public health and quality of life.

Certain elements of the Watershed Education and Outreach Program are achieved through individual Watershed programs and partnerships that target a specific audience, whereas others involve direct stakeholder engagement or active participation in local community events where information can be effectively disseminated to a broad audience. The continued use of websites, press releases, newsletters, publications, and newer technology such as social media and e-news complements all these efforts.

Virtually every Watershed protection program funded or supported by the City accomplishes some degree of public education or outreach, which the City attempts to track and quantify with a focus on characterizing the key target audiences reached. The primary Watershed programs that focus on education and outreach include the CWC Public Education Grants Program, Watershed Agricultural Program, Watershed Forestry Program, Stream Management Program, and Land Management Program (Watershed Recreation).

The goals for the Education and Outreach Program under the 2017 FAD are to:

- Continue to promote environmental stewardship as means of water quality and public health protection.
- Continue to track and document the estimated numbers and types of audiences reached via targeted Watershed education and/or training programs.
- Continue to track and document the diverse range of community public outreach events that are sponsored or attended by the City and its Watershed partners.

The City's Education and Outreach Program is described in Section 2.9 of the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016).

The 2017 FAD requires the City to implement the Education and Outreach Program in accordance with the milestones below.

Activity and Reporting Requirements

Activity	Due Date
<p>Continue to support the following activities:</p> <ul style="list-style-type: none"> • CWC Public Education Grants Program (through a contract with CWC). • Targeted education and professional training programs for specific adult audiences through the ongoing efforts of existing Watershed protection programs. • School-based education programs for both upstate and downstate audiences (teachers and students). • Watershed community outreach events and public meetings, with participation as needed. • Utilization of websites, press releases, newsletters, publications and social media to disseminate information about the water supply and Watershed protection programs. 	<p>Ongoing</p>

Report Description	Due Date
<p>Report on program implementation in the FAD Annual Report, summarizing key activities and accomplishments related to education and outreach in the following programs:</p> <ul style="list-style-type: none"> • CWC Public Education Grants Program • Watershed Agricultural Program • Watershed Forestry Program • Stream Management Program • Watershed Recreation 	<p>Annually, 3/31</p>

11. Reporting

The 2017 FAD continues to require that the City inform NYSDOH and USEPA of its Watershed protection efforts through submittal of reports designed to assist the regulatory community and Watershed stakeholders in their assessment of the overall progress of the City's Watershed Protection Program. The expected content for these reports is described in more detail in each section of this 2017 FAD and in the *New York City Department of Environmental Protection Long-Term Watershed Protection Plan* (December 2016). This reporting section is not an exhaustive list of all reporting obligations. All FAD reports generated by NYCDEP are posted on the NYCDEP website (http://www.nyc.gov/html/dep/html/watershed_protection/fad.shtml). The following tables highlight reports submitted on a periodic as well as one-time only basis.

For informational purposes, the City will also inform NYSDOH and USEPA annually about actions planned and actions taken by the City on water conservation, implementation or revisions to the City's Drought Management Plan, and the elimination of leaks in the Delaware Aqueduct.

The 2017 FAD requires that the City implement the reporting requirements in accordance with the submittal list and schedule below.

Periodic Submittals by FAD Section

Section	Report Topic	Frequency*
2	<p>Continue to meet SWTR filtration avoidance criteria (40 CFR §141.71 and §141.171, and 10 NYCRR §5-1.30) and submit reports and certification of compliance on:</p> <ul style="list-style-type: none"> • §141.71(a)(1) and §5-1.30(c)(1) – raw water fecal coliform concentrations. • §141.71(a)(2) and §5-1.30(c)(2) – raw water turbidity sampling. • §141.71(b)(1)(i)/§141.72(a)(1) and §5-1.30(c)(3) – raw water disinfection CT values. • §141.71(b)(1)(ii)/§141.72(a)(2) and §5-1.30(c)(4) – operational status of Kensico and Hillview disinfection facilities, including generators and alarm systems. • §141.71(b)(1)(iii)/§141.72(a)(3) and §5-1.30(c)(5) – entry point chlorine residual levels. 	Monthly

Section	Report Topic	Frequency*
	<ul style="list-style-type: none"> • §141.71(b)(1)(iv)/§141.72(a)(4) and §5-1.30(c)(6) – distribution system disinfection levels (the City will include a discussion of any remedial measures taken if chlorine residual levels are not maintained throughout the distribution system). • §141.71(b)(5) and §5-1.30(c)(10) – distribution system coliform monitoring, including a summary of the number of samples taken, how many tested positive for total coliform, whether the required number of repeat samples were taken at the required locations, and which, if any, total coliform positive samples were also <i>E. coli</i> positive. For each <i>E. coli</i> positive sample, include the investigation of potential causes, problems identified and what has or will be done to remediate problems. Include copies of any public notices issued as well as dates and frequency of issuance. <p>All requirements described in §141.71(b)(6) and §5-1.30(c)(9) must continue to be met. Submit report on disinfection byproduct monitoring results.</p> <p>Report on the operational status of Kensico Reservoir, West Branch Reservoir (on-line or by-pass), Hillview Reservoir, and whether any of these reservoirs experienced unusual water quality conditions.</p> <p>Report on the status of the Expert Panel Review in the FAD Annual Report.</p>	<p>Quarterly</p> <p>Monthly</p> <p>Annually</p>

Section	Report Topic	Frequency*
3.1	Septic and Sewer Programs implementation: <ul style="list-style-type: none"> • Septic Remediation and Replacement Program • Small Business Program • Cluster System Program • Septic Maintenance Program • Alternate Design and Other Septic Systems 	Annually
3.3	Community Wastewater Management Program implementation: <ul style="list-style-type: none"> • Shandaken • West Conesville • Claryville • Halcottsville • New Kingston • Shokan 	Annually
3.5	Implementation of the Future Stormwater Controls Programs and the Stormwater Retrofit Program.	Annually
4.1	Summary of Waterfowl Management Program activities at all reservoirs, including wildlife management at Hillview Reservoir (8/1 to 7/31).	Annually (10/31)
4.2	Semi-annual reports on Land Acquisition Program activities and status.	Semi-annually (3/31 and 7/31)
4.3	Land Management Program implementation.	Annually
4.4	Watershed Agricultural Program implementation including: <ul style="list-style-type: none"> • Number of new and revised WFPs completed and approved, as well as the total number and percentage of active plans in relation to the current universe of WAP participants. 	Annually

Section	Report Topic	Frequency*
	<ul style="list-style-type: none"> • Number, types and dollar amounts of both new BMPs and repaired or replaced BMPs implemented each year. • Number, types, and dollar amounts of both new BMPs and repaired or replaced BMPs designed and scheduled for implementation in the following year. • Cumulative percentage of BMP backlog reduced (designed, implemented, or scheduled for implementation) in relation to projected BMP implementation milestones for 2022. • Number and percentage of annual status reviews completed on active Whole Farm Plans. • Number of new and updated nutrient management plans completed, as well as the percentage of current plans on all active participating farms that require such a plan. • Number of farms participating in the Nutrient Management Credit Program. • Number of farms participating in the PFM Program and a summary of accomplishments. • Number of new and re-enrolled CREP contracts completed, along with a summary of total enrolled and re-enrolled acres. • Summary of Farmer Education Program accomplishments. • Summary of Economic Viability Program accomplishments. 	<p style="text-align: center;">Annually</p>
<p>4.5</p>	<p>Report on Watershed Forestry Program implementation including:</p> <ul style="list-style-type: none"> • Number of forest management plans completed and acres of forestland 	<p style="text-align: center;">Annually</p>

Section	Report Topic	Frequency*
	<p>enrolled in New York’s forest tax abatement program.</p> <ul style="list-style-type: none"> • Number and types of MAP projects completed. • Number and types of forestry BMP projects completed. • Number of Croton Trees for Tribes projects completed. • Summary of logger and forester training accomplishments. • Summary of landowner education accomplishments. • Summary of school-based education accomplishments. • Summary of model forest accomplishments. 	<p>Annually</p>
<p>4.6</p>	<p>Report on the Stream Management Program implementation including:</p> <ul style="list-style-type: none"> • Site selection of water quality based projects and status of projects. • Catskill Stream Buffer Initiative, including miles of streambank revegetated. • Stream Management Implementation Projects, including number of projects funded. • Local Flood Hazard Mitigation Program, including number of LFHM and LFA-generated projects funded, funding amounts, and number completed projects. • Water Quality studies. • Watershed Emergency Stream Response Plan. 	<p>Annually</p>

Section	Report Topic	Frequency*
	<p>Submit rolling two-year Action Plans for implementing stream management plan recommendations and establishing priorities, by reservoir basin.</p> <p>Submit descriptions of proposed stream projects for FAD approval.</p> <p>Water Quality Monitoring Studies status reports.</p>	<p>Annually (5/31)</p> <p>Annually (11/30)</p> <p>Biennially, beginning 3/31/2019</p>
4.7	<p>Report on Riparian Buffer Protection Program implementation referencing the other FAD programs where the completed Riparian Buffer Protection Program details will be described.</p>	Annually
4.8	<p>Report on Ecosystems Protection Program implementation including:</p> <ul style="list-style-type: none"> • Forest inventories • Wetland protection • Wetland mapping • Wetland permit reviews • Invasive species management 	Annually
4.9	<p>Report on East-of-Hudson Nonpoint Source Pollution Control Program implementation:</p> <ul style="list-style-type: none"> • Maintenance of EOH Stormwater Facilities • Stormwater Remediation Projects • EOH NPS Stormwater Retrofit Grant Program • EOH Community Wastewater Planning Assistance Program • EOH Septic Repair Program, including education and outreach efforts • Video Sanitary Sewer Inspection <p>Implementation status of two EOH Stormwater Remediation Projects.</p>	<p>Annually</p> <p>Quarterly until completed (3/31, 6/30, 9/30, 12/31)</p>

Section	Report Topic	Frequency*
4.10	<p>Report on Kensico Water Quality Control Program implementation:</p> <ul style="list-style-type: none"> • Operation and maintenance of non-point source management facilities • Westlake sewer monitoring program • Shaft 18 shoreline stabilization • Review timeline for assessing or dredging at the effluent chambers • Septic Repair Program • Video Sanitary Sewer Inspection • Kensico Wildlife Scat Sanitary Survey • Westchester County Airport (including capped landfills), as needed 	Annually
4.11	Report on Catskill Turbidity Control Program.	Annually
5.1	<p>Watershed Water Quality Annual Report, including comprehensive chapters on:</p> <ul style="list-style-type: none"> • Kensico Reservoir water quality • Pathogens • Modeling • Educational seminars on Watershed monitoring and management • Ongoing research 	Annually (7/31)
5.2	Status report on Multi-Tiered Water Quality Modeling Program, including updates on modeling activities in the Watershed Water Quality Annual Report.	Annually (7/31)

Section	Report Topic	Frequency*
5.3	<p>Report on Geographic Information System Program implementation, including:</p> <ul style="list-style-type: none"> • GIS technical support for protection programs, monitoring programs, and modeling applications. • Completion or acquisition of new GIS data layers and aerial products in the City’s GIS spatial data libraries. • GIS infrastructure improvement. • GIS data dissemination summaries. 	Annually
6.1	<p>Report on WR&Rs consisting of:</p> <ul style="list-style-type: none"> • Summary table, with corresponding maps, of new project activities that may affect water quality including variance activities and review of new/remediated septic systems in the Catskill/Delaware Watershed basins as well as in the Croton Falls and Cross River basins east of the Hudson River. • Summary table (inventory) of all development projects proposed and their SEQRA status, with corresponding maps. • Summary table of projects under construction, by basin, with corresponding maps. <p>WR&Rs Enforcement Report.</p> <p>Progress report on proposed revisions to the City’s WR&Rs.</p> <p>Submit an update annually on Capital Replacement of the Watershed Equipment and Methods at eligible WWTPs.</p> <p>Analyses used to determine the phosphorus-restricted and coliform-restricted status of each reservoir.</p>	<p>Semi-annually (4/30 and 10/31)</p> <p>Semi-annually (4/30 and 10/31)</p> <p>Semi-annually until adopted (4/30 and 10/31)</p> <p>Annually</p> <p>Annually in Watershed Water Quality Report (7/31)</p>

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Section	Report Topic	Frequency*
6.2	<p>WWTP Compliance and Inspection Program</p> <ul style="list-style-type: none"> • WWTP inspection summary reports • Enforcement actions <p>WWTP Water Quality Sampling Monitoring Report.</p>	<p>Semi-annually (3/31 and 9/30)</p> <p>Semi-annually (3/31 and 9/30)</p>
7	Catskill Delaware Filtration Plant Design Review status.	Annually
8.1	Waterborne Disease Risk Assessment Program findings, implementation, and analysis.	Annually
9	<p>Administration Report on:</p> <ul style="list-style-type: none"> • The actual filled staff position levels versus available staff positions for each division and section involved in supporting FAD Watershed protection programs, and confirm that resource levels are adequate to ensure that all program goals and FAD requirements are met. Contractor support staff will be noted. • The amount appropriated in the City budget for FAD Watershed protection programs for the upcoming fiscal year, specifically the amount (capital and expense) spent during the previous year, the amount appropriated for the current year, and the amount planned for the year thereafter. The amount spent, appropriated, and planned will be broken down by program, to the extent practicable. The report will also include costs for technical consultant contracts identified in the FAD. • The status of key partnership contracts including contract issues (i.e., change orders, planning for successor contract) and funding projections. 	Annually (9/30)

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Section	Report Topic	Frequency*
10	Education and Outreach Report on program implementation summarizing key activities and accomplishments: <ul style="list-style-type: none"> • CWC Public Education Grants Program • Watershed Agricultural Program • Watershed Forestry Program • Stream Management Program • Watershed Recreation 	Annually
11	Comprehensive FAD Annual Report. NYCDEP Response to NYSDOH On-site Inspection Report.	Annually Annually (within 60 days following receipt of NYSDOH report)

*Monthly means reports for a monthly reporting period must be submitted no later than ten days after the end of each month.

Quarterly means reports for a calendar quarter reporting period must be submitted no later than ten days after the end of each quarter.

Semi-annually means reports for a January-June reporting period must be submitted no later than July 31 and for a July-December reporting period must be submitted no later than January 31, unless otherwise stated in the FAD.

Annually means reports for a calendar year reporting period must be submitted no later than March 31 of the following year, unless otherwise stated in the FAD.

Significant One-Time Submittals Required under the FAD in Chronological Order

Section	Description	Due Date
4.11	Provide the Final Report of the Expert Panel on the City's OST to NYSDOH, USEPA, NYSDEC, and the WIG.	When released by National Academies (anticipated by 10/31/2018)
4.11	Report on final revised performance measures/criteria for evaluating the efficacy of Catskill Turbidity Controls.	6 months after release of National Academies report
4.11	Report on whether, based on the conclusions of the FEIS, the City intends to modify its use of turbidity control measures identified in the Phase III Catskill Turbidity Control Implementation Plan, and/or implement any other turbidity control measures. If so, the City shall submit a modification of the Phase III Plan, proposing alternative measures for achieving turbidity control and a timeline for implementing those alternative measures.	3 months after NYSDEC issuance of FEIS
2	Provide the Final Report of the Expert Panel on the City's Watershed Protection Plan.	Commence Work date + 33 months
2	Convene a public meeting with the regulators and Watershed stakeholders to discuss the major findings and recommendations of the National Academies Expert Panel review.	Date of Final Report + 4 months
4.8	Submit updated Watershed Forest Management Plan.	Completed
6.1	Submit timeline for completing proposed changes to the WR&Rs.	2/28/18
4.8	Submit updated Wetlands Protection Strategy.	3/31/2018
4.9	Report on review of strategies used to inform potential EOH Septic Repair Program participants of the program's availability	3/31/2018
4.2	Based on the requirements of the 2010 WSP, submit first evaluation report on the NYCFBBO Program	6/15/2018
4.2	Report on progress of workgroup convened to assess opportunities to use LAP-acquired lands to facilitate relocation of development out of floodplain.	6/30/2018

2017 FAD

Section	Description	Due Date
4.6	Report on metrics that have been established to evaluate Delaware County CSBI/CREP pilot program	11/30/2018
4.6	Report on development of Watershed Emergency Stream Response and Recovery Plan.	12/31/2018
4.2	Submit proposed approach for providing payments or incentives that might increase participation by landowners in SAP.	3/31/2019
4.6	Submit brief basin specific reports outlining the water quality basis for Stream Project Site Selection in the basin during the FAD period and that prioritize main stem and/or sub-basins for stream feature inventories.	6/30/2019
4.6	Report on progress in extending CREP through CSBI, including Delaware County CSBI/CREP pilot program, and submit recommendations for establishment of a permanent program and estimated funding needs, or discontinuation of the program.	11/30/2019
4.2, 4.7	Submit a status report on the SAP.	12/15/2020
4.2	Submit a status report on the WAC Forest Conservation Easement acquisition program.	12/15/2020
4.6	Submit LFHMP first evaluation.	6/30/2020
5.1	Submit 2021 Watershed Protection Program Summary and Assessment Report.	3/31/2021
5.2	Report on Modeling Analysis of FAD Programs as a supplement to the Watershed Protection Program Summary and Assessment Report.	3/31/2021
4.2	Based on the requirements of the 2010 WSP, submit the second program evaluation report on the NYCFFBO Program.	6/15/2021
2	Submit 2021 Long-Term Watershed Protection Plan.	12/15/2021
4.4	Report on CAI evaluation results for the Watershed forest management planning program and landowner education programs.	12/31/2021

2017 FAD

Section	Description	Due Date
4.11	Report on Catskill Turbidity Control RWBT Shutdown Management Plan, including consideration of maintaining water quality during the RWBT repair and shutdown.	1 year prior to planned RWBT shutdown
4.8	Submit summary of wetland mapping and connectivity assessment.	3/31/2022
4.8	Submit updated Invasive Species Implementation Strategy.	3/31/2022
4.9	Report on assessment of funding for the EOH Septic Repair Program.	3/31/2022
4.2	Submit a Long-Term Land Acquisition Plan for the period 2023-2033.	5/31/2022
4.6	Submit Water Quality Monitoring Studies first five-year report.	11/30/2022
4.4	Submit WAP Metrics Assessment and Recommendations Report.	6/30/2023
4.6	Submit LFHMP second evaluation.	6/30/2023
4.6	Update report on development of Watershed Emergency Stream Response and Recovery Plan.	12/31/2023
7	Submit Catskill Delaware Filtration Plant larger scale pilot studies report.	12/31/2024
5.1	Submit 2026 Watershed Protection Program Summary and Assessment Report.	3/31/2026
5.2	Report on Modeling Analysis of FAD Programs as a supplement to the Watershed Protection Program Summary and Assessment Report.	3/31/2026
2	Submit 2026 Long-Term Watershed Protection Plan.	12/15/2026
4.4	Report on CAI evaluation results for the Watershed forest management planning program and landowner education programs.	12/31/2026
7	Submit Final Report on Catskill Delaware Filtration Plant conceptual design.	12/31/2026

2017 FAD

Section	Description	Due Date
4.8	Submit revised Watershed Forest Management Plan.	3/31/2027
4.6	Submit Water Quality Monitoring Studies final study findings report.	11/30/2027

New York City Department of Environmental Protection

Long-Term Watershed Protection Plan

December 2016



Vincent Sapienza, P.E., Acting Commissioner
Paul V. Rush, P.E., Deputy Commissioner
Bureau of Water Supply

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List of Acronyms

AUV	autonomous underwater vehicle
AWSMP	Ashokan Watershed Stream Management Program
BMP	best management practice
BODR	Basis of Design Report
CAT/DEL	Catskill/Delaware
CATUEC	Catskill Upper Effluent Chamber
CDIC	Catskill/Delaware Interconnection Chamber
CDUV	Catskill/Delaware Ultraviolet Disinfection Facility
CE	conservation easement
CP	Forest Management Plan Conservation Practices
CREP	Conservation Reserve Enhancement Program
CRISP	Catskill Regional Invasive Species Partnership
CSBI	Catskill Streams Buffer Initiative
CUNY	City University of New York
CUNRF	City University of New York Research Foundation
CWC	Catskill Watershed Corporation
CWMP	Community Wastewater Management Program
DEM	Digital Elevation Model
DEP	New York City Department of Environmental Protection
DMAP	Deer Management Assistance Permit
DOHMH	New York City Department of Health and Mental Hygiene
EAB	emerald ash borer
EFC	New York State Environmental Facilities Corporation
EIS	environmental impact statement
ELAP	Environmental Laboratory Approval Program
EOC	Emergency Operations Centers
EOH	East of Hudson
EOHWC	East of Hudson Watershed Corporation
EWP	Emergency Watershed Protection
FAD	Filtration Avoidance Determination
FBO	Flood Buyout
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FMP	New York City Forest Management Plan
GCSWCD	Greene County Soil and Water Conservation District
GI	gastrointestinal illness
GIS	Geographic Information System
GPS	Global Positioning System
GWLF	Generalized Watershed Loading Functions
HEFS	Hydrologic Ensemble Forecast Service
HMGP	Hazard Mitigation Grant Program

IRSP	individual residential stormwater plan
ISAC	Invasive Species Advisory Committee
ISC	New York State Invasive Species Council
ISWG	Invasive Species Working Group
JV	Joint Venture
LAP	Land Acquisition Program
LFA	Local Flood Analysis
LiDAR	Light Detection and Ranging
LIMS	Laboratory Information Management System
LT2ESWTR	Long-term 2 Enhanced Surface Water Treatment Rule
MAP	Management Assistance Program
MFO	Master Forest Owner
MGD	million gallons per day
MMI	Milone & MacBroom, Inc.
MOA	New York City Memorandum of Agreement
NHD	National Hydrography Dataset
NMP	nutrient management plan
NRCS	Natural Resources Conservation Service
NTU	nephelometric turbidity unit
NWI	National Wetlands Inventory
NYC	New York City
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
OECD	Organization for Economic Cooperation and Development
OST	Operations Support Tool
PRISM	Partnership for Regional Invasive Species Management
RBAP	Riparian Buffer Acquisition Program
ROV	remote operated vehicle
RWBT	Rondout-West Branch Tunnel
SEQRA	State Environmental Quality Review Act
SMIP	Stream Management Implementation Program
SMP	Stream Management Program
SPDES	State Pollutant Discharge Elimination System
SSMP	Septic System Management Program
SSTS	subsurface sewage treatment system
SUNY	State University of New York
SWCD	Soil and Water Conservation District
SWE	snow water equivalent
SWPPP	stormwater pollution prevention plan
SWTR	Surface Water Treatment Rule
THM	trihalomethane
TP	total phosphorus
TSI	Trophic State Index

TTHM	Total trihalomethane
UCSWCD	Ulster County Soil and Water Conservation District
UFI	Upstate Freshwater Institute
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USGS	United States Geological Survey
WAC	Watershed Agricultural Council
WaLIS	Watershed Lands Information System
WAP	Watershed Agricultural Program
WCDEF	Westchester County Department of Environmental Facilities
WDRAP	Waterborne Disease Risk Assessment Program
WFP	whole farm plan
WOH	West of Hudson
WRF	Water Research Foundation
WR&R	New York City Watershed Rules and Regulations
WSP	Water Supply Permit
WSPS	Water and Sewer Permitting System
WWQMP	Watershed Water Quality Monitoring Plan
WWTP	wastewater treatment plant

Acknowledgements

The New York City Department of Environmental Protection is charged with providing an ample supply of clean water to more than 9 million people every day. DEP meets this mandate through the efforts of hundreds of dedicated professionals. This plan provides DEP's vision for the next phase of its comprehensive program to protect water quality and public health. Although the staff members who help make all this possible are too numerous to mention here, their efforts are recognized and appreciated. We acknowledge the Bureau of Water Supply, under the direction of Deputy Commissioner Paul V. Rush, P.E., and its Directorates of Source Water Operations, Treatment Operations, Water Quality, Watershed Protection Programs and Planning. The vital support of Management Services and Budget, and Compliance staff, along with the Bureaus of Police and Security, Legal Affairs, Information Technology, Engineering Design and Construction, and the NYC Law Department is also acknowledged.

1. Introduction

This report presents New York City’s Long-Term Watershed Protection Program (the Program), submitted to the New York State Department of Health (NYSDOH) in support of a new filtration waiver for the Catskill/Delaware systems. The Program for the next Filtration Avoidance Determination (FAD) covers a ten year period. Through periodic assessments, the New York City Department of Environmental Protection (DEP) has demonstrated the ongoing effectiveness of the overall program in preserving the high quality of the Catskill/Delaware waters. The City’s most recent assessment, issued in March 2016, confirms that water quality status and trends continue to point to a safe, reliable supply of drinking water for half the population of New York State.

This document should be viewed in context of the City’s long-running source water protection program. Since its first filtration waiver was issued by New York State nearly 25 years ago, DEP has produced a multitude of reports detailing program progress and documenting the continued high quality of the Catskill/Delaware supply. For specifics about the implementation of watershed protection programs, refer to the Annual Reports prepared pursuant to the FAD. DEP also produces dozens of semi-annual and annual reports on FAD programs, publishes reports on special studies, and prepares an annual water quality statement which gives detailed information about water quality (www.nyc.gov/html/dep/html/watershed_protection).



Figure 1.1 Map of the New York City water supply system.

1.1 Water Supply System Overview

The New York City (NYC or City) water supply system consists of three surface water sources (the Croton, the Catskill, and the Delaware) and a system of wells in Queens (the Queens Groundwater System) (see Figure 1.1). The three upstate water collection systems include 19 reservoirs and three controlled lakes with a total storage capacity of approximately 580 billion gallons. They were designed and built with various interconnections to increase flexibility to meet quality and quantity goals and to mitigate the impact of localized droughts and water quality impairments. The system supplies drinking water to almost half the population of the State of New York – over eight million people in NYC and one million people in Westchester, Putnam, Orange, and Ulster Counties – plus the millions of commuters and tourists who visit the City throughout the year. Overall consumption in 2015 averaged approximately 1.1 billion gallons a day, which includes both in-City and upstate demand. In-City, overall demand has decreased dramatically since 1990 as a direct result of significant investments by DEP in demand management. Figure 1.2 shows water demand in New York City since 1960, documenting a 30% decrease in the past 25 years, despite rising population.

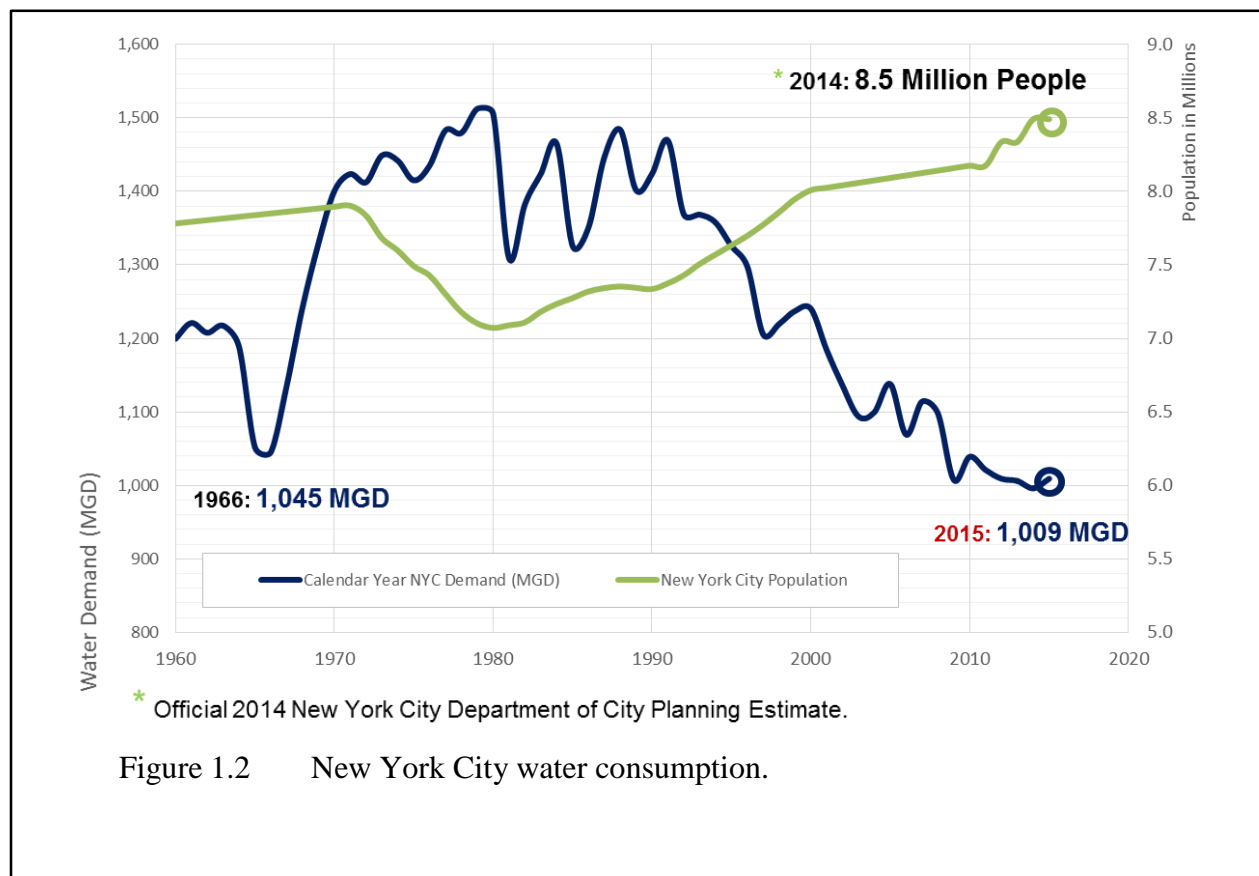


Figure 1.2 New York City water consumption.

The Croton watershed is located entirely east of the Hudson River in Westchester, Putnam and Dutchess Counties, with a small portion in the State of Connecticut. The oldest of the three systems, the Croton system, has been in service for more than 170 years. The watershed covers approximately 375 square miles. Croton's 12 reservoirs and three controlled lakes are connected primarily via streams and rivers, and ultimately drain to the New Croton Reservoir in Westchester County. Historically, approximately 10% of the City's average daily water demand has been supplied by the Croton, although in times of drought the Croton system may supply significantly more water.

In 2015, DEP completed construction and began operation of a water treatment plant to filter the Croton Supply. While the Croton system usually met all current health-based regulatory standards for an unfiltered surface water supply, it has experienced periodic violations of the aesthetic standards for color, taste and odor. In addition, DEP did not believe that the Croton system would be able to meet stricter disinfection by-product rules recently promulgated. Now that the Croton Water Filtration Plant is in service, with a capacity of 290 million gallons per day (MGD), DEP can once again reliably deliver Croton water to NYC consumers.

The Catskill system consists of two reservoirs located west of the Hudson River – Ashokan Reservoir in Ulster County and Schoharie Reservoir in Schoharie, Delaware and Greene counties. The Catskill system was constructed in the early part of the 20th century, and Ashokan Reservoir went into service in 1915. Since Schoharie Reservoir was completed in 1926, water travels through the 18-mile Shandaken Tunnel, which empties into the Esopus Creek at Allaben and then travels 12 miles to the Ashokan Reservoir. Water leaves Ashokan via the 75-mile long section of the Catskill Aqueduct, to reach Kensico Reservoir in Westchester County. The Catskill system supplies, on average, 40% of the City's daily water supply.

The Delaware system was completed in the 1950s and 1960s, and is comprised of four reservoirs: Cannonsville, Pepacton and Neversink reservoirs which are built on tributaries to the Delaware River, and Rondout Reservoir which is formed by damming Rondout Creek, a tributary to the Hudson River. Water travels through tunnels from each of the Delaware basin reservoirs into Rondout Reservoir; water then leaves Rondout and travels to West Branch Reservoir in Putnam County via the Rondout-West Branch Tunnel portion of the Delaware Aqueduct. Water from West Branch then flows through another section of the Delaware Aqueduct to the Kensico Reservoir. The Delaware system provides the remainder of the City's supply. Because waters from the Catskill and Delaware watershed are commingled at Kensico Reservoir, they are frequently referred to as one system: the CAT/DEL system.

In the late 1980s, the City decided to apply for filtration avoidance for the Catskill/Delaware system under the terms of the Surface Water Treatment Rule (SWTR; see "Regulatory Context," below). Since that time, DEP and its partner agencies and organizations have developed and deployed a comprehensive watershed monitoring and protection program designed to maintain and enhance the high quality of CAT/DEL water. This program has been

recognized internationally as a model for watershed protection and has allowed the City to secure a series of waivers from the filtration requirements of the SWTR.

1.2 Regulatory Context

The Safe Drinking Water Act (SDWA) amendments of 1986 required the United States Environmental Protection Agency (USEPA) to develop criteria under which filtration would be required for public surface water supplies. In 1989, USEPA promulgated the SWTR, which requires all public water supply systems supplied by unfiltered surface water sources to either provide filtration or meet certain criteria. The filtration avoidance criteria are comprised of the following:

- Objective Water Quality Criteria – the water supply must meet certain levels for specified constituents including coliforms, turbidity and disinfection by-products.
- Operational Criteria – a system must demonstrate compliance with certain disinfection requirements for inactivation of *Giardia* and viruses; maintain a minimum chlorine residual entering and throughout the distribution system; provide uninterrupted disinfection with redundancy; and undergo an annual on-site inspection by the primacy agency to review the condition of disinfection equipment.
- Watershed Control Criteria – a system must establish and maintain an effective watershed control program to minimize the potential for contamination of source waters by *Giardia* and viruses.

The City first applied for a waiver for the CAT/DEL system from the filtration requirements of the SWTR in 1991. This first application was filed with NYSDOH, because at the time the City and NYSDOH believed that NYSDOH had primacy to administer the SWTR for all water supply systems in New York State (NYS). NYSDOH granted a one-year filtration waiver. Subsequently, it was determined that USEPA had retained primacy for the SWTR. In mid-1992, DEP submitted a thirteen-volume application to USEPA, describing in detail the City's plans for protecting the CAT/DEL supply. On January 19, 1993, USEPA issued a conditional determination granting filtration avoidance until December 31, 1993. The waiver incorporated many elements of the program the City had described in mid-1992, and was conditioned upon the City meeting 66 deadlines for implementing studies to identify potential pollution sources, developing programs to ensure long-term protection of the watershed, and addressing existing sources of contamination in the watershed. USEPA also imposed substantial reporting requirements on the City, to monitor the City's progress.

DEP submitted a second application for continued avoidance to USEPA in September 1993. This application was based upon the knowledge gained by the City through initiation of its watershed studies and programs and laid out a long-term strategy for protecting water quality in the Catskill/ Delaware system. Again, USEPA determined that the City's program met the SWTR criteria for filtration avoidance, although it did express concerns about the program's

ability to meet the criteria in the future. On December 30, 1993, USEPA issued a second conditional determination, containing 150 requirements related primarily to enhanced watershed protection and monitoring programs. USEPA also required that the City proceed with design of a filtration facility for the CAT/DEL supply, so that no time would be lost should USEPA decide that filtration was necessary in the future.

Two critical pieces of the watershed protection program that DEP described in September 1993, and that USEPA incorporated into the December 1993 Determination, were implementation of a land acquisition program and promulgation of revised watershed regulations. Primarily due to the objections of watershed communities over the potential impact that those programs might have on the character and economic viability of their communities, DEP was unable to move forward with implementation of those key program elements. It was against this backdrop that Governor Pataki convened a group of stakeholders to try to come to an accord. The negotiations involved the City, the State, USEPA, representatives of the counties, towns and residents of the watershed, and representatives from environmental groups. This unique coalition came together with the dual goals of protecting water quality for generations to come and preserving the economic viability of watershed communities. In November 1995, the parties reached an Agreement in Principle that set forth the framework of an agreement that would allow the City to advance its watershed protection program while protecting the economic viability of watershed communities. It took another 14 months to finalize the details of an agreement and, in January 1997, the parties signed the Watershed Memorandum of Agreement (MOA). The MOA supplemented the City's existing watershed protection program with approximately \$350 million in additional funding for economic and environmental partnership programs with upstate communities, including a water quality investment program and a regional economic development fund. The MOA established the institutional framework and relationships needed to implement the range of protection programs identified as necessary by the City, the State, and USEPA. The State issued a water supply permit to allow the City to purchase land in the watershed, and approved a revision to the City's Watershed Regulations governing certain aspects of new development in the watershed. The City also secured a 5-year waiver from the filtration requirements for the CAT/DEL system.

In March 2006, the City submitted to USEPA a rigorous, science-based assessment of Catskill/Delaware water quality, followed in December 2006 by an enhanced, comprehensive long-term plan for watershed protection efforts. That long-term plan represented a significant enhancement to the City's watershed protection efforts and relied in part on the continued support and cooperation of the City's partners. The plan formed the basis of an updated FAD, issued by USEPA in July 2007. Significantly, the 2007 FAD was the first FAD to cover a full 10-year period, signaling the growing confidence of all parties that source water protection has become a sustainable alternative to filtration for the City's CAT/DEL supply.

Following issuance of the 2007 FAD, USEPA granted NYSDOH primary regulatory responsibility for the SWTR as it applies to the CAT/DEL supply. In March 2011, DEP issued

another detailed assessment of program activity and water quality, which formed the basis of a revised long-term plan submitted to NYSDOH in December 2011. In late summer 2011, two significant storms swept through the region, devastating communities and significantly impacting water quality in portions of the NYC supply. In the wake of the storms, a large group of watershed stakeholders came together to discuss developing and enhancing certain programs to promote flood resiliency and minimize water supply impacts from future events. Following these discussions, NYSDOH issued a Revised 2007 FAD in May 2014. The Revised 2007 FAD demonstrated DEP's ability to continue to implement proven programs, as well as the ability to adapt strategies as needed to anticipate and respond to changing conditions. DEP's source water protection program continues to be an international model for sustainable water supply management and public health protection.

Also after the 2007 FAD was issued, the State issued a new 15-year Water Supply Permit to allow the City to continue to purchase lands for source water protection. At the time, the MOA parties reaffirmed their commitment to the partnership and executed a supplemental agreement updating certain commitments.

1.3 New York City's Source Water Protection Program for the Catskill/Delaware Systems

DEP is responsible for operating, maintaining and protecting the City's water supply and distribution system. This document, *New York City's 2016 Long Term Watershed Protection Plan*, has been prepared to comply with NYSDOH's Revised 2007 FAD for the Catskill/Delaware Water Supply Systems.

To demonstrate its eligibility for a filtration waiver, DEP advanced a program to assess and address water quality threats in the Catskill/Delaware system. DEP's strategy is based on a simple premise: it is better to keep the water clean at its source than it is to treat it after it has been polluted. To meet the goal of public health protection, DEP has designed and deployed a mix of remedial programs (intended to clean up existing sources of pollution) and protective programs (to prevent new sources of pollution). These efforts provided the basis for a series of waivers from the filtration requirements of the SWTR (January 1993, December 1993, January 1997, May 1997, November 2002, July 2007 and May 2014).

1.3.1 Assessing the Potential Threats to the Water Supply

Since the inception of the program in the early 1990s, the City has made great progress in assessing potential sources of water contamination and designing and implementing programs to address those sources. Each year, DEP collects and analyzes tens of thousands of samples from more than 450 sites throughout the watershed – at aqueducts, reservoirs, streams and wastewater treatment plants (WWTPs). The purpose of this intensive monitoring effort is to help operate and manage the system to provide the best possible water at all times, to develop a record to identify water quality trends, and to focus watershed management efforts. This robust monitoring program provides the scientific underpinnings for the source water protection program.

Based on the information collected through the monitoring program, DEP developed a comprehensive strategy for the protection of source water quality, designed to address existing sources of pollution and prevent new sources. Each element of the watershed protection effort is conducted at a specific spatial and temporal scale to ensure the maintenance of the already high quality of the Catskill/Delaware waters. This effort yields benefits for water consumers as well as the tens of thousands of people who live, work and recreate in the watershed, and the millions in communities downstream of the reservoirs.

1.3.2 Highlights of the Watershed Protection Program

Effective implementation of this multi-faceted program depends on support from and cooperation with the City’s watershed partners. DEP regularly works with many agencies, organizations and communities throughout the region to advance initiatives. These partnerships are vital to the continued success of the source water protection program and recognize the need to strike a balance between protecting water quality and preserving the communities in the watershed. The contributions of many of these groups are acknowledged throughout this report.

Significant progress continues on implementation of several key watershed protection initiatives: the Watershed Agricultural Program; the acquisition of sensitive watershed lands; the enforcement of Watershed Regulations; the Stream Management Program (SMP); and the continuation of environmental and economic partnership programs that target specific sources of pollution in the watershed. In addition, DEP continued its enhanced watershed protection efforts in the Kensico Reservoir basin and completed the upgrades of non-City owned watershed WWTPs. Figure 1.3 and Figure 1.4 map the myriad projects completed by DEP and its partners in the Catskill/Delaware and Croton watersheds since 1997. Key watershed protection program highlights include:

Watershed Agricultural Program

Since 1992, the Watershed Agricultural Program (WAP) has promoted a non-regulatory, voluntary, incentive-based and farmer-led approach to controlling agricultural sources of pollution while supporting the economic viability of the watershed’s farmed landscape. Working through the Watershed Agricultural Council (WAC), the City funds development of farm pollution prevention plans and implementation of structural and non-structural best management practices (BMPs). To date, 192 large farm operations in the Catskill/Delaware watersheds have signed up for the WAP, of which 184 farms (96%) have a Whole Farm Plan. A total of 350 active farms currently have Whole Farm Plans, including smaller scale farming operations and farms located East of Hudson. The WAP has implemented approximately 7,168 BMPs on all participating farms at a cumulative cost of \$58 million, not including planning, design and administrative expenses. The Conservation Reserve Enhancement Program (CREP), which pays farmers to take sensitive riparian buffer lands out of active farm use and re-establish a vegetative buffer, has enrolled more than 1,820 acres of riparian buffers and an estimated 9,000 head of livestock have been excluded from streams.

Land Acquisition

The Land Acquisition Program (LAP) seeks to protect sensitive lands from development through willing seller/willing buyer transactions. Watershed-wide, DEP has secured 115,573 acres in fee simple or conservation easement (CE), with another 26,242 acres of farm easements secured by the WAC. Overall, the City and State now protect 38% of lands in the Catskill/Delaware system. While the overall level of protection is impressive, even higher levels of protection have been achieved in the key basins – Ashokan, Rondout, West Branch and Kensico – which range from 41% to 66% protected.

Watershed Regulations

Since 1997, DEP has reviewed more than 16,800 applications for projects that proposed one or more regulated activities, as well as performed routine compliance inspections at regulated wastewater facilities and active construction sites, and responded to violations of permit standards to enforce corrective actions. DEP works with applicants to ensure new development in the watershed is undertaken in a manner that is fully protective of critical water supply resources; overall more than 98% of DEP’s regulatory determinations are project approvals.

Wastewater Programs

DEP has implemented an array of programs intended to improve the treatment of wastewater across the watershed. The City, in conjunction with its partners, has continued to implement programs that have remediated more than 5,000 failing septic systems. All WWTPs – including City- and non-City-owned – have been upgraded to tertiary treatment, and DEP funds a significant portion of ongoing operation and maintenance. New WWTPs, or other community wastewater solutions, have been implemented in 16 communities, resulting in more than 2,432 septic systems being decommissioned.

Stream Management Program

The Stream Management Program (SMP) promotes the protection and/or restoration of stream system stability and ecological integrity by providing for the long-term stewardship of streams and floodplains. Over the past five years, a significant focus of the SMP was responding to the devastating storms of 2011, and working closely with federal, State and local partners to implement restoration projects. DEP augmented SMP funding to support new science-based efforts for local flood hazard mitigation, to protect water quality and improve community resiliency.

Ultraviolet (UV) Disinfection Facility

In 2012, DEP began operation of a UV disinfection facility to treat all water from the Catskill/Delaware supply. The facility, the largest of its kind in the world, provides an additional barrier for public health protection and complements DEP’s efforts to keep the water clean at the source.

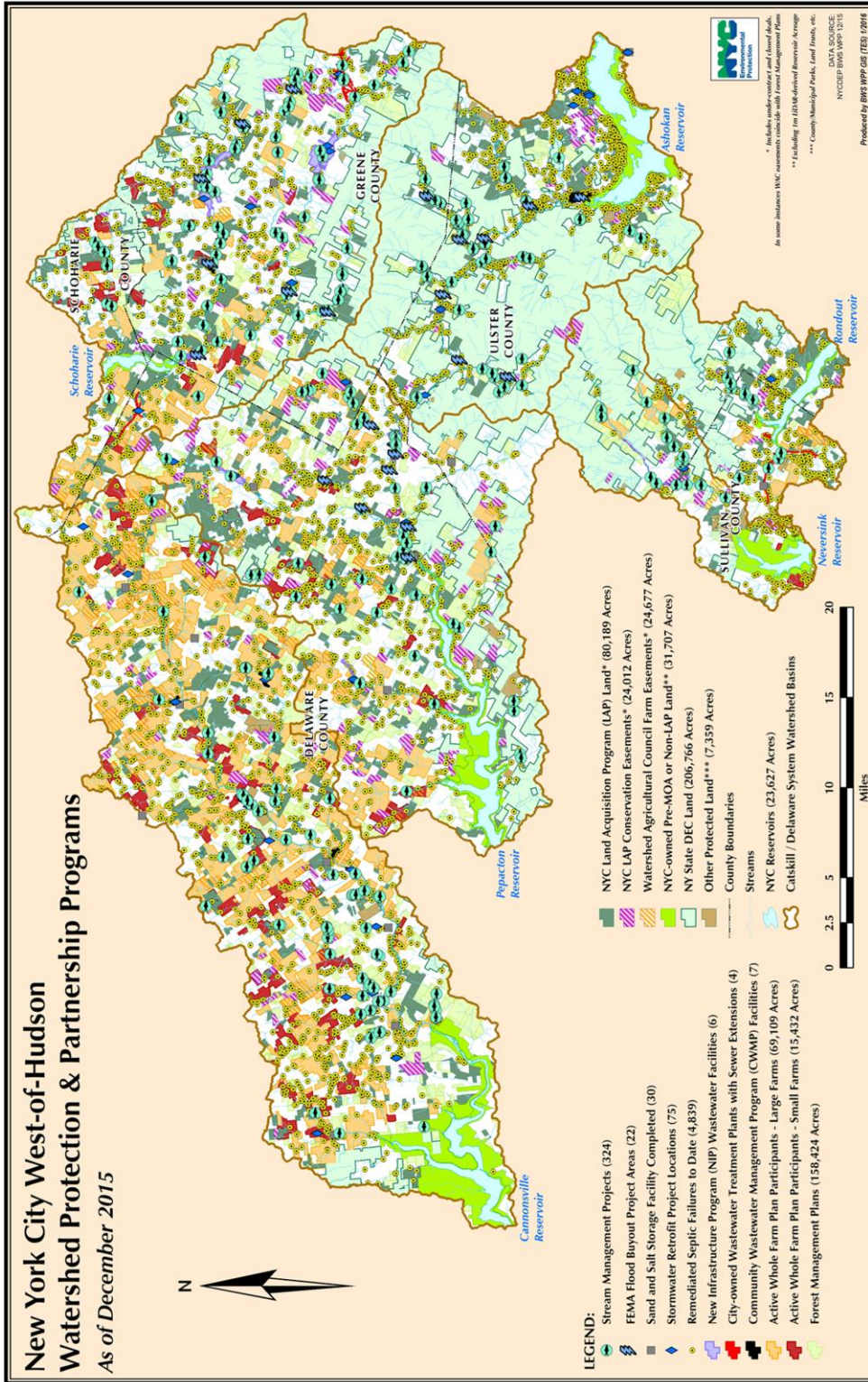


Figure 1.3 Map showing status of the partnership programs West of Hudson.

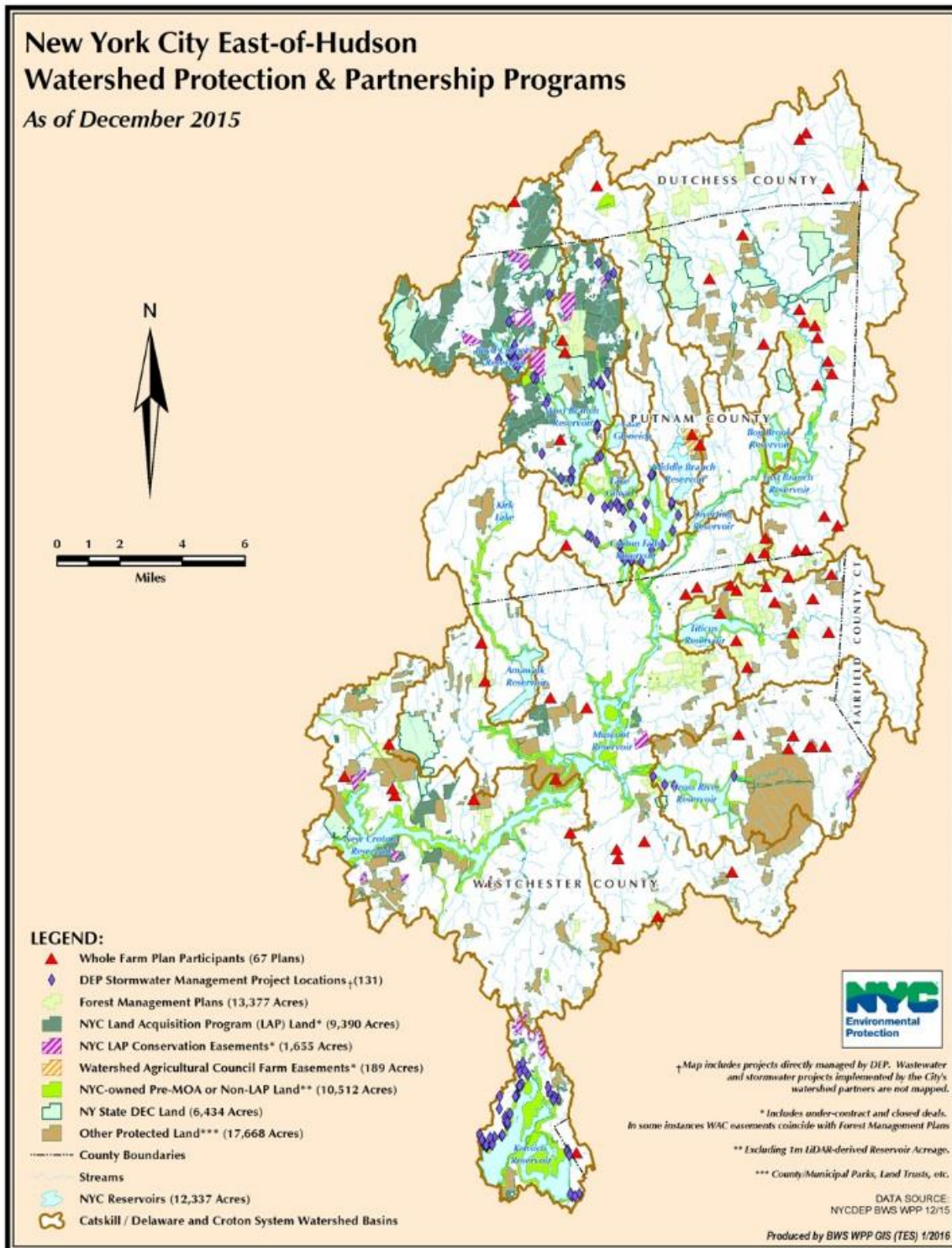


Figure 1.4 Map showing status of the partnership programs East of Hudson.

Waterborne Disease Risk Assessment Program

The Waterborne Disease Risk Assessment Program (WDRAP) continues to track in-City disease rates, with a goal of identifying whether there are any outbreaks that can be linked to the water supply. The Program evaluates multiple data streams daily and over longer periods, and has continued to refine surveillance activities. There was no evidence of an outbreak of waterborne disease in NYC during this period, including following three severe storms (Irene, Lee, and Sandy).

1.3.3 Water Quality Conditions

Every five years, DEP undertakes a comprehensive review of water quality conditions throughout the Catskill/Delaware system. That review, most recently completed and published in March 2016, incorporates a massive amount of water quality data, collected at different spatial and temporal scales, to provide a complete picture of water quality status and trends. DEP then compares those water quality results with information on implementation of source water protection programs, to evaluate program effectiveness and guide decision making on future program implementation. The March 2016 assessment, available on DEP's web site, confirms the continued excellent quality of water from the Catskill/Delaware system and points to certain localized improvements that are a result of program implementation. A summary of those water quality findings is provided below.

Water Quality Monitoring Overview

DEP conducts extensive water quality monitoring throughout the watershed. The 2016 Watershed Water Quality Monitoring Plan (WWQMP) describes this monitoring plan. The plan and its associated addenda are designed to meet the broad range of DEP's many regulatory and informational requirements. The overall goal of the plan is to establish an objective-based water quality monitoring network, which provides scientifically defensible information regarding the understanding, protection, and management of the New York City water supply. The objectives of this monitoring plan have been defined by the requirements of those who ultimately require the information, including DEP program administrators, regulators, and other external agencies. As such, monitoring requirements were derived from legally binding mandates, stakeholder agreements, operations, and watershed management information needs. The plan covers four major areas that require ongoing attention: Compliance, FAD Program Evaluation, Surveillance Monitoring, and Modeling Support, with many specific objectives within these major areas.

As New York City's water supply is one of the few large water supplies in the country that qualifies for Filtration Avoidance, based on both objective water quality criteria and subjective watershed protection requirements, USEPA has specified many requirements in the 2007 FAD and the Revised 2007 FAD that must be met to protect public health. These objectives form the basis for the City's ongoing assessment of watershed conditions, changes in water quality, and ultimately any modifications to the strategies, management, and policies of the long-term watershed protection program. The City also conducts a periodic assessment of the

effectiveness of the watershed protection program. DEP's water quality monitoring data, including data relating to stream benthic macroinvertebrates, are essential to perform this evaluation. Program effects on water quality are reported in the Watershed Protection Summary and Assessment reports which are produced approximately every five years.

Samples collected under the auspices of the WWQMP are brought to DEP laboratories for analysis. The laboratories are certified by NYSDOH's Environmental Laboratory Approval Program (ELAP) for over 100 environmental analyses in the non-potable and potable water categories. These analyses include physical analytes (e.g., pH, turbidity, color, conductivity), chemical parameters (e.g., nitrates, phosphates, chloride, chlorine residual, alkalinity), microbiological parameters (e.g., total and fecal coliform bacteria, algae), trace metals (e.g., lead, copper, arsenic, mercury, nickel), and organic parameters (e.g., organic carbon).

In addition to the water quality monitoring discussed above, DEP has developed a continuous water quality monitoring program and continues to update a Robotic Water Quality Monitoring Network (RoboMon) in the watershed. Continuous monitoring data are obtained at key aqueduct and intake locations, key upstate reservoirs, and selected watershed tributaries to provide critical data for immediate use in decision making by water supply managers, as well as for water quality model development and model forecasting.

In summary, the monitoring plan has been designed to meet the broad range of DEP's regulatory obligations and informational needs. These requirements include: compliance with all federal, state, and local regulations to ensure safety of the water supply for public health; watershed protection and improvement to meet the terms of the 2007 FAD and the Revised 2007 FAD; the need for current and future predictions of watershed conditions and reservoir water quality to ensure that operational decisions and policies are fully supported over the long term; and that ongoing surveillance of the water supply will continue to ensure delivery of the best water quality to consumers.

Water Quality Data Analysis

The accumulation of a long-term database has allowed DEP to identify and address existing water quality conditions, identify long-term trends, guide operations, and determine effectiveness of watershed programs. The 2016 Watershed Protection Program Summary and Assessment provides the most recent evaluation of water quality conditions and uses all data available since the beginning of DEP's first FAD in 1993. This allows DEP to examine trends over more than two decades. It provides a view of water quality changes in the context of variation caused by natural events such as floods and droughts, which are not sufficiently represented in a five- year time period. Long-term data are needed to show the effects of the watershed protection programs because there are time lags between program implementation (causes) and water quality changes (effects). The water quality data from the early 1990s represents conditions at the outset of Filtration Avoidance when many watershed protection programs were in their infancy. Sufficient time has now passed since programs have been in

place that the major effects of programs on water quality have become apparent. Since many programs were implemented in the decade between 2000 and 2010, the current conditions are a phase when the effects of the watershed programs are reflected in water quality, as surface water reaches its new ‘steady state’ with watershed conditions.

There are several important factors that govern water quality over the long term. Perhaps the two most important are climate, as a determinant of precipitation and therefore water residence times, and land use, as a determinant of substance loadings. Given the general environmental conditions in each basin, DEP has examined the effectiveness of watershed protection programs to maintain a clean water supply through a series of analyses. These include the status and trends of water quality in streams and reservoirs as indicated by various analytes or indices, the trophic response of reservoirs, and pathogen assessment. This has allowed DEP to demonstrate central tendencies and trends in the water quality data over an extended time period during and after watershed protection program implementation.

In addition to water quality samples, macroinvertebrate indices were calculated to provide insight into the ecological conditions of streams and changes in water quality. Macroinvertebrates biologically integrate conditions over time so they are seen as important indicators of stream water quality. The impact of the waterfowl management program and its ability to control and reduce fecal coliform bacteria have been demonstrated over the past 25 years and selected case studies are presented to demonstrate the effectiveness of this program. Finally, an analysis of pathogen transport through the system provides much insight into the benefit of NYC’s sequential system of reservoirs and the natural processes that improve water quality as it travels towards distribution. With these approaches, DEP has examined the relationships between watershed protection and water quality changes.

Water Quality Conditions for the Catskill and Delaware Systems

Overall, the water quality in the Catskill and Delaware reservoirs remains excellent which is a reflection of the ongoing investment in watershed protection. Total phosphorus reductions from a combination of wastewater treatment plant upgrades, septic system improvements, and extensive implementation of BMPs have been significant. For example, Cannonsville Reservoir geometric mean total phosphorus was 26.8 µg L-1 in 1991 and was 14.9 µg L-1 in 2015. While the Catskill System encounters intermittent increases in turbidity and phosphorus associated with storm events, the system recovers rapidly.

Water Quality Conditions for the East of Hudson Catskill/Delaware Basin System

Water quality in West Branch and Kensico basins continues to be excellent. Decreasing trends in turbidity, fecal coliforms, and total phosphorus in the inputs to West Branch were attributed to improvements made through watershed protection programs. The Cross River and Croton Falls basins are classified as “potential” Delaware system basins because water from these basins only enters the Delaware Aqueduct when intentionally pumped into it, and this is a rare occurrence. Water quality in the Cross River and Croton Falls basins has been generally

good. The median Trophic State Index (TSI) was in the eutrophic range for both reservoirs and the basins remain listed as phosphorus-restricted. Trends in turbidity were downward for the output from Cross River basin and attributed primarily to recovery from drawdown related to dam repairs. Additional details on the water quality assessment and long-term trends can be found in the 2016 Watershed Protection Summary and Assessment Report.

Trophic Response of Reservoirs

The trophic response of reservoirs to the combined effects of watershed protection programs and major environmental events was examined through four relationships selected from the Programme on Eutrophication sponsored by the Organization for Economic Cooperation and Development. These analyses highlight the biological responses to major environmental drivers such as hurricanes and floods as well as overall shifts in nutrients, algal biomass, and transparency over the course of time and have supported the policy of reducing total phosphorus as a means of eutrophication control.

There have been vast improvements in the Cannonsville Reservoir over the past 25 years for mean and maximum chlorophyll, phosphorus, and Secchi depth. More subtle changes have taken place in the other reservoirs and the trends statistics are appropriate for characterization of those changes. In contrast, the variations in the Catskill System Reservoirs are highly dependent on extreme hydrological events and turbidity that can persist in the reservoirs for several months. Kensico appears to have slowly decreasing phosphorus levels, while West Branch seems to drift up, which may be due to operations. In the East of Hudson (EOH) reservoirs equipped with pump stations that can supplement the Delaware Aqueduct, Cross River and the main basin of Croton Falls generally have similar water quality; however, the upstream sites of Croton Falls tend to be more eutrophic.

Water Quality Modeling Program

In addition to statistical analysis, DEP conducts extensive modeling analyses. Models are used by DEP to manage water quality over both long- and short-term periods. Model analysis using the long-term database allows DEP to separate the effects of important natural factors that influence water quality from the effects of watershed protection programs. Further, it allows DEP to estimate the relative effects of different watershed protection programs and may be used to guide priorities. DEP employs models for short-term events (on the order of months) to optimize reservoir operations and to determine when treatment may be necessary. Model application is thus used at DEP for diagnostic analysis and water supply decision support.

DEP continues to aggressively build its modeling capabilities. In the near future, calibration and validation of the spatially distributed models will give us greater insight into the effects of specific watershed protection measures so that DEP can continue to refine project implementation for maximum effectiveness.

1.4 DEP's Long-Term Program

Over the past 25 years of source water protection, the City has developed and implemented a multi-faceted, comprehensive long-term program that forms the basis for its continued filtration waiver. DEP's plan for the next ten years is outlined in the following sections of this document. The proposed program represents DEP's continued commitment to long-term watershed protection. The City expects that, so long as the Catskill/Delaware system remains unfiltered, these core programs will remain in place in some fashion.

DEP continues to review and refine programs, based on accomplishments to date and watershed and water quality conditions. As described above, virtually every program element has achieved a very high level of implementation, and direct water quality benefits have been observed. In many cases, programs have transitioned from intensive implementation to a maintenance phase. In other cases, program focus has shifted geographically or greater emphasis has been placed on certain types of activities. These program modifications are to be expected – in fact, are necessary – as DEP's efforts have matured. In the coming decade the City will continue to evaluate and adjust programs as needed to ensure the continued effectiveness and cost-effectiveness.

This plan represents the first-ever 10-year source water protection plan developed by DEP. It includes a full suite of programmatic commitments through 2027. By preparing this plan, DEP is demonstrating the City's long-term commitment to support activities that sustain and protect public health. The scope of the plan also provides stakeholders – watershed communities, contracting partners, water supply consumers, environmental parties and regulators – certainty about the levels of implementation across a range of programs for the coming decade.

As part of this plan, DEP will contract with the National Research Council (NRC) to conduct an expert panel review of the source water protection program. In 2000, an NRC panel reviewed the City's proposed watershed management plan and provided a strong endorsement of the approach to public health protection. A new panel will be convened to evaluate DEP's implementation of that plan and to offer suggestions on the next phase of source water protection. DEP expects that the findings of the review will be used to make adjustments to the proposed level and mix of programs set forth in this plan.

Independent of and reinforcing DEP's commitments under the FAD, the 2010 Water Supply Permit requires DEP to fund and implement many of these same programs. Consistent with the language of the Surface Water Treatment Rule, the FAD requires DEP to implement its watershed control program without regard to cost and does not characterize requirements in terms of monetary commitments. Similarly, while the partnership between the City and the watershed communities, among other entities, is an important element of DEP's ability to implement the watershed control program effectively, and therefore important to filtration avoidance, the FAD itself focuses on program implementation rather than specifically on partnership commitments. DEP will comply with its commitments under the Water Supply

Permit, but notes that these requirements are not themselves enforceable requirements of the FAD.

Support from and cooperation with watershed partners is essential to the successful implementation of the City's program. It is important to emphasize that no protection program for the City's water supply, no matter how carefully crafted, can succeed without support and involvement of the City's partners and watershed stakeholders. Perhaps the greatest achievement of the past quarter century has been the development of vital, locally-based organizations working with the DEP on the common goal of watershed protection. Initially the City was reluctant to cede responsibility for program implementation to others, but the development of successful partnerships with organizations like the Catskill Watershed Corporation (CWC), the Watershed Agricultural Council, and county Soil and Water Conservation Districts, led the City to recognize that long-term watershed protection can and will be advanced through such partnerships. Continued cooperation with DEP's implementation partners is an integral part of the City's long-term vision for protecting the water supply. To promote collaboration, over time DEP intends to co-locate a new office with CWC. CWC is already advancing plans for a new facility in Arkville. By sharing work space – centrally located in the heart of the watershed – DEP and CWC can further improve coordination and responsiveness to watershed communities.

In 2015, representatives of watershed communities contacted DEP to voice concerns about some aspects of the source water protection efforts. That outreach resulted in an ongoing series of discussions among a broad group of watershed stakeholders about specific watershed program elements. Consensus has emerged on a number of issues and to the extent possible those agreements are reflected in this document. On other topics, the stakeholders have recognized the need for further, targeted discussion; DEP expects that these discussions will result in more effective and efficient implementation of several programs. DEP is committed to the ongoing discussions and greatly appreciates the cooperative spirit of the dialogue.

2. Long-Term Watershed Protection Program

2.1 Filtration Avoidance Criteria Requirements

The Surface Water Treatment Rule (SWTR) and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) established requirements for unfiltered surface water supply systems, some specifically identified as filtration avoidance criteria, which require that all surface water supplies provide filtration unless certain source water quality, disinfection, and site-specific avoidance criteria are met. In addition, the supplier must comply with: (1) the Revised Total Coliform Rule (RTCR), and (2) the Stage 1 Disinfectant and Disinfection Byproducts Rule. The 2007 FAD required ongoing monitoring and periodic reporting related to SDWA compliance activities. In addition, there are some reporting requirements relating to SDWA compliance, that while not specifically required under the SWTR, and therefore not included as a FAD reporting requirement below, will be reported elsewhere for SDWA compliance purposes. This includes: 1) reporting to NYSDOH and USEPA on the monthly operational status of the UV plant as required by LT2 and New York State Sanitary Code requirements, and reporting the Stage 2 Disinfectant and Disinfection Byproducts Rule monitoring results; and 2) notifying NYSDOH and USEPA by the end of the day when a sample from a RTCR distribution system compliance site tests positive for *E. coli*.

DEP will continue the above monitoring requirements as specified in the SWTR, and in accordance with the milestones contained therein, and in accordance with any additions/clarifications below.

Table 2.1 Filtration Avoidance Criteria Requirements

<i>Requirement</i>	<i>Due Date</i>
<p>Continue to meet SWTR filtration avoidance criteria (40 CFR §141.71 and §141.171, and 10 NYCRR §5-1.30) and submit reports and certification of compliance on:</p> <ul style="list-style-type: none"> • §141.71(a)(1) and §5-1.30(c)(1) - raw water fecal coliform concentrations • §141.71(a)(2) and §5-1.30(c)(2) - raw water turbidity sampling • §141.71(b)(1)(i)/§141.72(a)(1) and §5-1.30(c)(3) - raw water disinfection CT values • §141.71(b)(1)(ii)/§141.72(a)(2) and §5-1.30(c)(4) - operational status of Kensico and Hillview disinfection facilities, including generators and alarm systems • §141.71(b)(1)(iii)/§141.72(a)(3) and §5-1.30(c)(5) - entry point chlorine residual levels 	Monthly

<i>Requirement</i>	<i>Due Date</i>
<ul style="list-style-type: none"> • §141.71(b)(1)(iv)/§141.72(a)(4) and §5-1.30(c)(6) - distribution system disinfection levels (the City will include a discussion of any remedial measures taken if chlorine residual levels are not maintained throughout system) • §141.71(b)(5) and §5-1.30(c)(10) - distribution system coliform monitoring, including a summary of the number of samples taken, how many tested positive for total coliform, whether the required number of repeat samples were taken at the required locations, and which, if any, total coliform positive samples were also <i>E. coli</i> positive. For each <i>E. coli</i> positive sample, include the investigation of potential causes, problems identified and what has or will be done to remediate problems. Include copies of any public notices issued as well as dates and frequency of issuance. 	
<p>All requirements described in §141.71(b)(4) and §5-1.30(c)(8) must continue to be met. Notify NYSDOH/USEPA within twenty-four hours of any suspected waterborne disease outbreak.</p>	<p>Event Based</p>
<p>All requirements described in §141.71(b)(6) and §5-1.30(c)(9) must continue to be met. Submit report on disinfection byproduct monitoring results.</p>	<p>Quarterly</p>
<p>Notify NYSDOH/USEPA within twenty-four hours, if at any time the chlorine residual falls below 0.2 mg/l in the water entering the distribution system.</p>	<p>Event Based</p>
<p>Notify NYSDOH/USEPA by the close of the next business day, whether or not the chlorine residual was restored within 4 hours.</p>	<p>Event Based</p>
<p>Report on the operational status of Kensico Reservoir, West Branch Reservoir (on-line or by-pass), Hillview Reservoir, and whether any of these reservoirs experienced unusual water quality conditions.</p>	<p>Monthly</p>
<p>Regarding the emergency/dependability use of Croton Falls and Cross River source water:</p> <ul style="list-style-type: none"> (A) The City shall not introduce Croton Falls or Cross River source water into the Catskill/Delaware water supply system without the prior written approval of NYSDOH. (B) As a condition of approval, the City must demonstrate continuing, substantial compliance with the watershed protection program elements being implemented in the Croton Falls and Cross River watersheds that are contained in this Determination. (C) As a condition of approval, the City will submit water quality data and 	<p>Continuous</p>

<i>Requirement</i>	<i>Due Date</i>
<p>monitor water quality at Croton Falls and/or Cross River, pursuant to the approved sampling plan submitted to NYSDOH/USEPA in May 2010, or as revised thereafter.</p> <p>NYSDOH approval under this Section may include additional conditions, including but not limited to, project schedules or specific operating goals or parameters for the City’s water supply facilities (such as maximizing use of the Croton Filtration Plant, or operation of the Catskill/Delaware UV Plant at 3-log inactivation).</p> <p>As used in this Section, the term “NYSDOH” is defined as the primacy agency. In evaluating requests for approval from the City, the primacy agency shall consult with USEPA.</p>	
<p>Contract with the NRC to conduct an Expert Panel review of the City’s Long-Term Watershed Protection Plan, water quality and water quality trends, and anticipated future activities that might adversely impact the water supply and its ability to comply with 40 CFR §141.71 and §141.171, and 10 NYCRR §5-1.30. Evaluate the adequacy of the City’s Watershed Protection Programs for addressing these concerns and provide recommendations, as necessary, for improving programs.</p> <ul style="list-style-type: none"> • Issue Commence Work notice to NRC. • Upon request of the NRC provide any necessary background information and respond to any pertinent questions within the scope of the review. • Ensure the schedule for public meetings is widely available either on a project-specific website, NRC website or the DEP website. • Report on the status of the Expert Panel review in the FAD Annual. • Provide the final report to NYSDOH, USEPA and NYSDEC. • Convene a public meeting with the regulators and watershed stakeholders to discuss the major findings and recommendations of the NRC Expert Panel review. 	<p>1/31/18 Ongoing</p> <p>Ongoing</p> <p>Annually, 3/31</p> <p>Commence Work + 33 mo. Date of final report + 4 mo.</p>

Table 2.2 Filtration Avoidance Criteria Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual report.	Annually, 3/31

2.2 Environmental Infrastructure

2.2.1 Septic and Sewer Programs

DEP implements a comprehensive set of programs that serve to reduce the number of failing or potentially failing septic systems in the watershed. The Septic and Sewer Programs are composed of the following elements:

- Septic Remediation and Replacement Program;
- Small Business Program;
- Cluster System Program;
- Septic Maintenance Program;
- Sewer Extension Program; and
- Alternate Design and Other Septic Systems.

Septic Remediation and Replacement Program

The Septic Remediation and Replacement Program provides for pump-outs and inspections of septic systems serving single or two-family residences in the West of Hudson (WOH) watershed; upgrades of substandard systems; and remediation or replacement of systems that are failing or reasonably likely to fail in the near future. Participation is currently available to residential properties within 700 feet of a watercourse or within the 60-day Travel Time Area. The near-term goal is to ensure funding is in place to remediate/replace approximately 300 failing or likely-to-fail septic systems per year.

Table 2.3 Septic Remediation and Replacement Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
In accordance with Program Rules, provide adequate funding in support of the Septic Remediation and Replacement Program at a funding level sufficient to address 300 septic systems per year.	Ongoing

Small Business Program

The Small Business Septic System Rehabilitation and Replacement Program helps pay for the repair or replacement of failed septic systems serving small businesses (those employing 100 or fewer people) in the WOH watershed. Through CWC, eligible business owners are reimbursed 75% of the cost of septic repairs. The near-term goal is to ensure funding is in place to remediate/replace failing septic systems serving small businesses. As part of discussions with watershed stakeholders in 2016, DEP has agreed to fund an expansion of the CWC Small Business Septic System Program to make local government entities and not-for-profit institutions

eligible for 75% of the costs of repairs to septic systems. DEP has also agreed to provide funding for certain alterations or modifications of septic systems serving small businesses, local government entities and not-for profit institutions; the exact terms of funding for alterations and modifications will be finalized in early 2017.

Table 2.4 Small Business Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
In accordance with Program Rules, provide adequate funding in support of the Small Business Program provided that the need for such funding has been demonstrated.	Ongoing

Cluster System Program

The Cluster System Program funds the planning, design, and construction of cluster systems in thirteen communities in the WOH watershed. Through CWC, eligible communities may elect to establish districts that would support cluster systems and tie multiple properties to a single disposal system. This enables communities to locate disposal systems on larger sites in areas where existing structures were sited on insufficiently sized lots. The near-term goal is to ensure funding is in place to remediate failing septic systems through construction of cluster systems. DEP intends to work with CWC to evaluate the program and determine whether any modifications are needed to facilitate the advancement of the program.

Table 2.5 Cluster System Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
In accordance with Program Rules, provide adequate funding in support of the Cluster System Program component of the Septic Remediation and Replacement Program.	Ongoing

Septic Maintenance Program

The Septic System Maintenance Program is a voluntary program open to home owners who constructed new septic systems after 1997 or participated in the septic repair program, and is intended to reduce the occurrence of septic system failures through regular pump-outs and maintenance. Through CWC, home owners are reimbursed 50% of eligible costs for pump-outs and maintenance. As part of the program, CWC also develops and disseminates septic system maintenance educational materials. The near-term goal is to continue to fund 50% of the cost for septic pump-outs to qualified properties to enhance the functioning and reduce the incidence of failures of septic systems throughout the WOH watershed.

Table 2.6 Septic Maintenance Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Provide funding, if necessary, to allow maintenance each year of 20% of the total number of septic systems eligible under the Septic Maintenance Program Rules.	Ongoing

Sewer Extension Program

The Sewer Extension Program funds the design and construction of wastewater sewer extensions connected to City-owned WWTPs discharging in the WOH watershed. The goal of this program is to reduce the number of failing or potentially failing septic systems by extending WWTP service to priority areas. DEP completed projects in the towns of Roxbury (Grand Gorge WWTP); Hunter-Haines Falls (Tannersville WWTP); Neversink (Grahamsville WWTP); and Hunter-Showers Road (Tannersville WWTP). DEP anticipates that the sewer extension projects now under construction in Shandaken (Pine Hill WWTP) and Middletown (Margaretville WWTP) will be completed before the 2017 FAD is in place. The near-term goal is to ensure these last projects are complete and conclude program.

Table 2.7 Sewer Extension Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Construct sewer extension projects in Shandaken (Pine Hill WWTP), Middletown (Margaretville WWTP).	TBD (expected to be complete before FAD)

Alternate Design Septic Program

The Alternate Design Septic Program funds the eligible incremental compliance costs of the septic provisions of the Watershed Regulations for new septic systems to the extent they exceed state and federal requirements. The City funded the Alternate Design Septic Program under the Watershed MOA. The near-term goal is to support the use of the funding to cover the eligible incremental costs to comply with the septic system provisions of the Watershed Regulations.

Table 2.8 Alternate Design Septic Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Support the use of the already provided funding to cover the eligible incremental costs to comply with the septic system provisions of the WRR to the extent that they are not otherwise required by state or federal regulations.	Ongoing

Table 2.9 Septic and Sewer Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report: <ul style="list-style-type: none"> • Septic Remediation and Replacement Program; • Small Business Program; • Cluster System Program; • Septic Maintenance Program; • Sewer Extension Program; and • Alternate Design and Other Septic Systems. 	Annually, 3/31

2.2.2 Community Wastewater Management Program

The Community Wastewater Management Program (CWMP) funds construction of community septic systems and/or septic maintenance districts in communities identified in Paragraph 122 of the MOA (the 8-22 communities).

Table 2.10 Status of Community Wastewater Management Program projects

<i>Community</i>	<i>Project</i>	<i>Flow* (gpd)</i>	<i>Status</i>
Bloomville	Community Septic w/ Sand Filter	30,000	Completed 2009
Boiceville	Collection System w/ WWTP	75,000	Completed 2010
Hamden	Community Septic w/ Sand Filter	26,000	Completed 2009
DeLancey	Septic Maintenance District	na	Completed 2007
Bovina	Community Septic System	25,000	Completed 2006
Ashland	Collection System w/ WWTP	26,000	Completed 2011
Haines Falls	NA – Sewer Extension Program	na	Completed 2006
Trout Creek	Community Septic w/ Sand Filter	16,000	Completed 2014
Lexington	Community Septic w/ Sand Filter	19,000	Completed 2016

South Kortright	Collection System pump to Hobart	20,000	Completed 2016
Shandaken	TBD	<i>36,000</i>	Study Phase
West Conesville	TBD	<i>15,000</i>	Study Phase
Claryville	TBD	<i>16,000</i>	Study Phase
Halcottsville	TBD	<i>19,000</i>	Study Phase
New Kingston	TBD	<i>13,000</i>	Study Phase

**Flow in italics is estimated*

The goals of the CWMP are to approve block grants for Shandaken and West Conesville to proceed to design and construction following completion of Study Phase and complete the study, design, and construction of projects for the final three communities (Claryville, Halcottsville, and New Kingston). The timeline of the Design Phase commences when the proposed project outlined in the Study Phase is approved by the parties. The timeline of the Construction Phase commences when the plans drafted during the Design Phase are approved by the parties.

By letter dated November 9, 2016, NYSDOH directed DEP to fund construction of a new WWTP to serve the hamlet of Shokan in the Town of Olive. The letter set forth certain milestones for initiation and completion of the project. DEP is reviewing those milestones and will provide a response in writing to NYSDOH in early 2017.

Table 2.11 Community Wastewater Management Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Design complete for Shandaken, West Conesville	One year from date of completed Study Phase (Est. 6/30/17)
Construction complete for Shandaken, West Conesville	Two years from date of completed Design Phase
Preliminary study complete for Claryville, Halcottsville, New Kingston	6/30/17
Design complete for Claryville, Halcottsville, New Kingston	One year from date of completed Study Phase

Construction complete for Claryville, Halcottsville, New Kingston	Two years from date of completed Design Phase
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Table 2.12 Community Wastewater Management Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report: <ul style="list-style-type: none"> • Shandaken; • West Conesville; • Claryville; • Halcottsville; and • New Kingston. 	Annually, 3/31

2.2.3 Stormwater Programs

Future Stormwater Controls Programs

The Future Stormwater Controls Programs pay for the incremental costs of stormwater measures required solely by the Watershed Regulations, but not otherwise required by state and federal law, in stormwater pollution prevention plans and individual residential stormwater plans for new construction after May 1, 1997. As part of the MOA, DEP established two Stormwater Cost-Sharing Programs: (1) Future Stormwater Controls paid for by the City for Single Family Houses; Small Businesses and Low Income Housing Program and (2) the WOH Future Stormwater Controls Program.

The Future Stormwater Controls paid for by the City Program, reimburses low income housing projects and single family home owners 100% and small businesses 50% of eligible costs. The million Future Stormwater Controls Program is administered by CWC and reimburses municipalities and large businesses 100% and small businesses 50% for eligible costs. DEP has committed to replenish funding for the Future Stormwater Controls Program to ensure the continued availability of funding to assist applicants. In addition, the City is working with CWC to provide funding to allow CWC to administer the program under MOA Paragraph 145, which anticipated that the costs of certain Future Stormwater Controls would be paid directly by the City.

Additionally, DEP provided CWC with funds for an appropriate position at CWC to assist applicants undertaking regulated activities to comply with the stormwater provisions of the Watershed Regulations.

The goal of the Future Stormwater Controls Programs is to provide payment of eligible incremental costs to comply with the stormwater provisions of the Watershed Regulations to the extent they exceed State and federal requirements and consistent with the Future Stormwater Controls Program Rules. The funds assist applicants undertaking regulated activities to comply with the stormwater provisions of the Watershed Regulations, and provide funding in accordance with the MOA for certain incremental costs for single family homes, small businesses, and low-income housing.

Table 2.13 Future Stormwater Controls Programs Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Fund, in accordance with the MOA, the eligible incremental costs to comply with the stormwater provisions of the WRR to the extent that they are not otherwise required by federal or State law.	Ongoing
Ensure adequate funding for an appropriate position at CWC to assist applicants undertaking regulated activities to comply with the stormwater provisions of the City’s Watershed Regulations.	Ongoing

Stormwater Retrofit Program

The Stormwater Retrofit Program, administered by CWC, provides funding for the design, permitting, construction, and maintenance of stormwater best management practices to address existing stormwater runoff in concentrated areas of impervious surfaces in the WOH watershed based on water-quality priorities.

The goal of the Stormwater Retrofit Program is to continue support of the installation of stormwater best management practices and community-wide stormwater infrastructure assessment and planning consistent with the Stormwater Retrofit Program Rules and within agreed-upon Program funding throughout the WOH watershed. Support the use of Program funding for retrofit projects installed in coordination with Community Wastewater Management Program projects.

Table 2.14 Stormwater Retrofit Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to provide the funding needed to allow the Stormwater Retrofit Program to continue at a level of activity that has been maintained since the inception of the Program consistent with the Stormwater Retrofit Program Rules, provided the demonstrated need for such funding continues.	Ongoing

Support the use of Program funding for retrofit projects installed in coordination with Community Wastewater Management Program projects.	Ongoing
Continue to provide the funding needed for the Operations and Maintenance of retrofit projects funded through the Stormwater Retrofit Program consistent with the Stormwater Retrofit Program Rules, provided the demonstrated need for such funding continues.	Ongoing

Table 2.15 Stormwater Programs Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report <ul style="list-style-type: none"> • Future Stormwater Controls Programs; and • Stormwater Retrofit Program. 	Annually, 3/31

2.3 Protection and Remediation Programs

2.3.1 Waterfowl Management Program

In 1992, as part of DEP’s original Watershed Protection/Filtration Avoidance Program, a Waterfowl Management Program was established to measure the level of potential impact imposed by wildlife at the Kensico Reservoir. Waterbird species (geese, gulls, ducks, swans, cormorants, and duck-like birds) were surveyed to determine species richness (species diversity) and evenness (species population). Preliminary surveys conducted by DEP indicated several waterbird populations fluctuations occurred daily (diurnal/nocturnal), seasonally, and spatially on the reservoirs. A strong relationship between avian populations and bacteria (fecal coliform) levels from untreated water samples was established. As a result, DEP instituted a Waterfowl Management Program starting in 1993 to reduce or eliminate where possible, all waterbird activity in order to mitigate seasonal fecal coliform bacteria elevations. A similar program was also established on a daily, year-round basis at Hillview Reservoir. The program has continued through the present with an expansion for “as needed” services to several more reservoirs. The Waterfowl Management Program remains an important element of the FAD. Since its inception in 1993, the program has been highly effective in controlling fecal coliform contributions from birds which assists the City in meeting federal and state drinking water quality standards.

Under the new Filtration Avoidance Determination period, the Waterfowl Management Program will continue the waterbird management at Kensico Reservoir and Hillview Reservoir through a permanent program and including several other reservoirs throughout the NYC Water

Supply on an “as needed” basis. Each reservoir has been categorized with a different level of mitigative intensity using similar waterfowl management techniques including a standard daily operation at Kensico and Hillview Reservoirs and an “as needed” program triggered by increases in bacteria levels and elevated waterbird populations at three additional reservoirs (West Branch, Rondout, and Ashokan). An “as needed” program will also be implemented for Croton Falls and Cross River Reservoirs prior to the start-up of the Reservoir’s pump station. In addition, a variety of bird deterrent measures will be employed and modified as deemed necessary on an annual basis.

The term “as needed” refers to implementation of avian management measures based on the following criteria:

- Fecal coliform bacteria concentrations approaching or exceeding 20 colony-forming units at reservoir effluent structures coincident with elevated bird populations;
- Current bird populations, including roosting or staging locations relative to water intakes;
- Recent weather events;
- Operational flow conditions within the reservoir (i.e., elevations and flow patterns and amounts);
- Reservoir ice coverage and watershed snow cover; and
- Determination that active bird management measures would be effective in reducing bird populations and fecal coliform bacteria levels.

The term “bird dispersal” refers to use of pyrotechnics, motorboats, airboats, remote control motorboats, propane cannons, and other methods employed to physically chase or deter waterbirds from inhabiting the reservoirs. The term “bird deterrence” refers to preventive methods employed to prevent waterbirds from inhabiting the reservoirs. Such bird deterrent measures include nest and egg depredation, overhead bird deterrent wires, bird netting on shaft buildings, meadow maintenance, and other methods.

The management of waterbird populations will continue to assist New York City in maintaining compliance with the federal Surface Water Treatment Rule standard for fecal coliform bacteria.

Table 2.16 Waterfowl Management Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Active Waterbird Dispersal – Kensico Reservoir	Annually, 8/1 to 3/31
Active Waterbird Dispersal – Hillview Reservoir	Year-round
“As Needed” Bird Dispersal – West Branch, Rondout, Ashokan, Croton Falls, and Cross River Reservoirs	Annually, 8/1 to 4/15
“As Needed” Bird Deterrent Measures – Kensico, West Branch, Rondout, Ashokan, Croton Falls, Cross River, and Hillview	Year-round

Table 2.17 Waterfowl Management Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Annual summary of Waterfowl Management Program activities at all reservoirs, including wildlife management at Hillview Reservoir (8/1 to 7/31)	Annually, 10/31

2.3.2 Land Acquisition

LAP was initiated in 1997 following execution of the Watershed Memorandum of Agreement, the Water Supply Permit, and the 1997 FAD. In the last twenty years, the City has secured over 140,000 acres of land and conservation easements (“CEs”), which is added to 34,193 acres of protected buffer land surrounding the reservoirs that was owned by the City as of 1997.

DEP efforts to acquire land have been particularly successful in the highest priority areas. As of 1997, only 2.3% of land in the West Branch/Boyd’s Corners Reservoir basin was owned by the City, with another 12.6% protected by other entities; today, 34.2% is owned by the City and 49.1% of the basin is protected in total. Similarly, only 1.9% of land in the Rondout Reservoir basin was owned by the City in 1997; 14.5% is now owned by the City and, including land owned by other entities, Rondout is now 50.9% protected. 41.4% of the Kensico basin, 66.5% of the Ashokan, and 61.2% of the Neversink basin are now protected. Thus all of the highest priority basins, as well as Neversink, enjoy levels of protection between 41% and 66% due principally or in part to the City’s acquisition efforts since 1997. The remaining basins of the CAT/DEL system – Cannonsville, Pepacton, and Schoharie – stand at 23%, 33%, and 34% protected, respectively. Since 1997, almost entirely through the City’s efforts, protected status of the entire watershed has increased from 24.7% to 38.4%.

The City concentrates on acquisition of properties that contain both development potential and proximity to surface water features, where development would pose a relatively greater threat to future water quality than on properties without both of those elements. The quality of acres protected by the City – in addition to the overall quantity and their location relative to the City’s distribution system – is therefore important as well.

The significant progress made since 1997 in protecting land within various priority areas, basins, and sub-basins has led to shifts in LAP strategies over time. The 2012-2022 Long Term Plan for LAP (issued by the City in September 2009) accounts for this progress and refocused acquisition activities toward less-protected basins and sub-basins. This shift likewise reflects the fact that land in many of the basins where the City has made significant progress is relatively more expensive than land in less-protected basins. Thus the marginal benefits of increasing protected status from, say, 50% to 51% in an expensive and highly-protected sub-basin is generally considered less compelling or cost-effective than increasing protected status from 10% to 11% in a less-protected, lower-cost sub-basin.

In 1997 as part of the MOA, DEP committed to provide funds to watershed communities to offset any costs incurred by the communities in the review of proposed City land purchases. In discussions with stakeholders in 2016, DEP has agreed to increase the cap on the funding available for eligible community costs related to the review of acquisitions to \$40,000 per community.

The City’s successor Water Supply Permit (WSP), issued by NYSDEC on December 24, 2010, authorizes the City to acquire up to 106,712 acres of land or CEs between January 2010 and January 2025. In 2022, DEP will submit an application to NYSDEC for renewal of the WSP. Because the existing WSP expires during the period of this 10-year plan, DEP’s solicitation plan matches the term of the existing WSP. If and when the WSP is renewed, DEP will propose additional solicitation based on LAP status. Prior to receiving the 2010 WSP, DEP completed an environmental impact statement (EIS), which concluded that the maximum acreage DEP projected acquiring in the watershed would not have a significant adverse environmental impact. In the context of the EIS, DEP conducted a number of “Town Level Assessments,” analyses of certain acquisition levels to assess potential impacts on the amount of remaining developable land in watershed communities. Since 2010, acquisitions in a handful of communities has approached, and in one case exceeded, the levels that were assessed. While approaching or exceeding of these assessment levels does not indicate that there is, or will be, a significant adverse environmental impact in these communities, DEP has committed to refreshing the analysis in approximately 20 watershed towns based on currently available data. Pending completion of that revised analysis, which will commence in early 2017, DEP intends to temporarily suspend outgoing solicitation of landowners in seven towns; DEP will continue to accept landowner-initiated discussions in those towns.

In 2016, DEP reconvened a group of land trusts, along with watershed community representatives and regulatory agencies, to revisit opportunities for land trust participation in DEP’s efforts to protect public health through land protection. Those discussions are ongoing and may result in specific initiatives that complement existing LAP efforts.

The goals for the Land Acquisition Program through 2027 are to:

- Continue to acquire land and CEs in and pursuant to all program requirements set forth in the MOA, FAD and WSP;
- Adjust solicitation levels to account for the high level of protection achieved to date by LAP; and
- Continue to work with and support partners to secure properties and CEs pursuant to the applicable programs – the Farm and Forest Conservation Easement Program(s), the NYC-Funded Flood Buyout Program (NYCFFBO), and the Streamside Acquisition Program (SAP), and related requirements.

Table 2.18 Land Acquisition Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to provide sufficient funding to support the Land Acquisition Program	Ongoing
Submit solicitation plans for each two-year period. Plans will include a commitment to solicit at least 35,000 acres annually through 2024. SAP and NYCFFBO acres may be credited 2 acres for every 1 solicited pursuant to the agreed methodology. A total of up to 10,000 acres/year of WAC, SAP, and NYCFFBO acres may be credited towards solicitation goals.	Biennially beginning October 2018
During annual budget discussions with NYSDOH, USEPA and NYSDEC, discuss potential need for any additional monies beyond that already committed to all land acquisition programs. If such funding is needed, sequester the funds.	Annually, 11/30
Continue implementation of a \$5 million Pilot SAP.	Ongoing, in accordance with the 2010 WSP
Continue to work with land trusts regarding large properties with dwellings that could be pre-acquired by land trusts and vacant portions conveyed to the City, subject to support by the local town and interested land trust(s).	Ongoing, in accordance with the 2010 WSP

<i>Activity</i>	<i>Due Date</i>
Implement the NYCFFBO program, which is consistent with the 2010 WSP, as amended, and agreements with local stakeholders. Properties may be eligible for the Program based on expected flood mitigation and water quality benefits derived.	Ongoing
Based on the requirements of the Water Supply Permit, DEP shall submit written evaluation of its ancillary programs to NYSDOH, USEPA and NYSDEC, making recommendations as to whether the WAC easement acquisition Programs, NYCFFBO Program and SAP should be continued, modified, or terminated, as well as any proposed improvements to the programs. If a determination is made by NYSDOH, USEPA, NYSDEC, and the City not to continue any of the programs, all unused funds allocated to such programs, with any earnings thereon, are to be returned to the City to be deposited in the LAP-segregated account for use by the LAP.	12/15/18
If requested by a local governmental entity which has applied to Federal Emergency Management Agency (FEMA) for funding, participate in any future FEMA/State Office of Emergency Management (SOEM) Flood Buy-out (FBO) Program, providing up to 25% of the eligible costs as the local match for each watershed property participating in the program.	As required by FEMA/SOEM FBO program rules
Submit application for renewal of the Water Supply Permit.	6/30/22

Table 2.19 Land Acquisition Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit semi-annual reports on program activities and status.	Semi-annually, 3/31 in FAD Annual Report and 7/31

2.3.3 Land Management

The City has made a significant investment in purchasing water supply lands and conservation easements. Purchasing the land is one step; however, to maximize the utility of these lands in protecting the long-term water supply for the City, they must be monitored, managed and secured properly. Effective and routine monitoring of lands and easements is vital to discovering encroachments, timber trespass and overuse of fee lands and potential violations

Long-Term Watershed Protection Program

for easements. DEP inspects fee lands on a prioritized basis per its fee monitoring policy (up to once per year) and easements bi-annually which enables DEP to identify and address encroachments expeditiously.

The City supports and provides for many recreational uses of its land. As the second largest public land holder in the watershed, the City has been successful in opening many of its lands and waters for expanded recreational uses, consistent with its mission to protect water quality. Improving some of these lands for recreational access, particularly along the reservoirs can help address the impacts of overuse if they arise. City lands can also be an important economic component to local communities and the City continues to allow various uses of its lands such as issuing revocable land use permits and allowing agricultural uses.

The goals of the Land Management Program are to:

- Conduct routine monitoring and inspections of City watershed protection lands to meet the primary mission of water quality protection;
- Ensure encroachments and other unauthorized uses of City land are dealt with in a timely manner;
- Facilitate and coordinate the protection and wise use of City lands and natural resources;
- Provide community benefits through allowing compatible recreation and agricultural uses and issuing revocable land use permits;
- Ensure the long-term protection and management of the City’s significant investment in fee-lands conservation easements;
- Ensure that all conservation easements - those held by DEP and WAC - are administered effectively including regular monitoring, consideration of activity requests, and documentation and correction of any violations that occur; provide for stewardship funding to WAC as previously agreed; and
- Engage recreational users through education and outreach.

Table 2.20 Land Management Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Monitor and actively manage water supply lands	Ongoing
Monitor and enforce DEP watershed conservation easements including those held by WAC	Ongoing
Continue to assess and implement strategies to increase the public’s	Ongoing

recreational use of water supply lands	
When appropriate, inform regulators if and when recreational use policy or proposals are modified to any significant degree	Ongoing
Engage recreational users of City land through outreach and events	Ongoing

Table 2.21 Land Management Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual report.	Annually, 3/31

2.3.4 Watershed Agricultural Program

The Watershed Agricultural Program (WAP) represents a successful longstanding partnership between DEP and the Watershed Agricultural Council (WAC) that began in 1992 as a pilot program on ten watershed farms and has since accumulated over two decades of experience, local leadership, and extensive on-the-ground accomplishments spanning across more than 440 farms. The WAP’s primary activities include the voluntary development of Whole Farm Plans and the implementation of agricultural BMPs, along with the establishment of riparian buffers through the federal Conservation Reserve Enhancement Program (CREP). The WAP also supports nutrient management planning, precision feed management, and diverse educational programs that collectively provide farmers with a comprehensive suite of technical assistance and financial incentives to improve farm management and reduce pollution risks.

To date, the WAP has developed more than 440 Whole Farm Plans (approximately 350 of which are still active) and implemented over 7,100 BMPs on watershed farms, in addition to enrolling more than 1,800 acres of riparian buffers in the CREP. Nearly 120 farms participate in the Nutrient Management Credit Program and up to 60 farms are being recruited for the new Precision Feed Management Program. For the past five years, the WAP has met or exceeded all of its FAD metrics, many of which have been set at the 90% participation threshold for active large farms in the West of Hudson watershed. However, the WAP’s historical focus on recruiting new participants and developing Whole Farm Plans for these participants has resulted in the accumulation of a large BMP workload that needs to be addressed and managed in a more sustainable manner moving forward.

After two decades of expansion, the WAP is now transitioning into a mature program that is striving to balance water quality priorities with the need to maintain positive relationships with hundreds of voluntary participants. Over the next few years, it will be crucial for the WAP to remain flexible and responsive to participant needs and pollution risks in the context of shifting

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farmer demographics and evolving agricultural operations. Looking ahead, priority WAP activities will include the need to repair or replace existing BMPs in a timely manner to maintain nearly \$60 million worth of water quality investments, and managing the growing complexity of an extensive portfolio of voluntary Whole Farm Plans in various stages of implementation. Within this portfolio, the WAP has identified nearly \$5 million worth of BMP repairs/replacements and over \$31 million worth of new BMPs that are pending implementation (of which \$24 million are in the highest priority pollutant categories I-VI); reducing the backlog of BMPs and improving the timeliness of BMP implementation across the portfolio of Whole Farm Plans that are already approved will become an increased focus of the WAP in the years ahead.

Current goals of the program are to:

- Develop a new approach for investigating and repairing certain WAP-implemented BMPs using an in-house field crew of WAP technicians, with a goal of reducing the BMP backlog and becoming more responsive to the BMP repair needs of participants;
- Maintain at least 135 eligible farms in the Nutrient Management Credit Program;
- Maintain up to 60 eligible farms in the Precision Feed Management Program; and
- Engage greater numbers of WAP participants in farmer education programs in order to improve and enhance farm operation decisions and management behaviors.

Table 2.22 Watershed Agricultural Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Manage the current portfolio of active Whole Farm Plans, including the revision of existing plans as needed and the development of new plans on eligible priority farms on a case-by-case basis	Ongoing
Conduct annual status reviews on at least 90% of all active Whole Farms Plans every calendar year, with a goal of 100%	Ongoing
Continue to implement new priority BMPs on active participating farms with Whole Farm Plans according to the following milestones: <ul style="list-style-type: none"> • Design, encumber, and schedule for implementation within a two-year timeframe at least 50% of all identified BMPs within pollutant categories I-VI by the end of calendar year 2022 • By the end of 2024, implement all viable BMPs that were designed and encumbered through calendar year 2022 	Ongoing 12/31/22 12/31/24

<i>Activity</i>	<i>Due Date</i>
Continue to repair/replace existing BMPs on active participating farms with Whole Farm Plans according to the following milestones: <ul style="list-style-type: none"> • Design, encumber, and schedule for implementation within a two-year timeframe at least 50% of all identified BMPs needing repair/replacement by the end of calendar year 2022 • By the end of 2024, repair/replace all viable BMPs that were designed and encumbered through calendar year 2022 	Ongoing 12/31/22 12/31/24
Continue to develop and update nutrient management plans on active participating farms that require such a plan	Ongoing
Continue to offer the Nutrient Management Credit Program to eligible farms	Ongoing
Continue to implement the Precision Feed Management Program on up to 60 eligible farms	Ongoing
Continue to develop new CREP contracts and re-enroll expiring contracts as needed	Ongoing
Continue to implement a Farmer Education Program	Ongoing
Continue to implement an Economic Viability Program	Ongoing
In consultation with WAC, assess the adequacy of current WAP metrics and submit a report that recommends the continuation of current metrics and/or the consideration of potential new metrics.	6/30/23
Meet with the NYSDOH/USEPA and NYSDEC to discuss the WAP's metrics and specifically to discuss future BMP implementation milestones for calendar year 2024 and beyond	9/30/23

Table 2.23 Watershed Agricultural Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>Report on program implementation in the FAD Annual report including:</p> <ul style="list-style-type: none"> • Number of new and revised Whole Farm Plans completed and approved, as well as the total number and percentage of active plans in relation to the current universe of WAP participants; • Number, types and dollar amounts of both new BMPs and repaired/replaced BMPs implemented each year; • Number, types, and dollar amounts of both new BMPs and repaired/replaced BMPs designed and scheduled for implementation in the following year; • Cumulative progress made each year toward reducing the BMP backlog in relation to projected BMP implementation milestones for 2022; • Number and percentage of annual status reviews completed on active Whole Farm Plans; • Number of new and updated nutrient management plans completed, as well as the percentage of current plans on all active participating farms that require such a plan; • Number of farms participating in the Nutrient Management Credit Program; • Number of farms participating in the Precision Feed Management Program and a summary of accomplishments; • Number of new and re-enrolled CREP contracts completed, along with a summary of total enrolled and re-enrolled acres; and • Summary of Farmer Education Program accomplishments. 	<p>Annually, 3/31</p>
<p>WAP Metrics Assessment and Recommendations Report</p>	<p>6/30/23</p>

2.3.5 Watershed Forestry Program

The Watershed Forestry Program is a longstanding partnership between DEP, the Watershed Agricultural Council, and the United States Forest Service that began in 1997 and has since accumulated nearly two decades of experience working closely with landowners, loggers, foresters, and the wood products industry. A primary focus of the Watershed Forestry Program is to promote good forest stewardship and encourage long-term management of the watershed forests for both water quality protection and economic viability purposes. A secondary focus is to promote the value and importance of a working forest landscape to both upstate watershed residents and downstate water consumers through targeted education and public outreach.

To achieve its objectives, the Watershed Forestry Program supports the development and implementation of forest management plans; the implementation of BMPs during and after timber harvesting operations; professional training for loggers and foresters; educational programs for watershed landowners; teacher training and educational programs for upstate and downstate students; and coordination of a watershed model forest program that supports demonstration purposes as well as education and outreach.

In recent years, the Watershed Forestry Program has placed greater emphasis on internal assessment and refinement, which has produced various programmatic modifications and will likely result in continued future improvements. The most significant example is the 2014-2015 redesign of the WAC Forest Management Planning Program, which resulted in a new eligibility requirement that all future WAC-funded plans and plan updates must enroll in New York's forest tax abatement program and the development of a new interactive website for landowners (MyWoodlot.com); this type of innovation is important to ensure continued program effectiveness based on twenty years of knowledge and experience.

Another tool for monitoring future program effectiveness is the Conservation Awareness Index (CAI), which is a recently developed survey that assesses landowners' awareness of four conservation choices they are likely to face; CAI represents a promising new tool to assist with future evaluation efforts.

The goals of the Watershed Forestry Program are to:

- Continue to monitor the use and progress of the new MyWoodlot.com website as a tool for understanding the needs and interests of watershed landowners.
- Explore potential modifications and improvements to the Management Assistance Program (MAP) that may be needed to support and compliment the recently redesigned WAC Forest Management Planning Program.

Table 2.24 Watershed Forestry Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to support the development of forest management plans and the implementation of these plans through the Management Assistance Program (MAP), with a goal of completing at least 60 MAP projects per year	Ongoing
Continue to support the implementation of forestry BMPs, with a focus on road BMP projects and forestry stream crossing projects	Ongoing
Continue to support the Croton Trees for Tribes Program, with a goal of completing 6 projects per year	Ongoing
Continue to support professional training for loggers and foresters	Ongoing
Continue to support educational programs for landowners	Ongoing
Continue to support school-based education programs for teachers and students in both the watershed and New York City	Ongoing
Continue to support and coordinate four watershed model forests	Ongoing

Table 2.25 Watershed Forestry Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>Report on program implementation in the FAD Annual report including:</p> <ul style="list-style-type: none"> • Number of forest management plans completed and acres of forestland enrolled in the 480-a program; • Number and types of MAP projects completed; • Number and types of forestry BMP projects completed; • Number of Croton Trees for Tribes projects completed; • Summary of logger and forester training accomplishments; • Summary of landowner education accomplishments; 	Annually, 3/31

<ul style="list-style-type: none"> • Summary of school-based education accomplishments; and • Summary of model forest accomplishments. 	
<p>Report on CAI evaluation results for the watershed forest management planning program and landowner education programs</p>	<p>12/31/21 12/31/26</p>

2.3.6 Stream Management Program

The City will continue to implement the SMP through a series of contractual partnerships with the County Soil and Water Conservation Districts (SWCDs) and the Cornell Cooperative Extension of Ulster County. Program components include annual action planning based on stream assessments and stakeholder input; water quality-driven Stream Projects; stakeholder-driven Stream Management Implementation Program (SMIP) projects; the Catskill Streams Buffer Initiative (CSBI); Flood Hazard Mitigation projects; and Education, Outreach and Training.

The SMP continues to strengthen and improve these core program components through advances in staff experience and professional development, ongoing assessments of river corridors and floodplain modeling, and close coordination with stakeholders.

The SMP delivers both water quality-driven projects and projects intended to meet community and stakeholder stream management priorities.

- Water Quality-driven projects – SMP basin teams will initiate an expedited review of current water-quality in each reservoir basin, review the ability to impact water quality through stream management activities in the basins, and renew or revise water quality-based project priorities. This process will guide the selection of the next round of water-quality driven projects. These projects treat a documented source of water quality impairment or prevent an emerging source. They can be reach-scale channel stability restorations and/or hillslope stabilizations that remove turbidity sources or they can be smaller scale (bank stabilization), treating a documented source of water quality impairment where channel modifications are unnecessary or impractical.
- Stakeholder-driven projects are delivered through the Stream Management Implementation Program (SMIP), which funds projects included in or supported by stream management plans developed by municipalities that have entered into Memorandum of Understandings (MOUs) with a SWCD. While many of these projects improve or protect water quality, and those that do are prioritized, these projects are multi-objective and are intended to advance stakeholder interests in stream management. SMIP projects can include flood hazard mitigation projects;

enhanced recreational access; upgrading undersized culverts to improve stream stability and water quality; studies in habitat, stream and ecosystem integrity; critical area seeding and roadside ditch best management practices; support for municipal policy development; training scholarships for stakeholders; and the development and delivery of school programs.

Additionally, in response to Tropical Storms Irene and Lee in 2011, the City and watershed stakeholders developed the Local Flood Hazard Mitigation Program (LFHMP) to both mitigate the hazards caused by flooding in streamside communities and address sources of pollution related to flood waters. The LFHMP commenced by conducting Local Flood Analysis (LFA) to identify factors that exacerbate flooding and flood risks in population centers. Projects are expected to move toward implementation in the near future. The City has provided funding for the Flood Hazard Mitigation Implementation Program (FHMIP) through a contract with the Catskill Watershed Corporation to implement LFA recommended projects. Additional funding has been earmarked for floodplain property acquisition through the DEP Land Acquisition Program. Funding has also been provided through the SMP contracts to fund LFAs and implement flood hazard mitigation projects involving streams and floodplains. The highest priority projects identified in LFAs are those that would lower flood elevations at a community or stream reach scale.

The City will also continue to work with the United States Geological Survey to conduct the ongoing turbidity and suspended sediment source and yield monitoring study that began in October 2016 in the Esopus Creek and Stony Clove Creek watersheds. This study evaluates stream management projects' effectiveness in turbidity reduction and its findings will be used to prioritize site selection for future stream management projects. At least three turbidity reduction stream projects will be identified in the Stony Clove watershed and implemented as part of the study.

In 2016, the City initiated a Stream Studies Program to support the research needs for stream management objectives. The first phase of this new effort includes (1) conducting the Esopus Creek and Stony Clove Creek turbidity/suspended sediment studies with USGS, (2) updating the Catskill Mountain bankfull discharge and channel geometry regional curves, and (3) expanding the Natural Channel Design Reference Reach database. Starting in 2017, the SMP will work with SMP partners to determine what additional programmatic research is necessary to support stream management objectives for the West of Hudson watersheds. Stream bedload sediment transport is a potential research topic identified by the City and the SMP partners. Pursuing coarse sediment transport data in mountain streams dominated by storm-driven hydrology is a very technically challenging task. The City will work with SMP partners to determine the need for this data, investigate options to obtain needed data for successful program implementation, and initiate potential research efforts where warranted.

The Catskill Streams Buffer Initiative seeks to restore riparian buffers where gaps exist along stream corridors using Catskill native plant materials, as well as to educate landowners about the importance of stewarding intact riparian buffers. The focus of CSBI has been on non-agricultural lands and has complemented the Conservation Reserve Enhancement Program which restores riparian buffers on agricultural lands. CREP eligibility criteria expanded recently to allow CREP to be implemented on non-agricultural lands that have a past history of agricultural use. In this FAD period, a partnership between CSBI and CREP will be explored to enable CREP to be implemented through the CSBI on these non-agricultural lands.

Education, outreach and training initiatives continue to be an essential component of the SMP, providing knowledge, tools, and funding to the numerous individual and agency stream managers in the Watershed. The SMP will maintain the existing level of staffing and support to each SMP basin program team to ensure that new stakeholders are quickly educated and integrated into the SMP.

Table 2.26 Stream Management Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
<p>Water-Quality Based Stream Projects and Site Selection</p> <ul style="list-style-type: none"> • DEP and Contract Partners will meet to review water quality analyses to outline the water quality basis for project site selection and to prioritize the main stems and/or sub-basins for stream feature inventories • Six stream feature inventories will be conducted in the prioritized tributaries/main stems of the major SMP basins (Schoharie, Ashokan, Nev/Ron, Cannonsville and Pepacton) to identify water quality threats and support project site prioritization • Design and complete construction of 24 Stream Projects* that have a principal benefit of water quality protection or improvement. A minimum of 3 of the 24 shall be in the Stony Clove watershed (Ashokan) to support the Water Quality Monitoring Study and a total of at least 6 of the 24 projects shall be in the Ashokan watershed. Stream Projects will be selected based on a water quality-based site selection process and in accordance with the review and prioritization of basin-scale water quality priorities described above. Beginning in 2017, projects completed beyond those required for the Revised 2007 FAD will be counted towards this requirement. 	<p>12 months after 2017 FAD effective date</p> <p>12/31/22</p> <p>12/31/27</p>

<i>Activity</i>	<i>Due Date</i>
<ul style="list-style-type: none"> • The City will propose projects for FAD approval in November of each year <p>* Stream Projects may be delayed due to flood events which necessitate a shift in program focus to response and recovery operations. Floods can also change project priorities. Delays can also result from shifts in landowner cooperation.</p>	<p>Annually, 11/30</p>
<p>CSBI Continue implementation of CSBI by providing technical assistance and conservation guidance to riparian landowners. (This program is also included in the Riparian Buffer Protection Program.)</p> <ul style="list-style-type: none"> • Convene annual meeting of Riparian Buffer Working Group • Facilitate the supply of native plant materials to the CSBI • Implement Education, Outreach, and Marketing Strategy with partners • Seek to establish a partnership between the CSBI program and the CREP program to enable CREP to be implemented on former agricultural lands through the CSBI • Review progress in extending CREP to eligible non-agricultural lands through CSBI • Complete revegetation of a minimum of 5 streambank miles throughout the West of Hudson watershed. This metric may be adjusted upon review of progress in extending CREP to former agricultural lands through a partnership with the CSBI. 	<p>Annually, 2/28</p> <p>Ongoing</p> <p>Ongoing</p> <p>12/31/17</p> <p>6/30/21</p> <p>11/30/27</p>
<p>SMIP Continue the local funding programs for the enhanced implementation of stream management plan recommendations, including LFA recommended projects, in the Schoharie, Cannonsville, Pepacton, Neversink, Rondout and Ashokan basins. Complete commitment of funds for a minimum of 100 SMIP projects throughout the West of Hudson watershed.</p>	<p>Ongoing</p>
<p>Education/Outreach/Training Continue to implement the Education/Outreach/Training strategy for</p>	<p>Ongoing</p>

<i>Activity</i>	<i>Due Date</i>
municipal officials with program partners and maintain base education and outreach existing programming in the SMP basin programs	
<p>Annual Meeting and Action Plans</p> <p>Meet annually with county contracting partners to review progress made in the previous year within each program area (Stream Projects, CSBI, SMIP, LFHMP and Education/Outreach/Training) and re-evaluate priorities as the basis for preparing new Action Plans for the coming year, especially after major flood events. Action plans and program activities should place priority on projects that will enhance water quality, and restore or protect stream system stability.</p> <p>This meeting will also provide an opportunity for discussion on the research advanced by each basin team and DEP during the year as well as next steps.</p>	Annually, 2/28
<p>Addendum A</p> <p>Coordinate with NYSDEC regarding the implementation of Addendum A to the 1993 Memorandum of Understanding between NYSDEC and the City as it pertains to the review of Article 15 Stream Disturbance Permits, to enhance coordination between the agencies with the goal of ensuring consistency with the recommendations in stream management plans and implementation of stream management projects</p>	As Needed
<p>Local Flood Hazard Mitigation Program (LFHMP)</p> <ul style="list-style-type: none"> • Complete LFAs and provide funding toward implementation of LFA-recommended projects through both the SMP and the CWC in the West of Hudson watershed • Coordinate the LFHMP funding program with State and Federal flood hazard mitigation agencies to ensure consistency and thereby maximize funding to the Watershed communities • Continue to provide technical support, education, and training to watershed communities to support their use of Flood Insurance Rate Maps (FIRMs) and their participation in a variety of floodplain management, flood hazard mitigation, and flood preparedness programs 	<p>12/31/27</p> <p>Ongoing</p> <p>Ongoing</p>

<i>Activity</i>	<i>Due Date</i>
<p>Water Quality Monitoring Studies</p> <ul style="list-style-type: none"> Continued collection and analysis of data for the Esopus Creek Watershed Turbidity/Suspended Sediment Study Submit the final Esopus Creek Watershed Turbidity/Suspended Sediment Study Design Submit 3 proposed Stony Clove restoration projects for approval 	<p>Ongoing</p> <p>1/31/17</p> <p>1/31/19</p>
<p>Ashokan Projects</p> <p>Complete construction of 7 stream management projects within the Ashokan basin with a goal of protecting water quality, in particular by reducing turbidity.</p>	<p>11/30/18</p>
<p>Progress Meeting</p> <p>Convene progress meetings with NYSDOH/USEPA and NYSDEC. An office-based meeting shall be held by 8/30, and a field-based meeting shall be held following construction season by 10/31</p>	<p>Twice a year, by 8/30 and 10/31</p>

Table 2.27 Stream Management Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>Water Quality Based Stream Projects and Site Selection</p> <p>Submit brief basin specific reports outlining the water quality basis for Stream Project Site Selection in the basin during the FAD period and that prioritizes main stem and/or sub-basins for stream feature inventories</p>	<p>12 months from the date of FAD issuance</p>
<p>CSBI</p> <p>Submit a brief summary report reviewing progress in establishing a partnership with the CREP to implement CREP on eligible non-agricultural lands through the CSBI.</p> <p>Review progress in extending CREP to eligible non-agricultural lands through CSBI.</p>	<p>12/31/17</p> <p>6/30/21</p>
<p>Action Plans</p> <p>Each year, submit a rolling two-year Action Plan for each basin that</p>	<p>Annually, 5/31</p>

<i>Report Description</i>	<i>Due Date</i>
outlines the upcoming projects in the program areas (Stream Projects, CSBI, SMIP, Education/Outreach/Training, LFHMP)	
<p>Local Flood Hazard Mitigation Program (LFHMP) Evaluate the LFHMP for its contribution to the protection of water quality and recommend steps for enhancing this protection in the future</p>	<p>6/30/18 6/30/21</p>
<p>Water Quality Monitoring Studies Submit biennial status reports on study findings Submit first five year study findings Submit final study findings</p>	<p>Commence 3/31/19 11/30/22 11/30/27</p>
<p>Annual Report Report on program implementation in the FAD Annual Report:</p> <ul style="list-style-type: none"> • site selection of water quality based projects; • Catskill Stream Buffer Initiative; • Stream Management Implementation Projects; • Local Flood Hazard Mitigation Program; and • Water Quality studies. 	<p>Annually, 3/31</p>

2.3.7 Riparian Buffer Protection Program

The Riparian Buffer Protection Program, initiated under the 2007 FAD, now consists of several separate efforts undertaken by different DEP units, including the Land Acquisition, Watershed Agricultural, Stream Management, and Forestry Programs. The multi-program approach to protecting and restoring buffers ensures buffers on both public and private land are protected, managed and in many cases restored.

The Riparian Buffers Protection Program is enhanced by DEP’s Streamside Acquisition Program¹ which is currently piloting the acquisition of riparian buffers in designated areas within the Schoharie Watershed. This FAD section includes this requirement, and it is also referenced in the Land Acquisition Program section.

¹ Formerly titled the Riparian Buffer Acquisition Program.

The City will continue to implement the Program. The general milestones set forth in previous FAD requirements remain relevant and form the basis for near-term FAD implementation requirements of the RBP Program. The City will continue to implement the RBP Program in accordance with the milestones below.

Table 2.28 Riparian Buffers Protection Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue existing programs that are protective of riparian buffers including, but not limited to, watershed regulations, agricultural programs, land acquisition, stream management, and land management	Ongoing
Continue implementation of CREP	Ongoing
<p>Continue implementation of the CSBI by providing technical assistance and conservation guidance to riparian landowners.</p> <ul style="list-style-type: none"> • Convene annual meeting of Riparian Buffer Working Group • Facilitate the supply of native plant materials to the CSBI • Implement Education, Outreach, and Marketing Strategy with partners • Seek to establish a partnership between the CSBI program and the CREP program to enable CREP to be implemented on former agricultural lands through the CSBI • Review progress in extending CREP to eligible non-agricultural lands through CSBI • Complete revegetation of a minimum of 5 streambank miles throughout the West of Hudson watershed. This metric may be adjusted upon review of progress in extending CREP to former agricultural lands through a partnership with the CSBI. 	<p>Annually, 2/28</p> <p>Ongoing</p> <p>Ongoing</p> <p>12/31/17</p> <p>6/30/21</p> <p>11/30/27</p>
Continue to seek enhanced management agreements (voluntary 10-year or purchased perpetual) for all current and future stream restoration projects	Ongoing
Continue implementation of the Pilot Streamside Acquisition Program	Ongoing, in accordance with the 2010 WSP

Table 2.29 Riparian Buffers Protection Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>SAP Based on the requirements of the Water Supply Permit, DEP shall submit written evaluation of the SAP and discuss whether it should be continued, modified, or terminated, as well as any proposed improvements to the program</p>	12/15/18
<p>CSBI Submit a brief summary report reviewing progress in establishing a partnership with the CREP to implement CREP on eligible non-agricultural lands through the CSBI. Review progress in extending CREP to eligible non-agricultural lands through CSBI.</p>	12/31/17 6/30/21
<p>The FAD annual report will reference the other FAD programs where the completed Riparian Buffer Protection Program details will be described</p>	Annually, 3/31

2.3.8 Ecosystem Protection Program

The Ecosystem Protection Program combines goals and activities for numerous programs as provided below.

Forestry

The City has significant forest land holdings and continues to acquire forest lands for the management and protection of the water supply. These forests must be professionally managed to meet the goals for maintaining forest ecosystem integrity to protect and enhance the water supply. Older City lands are commonly declining in forest vigor, have limited diversity and/or have little to no forest regeneration critical for the future of the forest. Some recently acquired City lands have trees with low forest vigor due to management practices of previous landowners. To address these forest conditions, DEP foresters conduct forest assessments and implement silvicultural prescriptions to increase the diversity of species and age structure to enhance forest vigor and resiliency to meet the forest goals.

With the purpose of protecting water quality through the long-term management of City forest lands, a comprehensive watershed forest management plan was completed in 2011 in partnership with the U.S. Forest Service. The Watershed Forest Management Plan defines the desired forest conditions and sets forth the management goals, objectives, strategies and

guidelines for all current and future City-owned water supply lands, and basin specific objectives where appropriate, based on current scientific principles for the management of watersheds and natural resources. These goals, objectives and guidelines set the direction for the Agency and its programs in the long term management of the watershed forest resources for the enhancement and protection of the water supply. As part of the 2011 Watershed Forest Management Plan, an assessment of the current forest conditions was completed which included a comprehensive forest inventory. The plan and inventory identified forest stands where silvicultural practices are required to be implemented to meet the desired forest conditions. The DEP Forest Management Program continues to implement these silvicultural practices through forest management projects. Updating forest inventories, implementing timber harvests, and reviewing forestry proposals from landowners who have sold conservation easements to NYC are core activities of the program in furtherance of the goals and objectives of the Forest Management Plan.

Wetlands

Wetlands improve water quality, attenuate storm flows, reduce flooding and erosion, maintain stream baseflow, and provide wildlife habitat, recreation and educational opportunities. The Wetlands Protection Program collects information about the characteristics, distribution and functions of wetlands to inform regulatory and partnership protection programs. Wetland permit applications and other land use proposals are reviewed to minimize potential impacts to wetlands to the extent practicable.

The Wetland Protection Strategy was first implemented in 1996 and most recently updated in 2012. The strategy includes research and mapping programs such as a pilot mapping project using LiDAR and reference wetland monitoring. Part of DEP's strategy is to protect wetlands through other programs such as regulatory reviews, land acquisition, and agricultural programs.

Invasive Species

The Invasive Species Program was formed to develop and implement a comprehensive strategy to identify, prioritize and address invasive species threats to the water supply and coordinate monitoring and management. Invasive species can cause direct harm to water supply infrastructure through clogging of intakes and pipes potentially costing millions of dollars of damage. Invasive species also can impact biodiversity and water quality potentially through degradation of the natural ecosystems that the water supply relies on.

Recognizing the threat that invasive species pose to water quality, water supply infrastructure, and ecosystems generally, the Invasive Species Program has been taking steps to comprehensively address the prevention, early detection, rapid response and management of the most damaging invasive species. Efforts are coordinated internally through the inter-disciplinary Invasive Species Working Group and with external partners through DEP's involvement with the Partnerships for Regional Invasive Species Management, the NYS Invasive Species Advisory Committee and other federal and state agencies.

The Invasive Species Management Strategy covers the topics of prevention and pathway risk mitigation, early detection and rapid response to new invasive species, control and management of existing invasive species where appropriate, mitigation of the impacts from species that can't be controlled, restoration of areas that have been heavily impacted by invasive species, intra-agency and external partnership collaborations to address these issues. These are all areas that have been and will continue to be critical to managing invasive species that may impact the watershed.

The goals of the Ecosystem Protection Program are as follows:

Forestry

The goal of the Forest Management Program is to protect water quality by increasing the diversity of species and age structure of City forest lands to enhance forest vigor and forest resiliency. Promoting these forest conditions increases nutrient retention in the forest and promotes a forest that effectively responds to catastrophic events to enhance the watershed protection functions of the forest, thus protecting the water supply.

The near term Forest Management Program goals will focus on implementing the comprehensive Watershed Forest Management Plan and will include the following:

- Continued implementation of silvicultural activities such as timber harvesting guided by the use of DEP's Conservation Practices and enhanced best management practices.
- Implementation of assessment strategies for lands acquired since the development of the Plan including forest inventories and assessment, and incorporation of newly acquired lands into the management regime.
- Assessment of forest/deer impacts and management strategies to promote forest regeneration. Deer browsing is one of the primary limiting factors for forest regeneration success.
- Maintain data collection and analysis for the Continuous Forest Inventory (CFI) project.

Wetlands

- Expand the pilot LiDAR wetland mapping and connectivity assessment to the entire watershed. Produce a National Wetland Inventory (NWI)-compliant GIS wetland layer for the entire watershed using LiDAR-derived data, high resolution aerial photography, and other ancillary data sources to improve the accuracy and completeness of wetland mapping and connectivity assessment.
- Enhance the Reference Wetland Monitoring Program based on the recommendations of the reference wetland standards report and strengthen the efficacy of this study.

Invasive Species

- Implementation of key aspects of the Invasive Species Management Strategy to promote sustainable native communities.

Table 2.30 Ecosystem Protection Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
<p>Forestry</p> <ul style="list-style-type: none"> • Implement the Watershed Forest Management Plan • Update the Watershed Forest Management Plan • Revise the Watershed Forest Management Plan • Continue to conduct forest inventories on City-owned lands, including long-term CFI plots • Continue to assess and mitigate deer impacts on forest regeneration on City-owned lands 	<p>Ongoing</p> <p>12/24/17</p> <p>3/31/27</p> <p>Ongoing</p> <p>Ongoing</p>
<p>Wetlands</p> <ul style="list-style-type: none"> • Update Wetlands Protection Strategy • Update the wetland GIS data for the watershed using LiDAR derived data and high resolution photography • Continue reference wetland monitoring • Review federal, state and local wetland permit applications 	<p>3/31/18</p> <p>3/31/22</p> <p>Ongoing</p> <p>Ongoing</p>
<p>Invasive Species</p> <ul style="list-style-type: none"> • Continue to implement the Invasive Species Management Strategy • Engage watershed partners and residents to coordinate efforts in invasive species prevention and control 	<p>Ongoing</p> <p>Ongoing</p>

Table 2.31 Ecosystem Protection Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit updated Watershed Forest Management Plan	12/24/17
Submit revised Watershed Forest Management Plan	3/31/27

Submit updated Wetlands Protection Strategy	3/31/18
Summary of wetland mapping and connectivity assessment results for the watershed	3/31/22
Submit updated Invasive Species Implementation Strategy	3/31/22
<p>Report on program implementation in the FAD Annual report including:</p> <ul style="list-style-type: none"> • Updates on forest inventories; • Forestry projects; • Wetland mapping; • Wetland permit reviews; • Wetland protection efforts; and • Invasive species activities. 	Annually, 3/31

2.3.9 Nonpoint Source Pollution Strategy for East of Hudson Catskill/Delaware Basins

DEP developed a non-point source program for the West Branch, Boyd’s Corner, Croton Falls and Cross River Reservoir basins. DEP addresses concerns in these East of Hudson watershed basins through the continued implementation of the Watershed Regulations, involvement in project reviews, inspection and maintenance of existing stormwater management facilities, a septic repair program, and through a program to reduce stormwater pollution through the construction of stormwater retrofits.

The near-term goals of the program are to continue the reduction of nonpoint source pollution to the four East of Hudson CAT/DEL reservoirs. The initiatives implemented to achieve that goal include:

- Operation and Maintenance – Regularly inspect the existing stormwater management facilities and identify maintenance needs in order to achieve the designed removal efficiencies.
- Reduce the Potential Pathogen Risk – Continue to implement the Septic Repair Reimbursement Program and conduct inspection of sanitary sewers to prevent possible discharges of wastewater.
- Reduce the Potential Pollutant Load – Reduce pollutant loads through a grant program to assist in funding the design and construction of new stormwater retrofits built in CAT/DEL basins located East of Hudson.

Table 2.32 East-of-Hudson Nonpoint Source Protection Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Maintenance of EOH Stormwater Facilities	Ongoing
<p>Stormwater Remediation Projects Complete construction of two stormwater retrofits.</p> <ul style="list-style-type: none"> • Maple Avenue (Cross River); and • Drewville Road (Croton Falls). 	12/31/19
<p>EOH Stormwater Retrofit Grant Program DEP will support the design and construction of stormwater retrofits in the four CAT/DEL basins located East of Hudson by providing funding sufficient for the capital costs of retrofits mandated by NYSDEC to treat runoff from high density development within those basins. The ratio of funding to be provided by DEP to the total amount allocated for stormwater retrofits East of Hudson will be no greater than the ratio of the phosphorus reductions required in the CAT/DEL basins to the phosphorus reductions required in the entire East of Hudson watershed.</p>	Approximately 18 months from date of FAD (Est. 12/31/18)
<p>DEP will continue to make City lands available for stormwater retrofit projects constructed by EOH Watershed communities so long as DEP determines that the projects will not pose a threat to water quality or DEP operations related to the water supply.</p>	Ongoing
<p>East of Hudson Septic Repair Program (SRP)</p> <ul style="list-style-type: none"> • Implement SRP in four CAT/DEL basins located East of Hudson in accordance with program plans • Continue to provide technical assistance in support of EOH septic management programs 	Ongoing
<p>Video Sanitary Sewer Inspection</p> <ul style="list-style-type: none"> • Video Sanitary Sewer Inspection of four CAT/DEL basins located East of Hudson • Complete mapping of new sewer areas (if any) • Complete inspection of targeted areas • Identify potential defects 	3/31/21

<ul style="list-style-type: none"> Notify entities responsible for remediation of identified deficiencies. 	
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Table 2.33 East-of-Hudson Nonpoint Source Protection Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on implementation of two EOH Stormwater Remediation Projects	Quarterly until completed (3/31, 6/30, 9/30, 12/31)
Report on program implementation in the FAD Annual Report <ul style="list-style-type: none"> Maintenance of EOH Stormwater Facilities; Stormwater Remediation Projects; Stormwater Retrofit Grant Program; East-of-Hudson Septic Repair Program; and Video Sanitary Sewer Inspection. 	Annually, 3/31

2.3.10 Kensico Water Quality Control and Related Programs

The Kensico Reservoir, located in Westchester County, is the terminal reservoir for the City's CAT/DEL water supply system. Because it provides the last impoundment of CAT/DEL water prior to entering the City's distribution system, protection of this reservoir is critically important to maintaining water quality for the City. The Kensico Water Quality Control Program reduces non-point source pollution in the Kensico Reservoir through various stormwater and wastewater projects.

The near-term goals of the program are to:

- Operation and Maintenance – DEP will continue regular inspections of the existing stormwater management facilities and identify maintenance needs to maximize their removal efficiency.
- Reduce the Potential Pathogen Risk – Continue to implement the Septic Repair Reimbursement Program, monitor the early warning sanitary sewer overflow protection system, and inspect targeted sanitary sewers in order to reduce possible discharges of wastewater.

- Reduce the Potential Risk of Turbidity at Effluent Chambers – Complete shoreline stabilization project at Shaft 18 and review timeline for assessing and/or dredging effluent chambers to prevent possible resuspension of sediment.

Table 2.34 Kensico Water Quality Control Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Inspect and maintain non-point source management facilities within the Kensico Reservoir Basin: <ul style="list-style-type: none"> • Stormwater management facilities; • Turbidity curtain; and • Spill containment measures. 	Ongoing
Complete Shaft 18 shoreline stabilization project	12/31/21
Oversee remote monitoring system at Westlake Sewer Extension	Ongoing
Implement Septic Repair Reimbursement Program	Ongoing
Video Sanitary Sewer Inspection Program: <ul style="list-style-type: none"> • Complete mapping of new sewer areas; • Complete reinspection of targeted areas; • Identify potential defects; and • Notify entities responsible for remediation of identified deficiencies. 	3/31/21

Table 2.35 Kensico Water Quality Control Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report, including: <ul style="list-style-type: none"> • O&M of non-point source management facilities; • Westlake sewer monitoring program; • Shaft 18 shoreline stabilization; 	Annually, 3/31

<ul style="list-style-type: none"> • Septic Repair Program; • Video Sanitary Sewer Inspection; • Kensico Scat Sanitary Survey; and • Westchester County Airport, as needed. 	
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2.3.11 Catskill Turbidity Control

High turbidity levels are associated with high flow events, which can destabilize stream banks, mobilize streambeds, and suspend the glacial clays that underlie the streambed armor. The design of the Catskill System takes into account the local geology, and provides for settling within Schoharie Reservoir, Ashokan West Basin, Ashokan East Basin, and the upper reaches of Kensico Reservoir. Under most circumstances the extended detention time in these reservoirs is sufficient to allow the turbidity-causing clay solids to settle out, and the system easily meets the SWTR turbidity standards (5 NTU) at the Kensico effluent. However, occasionally after extreme rain/runoff events in the Catskill watershed, DEP has had to use the coagulant aluminum sulfate (alum) to enhance the settling rate of suspended solids to control high turbidity levels.

Since 2002, DEP has undertaken a number of studies and implemented significant changes to its operations to better control turbidity in the Catskill System. Many of these measures have been implemented pursuant to the 2002 and 2007 FADs and the Shandaken Tunnel and Catalum SPDES Permits. A comprehensive analysis, the Catskill Turbidity Control Study, was conducted by DEP in three phases between 2002 and 2009. Based on the results of this study, DEP selected several implementation alternatives, specifically: modifying operations, particularly at Ashokan Reservoir, to manage turbidity; a system-wide Operations Support Tool (OST) that allows DEP to optimize reservoir releases and diversions to balance water supply, water quality, and environmental objectives; an interconnection of the Catskill Aqueduct and the Delaware Aqueduct (CAT/DEL Interconnect, CDIC), to improve overall system flexibility; and structural improvements to the Catskill Aqueduct stop shutter facilities to minimize the amount of water diverted from Ashokan Reservoir to Kensico Reservoir during turbidity events while meeting the supply needs of wholesale customers with connections to the Catskill Aqueduct. DEP has now completed implementation of all these measures.

In addition to the structural and operational changes listed above, DEP’s multi-tiered water quality modeling program provides support to the program to control turbidity in the Catskill system. Water quality models are an integral part of OST and provide valuable information to guide the operation of the water supply to minimize the impact of turbidity events while considering longer-term system operating requirements.

Catalum SPDES Permit and Environmental Review

The Catalum State Pollutant Discharge Elimination System (SPDES) Permit sets forth the conditions under which the City is allowed to treat Catskill Aqueduct water with alum prior to entering Kensico Reservoir. The City and NYSDEC agreed to an interim operating protocol for the Ashokan Release Channel in October 2011. A modified version of that protocol was incorporated into an Order on Consent (DEC Case No.: D007-0001-11)(CO) which was executed by the City and NYSDEC on October 4, 2013 in connection with the Catalum SPDES permit.

In June 2012, consistent with the Catalum consent order, DEP requested a modification to the Catalum SPDES Permit to incorporate measures to control turbidity in water diverted from Ashokan Reservoir and to postpone dredging of alum floc at Kensico Reservoir until completion of certain infrastructure projects. As part of the environmental review process for the permit modification request, for which NYSDEC is the lead agency, once NYSDEC issues a final scope of work for the Environmental Impact Statement (EIS), the City is required to prepare a draft of the Draft EIS (DEIS) and a draft of the final EIS (FEIS), which will analyze the potential environmental and socioeconomic impacts resulting from the proposed modifications to the Catalum SPDES permit.

The Catalum EIS will evaluate the potential for significant adverse environmental impacts to both the Ashokan Reservoir/lower Esopus Creek and Kensico Reservoir that may occur from implementation of the turbidity control measures proposed to be incorporated into the Catalum SPDES Permit as well as from the postponement of dredging of Kensico Reservoir. The EIS will evaluate a suite of alternatives at Ashokan Reservoir, along the Catskill Aqueduct and at Kensico Reservoir as well as implementation of DEP's turbidity control measures as a whole. Where potential adverse impacts are identified, reasonable and practicable measures that have the potential to avoid, mitigate, or minimize these impacts will be identified.

NRC Expert Panel Review

As required by the Revised 2007 FAD, DEP contracted with the National Research Council (NRC) to conduct an expert panel review of the City's use of OST. The NRC is in a unique position to bring together a group of experts with the breadth of experience and expertise needed to undertake this independent study and to ensure a comprehensive and scientifically objective product.

The goals of the Expert Panel are to:

- evaluate the effectiveness of the City's use of OST for water supply operations, and identify ways in which the City can more effectively use OST to manage turbidity;
- evaluate the performance measures/criteria that the City uses to assess the efficacy of Catskill Turbidity Control, and recommend additional performance measures, if necessary;

- review the City’s proposed use of OST in evaluating the proposed modification to the Catalum SPDES Permit as well as the alternatives to be considered in the environmental review of those proposed modifications; and
- review DEP’s existing studies of the potential effects of climate change on the City’s water supply to help identify and enhance understanding of areas of potential future concern in regard to the use of OST.

The final report from the expert panel will be a public document which will be posted on both the NRC and DEP websites. The recommendations and results will be incorporated in the Catalum EIS as appropriate.

The timing of the work of the Expert Panel is intended to align with the environmental review. To the extent possible, the Expert Panel recommendations will be made available in time to inform the development of the draft of the DEIS which DEP will provide to NYSDEC in connection with the proposed modification of the Catalum SPDES Permit.

In the event that DEP determines, based on the conclusions of the FEIS, that modification of the Phase III Catskill Turbidity Control Implementation Plan is necessary, the City will be required to propose alternative measures for achieving turbidity control and a timeline for implementing those alternatives.

Table 2.36 Catskill Turbidity Control Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to utilize and update OST	Ongoing
Conduct the Expert Panel review of DEP’s use of OST. <ul style="list-style-type: none"> • Upon request of the Expert Panel, provide any information necessary to assess the City’s turbidity and water system modeling programs and to respond to the questions the Panel has been asked to address • Provide the final report to the regulators and the Watershed Inspector General (WIG) • Submit final revised performance measures/criteria for evaluating the efficacy of Catskill Turbidity Control measures, taking into consideration the Expert Panel recommendations, for review and approval by NYSDOH, USEPA and NYSDEC. 	Ongoing When released by NRC 6 months after NRC Expert Panel report
Annually convene a progress meeting with NYSDOH, USEPA,	Annually, 10/31

<p>NYSDEC and the WIG to provide a forum for discussion of the status of the Catskill Turbidity Control measures, management of turbidity events reported in the March Annual Report and subsequent events, use of performance measures to assess program efficacy, status/results of the DEIS and FEIS, and other matters related to turbidity control. In addition, DEP will facilitate discussion of the following items:</p> <ul style="list-style-type: none"> • the Expert Panel Report. This discussion may occur at the next annual meeting after the Report is submitted or NYSDOH may, at its option, request that DEP convene a separate meeting to discuss the Expert Panel Report, in addition to the annual meetings. Consistent with NRC’s procedures, the City will ask some or all members of the Expert Panel, and/or staff of the organization, to participate in this meeting; • the DEIS. This discussion may occur at the next annual meeting after the DEIS is issued by NYSDEC, or NYSDOH may, at its option, request that DEP convene a separate meeting to discuss the DEIS, in addition to the annual meetings; and • the Catskill Turbidity Control measures report that is due 3 months after issuance of the FEIS. This discussion may occur at the next annual meeting more than three months after issuance of the FEIS or NYSDOH may, at its option, request that DEP convene a separate meeting to discuss this report, in addition to the annual meetings. 	
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Table 2.37 Catskill Turbidity Control Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report	Annually, 3/31
Provide the final report on NRC Expert Panel to the regulators and the Watershed Inspector General (WIG).	When released by NRC
Report on final revised performance measures/criteria for evaluating the efficacy of Catskill Turbidity Controls.	6 months after submission of Expert Panel report

<p>Report on Catskill Turbidity Control Rondout West Branch Tunnel (RWBT) Shutdown Management Plan, including consideration of maintaining water quality during the RWBT repair and shutdown.</p>	<p>One year prior to the planned RWBT shutdown</p>
<p>Report on whether, based on the conclusions of the FEIS, the City intends to modify its use of turbidity control measures identified in the Phase III Catskill Turbidity Control Implementation Plan, and/or implement any other turbidity control measures. If so, the City shall submit a modification of the Phase III Plan, proposing alternative measures for achieving turbidity control and a timeline for implementing those alternative measures.</p>	<p>3 months after NYSDEC issuance of FEIS</p>

2.4 Watershed Monitoring, Modeling, and GIS

2.4.1 Watershed Monitoring Program

DEP conducts extensive water quality monitoring throughout the watershed. The watershed monitoring conducted by the Water Quality Directorate (WQD) is defined in the 2016 Watershed Water Quality Monitoring Plan (WWQMP). The WWQMP is designed to produce the appropriate data for reports related to regulatory compliance, FAD Program evaluation, modeling, and surveillance. The WWQMP is amended through the use of addenda, to address and track changes in the monitoring program as they occur. Significant changes to the monitoring plan are reviewed and approved by NYSDOH in advance of implementation. Water quality results from the routine monitoring programs throughout the watershed are stored in a database, which includes data for reservoirs, streams, and aqueducts. If major changes in watershed activities are anticipated in the near future, DEP will review the monitoring plan and work with regulatory partners to make changes as appropriate.

The water quality database serves both short-term and long-term objectives. Daily results are used for regulatory compliance and operational guidance. Upon completion of a year of data collection, results are summarized in the Watershed Water Quality Annual Report. Over the longer term, a more comprehensive evaluation of the routine monitoring data is conducted to define water quality status and long-term trends, as well as demonstrate the effectiveness of ongoing watershed protection efforts. This evaluation is described in the Watershed Protection Program Summary and Assessment Report produced every five years by DEP. The water quality database is also essential to water quality modeling and long-term planning for climate change. In summary, monitoring data is essential to meet the many long- and short-term aspects of water supply operation, tracking landscape and water quality changes, and planning for the future.

The goals of DEP’s Watershed Monitoring Program are as follows:

- Provide water quality results for keypoints (i.e., aqueduct locations), streams, reservoirs, and wastewater treatment facilities collected through routine programs to

guide operations, assess compliance, and provide comparisons with established benchmarks. Describe these results and ongoing research activities in Watershed Water Quality Annual Reports.

- Use water quality data to evaluate the source and fate of pollutants and assess the effectiveness of watershed protection efforts and water supply operations. Provide a comprehensive evaluation of watershed water quality status and trends, and other research activities, to support assessment of the effectiveness of watershed protection programs.
- Actively participate in forums (e.g., seminars, discussion groups) for the exchange of information between DEP and outside agencies regarding watershed research activities and pathogen investigative work.
- Coordinate a technical working group on pathogen studies to discuss the latest research on pathogen sources, transport and fate in the environment; effectiveness of management practices on reducing pathogen concentrations; and identifying additional monitoring and/or research needs.
- Provide after action reports on all non-routine chemical treatments and other significant or unusual events that have potential to impact water quality.

Table 2.38 Watershed Monitoring Program Planned Activities/Milestones

<i>Activities</i>	<i>Due Date</i>
Annual participation in educational seminars on watershed monitoring and management	Ongoing
Coordinate annual Pathogen Technical Working Group meeting	Annually, 5/31
Provide after action reports on all non-routine chemical treatments and other significant or unusual events that have the potential to impact water quality	Upon completion as specified for each action

Table 2.39 Watershed Monitoring Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit Watershed Water Quality Annual Report, including comprehensive chapters on: <ul style="list-style-type: none"> • Kensico Reservoir water quality; 	Annually, 7/31

<ul style="list-style-type: none"> • Pathogens; • Modeling; • Educational Seminars on watershed monitoring and management; and • Ongoing Research. 	
<p>Submit Watershed Protection Program Summary and Assessment Report</p>	<p>3/31/21</p>

2.4.2 Multi-Tiered Water Quality Modeling Program

The models developed and applied by DEP’s Water Quality Modeling Program fall into four general classes:

1. watershed models that simulate hydrology and stream water quality, including processes associated with agricultural, forested, and urban lands, and with water quality including turbidity, nutrients, organic carbon, and disinfection byproduct (DBP) precursors;
2. reservoir models that simulate the effects of watershed hydrology, nutrient inputs, and operations on reservoir nutrient and chlorophyll levels, the production and loss of organic carbon;
3. system operation models that simulate the demands, storage, transfer, and quality of water throughout the entire NYC reservoir system; and
4. stochastic weather generators, which generate synthetic time series of weather variables such as precipitation and air temperature; when combined with watershed, reservoir, and system models, allows evaluation of the impacts of climate change and extreme events on supply system operation and water quality.

These models encapsulate the key processes and interactions that control generation and transport of water, sediment, organic carbon and nutrients from the land surface, through the watersheds and reservoirs, and the supply system.

Research and development is an integral component of the Water Quality Modeling Section’s mission, and leads to improvements to existing models, adaptation of new models and development of model applications. Results of these applications have been published in the peer reviewed literature and have distinguished DEP as a leader in the use of models to support water supply management by evaluating the impacts of changing management programs, climate, land use, population, and reservoir operations. For example, through its membership in the Water Utility Climate Alliance (WUCA), DEP was one of four U.S. water utilities that took a national leadership role by demonstrating the use of models to evaluate the impacts on climate change through the Piloting Utility Model Applications (PUMA) initiative. DEP will make published journal articles that are produced by the Water Quality Modeling Group available as a supplement to the Watershed Water Quality Annual Report.

DEP conducts this modeling work with in-house staff, and through the work of full-time post-doctoral researchers and affiliated part-time university experts working under contract. The combined scientific expertise of the DEP scientific staff and the post-doctoral and faculty experts allows state-of-the-art modeling approaches and technology to be combined with detailed system knowledge and supporting data.

The goals of the Water Quality Modeling Program are the development and application of models in the following areas:

- Prediction of turbidity transport in the Catskill system, and Kensico and Rondout Reservoirs, and to provide guidance for reservoir operations to minimize the impact of turbidity events;
- Integration of the Rondout turbidity model into the Operations Support Tool;
- Development and testing of turbidity models for other Delaware system reservoirs, beginning with Neversink;
- Evaluation of the effectiveness of watershed management programs implemented through the FAD/MOA on maintenance and improvement of water quality;
- Continue model development and application to forecast the effects of climate change on water supply quantity and quality;
- Development and testing of models to simulate watershed sources, and reservoir fate and transport, of organic carbon and disinfection byproduct precursors; and
- Allow evaluation of impacts of infrastructure improvements (both during and following), including the RWBT repair project.

Table 2.40 Multi-Tiered Modeling Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Update and enhance data describing land use, watershed programs, meteorology, stream hydrology and water quality, reservoir quality and operations data to support modeling	Ongoing
Provide modeling and technical support for Catskill Turbidity Control measures including the applications of OST	Ongoing
Use reservoir turbidity models and OST to support operational decisions in response to episodes of elevated turbidity	Ongoing

Apply and test new models to support watershed management and long-term planning	Ongoing
Development and testing of fate and transport models for organic carbon and disinfection byproduct precursors in Cannonsville and Neversink Reservoirs	Ongoing
Develop future climate scenarios for use as inputs to DEP watershed and reservoir models; scenarios may be based on: (a) historic time series, and (b) synthetic weather generators	Ongoing
Develop model applications that simulate the impacts of future climate change on watershed hydrology, reservoir water quality, and water system operations	Ongoing
Hold an annual progress meeting with regulators to present and discuss modeling results	Annually, 11/30

Table 2.41 Multi-Tiered Modeling Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit program Status Report, including updates on the modeling activities described above in the Watershed Water Quality Annual Report.	Annually, 7/31
Report on Modeling Analysis of FAD Programs in the Watershed Protection Program Summary and Assessment Report.	03/31/21

2.4.3 GIS Program

DEP’s upstate Geographic Information System is used to manage the City’s interests in the lands and facilities of the upstate water supply system, and to display and evaluate the potential efficacy of watershed protection programs through maps, queries, and spatial analyses. The GIS is also used to support watershed and reservoir modeling of water quantity and quality, as well as modeling of water supply system operations. GIS resources are utilized by staff at offices throughout the watershed, directly and via the Watershed Lands Information System (WaLIS).

WaLIS is a custom database application that manages information about the watershed lands and resources owned by DEP and its neighbors. It is a labor-saving system that uses GIS data analyses, relational database management, document management, workflow and reporting

capabilities to support the Watershed Protection Programs Directorate as well as other groups throughout DEP. GIS and WaLIS save users a significant amount of time by automating tasks previously done manually, such as analyzing data, creating maps, tracking/auditing information and generating reports.

Since 1997, the GIS Program has provided technical support and data development for a variety of protection programs and modeling applications in areas such as:

- SEQRA review and regulatory mapping;
- land acquisition prioritization;
- open space mapping;
- infrastructure mapping;
- forestry management;
- water quality compliance monitoring;
- reservoir morphometry (bathymetry);
- stream assessment;
- land cover and impervious surface mapping and tracking;
- modeling evaluation of watershed management programs;
- land use, soil, and meteorological inputs for modeling; and
- climate change impact assessment.

GIS staff routinely:

- acquire, update, or develop new GIS data and metadata;
- perform GIS analysis and research;
- produce maps and statistical reports;
- fulfill requests for Bureau-specific data from other agencies and watershed stakeholders;
- train and support other DEP staff, interns, and local government agents in the use of Global Positioning Systems (GPS) for project-specific data gathering efforts; and
- provide support in the acquisition, management, and analysis of remotely-sensed data such as aerial imagery for watershed-wide land use and topographical (terrain) mapping.

The Bureau's GIS will continue to be a useful tool in four primary areas:

- inventory and track water supply lands and facilities;

- perform analysis of land use and terrain to map development, agriculture, forest, and hydrography;
- provide estimation of the effects of watershed management programs on long-term water quality; and
- support watershed and reservoir modeling of water quantity and quality, and modeling of system operation.

Table 2.42 GIS Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to provide GIS technical support for protection programs, monitoring programs, and modeling applications	Ongoing
Continue to develop and update GIS data and metadata, including acquisition of high-resolution aerial data and their derived products as needed	Ongoing
Continue to improve and maintain GIS infrastructure to evolve with changing technology and growing database needs	Ongoing
Continue to fulfill requests for Bureau-specific GIS data from other agencies and watershed stakeholders	Ongoing

Table 2.43 GIS Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on program implementation in the FAD Annual Report, including: <ul style="list-style-type: none"> • GIS technical support for protection programs, monitoring programs, and modeling applications; • Completion or acquisition of new GIS data layers and aerial products in the BWS GIS spatial data libraries; • GIS infrastructure improvement; and • GIS data dissemination summaries. 	Annually, 3/31

2.5 Regulatory Program

2.5.1 Watershed Rules and Regulations and Other Enforcement/Project Review

DEP's Watershed Regulatory Program consists of Project Review and Regulatory Enforcement. DEP's Revised 2007 FAD required the City to administer and enforce applicable environmental regulations, which include the Watershed Regulations, including the regulations and standards incorporated by reference, the SPDES, and State Environmental Quality Review Act (SEQRA).

The program is coordinated through a Memorandum of Understanding (MOU) between NYSDEC and the City. The MOU established the Watershed Enforcement Coordination Committee (WECC), which meets quarterly to address non-compliance of Stormwater Pollution Prevention Plans through formal enforcement and/or compliance assistance under specific inter-agency protocols. The WECC process is designed to address instances of significant non-compliance in a timely and appropriate manner.

With completion of all required upgrades of WWTPs as part of the 2007 FAD WWTP Upgrade Program, the City, in accordance with Public Health Law § 1104 and the MOA, is obligated to pay for capital replacement of Watershed Equipment and Methods at all public WWTPs and all (public or non-public) WWTPs that existed or were under construction as of November 2, 1995 and that are required by the Watershed Regulations and not otherwise required by federal or state law. DEP, with the assistance of NYSEFC, will administer a program to fund required capital replacement needs. Replacement work conducted under these provisions will be reported in the FAD Annual Report.

DEP is working towards revising the Watershed Regulations to provide for greater consistency with the State's regulatory program for stormwater and wastewater, and also in response to concerns raised by West of Hudson stakeholders. Among other things, DEP is planning to amend the provisions relating to noncomplying regulated activities, subsurface sewage treatment systems, holding tanks, stormwater pollution prevention plans, and variances. DEP will continue to discuss the proposed revisions with stakeholders before beginning the rulemaking process.

The goals of the Watershed Rules and Regulations program are to continue to:

- Facilitate optional pre-application meeting requests, receive applications for approval of regulated activities, perform review of SEQRA notices, perform project reviews in accordance with the Watershed Regulations and monitor construction activity. The project history is recorded in a database to assist DEP in ensuring that projects undertaken within the NYC watershed have received necessary DEP approvals. Additionally, the database tracks DEP's efforts to meet its regulatory review timeframes and enables DEP to generate the FAD reports;

- Investigate possible violations of the Watershed Regulations, Environmental Conservation Law, and Clean Water Act. Document system failures, illicit discharges and construction site non-compliance; issue Notices of Violation as necessary, and review corrective action plans for all violations. Observe and document remediation efforts and perform close out actions. These activities are recorded in a database to track all Bureau enforcement actions. The Enforcement Activity FAD Report also includes DEP Police involvement and enforcement of environmental and public health requirements, including petroleum/chemical spills in the watershed, and hazardous and solid waste dumping in the watershed; and
- Continue DEP’s commitment to pay for Capital Replacement of Watershed Equipment and Methods at eligible WWTPs.

Table 2.44 Watershed Rules and Regulations Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Enforce the Watershed Regulations and other applicable regulations. Continue to promote compliance guidance to applicants seeking approval, through pre-application conferences and providing guidance documents	Ongoing
Work with NYSDEC, in accordance with Addendum S of the DEP/NYSDEC Memorandum of Understanding, to improve coordination of stormwater enforcement and compliance activities between agencies and with the State Attorney General’s Office. Such enforcement and compliance coordination will apply, but not be limited to, all effective NYSDEC general permits for construction activity. Stormwater Watershed Enforcement Coordination Committee meetings with involved agencies will be held at least twice per year or more as needed	Ongoing
Develop and submit a timeline for completing proposed changes to the Watershed Regulations which includes meetings with stakeholders as appropriate and a target date for adoption by the City	2 months after 2017 FAD effective date
Update guidance documents affected by Watershed Regulation changes to assist applicants undertaking regulated activities in complying with the Watershed Regulations. Submit the updated guidance documents in accordance with the MOA.	18 months after Watershed Regulation’s effective date

Table 2.45 Watershed Rules and Regulations Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit reports consisting of: <ul style="list-style-type: none"> • Summary table, with corresponding maps, of new project activities that may affect water quality including variance activities and review of new/remediated septic systems in the Catskill/Delaware watershed basins as well as in the Croton Falls and Cross River basins east of the Hudson River; • Summary table (inventory) of all development projects proposed and their SEQRA status, with corresponding maps; and • Summary table of projects under construction, by basin, with corresponding maps. 	Semi-annually, 4/30 and 10/31
Submit reports on the status of the City’s regulatory enforcement actions in the Catskill/Delaware watershed basins, including the Croton Falls and Cross River basins	Semi-annually, 4/30 and 10/31
Submit an update annually on Capital Replacement of the Watershed Equipment and Methods at eligible WWTPs	Annually, 3/31
Report on the analyses used to determine the phosphorus-restricted and coliform-restricted status of each reservoir, as part of the Watershed Water Quality Annual Report	Annually, 7/31
Submit report on the progress of the proposed changes to the Watershed Regulations until adopted	Semi-annually, 4/30 and 10/31

2.5.2 WWTP Compliance and Inspection

The goal of the WWTP Compliance and Inspection Program is to prevent degradation of source waters from the threat of contamination from WWTPs discharging in the watershed. To ensure compliance with the Watershed Regulations and SPDES permits, the City through the WWTP Compliance and Inspection Group performs onsite inspections, conducts sample monitoring, provides compliance assistance, and takes enforcement actions when needed. The program is coordinated through a MOU between NYSDEC and the City. The MOU established the Watershed Enforcement Coordination Committee, which meets quarterly to address non-compliance through formal enforcement and/or compliance assistance under specific inter-agency protocols. The WECC process is designed to address instances of significant non-compliance in a timely and appropriate manner. In addition, the City’s Water Quality sampling program regularly monitors the effluent of all treatment plants in the watershed and uses the

results of sampling to assist WWTP operators to meet compliance requirements or to initiate enforcement actions as necessary.

The general milestones set forth for the Revised 2007 FAD remain relevant and form the basis for program implementation within the 2017 FAD.

Table 2.46 Wastewater Treatment Plant Compliance and Inspection Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Perform monitoring at all New York City-owned WWTPs in accordance with their SPDES permits, and grab sample monitoring monthly at all non-New York City-owned WWTPs discharging in the Catskill/Delaware watershed. At least once annually, for the non-City-owned WWTPs, samples shall be collected and analyzed in accordance with the monitoring requirements of each facility’s SPDES permit. Continue to provide assistance to owner/operators of non-City-owned WWTPs as needed.	Ongoing
Continue to take timely and appropriate enforcement actions against non-City-owned WWTPs for noncompliance with the Watershed Regulations and SPDES discharge permit requirements, in accordance with the WECC enforcement coordination protocol of the NYSDEC/DEP MOU	Ongoing
Conduct at least four on-site inspections for year-round SPDES permitted facilities and at least two on-site inspections for seasonal SPDES permitted facilities per year at all WWTPs in the watershed	Ongoing

Table 2.47 Wastewater Treatment Plant Compliance and Inspection Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on the Wastewater Treatment Plant Compliance and Inspection Program, including: <ul style="list-style-type: none"> • WWTP Inspection Summary Reports; and • Enforcement Actions. 	Semi-annually, 3/31 (July 1 to Dec. 31) and 9/30 (Jan. 1 to June 30)

<i>Report Description</i>	<i>Due Date</i>
Submit WWTP Water Quality Sampling Monitoring Report	Semi-annually, 3/31 (July 1 to Dec. 31) and 9/30 (Jan. 1 to June 30)
Report by email to NYSDOH all sewage spills exceeding 500 gallons within 24 hours of the City becoming aware of the spill	Ongoing

2.6 Catskill/Delaware Filtration Plant Design

In 1993, USEPA issued a FAD for the Catskill/Delaware water supply that required the City to proceed with conceptual and preliminary design of a water filtration facility that could be built in the event that filtration was someday deemed necessary. The 1997 FAD added deliverables for Final Design and the completion of a FEIS, but included a provision for the City to seek relief from these deliverables if the remaining conditions of the FAD were being adequately addressed and the Catskill/Delaware water supply appeared likely to meet federal water quality standards for the foreseeable future. The City was able to demonstrate the efficacy of its long-term source water protection strategy and was given relief from preparing a Final Design and FEIS. Having addressed the milestones and conditions of the FAD, and given the long-term outlook for meeting water quality standards, the 2002 FAD, and subsequent FADs, required the City to update the preliminary filtration designs every two years.

While the City remains confident that source water protection is an effective and sustainable public health protection strategy, it is prudent to ensure that filtration plans are kept up to date in case it becomes necessary to construct a plant. Accordingly, DEP is proposing to contract for a comprehensive review and study of filtration technologies and pilot testing to support the creation of a new conceptual design. The existing Catskill/Delaware filtration conceptual design documents are largely based on work completed nearly 25 years ago. The City believes it is appropriate to refresh the design process to take advantage of advances in water treatment technology and knowledge since the original work was completed. The project is expected to include bench-scale and full-scale pilot studies and independent review and input from water treatment experts in the engineering community. A new study of filtration methods and technologies for the Catskill/Delaware filtration plant will ensure that the design concepts and documents are current and reflect current operational and technology needs. This will minimize the overall time to commence filtration in the event that DEP or the primacy agency later determines that filtration is necessary.

Table 2.48 Catskill/Delaware Filtration Plant Design Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Advertise for Request for Proposals	12/31/16
Issue Notice to Proceed	3/31/18
Commence bench pilot studies	11/30/19
Complete pilot studies and submit report	6/30/24
Submit conceptual design	3/31/26

Table 2.49 Catskill/Delaware Filtration Plant Design Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Report on status of design review	Annually, 3/31
Submit pilot studies report	6/30/24
Submit Final Report on conceptual design	3/31/26

2.7 Waterborne Disease Risk Assessment Program

In order to continue to operate under a Filtration Avoidance Determination, NYC must continue to demonstrate that water consumers served by the NYC water supply are adequately protected against waterborne disease (per SWTR 40 CFR §141.71 (b)(4)). Particularly NYC must be able to sufficiently demonstrate that there are no waterborne outbreaks of giardiasis or cryptosporidiosis.

Since the promulgation of the SWTR in 1989, and the initiation of a NYC Waterborne Disease Risk Assessment Program (WDRAP) in 1993, some significant changes in water quality regulation and water treatment have occurred. In NYC, the Catskill/Delaware UV plant was constructed and began operation in 2012 (also the Croton filtration plant began delivering water into distribution in 2015). With these treatment facilities now in operation, NYC has major additional protection against any risk of waterborne disease due to pathogens such as *Cryptosporidium*. Public health monitoring under WDRAP continues to serve in assessing and assuring the safety of the water supply.

Table 2.50 WDRAP Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to operate Waterborne Disease Risk Assessment Program	Ongoing
In relation to any water quality “event” involving the NYC water supply (e.g., increased turbidity levels, pathogen detection, disruption of operations), DEP will provide NYSDOH and USEPA with syndromic surveillance system information	Event based
Notify NYSDOH and USEPA whenever DEP is notified by the New York City Department of Health and Mental Hygiene of any signs of community gastrointestinal illness in which public drinking water supply appears to be the source of the illness.	Event based
Continue to implement the Turbidity Action Plan and annually update the contract information	Event based

Table 2.51 WDRAP Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
Submit Annual Report on program and program findings, implementation and analysis	Annually, 3/31

2.8 Administration

Beginning in the early 1990s, DEP hired hundreds of professionals in a variety of fields to support its comprehensive watershed protection program. The efforts of this dedicated staff allow the City to successfully implement the elements of the overall protection effort.

DEP is committed to maintaining the level of staffing, funding, and expertise necessary to support all elements of the City’s Long-Term Watershed Protection Program and to meet all associated milestones. Upon request of NYSDOH, DEP will convene a meeting with CWC, Stream Management Program partners, WAC, and/or other FAD program partners, to discuss program administrative issues such as contracts and funding. Additionally, a new section has been added to the annual report to provide the status of key partnership contracts.

Table 2.52 Administration Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
<p>DEP, in consultation with the New York City Office of Management and Budget, will make a presentation to the NYSDOH/USEPA/NYSDEC on the amount of money appropriated and spent for watershed protection programs and its adequacy to meet program objectives and FAD requirements.</p>	<p>Within 60 days of annual report</p>

Table 2.53 Administration Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>Report annually on:</p> <ul style="list-style-type: none"> • actual filled staff position levels versus available positions for each division and section involved in supporting the watershed protection program, and confirm that resource levels are adequate to ensure that all program goals/FAD requirements are met. Contractor support staff will be noted; • amount appropriated in the City budget for watershed protection programs for the upcoming fiscal year, specifically the amount (capital and expense) spent during the previous year, the amount appropriated for the current year, and the amount planned for the year thereafter. The amount spent, appropriated, and planned will be broken down by program, to the extent practicable. The report will also include costs for technical consultant contracts identified in the FAD; and • status of key partnership contracts including: contract issues (i.e., change orders, planning for successor contract) and funding projections. 	<p>Annually, 9/30</p>

2.9 Education and Outreach

The Watershed Education and Outreach Program is a collaborative and comprehensive undertaking that involves DEP working with numerous partners in both the watershed and New York City to educate, inform, teach, train, promote, publicize, and generally raise awareness about the importance of the water supply system and the critical need to protect the source of this water supply for current and future generations. Certain elements of the Watershed Education and Outreach Program are achieved through individual watershed programs and partnerships that target a specific audience with a specific message on a specific topic, whereas other elements are achieved through direct stakeholder engagement or active participation in local community events where information can be disseminated easily and quickly to a broad public audience. The continued use of websites, press releases, newsletters, publications, and newer technology such as social media and e-news complements all these efforts.

Viewed in its entirety, the Watershed Education and Outreach Program embodies the classic example of “the whole is greater than the sum of its parts,” in which a collection of individual efforts contributes their distinct accomplishments towards achieving the unified goal of increased knowledge, awareness and appreciation of the water supply system and the City’s Long-Term Watershed Protection Strategy. Virtually every watershed protection program funded or supported by DEP accomplishes some degree of public education or outreach, which DEP attempts to track and quantify with a focus on characterizing the key target audiences reached. The primary watershed programs that focus on education and outreach include the CWC Public Education Grants Program, Watershed Agricultural Program, Watershed Forestry Program, Stream Management Program, and Land Management Program (Watershed Recreation).

The goals of the Public Education and Outreach Program are to:

- Continue to track and document the estimated numbers and types of audiences reached via targeted watershed education and/or training programs; and
- Continue to track and document the diverse range of community public outreach events that are sponsored or attended by DEP and its watershed partners.

Table 2.54 Education and Outreach Program Planned Activities/Milestones

<i>Activity</i>	<i>Due Date</i>
Continue to support the CWC Public Education Grants Program	Ongoing
Continue to support targeted education and professional training programs for specific adult audiences through the ongoing efforts of existing watershed protection programs	Ongoing
Continue to support school-based education programs for both	Ongoing

upstate and downstate audiences (teachers and students)	
Continue to support and/or participate in various watershed community outreach events and public meetings	Ongoing
Continue to utilize websites, press releases, newsletters, publications and social media to disseminate information about the water supply and watershed protection programs	Ongoing

Table 2.55 Education and Outreach Program Reporting Milestones

<i>Report Description</i>	<i>Due Date</i>
<p>Report on program implementation in the FAD Annual Report, summarizing key activities and accomplishments such as:</p> <ul style="list-style-type: none"> • CWC Public Education Grants Program; • Watershed Agricultural Program; • Watershed Forestry Program; • Stream Management Program; and • Watershed Recreation. 	Annually, 3/31

2.10 Reporting

The proposed reporting milestones from the watershed protection programs are compiled below. Details on each report and program can be found in earlier sections of this Long Term Plan.

Table 2.56 List of Reoccurring Reports

<i>Reporting Milestones</i>	<i>Due Date</i>
Filtration Avoidance Criteria Report	Monthly
Trihalomethane Monitoring Report	Quarterly
Waterfowl Management Program	Annually, 10/31
Land Acquisition Program	Semi-annually, 3/31, 7/31
Stream Management Program – Action Plans	Annually, 5/31
Stream Management Program – Water Quality Monitoring Study, status reports	Biennially, commencing 3/31/19
EOH Stormwater Remediation Project status report	Quarterly until completed, 3/31, 6/30, 9/30, 12/31
Watershed Water Quality Annual Report	Annually, 7/31
Watershed Protection Program Summary and Assessment Report	3/31/21
WWTP Monitoring Report	Semi-annually, 3/31, 9/30
WWTP Inspection Report	Semi-annually, 3/31, 9/30
Watershed Regulations Project Review Report	Semi-annually, 4/30, 10/31
Watershed Regulations Enforcement Report	Semi-annually, 4/30, 10/31
Progress Report on Revisions to the Watershed Regulations	Semi-annually, 4/30, 10/31
Waterborne Disease Risk Assessment Program	Annually, 3/31
FAD Budget and Staffing Report	Annually, 9/30

<p>FAD Annual Report, including status of the following programs:</p> <ul style="list-style-type: none"> • SWTR Compliance; • FAD Expert Panel; • Septic Remediation and Replacement Program; • Small Business Septic Program; • Sewer Extension Program; • Community Wastewater Management Program; • Stormwater Program; • Stormwater Retrofit Program; • Land Acquisition Program; • Land Management Program; • Watershed Agricultural Program; • Watershed Forestry Program; • Stream Management Program; • Riparian Buffer Program; • Ecosystem Protection Program; • East of Hudson Nonpoint Source Program; • Kensico Programs; • Catskill Turbidity Controls; • Watershed Monitoring Program; • Watershed Modeling Program; • GIS Program; • Watershed Rules and Regulations; • WWTP Compliance and Inspection; • WWTP Capital Replacement Program; • Catskill/Delaware Filtration Plant Design status; • Waterborne Disease Surveillance Program; and • Education and Outreach Program. 	<p>Annually, 3/31</p>
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Table 2.57 List of Significant One-time Reports

<i>Reporting Milestones</i>	<i>Due Date</i>
Application for renewal of the Water Supply Permit.	6/30/22
Watershed Agricultural Program – Metrics Assessment and Recommendations Report	6/30/23
Watershed Forestry Program – Report on CAI evaluation results	12/31/21 12/31/26
Stream Management Program – basin specific reports	12 months after 2017 FAD effective date
Stream Management Program – brief report on CREP and CSBI partnership	12/31/17
Stream Management Program – CSBI/CREP progress report	6/30/21
Stream Management Program – Local Flood Hazard Mitigation Program evaluation	6/30/18 6/30/21
Stream Management Program – Water Quality Monitoring Study, initial findings report	11/30/22
Stream Management Program – Water Quality Monitoring Study, final report	11/30/27
Streamside Acquisition Program Evaluation	12/15/18
Updated Watershed Forest Management Plan	12/24/17
Revised Watershed Forest Management Plan	3/31/27
Updated Wetlands Protection Strategy	3/31/18
Summary Report on Wetland LiDAR Mapping	3/31/22
Updated Invasive Species Implementation Strategy	3/31/22
Final revised performance measures/criteria for Catskill Turbidity Controls	6 months after NRC Expert Panel Final

	Report
Catskill Turbidity Control RWBT Shutdown Management Plan	One year prior to the planned RWBT shutdown
Report on whether the City intends to modify its use of turbidity control measures	3 months after NYSDEC issuance of FEIS
Watershed Protection Program Summary and Assessment Report	3/31/21
Catskill/Delaware Filtration Plant – pilot studies report	6/30/24
Catskill/Delaware Filtration Plant – final conceptual design	3/31/26

**New York City Department of Environmental Protection
Bureau of Water Supply**

**Proposed Modifications to the Long-Term Land Acquisition Plan
2012-2022**

April 2018

*Prepared in accordance with Section 4.2 of the NYSDOH
2017 Filtration Avoidance Determination*



Prepared by: DEP, Bureau of Water Supply

2017 FAD Deliverable:

If warranted based on the updated Town Level Assessments and comments received, modify the 2012-2022 Long-Term Land Acquisition Plan and submit to NYSDOH for approval. Such a submission may include recommendations for modifications to the solicitation and funding milestones for the core Land Acquisition Program (LAP).

I. Introduction

The 2007 Filtration Avoidance Determination (FAD) required the New York City Department of Environmental Protection (DEP) to apply for a new Water Supply Permit (WSP) in 2010 as a successor to the City's first WSP issued in 1997. As a prelude to that permit application, and pursuant to a FAD requirement for the Land Acquisition Program (LAP), DEP prepared and submitted in September 2009 a Long-Term Land Acquisition Strategy (Long-Term Plan) covering the period from 2012 to 2022. This Long-Term Plan describes the City's proposed approach to land acquisition under the successor WSP, including a refocused solicitation strategy and several new program components. Concurrently, and in support of the new WSP, DEP issued a Final Environmental Impact Statement (FEIS) on the "Extended New York City Watershed Land Acquisition Program" in December 2010.

Pursuant to the FEIS, the WSP authorized DEP and its partners to acquire no more than 105,043 acres in the West of Hudson (WOH) watershed through 2025. The FEIS concluded that the acquisitions authorized by the WSP were not expected to result in potential significant adverse socioeconomic conditions in the WOH watershed. This conclusion was supported by, among other things, projections of acreage to be acquired through LAP in 20 towns that were chosen for in-depth evaluation, along with assessments of the impacts of such projected acquisitions on the supply of developable land in watershed towns. However, the FEIS did not assume limitations on the number of acres to be acquired in any given town, nor did the WSP impose such limitations.

During stakeholder negotiations leading up to the 2017 FAD, watershed communities identified one town (Delhi) where acquisitions by DEP and the Watershed Agricultural Council (WAC) together had exceeded the FEIS assumptions about the projected acres to be acquired through 2025, and were approaching the projected figures in several other towns. As a result of subsequent discussions on this topic, DEP agreed to temporary limits on LAP outgoing solicitation in eight towns, as detailed in the "Third Supplement to the December 2010 Agreements Among West of Hudson Watershed Stakeholders: Commitments Relating to the 2017 FAD" (2017 Side Agreement). Pursuant to those same discussions and the 2017 Side Agreement, DEP issued updated Town Level Assessments in April 2017 for 21 WOH towns. The purposes of those Assessments were to (a) update the methodology employed in the FEIS, and (b) evaluate the projected effect of continued land acquisition on the supply of developable land in those towns between 2017 and 2025. Table 1 (attached to the end of this deliverable) summarizes the results of the 2017 Town Level Assessments.

In response to the 2017 Town Level Assessments, DEP received comments and data analyses from numerous watershed stakeholders including Delaware County, the Catskill Watershed Corporation (based on analyses conducted by Chazen Company), Greene County Soil and Water District, and several individual watershed towns.

As a whole, these comments and reports supported DEP's methodology concerning the definition of developable land, but differed in their assessment of DEP's findings and conclusions regarding the effect of future LAP acquisitions on the supply of developable land available to sustain future community growth, and in their recommendations for modifications to LAP. While some stakeholders have urged only small, targeted adjustments to DEP's acquisition criteria and methods, others have proposed more fundamental changes to LAP, including replacement of core LAP acquisitions with a rental program aimed at riparian property.

DEP recognizes that the National Academies of Science, Engineering, and Medicine will be convening an Expert Panel to conduct a comprehensive review of the City's overall Watershed Protection Strategy to be issued in 2021; that process may result in further adjustments to LAP solicitation goals, acreage, and methods. Consistent with the recommendations of several stakeholders, DEP will look to the results of this review before making major or long-term changes to the Long Term Plan and will incorporate any such proposed changes into its 2023-2033 Long-Term Land Acquisition Plan to be issued in 2022.

Pending the Expert Panel's work, DEP has sought to address two important community concerns:

- LAP should reduce acquisition of developable land near population centers and centralized service areas to avoid constraining potential future development; and
- In towns that have approached FEIS acquisition projections, LAP should shift focus toward properties that contain greater surface water criteria.

In response to these concerns, DEP proposes modifications to the core LAP solicitations as detailed in the 2012 to 2022 Long-Term Plan. These proposed modifications will enable DEP to maintain a robust solicitation strategy in keeping with the 2017 FAD and do not include any revisions to the solicitation acreage requirements in the 2017 FAD.

The specific proposed modifications to core LAP solicitation are presented in Section II, a discussion of how these modifications will be implemented is in Section III, and the implications for the Long-Term Plan are provided in Section IV. Potential next steps are outlined in Section V.

II. Modifications to Core LAP Solicitation

DEP proposes to implement the following stepped limitations on LAP acquisitions and solicitations:

1. Revise Natural Features Criteria (NFC) limits in Priority Areas 2, 3 and 4:

- a. Raise the minimum Surface Water Criteria (SWC) needed for acquisition (not solicitation) from 7% to 15% for properties that do not adjoin City land.**

Note: The provisions of Special Condition (SC) 9(a)(3) of the WSP regarding the presence of steep slopes on at least 50% of a property would continue to qualify a property for acquisition, regardless of the percent SWC.

- b.** Within a half-mile zone around the 1997 hamlet designated areas, raise the minimum SWC needed for acquisition to 30%.

Note: The 30% SWC minimum would apply to the entirety of any LAP fee or conservation easement acquisition which contains land within the half-mile buffer zone. The provisions of SC 9(a)(3) of the WSP regarding the presence of steep slopes on at least 50% of a property would continue to qualify a property for acquisition, regardless of the percent SWC.

- c.** If LAP has acquired either 60% of the FEIS projection since 2010, or more than 2,000 acres since 2010, the minimum SWC would be raised to 50% within the half-mile zones around the 1997 hamlet designated areas. This proposal would currently include the towns of Andes, Walton, Delhi, Middletown, Roxbury, Kortright, Bovina and Windham.

Note: In affected towns, the 50% SWC minimum would apply to the entirety of any LAP fee or conservation easement acquisition which contains land within the half-mile buffer zone. As detailed in SC 9(a)(3), the presence of 50% steep slopes on a property would continue to qualify a property for acquisition, regardless of the percent SWC. DEP will update the cumulative acres acquired in each municipality annually through December, and will provide written notice of the updated figures to the FAD regulators, the signatories to the 2017 Side Agreement, and the affected towns by January 31. For purposes of compliance with Proposal 1(c), DEP will use the appraisal date to determine whether acquisitions within the half-mile buffer zone will adhere to the 30% (proposal 1(b)) or 50 % threshold.

During discussions with watershed stakeholders on the above Proposals 1(b) and 1(c), it was suggested that a fixed-radius buffer might be too rigid for certain communities, in which case buffers designed by a town could be considered as an alternative. DEP is amenable to this approach, and therefore proposes to use the fixed half-mile buffers until such time that a zone that is more reflective of community planning and infrastructure concerns can be negotiated with interested communities through a process that would involve stakeholder discussions and concurrence of the FAD regulators.

- 2. Designated Areas:** Offer each WOH town the ability to designate up to 100 acres of new land that would be off limits to LAP acquisition. Within a given county, interested towns could reallocate these 100 acres. For example, Town A might use 50 acres while Town B might use 150 acres.

Note: Towns would be able to designate whole tax parcels, or partial parcels provided the configuration of the un-designated portion remaining would meet town subdivision requirements. Designated parcels would not need to be contiguous. The towns would be

able to designate parcels on a rolling basis (no deadline for passing a resolution). Upon receipt of a municipal resolution pursuant to this proposal, DEP will refrain from soliciting or ordering any appraisal of the designated lands from that point forward. In the event that a property has had an appraisal ordered prior to receipt of the resolution by a municipality, DEP may complete the appraisal, make the offer, and acquire the affected property if that offer is accepted.

- 3. Solicitation Method:** Limit DEP to incoming solicitations in a town once 100% of the FEIS projection is reached, or in which more than 4,000 acres have been acquired since 2010. This proposal would currently include Andes, Delhi and Walton.

Note: DEP will update the cumulative acres acquired towards these goals annually through December, and will provide written notice of the updated figures to the FAD regulators, the signatories to the 2017 Side Agreement, and the affected towns by January 31. Limitations on outgoing solicitation would take effect upon such notice for that and ensuing program years.

In the context of ongoing discussions with stakeholders about a variety of matters pertaining to LAP, as discussed in Section V below, DEP is open to considering adjustments to Proposal 3 which would consider the proportion of all protected lands (including those owned by the State and certain other third parties) in certain communities, while also factoring in the need to identify zones such as Priority Area 1 and Areas of High Focus that might be exempted from such limitations.

- 4. WAC Farm and Forest Easement Programs / Streamside Acquisition Program (SAP) / New York City-Funded Flood Buyout Program (NYCFFBO):** Acres acquired under these satellite programs would count toward the FEIS projection and acreage threshold limits listed in Proposals 1(c) and 3, but the revised SWC minimums and revised solicitation constraints would only apply to core LAP acquisitions (fee and conservation easements). In other words, acreage acquired by WAC / SAP / NYCFFBO would continue to follow current SWC, not the revised criteria listed above, even once core LAP is limited by the revised limitations.

III. Implementation of Modified LAP Core Solicitation Procedures

DEP's proposed modifications to core LAP solicitation can be implemented using existing program and database tools. Annual solicitation is managed by DEP through its internal Watershed Lands Information System (WaLIS) database, which incorporates state-of-the-art GIS technology to guide and track solicitation efforts. Specific capabilities that will facilitate implementation of new solicitation procedures include:

- 1. GIS-overlays for SWC are updated in real-time.** Properties that have been solicited are represented spatially in the GIS, enabling staff to view real-time information regarding the percent coverage of SWC on each property. Using this capability, solicitation reports will be revised to incorporate the revised thresholds, also taking into account adjacency to City land, proximity to 1997 designated area buffers, and limitations by towns based on acquisitions since 2010.

2. **Parcel-specific design support.** Using WaLIS, DEP is able to configure proposed subdivisions so that revised thresholds for SWC would be met upon acquisition of a given property. The GIS allows DEP to determine the percent SWC accurately and quickly, providing critical support to this complex task.

IV. Modifications to the Long-Term Plan

DEP's proposed modifications to core LAP solicitation are generally consistent with the Long-Term Plan, though in some cases these modifications will shift DEP's emphasis on how and where the Long-Term Plan strategies are implemented. For example, DEP's proposed modifications will somewhat change the characteristics of properties to be acquired (by raising the minimum thresholds for SWC) and location of those properties within many towns (by increasing SWC thresholds for properties in close proximity to 1997 hamlet designated areas). In addition, solicitation in a few towns where significant acquisitions have occurred since 2010 (currently Delhi, Andes, and Walton) will be reduced. The specific strategies detailed in the Long-Term Plan, and how they are consistent with or might be impacted by these modifications, are discussed below:

1. **Areas of Focus:** Since 2010, DEP has placed extra emphasis in its core LAP solicitation on certain sub-basins based on their proximity to reservoir intakes and/or lower levels of protected land (Areas of High Focus) and on certain reservoir basins based on the overall level of protection and contribution to future supply. The Areas of High Focus are shown in Figure 1. DEP has largely been successful in increasing the proportion of core LAP acquisitions occurring in these areas since 2010.

As shown in Figure 1, the Areas of High Focus are located in the Towns of Tompkins, Masonville, Walton, Colchester, Andes, Bovina, Roxbury, Prattsville, and Lexington. Based on current levels of acquisition, Proposal 3 will limit LAP's ability to send outgoing solicitation letters to properties in the portion of the Loomis Brook sub-basin located in Walton, as well the Fall Clove and Tremper Kill sub-basins located in Andes. The two latter sub-basins in particular have already seen a significant increase in the percentage of protected land since 2010 as a result of these designations. LAP will continue acquisitions in these areas through owner-initiated solicitation.

Beyond the limitations on outgoing solicitation in Proposal 3, the changes in SWC thresholds contained in Proposals 1(a), 1(b) and 1(c) will not alter DEP's ability to continue acquisitions in these Areas of Focus; rather they will ensure that continued acquisitions in these areas will focus on properties with higher proportions of water-rich features.

2. **Property-Type Strategies:** The proposed modifications to core LAP solicitation are consistent with three strategies from the Long-Term Plan regarding specific types of properties for which DEP would seek to increase acquisition during the 2012 to 2022 timeframe:
 - a. **Parcels Adjoining previously-acquired City Land** – Proposal 1(a) directly reinforces the existing strategy to increase and encourage the acquisition of land

adjoining other City-owned properties. This strategy seeks to build on existing City-owned natural areas that promote water quality protection, with a focus on increased ecosystem protection through acquisitions which include wetlands, stream buffers and/or forests. In addition, this strategy can reduce fragmentation and parcelization of the landscape and enhance existing recreation areas.

- b. Smaller Vacant Parcels in proximity to SWC** – Proposals 1(a) and 1(b) reinforce DEP’s strategy of acquiring properties with a high proportion of SWC, especially the increased thresholds for properties in and around hamlet designated areas. This strategy is also supported by continued implementation of the pilot SAP in the Schoharie basin. Additionally, DEP has received positive comments regarding its proposal to increase SWC thresholds to 30% or 50% in proximity to 1997 hamlet designated areas.
- c. Conservation Easements** – Since 2010, DEP has revised its conservation easement selection policy to focus on larger properties with significant water quality protection features. This policy is fully consistent with the increased SWC thresholds proposed in Proposals 1(a) and 1(b).

3. Solicitation Procedures: The solicitation strategies contained in the Long-Term Plan are also compatible with the proposed modifications to core LAP solicitation:

- a. Continue to Solicit Significant Properties throughout the Catskill/Delaware System** – The City’s commitment to a robust solicitation effort throughout the Catskill/Delaware System remains in effect. Solicitation of significant properties East of Hudson and in the highly-protected WOH basins will continue and DEP will continue to meet the solicitation requirements set forth in the 2017 FAD.
- b. Variable Solicitation Schedules** – Changes to DEP solicitation intervals by location (more frequent for High Focus Areas) and response type (i.e. non-responders vs. not interested owners) have proven instrumental in focusing core LAP solicitation on areas and property types most worthy of acquisition. In 2018, DEP will refine its solicitation strategy to accommodate modifications contained in Proposals 1(a), 1(b), and 1(c). For example, while acquisition of properties with less than 30% SWC near 1997 hamlet designated areas will be precluded, DEP may decide to increase the frequency of solicitation for the remaining eligible properties with more than 30% SWC.
- c. Owner-Initiated Contacts** – The Long-Term Plan recognized that owner-initiated solicitations have a historically high success (eventual acquisition) rate, which is due to the owner’s demonstrated motivation to sell. Proposal 3 retains this important tool, thereby allowing such motivated landowners to engage with DEP through the core LAP.

V. Conclusion and Next Steps

Pursuant to the 2017 FAD, DEP’s specific proposals to modify core LAP solicitation are being submitted via this deliverable for approval by the NYS Department of Health. Upon such approval, and consistent with the 2017 Side Agreement, DEP will modify core LAP solicitation and acquisition in accordance with these new procedures, which will replace and supersede the current limitations on outgoing solicitations outlined in the 2017 Side Agreement.

Consistent with recent stakeholder discussions, DEP is committed to continuing a conversation with watershed stakeholders about the scope of future LAP activities. As noted above, Proposals 1(b), 1(c), and 3 incorporate the potential for refinements based on further discussions and town-specific information. Moreover, while the 2017 FAD identifies the Expert Panel as the primary vehicle to evaluate LAP progress and future strategies leading up to DEP’s submission of new ten-year Long-Term Plan in 2022, a number of additional FAD deliverables which will be submitted prior to issuance of findings by the Expert Panel will involve further discussion among the stakeholders. In particular, the following FAD deliverables will involve ongoing discussion over the next two years, potentially resulting in other modifications to core LAP solicitations:

- June 2018 Report on exploring a program to protect Farms in Transition.
- June 2018 Submit an evaluation of the New York City-Funded Flood Buyout Program.
- June 2018 Submit a progress report on a workgroup to assess opportunities to use potentially-developable LAP-acquired fee lands to facilitate relocation of development out of floodplains.
- March 2019 Submit a proposed approach to provide payments or incentives to increase participation by landowners in SAP.

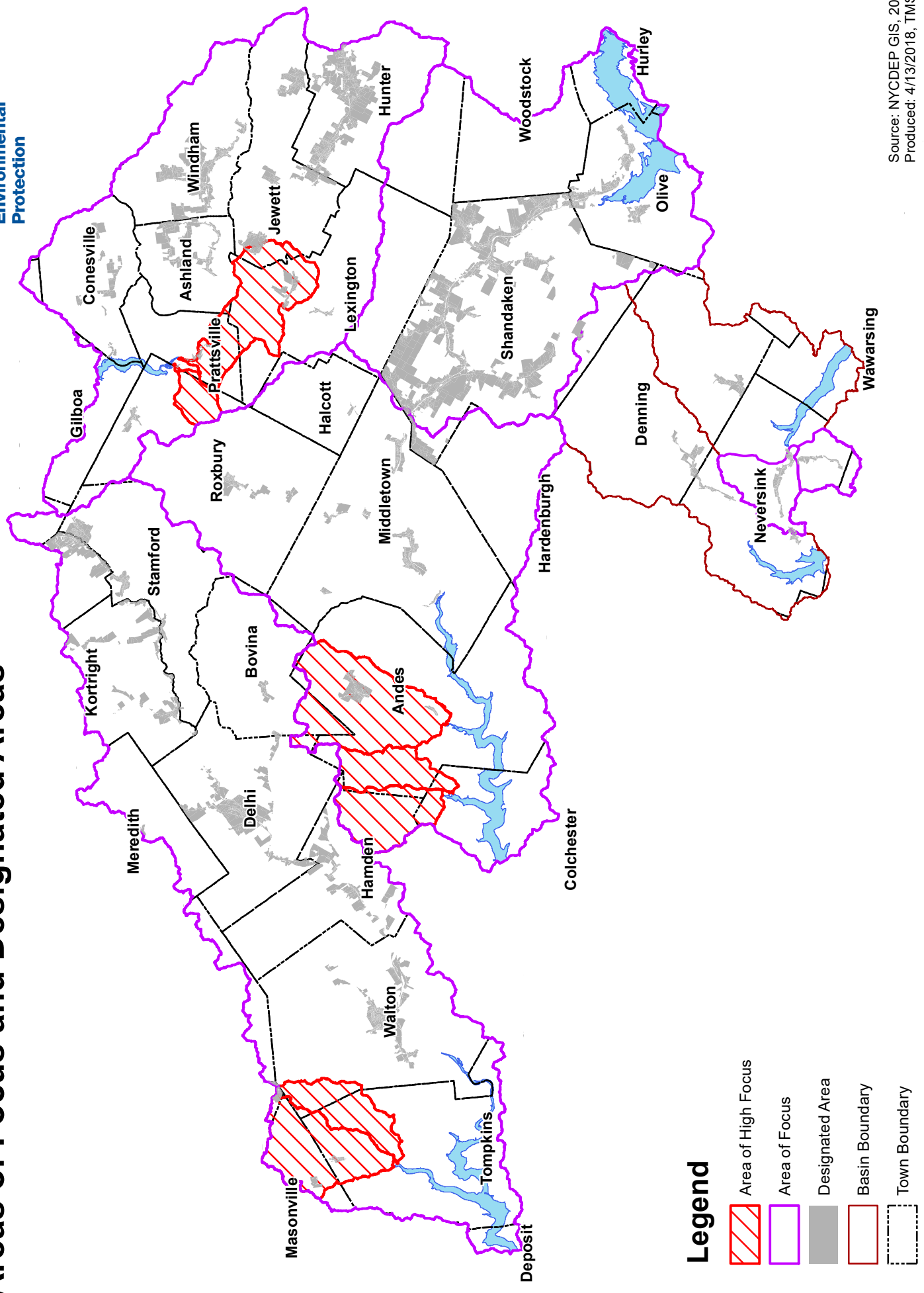
In sum, DEP believes that the proposed modifications, based on the results of the 2017 Town Level Assessments and stakeholder discussions, represent a thoughtful and incremental approach to refining the LAP program to focus on the most important properties for watershed protection.

Table 1: 2017 Town Level Assessments, Remaining Developable Land by Town

Town	County	A		B		C		D		E		F		G	
		Available Developable Acres, as of 1/1/2017	Projected Acres of City & WAC FE Developable Land Acquired 2017-25	% of 2017 Developable Land Acquired through 2025	Projected Acres of Residential Demand for Developable Land, 2017-25	% of 2017 Developable Land Needed for Residential Demand through 2025	D/A	Developable Land Acres Remaining after LAP & Residential Demand in 2025	A-(B+D)	F/A					
Andes	Delaware	3,445	697	20.2%	163	4.7%	2,585	75.0%							
Bovina	Delaware	2,313	686	29.7%	39	1.7%	1,588	68.7%							
Delhi	Delaware	3,061	487	15.9%	141	4.6%	2,433	79.5%							
Hamden	Delaware	3,226	364	11.3%	309	9.6%	2,553	79.1%							
Kortright	Delaware	2,090	268	12.8%	115	5.5%	1,707	81.7%							
Meredith	Delaware	3,199	587	18.3%	67	2.1%	2,545	79.6%							
Middletown	Delaware	4,639	799	17.2%	285	6.1%	3,555	76.6%							
Roxbury	Delaware	3,670	599	16.3%	108	2.9%	2,963	80.7%							
Stamford	Delaware	931	248	26.6%	140	15.1%	543	58.3%							
Walton	Delaware	4,449	861	19.4%	217	4.9%	3,371	75.8%							
Ashland	Greene	1,652	173	10.5%	207	12.5%	1,272	77.0%							
Halcott	Greene	622	113	18.2%	14	2.3%	495	79.6%							
Hunter	Greene	2,459	339	13.8%	229	9.3%	1,891	76.9%							
Jewett	Greene	2,490	284	11.4%	227	9.1%	1,979	79.5%							
Lexington	Greene	1,455	343	23.6%	173	11.9%	939	64.5%							
Prattsville	Greene	1,318	189	14.3%	98	7.4%	1,031	78.2%							
Windham	Greene	1,816	139	7.7%	300	16.5%	1,377	75.8%							
Conesville	Schoharie	584	108	18.5%	139	23.8%	337	57.7%							
Neversink	Sullivan	3,243	556	17.1%	173	5.3%	2,514	77.5%							
Denning	Ulster	953	403	42.3%	43	4.5%	507	53.2%							
Olive	Ulster	631	169	26.8%	116	18.4%	346	54.8%							
21 Town Totals:		48,246	8,412	17.4%	3,303	6.8%	36,531	75.7%							



Figure 1
**West-of-Hudson Watershed
Areas of Focus and Designated Areas**



NYSBA EELS Fall 2018 Meeting

NYC's Watershed Protection Land Acquisition Program

Hilary Meltzer, Deputy Chief
Environmental Law Division
New York City Law Department

1) Background: Why NYC Has a Watershed Land Acquisition Program

- a) Surface Water Treatment Rule. Among other things, in order to qualify for filtration avoidance, a public water system must have a “watershed control program which minimizes the potential for contamination by *Giardia lamblia* cysts and viruses in the source water”

The public water system must demonstrate through ownership and/or written agreements with landowners within the watershed that it can control all human activities which may have an adverse impact on the microbiological quality of the source water.

40 CFR § 141.71(b)(2) (emphasis added)

- b) In the early 1990s, when NYC first sought filtration avoidance, the percentage of the NYC watershed in public ownership was significant lower than the percentage of public ownership of other large water supplies seeking filtration avoidance
- i) In early 1990s, of the roughly 1 million acres in the West of Hudson watershed, the City owned approximately 35,500 (excluding the reservoirs), and the State owned another 202,000) – a total of ~24% of the land was publicly owned
 - ii) San Francisco: 100% of the Hetch Hetchy watershed is publicly owned; water from the Hetch Hetchy system remains unfiltered
 - iii) Seattle: 100% of the watershed is publicly owned; Seattle’s water supply has a “Limited Alternative to Filtration” which was authorized by an amendment to SDWA in 1996, 42 U.S.C. § 300g-1(b)(7)(C)(v)
 - iv) Portland, OR: 100% of the watershed is publicly owned; in 2017, the City of Portland and the Oregon Health Authority entered into an administrative consent order requiring Portland to filter, <https://www.portlandoregon.gov/water/article/666677>
 - v) Boston: approximately 70% of the watershed is currently publicly owned. EPA sued in 1998 seeking an injunction to filter; the Massachusetts Water Resources Authority ultimately prevailed in litigation challenging the filtration order, *United States v. Mass. Water Res. Auth.*, 256 F.3d 36 (1st Cir. 2001), and has continued to operate the system without filtration since then

- c) NYC Department of Environmental Protection Long-Term Watershed Protection Program Plan (Appendix F; the 2016 Plan builds on a series of watershed protection plans since the early 1990s)
 - i) The population of the West of Hudson watershed was approximately 76,000 in the early 1990s.¹ Written agreements with all landowners not practical, so NYC instead proposed a combination of land acquisition and:
 - (a) Updated Watershed Regulations (10 NYCRR Part 128; Rules of the City of New York, Title 15, Chapter 18)
 - (b) Agreements with (and funding for) owners of all WWTPs in the watershed (MOA Paragraph 141, available at <https://www.dos.ny.gov/watershed/pdf/agreement/NYCMOA-V.pdf>)
 - (c) Agreements with (and funding) for owners of many farms and tracts of forested land through the Watershed Agricultural Council; information available at <https://www.nycwatershed.org/>

2) Land Acquisition Statistics:

- i) NYC funding for watershed land acquisition since 1997:

MOA/1997 FAD:	\$300,000,000
2007 FAD:	\$241,000,000
Revised 2007 FAD (2014):	\$50,000,000
2017 FAD:	<u>\$69,000,000</u>
	\$670,000,000
- ii) NYC acquisitions since 1997:
 - (1) Fee acquisitions: 1,145 properties, 95,716 acres²
 - (2) NYC conservation easement acquisitions: 170 properties, 25,984 acres
 - (3) WAC conservation easement acquisitions: 156 properties, 28,643 acres

3) Legal Framework for NYC Land Acquisition Program

- a) The requirement that NYC fund and implement the Land Acquisition Program comes from its Filtration Avoidance Determinations, issued by NYSDOH in consultation with USEPA (Appendix E)

¹ The watershed population has increased by approximately 5% since 1990. Final Environmental Impact Statement for the Extended New York City Watershed Land Acquisition Program, December 2010, p. 3-11, available at http://www.nyc.gov/html/dep/html/environmental_reviews/lap.shtml

² The fee acquisitions include 56 FEMA flood buyouts (60 acres), 10 NYC-funded flood buyouts (40 acres), and 12 properties in the Streamside Acquisition Program (92 acres)

- i) Every NYC FAD (since 1993) has included requirements to acquire land for watershed protection
- ii) Current requirements are set forth in Section 4.2 of the 2017, Appendix E, pp. 35-42
- b) Authorization for NYC to acquire land for watershed protection comes from its Water Supply Permits (issued by NYSDEC)
 - i) The 1997 MOA settled the administrative adjudicatory proceeding concerning NYSDEC authorization for NYC’s land acquisition program; the 1997 Water Supply Permit reflects the terms memorialized in MOA Article II (Appendix D)
 - ii) In 2010, the West of Hudson stakeholders agreed to a new Water Supply Permit (Appendix B) and entered into the 2010 “Side Agreement” modifying the 1997 MOA, including acquiescing in the 2010 Permit (Appendix H is the Agreement among West of Hudson Watershed Stakeholders concerning NYCDEP’s Continuation of its Land Acquisition Program, December 2010, “2010 Land Acquisition Agreement”)
 - iii) The stakeholders have agreed to two further modifications to the 2010 Water Supply Permit:
 - (1) Modifications relating to the FEMA flood buyout program following Hurricane Irene and Tropical Storm Lee in 2011 (Appendix I is the Supplemental Agreement among West of Hudson Watershed Stakeholders concerning DEP’s Participation in Federal or State Flood Buy-Out Programs, August 2013, “2013 Land Acquisition Agreement”)
 - (2) Modifications relating to the NYC-funded flood buyout program established under the 2014 revision to the 2007 FAD (Appendix J is the Second Supplemental Agreement among West of Hudson Watershed Stakeholders concerning New York City-Funded Flood Buyout Program, July 2016, “2016 Land Acquisition Agreement”)

4) Program Principles and Enhancements Designed to Address Community Concerns

- a) Principles established in MOA Article II and 1997 Water Supply Permit
 - i) Willing buyer/willing seller; solicitation targets rather than acquisition targets (Appendix D, ¶¶ 59, 60 and 65)
 - ii) Confirmation that NYC will pay property taxes (Appendix D, ¶¶ 79 and 80)
 - iii) No acquisition of property with habitable dwellings (Appendix D, ¶ 67)
 - iv) Size and natural features criteria (Appendix D, ¶ 63)
 - v) Recreational use of water supply lands (Appendix D, ¶ 72)

- vi) Designation of non-acquirable land – allowing communities to make certain hamlets and other areas off limits for fee acquisition (Appendix D, ¶ 68)
 - (1) Good for water quality – encourages growth in areas with infrastructure to support development
 - (2) Supports community economic vitality
 - (3) Note potential tension between the interests of local governments and the interests of individual property owners
- vii) NYC Watershed Protection and Partnership Programs providing direct support for economic vitality including, among many other things, septic system repairs and replacements (Appendix D, ¶ 85)
- b) New commitments memorialized in the 2010 Water Supply Permit and 2010 Land Acquisition Agreement:
 - i) Expanded hamlets as potentially non-acquirable land (Appendix B, Special Condition 10; Appendix H, Whereas Clause H)
 - ii) Extension of designation of non-acquirable land to include DEP and WAC conservation easements as well as fee acquisition (Appendix B, Special Condition 10; Appendix H, Whereas Clause H)
 - iii) More rigorous natural features criteria (Appendix B, Special Condition 9)
 - iv) Riparian Buffer/Streamside Acquisition Program, focused on acquisition of less developable properties or portions of properties (Appendix B, Special Condition 29)
 - v) Significant commitments concerning:
 - (1) Continuation/extension of numerous Partnership Programs (Appendix B, Special Conditions 25 and 26)
 - (2) Stewardship of City-owned land (Appendix H, ¶¶ 15-19)
 - (3) Stewardship of WAC Conservation Easements (Appendix H, ¶¶ 7-11 and Exhibits 3 and 4)
 - (4) The City’s payment of property taxes for watershed lands, including dams and reservoirs (Appendix H, ¶¶ 12-14 and Exhibits 6 and 7)
- c) Further commitments following the severe flooding caused by Hurricane Irene and Tropical Storm Lee in 2010:
 - i) Local Flood Hazard Mitigation
 - (1) City funding, primarily through county soil and water conservation districts, for local flood analyses (Appendix E, pp. 55-56; see also Appendix E, p. 6, which notes that this program was first memorialized in the Revised 2007 FAD in 2014)

- (2) City funding through the Catskill Watershed Corporation for implementation of certain projects identified in local flood analyses (*Id.*)
- ii) FEMA Flood Buyout Program (Appendix B, Special Condition 7(b), Appendix I)
 - (1) NYC pays the local match for FEMA buyouts; properties generally don't meet other conditions for eligibility (such as size and natural features criteria)
 - (2) In connection with the FEMA buyouts, the 2014 modification to the 2010 Water Supply Permit allowed, for the first time, watershed land paid for by the City to be owned by watershed municipalities
- iii) City-Funded Flood Buyout Program, established under the Revised 2007 FAD in 2014 (Appendix B, Special Condition 7(b), Appendix E, p. 42 and reference on p. 6 to inclusion in Revised 2007 FAD, Appendix J)
 - (1) Available for properties not eligible for FEMA buyouts but which are either subject to flood or erosion hazard or necessary for local flood hazard mitigation, relocation, or other stream projects
 - (2) As with FEMA buyouts, the 2016 modification to the 2010 Water Supply Permit allowed watershed municipalities to own NYC-funded buyout properties
- iv) Under both flood buyout programs, local governments that hold title to properties paid for by NYC have opportunities to use those properties for open space, recreation, or flood hazard mitigation purposes
- d) In connection with 2017 FAD:
 - i) DEP prepared updated assessments of the potential impacts of the Watershed Land Acquisition Program on 21 West of Hudson watershed towns (Appendix E, p. 37; Appendix K,³ ¶ 2(k))
 - ii) Based on those Updated Town Level Assessments and stakeholder responses, DEP proposed to modify its solicitation plan (Appendix G)
 - iii) DEP has convened a workgroup to explore payment approaches or incentives that might increase participation in the Streamside Acquisition Program (Appendix E, p. 41). These potential incentives include the possibility of local government ownership of SAP properties (similar to flood buy-out programs)
 - iv) DEP will participate in a workgroup to explore using LAP properties for relocation of development out of floodplains (Appendix E, p. 41; Appendix K, ¶ 2(l))
 - v) DEP has contracted with the National Academies of Sciences, Engineering, and Medicine for an expert panel review of the New York City Watershed Protection

³ Appendix K is the Third Supplemental Agreement among West of Hudson Watershed Stakeholders: Commitments Relating to the 2017 Filtration Avoidance Determination, April 2018

Program (Appendix E, pp. 17 and 20; information about the Expert Panel is available at <http://nas-sites.org/dels/studies/nyc-watershed/>)

References to accompanying materials:

- Appendix B June 15, 2016 Modified Water Supply Permit authorizing the NYC Watershed Land Acquisition Program
- Appendix D 1997 NYC Watershed Memorandum of Agreement, Article II (Land Acquisition Program)
- Appendix E 2017 NYC Filtration Avoidance Determination
- Appendix F NYC Department of Environmental Protection 2016 Long-Term Watershed Protection Program Plan
- Appendix G 2018 DEP Proposed Modifications to Solicitation Strategy
- Appendix H 2010 West of Hudson Side Agreement (2010 Water Supply Permit)
- Appendix I 2013 West of Hudson Supplemental Side Agreement (FEMA Flood Buyout Program)
- Appendix J 2016 West of Hudson Second Supplemental Side Agreement (NYC-Funded Flood Buyout Program)
- Appendix K 2018 West of Hudson Third Supplemental Side Agreement (2017 FAD)

AGREEMENT AMONG WEST OF HUDSON WATERSHED STAKEHOLDERS

CONCERNING

NYCDEP'S CONTINUATION OF ITS LAND ACQUISITION PROGRAM

AGREEMENT, dated as of the 27th day of December two thousand and ten, agreed to and executed by and among the following parties (collectively, the "Parties" and individually a "Party"):

The City of New York ("City"), including the Department of Environmental Protection ("DEP"), a municipal corporation with its principal office at City Hall, New York, New York 10007;

The Coalition of Watershed Towns ("CWT"), an inter-municipal body composed of municipalities located wholly or partially within the portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement pursuant to Section 119-o of the New York General Municipal Law, having its principal office at Tannersville, New York;

The County of Delaware, a county corporation with its principal office at 111 Main Street, Delhi, New York 13753;

The Town of Hamden, a municipal corporation with its principal office at Town Hall, Route 10, DeLancey, NY 13782;

The Town of Roxbury, a municipal corporation with its principal office at 53690 State Highway 30, Roxbury, NY 12474;

The Catskill Watershed Corporation ("CWC"), an independent locally-based and locally administered not-for-profit corporation, organized and existing under section 1411 of the New York State Not-for-Profit Corporation Law and having its principal office at PO Box 569, Main Street, Margaretville, New York 12455;

The Catskill Center for Conservation and Development ("Catskill Center"), a not-for-profit corporation having its principal offices at PO Box 504, Route 28 Arkville, New York 12406;

New York Public Interest Research Group, Inc. ("NYPIRG"), a not-for-profit corporation having its principal offices at 9 Murray Street, New York, New York 10007;

Open Space Institute, Inc. ("OSI"), a not-for-profit corporation having its principal offices at 1350 Broadway, New York, New York 10018;

The Trust for Public Land ("TPL"), a not-for-profit corporation having its principal offices at 116 New Montgomery Street, San Francisco, California 94150; and

Riverkeeper, Inc. (“Riverkeeper”), a not-for-profit corporation having its principal offices at 828 South Broadway, Tarrytown, New York.

WITNESSETH:

A. WHEREAS, on January 21, 1997, the Parties, among other entities, entered into the Watershed Memorandum of Agreement (“Watershed MOA” or “MOA”), which established a partnership in which the parties agreed “to cooperate in the development and implementation of a Watershed Protection Program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities.”

B. WHEREAS, among the programs the Parties agreed to in the Watershed MOA is a program for DEP to acquire land in the Watershed for watershed protection, subject to the terms of the Watershed MOA and of the water supply permit issued by NYSDEC on January 21, 1997 (“1997 Water Supply Permit”). Pursuant to the Watershed MOA, the City allocated Two Hundred Fifty Million Dollars (\$250,000,000) to the Land Acquisition Program (“LAP”) in 1997, and an additional Fifty Million Dollars (\$50,000,000) to the LAP between 2002 and 2008. DEP has complied with the obligation to allocate \$300,000,000 to the LAP in accordance with the MOA and exhausted those funds in the implementation of the LAP in accordance with the MOA.

C. WHEREAS, the Watershed MOA and the 1997 Water Supply Permit included a number of provisions intended to strike a balance between watershed protection and the economic concerns of the Watershed communities, including any watershed municipality that was a signatory to the MOA (“Watershed Municipal Parties”). Among other things, under MOA paragraph 68(a), and Special Condition 10(a) of the 1997 Water Supply Permit, West of Hudson towns and villages were entitled to designate properties to be excluded from acquisition in fee by DEP. The properties that West of Hudson towns and villages were allowed to so designate for exclusion included villages, commercial or industrial areas, village extensions, and hamlets as defined and described in the Watershed MOA (collectively, “1997 Designated Areas”).

D. WHEREAS, similarly, MOA paragraph 63 and Special Condition 9 to the 1997 Water Supply Permit delineated priority areas for acquisition and established natural features criteria that properties in priority areas 2, 3 and 4 must exhibit in order to be eligible for City acquisition.

E. WHEREAS, as required by the July 2007 Filtration Avoidance Determination (“2007 FAD”), the City is committed to allocating an additional Two Hundred Forty-One Million Dollars (\$241,000,000) to the LAP (the “2007 FAD LAP Allocation”). The 2007 FAD required the City to submit a long-term land acquisition strategy and plan, covering the period 2012-2022, to EPA, NYSDOH and NYSDEC. The 2007 FAD required the City, in developing this plan, to seek input from interested parties and consider a wide range of information including development trends, agricultural trends, revitalization, local land use policies, parcelization, and forest cover. The City has allocated funds as required by the 2007 FAD and is now implementing the LAP in accordance with the 2007 FAD.

F. WHEREAS, in December 2007, the CWT and the Towns of Roxbury and Hamden filed a Combined CPLR Article 78 Proceeding and Declaratory Judgment Action against the City, DEP, DOH, and the DOH Commissioner, challenging, among other things, the adequacy of the environmental review of the additional allocation of funds to the LAP under the 2007 FAD.

G. WHEREAS, since soon after that litigation was commenced, the Parties and/or their representatives have been negotiating in good faith to address a number of concerns raised by the petitioners in that litigation as well as to eliminate, or narrow, concerns regarding terms of the successor to the 1997 Water Supply Permit (the “2010 Water Supply Permit”). Among the key issues which the Parties have discussed is the desire of some watershed communities to expand the 1997 Designated Areas.

H. WHEREAS, the Parties have reached agreement on the terms set forth in the 2010 Water Supply Permit attached as Exhibit 1, which was issued by NYSDEC on December 24, 2010. Among other things, the 2010 Water Supply Permit incorporates agreements reached among the Parties concerning expansions to hamlet areas in certain West of Hudson towns and numeric thresholds (“Special Criteria”) for natural features criteria applicable in Priority Areas 2, 3, and 4. Moreover, the 2010 Water Supply Permit incorporates commitments by the City to continue funding key Watershed Protection and Partnership Programs at historic levels, which the Parties agree represents an appropriate level of funding for the duration of the permit, absent material changed circumstances such as new regulatory requirements.

I. WHEREAS, by its terms, the 1997 Water Supply Permit was a ten-year permit with an optional five-year renewal. The City exercised this renewal option in 2007. The 1997 Water Supply Permit has been superseded by the 2010 Water Supply Permit.

J. WHEREAS, the parties are in agreement that the 2010 Water Supply Permit shall be implemented as a continuation of the Land Acquisition Program established by the Watershed MOA and the 1997 Water Supply Permit.

K. WHEREAS, the City’s LAP, the City’s Watershed Regulations, and the other programs and conditions contained in the Watershed MOA, when implemented in conjunction with one another, are intended to protect water quality while allowing existing development to continue and future growth to occur in a manner that is consistent with the existing community character and planning goals of each of the Watershed communities. The City’s land acquisition goals recognize the importance of ensuring that the availability of developable land in the Watershed will remain sufficient to accommodate projected growth without adverse effects on water quality and without substantially changing future population patterns in the Watershed communities.

L. WHEREAS, consistent with the 2007 FAD, the City submitted an application for a new water supply permit to NYSDEC on January 21, 2010, seeking a successor Water Supply Permit to authorize DEP acquisition of land and conservation easements in the watershed through the LAP (including WAC acquisition of agricultural easements), subject to the specified terms and conditions. Paragraph 62 to the Watershed MOA provides that “the

parties retain their full legal right with respect to ... requests by the City” to extend the City’s water supply permit beyond January 2012.

M. WHEREAS, on May 28, 2010, DEP, as SEQRA Lead Agency, submitted a draft Environmental Impact Statement (DEIS) in support of the 2010 Water Supply Permit Application and evaluating the environmental impacts from the continuation of the LAP. Specifically, the DEIS examines the potential environmental impacts of continuation of the LAP in several specific impact categories, including: land use and community character, socioeconomic conditions (including possible impacts on the supply of developable land, housing prices, industries and business, and local government and school district financing), water quality and natural resources, open space and recreation, and cultural resources. On June 17, 2010, NYSDEC determined that application to be complete, and NYSDEC and DEP scheduled joint public hearings on the permit and the DEIS, respectively. On December 10, 2010, DEP submitted the final Environmental Impact Statement.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the other parties, the Parties do hereby promise and agree as follows:

Supplemental Provisions Relating to the City’s and WAC’s Acquisition of Land and/or Conservation Easements

(1) Uninhabitable Dwellings or Accessory Structures on Vacant Lands. In accordance with Special Condition 8 of the 2010 Water Supply Permit, the City will acquire only vacant land West of Hudson as defined therein. The Parties recognize that in certain circumstances, there may be some ambiguity concerning whether or not a structure is an uninhabitable dwelling. The City will make good faith efforts to comply with the restriction against acquiring land in fee that contains a structure other than an uninhabitable dwelling or accessory structure. Unless a municipality pursues an issue concerning the City’s acquisition of a structure other than an uninhabitable dwelling or accessory structure during the Local Consultation Process, the Parties agree that the City’s acquisition of a parcel containing such a structure shall not render the City in violation of the 2010 Water Supply Permit.

(2) Publicity and Advertising in the Town of Shandaken. Consistent with Special Condition 10(c) of the 2010 Water Supply Permit, due to the high percentage of publicly-owned land in the Town of Shandaken, for the duration of DEP’s land acquisition under that Permit, the City and WAC shall not solicit the purchase of a conservation easement or land in fee from any landowner in the Town of Shandaken directly. However, the Parties agree that nothing in Special Condition 10(c) shall limit the City’s or WAC’s ability to conduct general publicity or educational programs. The City and WAC may place public advertisements concerning the LAP (i.e., the City’s program to acquire in fee simple or conservation easement, and WAC’s program to buy conservation easements on, property within the watershed), without reference to the City’s or WAC’s interest in acquiring interests in any particular properties or properties in any particular geographical area or political subdivision within the watershed, so long as such advertisements or the media in which they are placed are not focused solely or primarily on or in the Town of Shandaken. If invited in writing by the supervisor of the Town of Shandaken, the

City and/or WAC may advertise, participate in, or hold public meetings within the Town concerning the LAP.

(3) Local Consultation. In accordance with the Local Consultation procedures set forth in Special Condition 12 of the 2010 Water Supply Permit, the City is required to state to a local government whether a parcel satisfies the size, natural features criteria, and vacant land definition, as well as whether the parcel is excluded from acquisition or eligible and authorized for acquisition. The Parties agree that the information submitted by DEP or WAC in the Local Consultation Process will be based on the best information available to DEP or WAC at that time, and may be incomplete or imprecise due to the fact that surveys, title searches, and other detailed inspections are generally not undertaken until the latter stages of the contract. The Parties further agree that DEP or WAC must respond to comments concerning potable water and sewage disposal only with respect to conservation easements with building envelopes or acceptable development areas.

(4) Additional Environmental Review for Purchase of Replacement Lands after Expiration of the 2010 Water Supply Permit. In accordance with MOA paragraph 82 and Special Condition 21 of the 2010 Water Supply Permit, the conservation easements that the City conveys to NYSDEC on fee lands acquired under the LAP provide that, with the prior agreement of USEPA and NYSDOH, the City may sell such lands free of the easement restriction in order to purchase already identified replacement lands located in a higher Priority Area, as that term is used in the 2010 Water Supply Permit. The City agrees that prior to acquiring any such replacement lands after the expiration of the 2010 Water Supply Permit (and of any successor to that Permit), the City shall obtain all necessary permits and comply with the New York State Environmental Quality Review Act, (“SEQRA”), ECL § 8-0101 *et seq.*; 6 NYCRR Part 617.

(5) Limitation on Grandfathering of Properties Not Meeting the Special Criteria. Special Condition 9(i) of the 2010 Water Supply Permit establishes a 12-month period during which the City may pursue acquisition of properties not meeting the Special Criteria set forth in Special Condition 9(a) where the City ordered an appraisal prior to the Effective Date of this Permit. The City represents and the Parties recognize that since June 17, 2010, the City has not ordered appraisals for properties in the west of Hudson watershed not meeting the Special Criteria.

Supplemental Provisions Relating to the Enhanced Land Trust Program

(6) Land Trusts. The City will work with the land trust community to develop a program through which owners of west-of-Hudson properties that contain substantial improvements including habitable dwellings, and who are not interested in selling the vacant portion(s) of their property directly to the City, could convey their property to a land trust. The land trust (LT) would facilitate subdivision of the property prior to conveying the vacant parcels(s) to the City, thereby meeting the requirements of MOA Paragraph 67, and conveying the improved parcel(s) on the open market. The Parties have negotiated core elements of the program, which are detailed herein in Exhibit 2 (“Enhanced Land Trust Program Outline”) and will be further developed for expected implementation within 12 months of this Agreement.

Supplemental Provisions Relating to Stewardship of WAC Conservation Easements

(7) DEP/WAC Program Agreement. The City will seek to modify its Program Agreement with the Watershed Agricultural Council (“WAC”) in accordance with paragraphs (8), (9), and (10) below.

(8) Transparency.

- a. Notwithstanding WAC’s view that it is not subject to the New York State Public Officers Law, Pub. Off. Law § 84 *et seq.*, including but not limited to the Freedom of Information Law and the Open Meetings Law, and that members of its board and committees are not public officers within the meaning of that law, DEP will seek to modify the Program Agreement to require WAC to adopt, maintain, and comply with the draft Transparency Policy attached as Exhibit 3 (“Transparency Policy”), or a successor Transparency Policy adopted in accordance with subparagraph b. below, which includes dispute resolution procedures.
- b. The Transparency Policy may be modified so long as any successor policy is at least as protective of public access to meetings and documents as the Transparency Policy attached as Exhibit 3. In order to modify the Transparency Policy, WAC must convene the Council’s Executive Committee to develop draft revisions. Once the draft revisions have been developed, the draft will be posted on WAC’s website for a period of no less than 30 days. During this comment period, public comments on the draft may be submitted to WAC for review and consideration, and WAC shall make itself available, upon request, to meet with any interested MOA signatories or their representatives to discuss such comments. After the comment period has closed, WAC will review and incorporate relevant comments into the draft where appropriate prior to voting on the approval of the final document. Alternatively, WAC may, in its sole discretion, in lieu of maintaining a Transparency Policy, agree to be bound by the Freedom of Information Law and the Open Meetings Law.
- c. The City agrees that the transparency requirements set forth in the Transparency Policy will apply to WAC and to any non-governmental organization that succeeds WAC as the grantee of agricultural easements acquired pursuant to the LAP. The City will seek to ensure that WAC amends the Model Conservation Easement within six months of the effective date of the 2010 Water Supply Permit to incorporate a requirement that a successor organization comply with the Exhibit 3 if it is not required to comply with the Freedom of Information Law and the Open Meetings Law.
- d. Nothing herein shall affect the rights of the Parties to this Agreement under the Public Officers Law.

(9) Guidance Documents. The City will ensure that WAC makes best efforts to develop key guidelines for the Agricultural Easement Program in accordance with the schedule set forth in Exhibit 4. So long as WAC diligently pursues development of these guidelines and completes the guidelines within three years from the Effective Date of the Water Supply Permit in a manner consistent with the protocol set forth below, the City shall be deemed in compliance with this schedule.

- a. As part of the preparation of such guidance documents, WAC shall convene a working group of the easement committee to develop a draft guidance document. Once the draft document has been developed, the draft will be posted on WAC's website for a period of no less than 30 days. During this comment period, public comments on the draft may be submitted to WAC for review and consideration, and WAC shall make itself available, upon request, to meet with any interested MOA signatories or their representatives to discuss such comments. After the comment period has closed, WAC's Easement Committee will review and incorporate relevant comments into the draft where appropriate prior to voting on the approval of the final document.
- b. Reserved rights under the Model Conservation Easement (e.g., communication towers or devices, wind turbines, satellite or television antennae or similar equipment, Farm Support Housing and other buildings used for rural enterprises, Commercial Forestry, Commercial Bluestone Mining, rights of way and utility easements) are permitted uses, subject to WAC approval. The guidance documents being prepared by WAC to address such reserved rights shall allow such uses subject to conditions that will ensure that the proposed activity will not substantially diminish or impair the agricultural, forestry, or water quality values of the Property.
- c. The guidance documents will specify, for each reserved right, what constitutes consistency with the conservation purposes of the easement, with reference to and consistent with the laws and policies identified in paragraphs C. through H. of the recitals in the Model Conservation Easement. The guidance documents will provide that if a Grantor's request is denied, the denial shall set forth in detail a site-specific basis for such denial.

(10) The Program Agreement as modified will provide that if WAC is in material breach of the Program Agreement including, but not limited to, the terms described in paragraphs (8) and (9) above, upon written notice from the City, WAC shall not execute any contracts for purchase of conservation easements unless and until such breach is cured. Outstanding purchase offers may remain in effect for a period of up to six months beyond such a suspension of acquisitions to allow for the breach to be cured. If the breach is not cured within six months of the City's notifying WAC of the breach, the City may exercise its right to terminate the Program Agreement. In order to ensure that the objectives and purposes of this agreement are satisfied, subject to its reasonable enforcement discretion, the City agrees to vigorously enforce the terms of the Program Agreement required hereunder. Nothing herein constitutes a guarantee that WAC will comply with the foregoing provisions.

(11) Unless the City and WAC have executed a modification to the Program Agreement in accordance with paragraphs (8), (9), and (10) above within one year of the effective date of the 2010 Water Supply Permit, the City shall exercise its right to terminate the Program Agreement and will not enter into a successor agreement unless such successor agreement incorporates the applicable terms and conditions of this Agreement.

- a. No later than ten months after the effective date of the Permit, the City shall notify DEC of the status of the modifications to the Program Agreement.
- b. The City may request that DEC extend the deadline for no more than 180 days beyond the year for modification of the Program Agreement as specified herein, by submitting a written explanation of the basis for the request, including an estimate of when the City expects the modification of the Program Agreement to be executed.
- c. It is the Parties' understanding that DEC will not unreasonably deny such a request for an extension.

Supplemental Provisions Relating to Real Property Taxes

(12) Real Property Taxes: Watershed Conservation Easements. The Parties shall support State legislation to amend Article 5, Title 4-a of the Real Property Tax Law as set forth in Exhibit 5.

(13) Real Property Tax Litigation Avoidance Program. The description of the Tax Litigation Avoidance Program ("TLAP Description") is attached as Exhibit 6.

(14) Templates for Valuation of Unique Properties.

- a. The City and certain towns have completed templates for the valuation of certain of the City's wastewater treatment plants in the West of Hudson watershed. If any other towns in the West of Hudson watershed decide to use the template for a City-owned wastewater treatment plant, the City will agree to complete the template with the town substantially similar to the existing templates for other wastewater treatment plants.
- b. The current draft of the template the City and CWC are negotiating for valuation of the City's West of Hudson reservoirs is attached as Exhibit 7. As set forth in the TLAP Description, the parties have agreed to complete negotiation of the reservoir template within six months of the effective date of the 2010 Water Supply Permit. Unless otherwise agreed to by the City and CWC the final template will be substantially the same as Exhibit 7.
- c. The City and CWC will negotiate a template for valuation of the City's West of Hudson impoundments. Those parties have agreed that the template will provide for a 150-year service life for the impoundments for purposes of depreciation. As set forth in the TLAP Description, the parties have agreed to

complete negotiation of the impoundment template within twelve months of the effective date of the 2010 Water Supply Permit.

- d. As set forth in the TLAP Description, within eighteen months of the effective date of the 2010 Water Supply Permit, the City and CWC will negotiate a template for valuation of the City's West of Hudson sewer lines, provided that the City has not, within 18 months of the effective date of the Water Supply Permit, by motion or otherwise, established that such properties are not subject to real property taxation, or filed a motion seeking such a determination.
- e. The templates are intended to provide an objective methodology to assess the City's watershed properties, applying appropriate cost factors to the measurable elements of the City's taxable properties. RS Means cost data will be used for cost factors in the templates, unless they can be shown by documented examples to be inappropriate for a project on the scale of a reservoir, in which case another appropriate cost factor shall be used, provided such factor is agreed to by the City and CWC.
- f. The valuation methodology reflected in the templates described above reflects negotiations in the TLAP program. The City will not be bound by any elements of the templates in negotiations or litigation with any Assessing Authorities that do not agree to participate in the TLAP program.

Supplemental Provisions Concerning the City's Stewardship of Fee and Easement Property

(15) Availability and Disposition of Natural Resources.

- a. DEP will work with the local communities and local stakeholders (farmers, blue stone miners, maple syrup farmers, foresters/loggers, etc.) to help ensure that the natural resources (including commodities such as timber and bluestone as well as recreational opportunities) are available on City-owned lands, on a case by case basis, subject to water quality, operational, and other reasonable concerns, consistent with the terms of DEC's conservation easement on such property. Access to natural resources is to be encouraged and DEP will continue to explore options, expand and develop programs (including working with local stakeholders) to facilitate such access.
- b. The City has determined that there are alternatives to public bidding for sale of natural resources on lands owned by the City in fee and will begin to develop protocols to allow such alternatives. In this connection, DEP will begin work on a firewood program and hopes to initiate such a program by July 2011.

(16) Allocation of Rights Associated with Conservation Easements. Under the WAC and DEP conservation easements, landowners retain all rights, other than those rights granted under those easements, associated with ownership in fee of the subject property

including, but not limited to, any revenues associated with lawfully permitted uses of such property and not precluded by the easement.

(17) Regulations Adopted Pursuant to ECL Article 49. The Parties agree that Watershed Conservation Easements (including WAC easements) are subject to any and all applicable requirements in Article 49 of the Environmental Conservation Law (“ECL”) including, but not limited to, any regulations duly promulgated by NYSDEC pursuant to ECL § 49-0305(7).

(18) Expanded Boating Program. In accordance with Special Condition 15(g) of the 2010 Water Supply Permit, the City is committed to continue the Cannonsville Pilot Boating Program (for the purposes of this paragraph, the “Boating Program”) including cooperating with CWC to complete the evaluation study to gather data from the Boating Program regarding its impact, if any, upon water quality, and providing recreational opportunities as well as establishing criteria for evaluating the Program. Depending on the results of evaluation study, the City is committed to continue and possibly expand the program to other reservoirs.

(19) Revocable Permits for use of watershed property owned in fee by DEP.

- a. DEP is generally willing to consider utility or ingress/egress access (subject to reasonable conditions to protect water quality and DEP operational needs) when there are no viable (i.e. practical and affordable) alternatives to crossing DEP property. When utility access is granted, absent compelling circumstances, the City has not sought and does not seek to revoke permission.
- b. DEP has provided in the past and, upon request in the future from banks or property buyers or sellers, will provide letters explaining the revocable permit program and, in particular, explaining that revocation is extraordinarily rare and associated with activities under the control of landowners, such as encroachment on City land.

Modifications to Local Laws

(20) Town of Hamden Subdivision Law. In order to modify the boundaries or exclusion status of its designated areas, in its resolution concerning its proposed modification of the boundaries or exclusion status of its designated areas pursuant to Special Condition 10 of the Draft Permit, the Town of Hamden shall also commit to amend Section 310 of the Town of Hamden Subdivision Regulations, “Conservation Easements,” to clarify that conservation easements do not require subdivision approval. The amended rule may require that the purchaser of a conservation easement on property in the Town of Hamden make a presentation of the easement to the Planning Board after entering into a purchase contract for the easement and before the closing, and may provide for a nominal fee in connection with such presentations. The rule may also authorize the Planning Board to issue a non-binding, advisory opinion concerning the conservation easement, addressing such topics as access to any building envelopes and the availability of suitable areas for a well and septic system within such building envelopes.

(21) Town of Kortright Subdivision Law. In order to modify the boundaries or exclusion status of its designated areas, in its resolution concerning its proposed modification of the boundaries or exclusion status of its designated areas pursuant to Special Condition 10 of the Draft Permit, the Town of Kortright, shall also commit to amend Section 3.10 of the Town of Kortright Subdivision Law, “Conservation Easements,” to clarify that conservation easements do not require subdivision approval. The amended rule may require that the purchaser of a conservation easement on property in the Town of Hamden make a presentation of the easement to the Planning Board after entering into a purchase contract for the easement and before the closing, and may provide for a nominal fee in connection with such presentations. The rule may also authorize the Planning Board to issue a non-binding, advisory opinion concerning the conservation easement, addressing such topics as access to any building envelopes and the availability of suitable areas for a well and septic system within such building envelopes.

General Provisions, Disposition of Pending Litigation, and Limitations on Future Challenges

(22) Limitation on Challenges to the LAP, the 2010 Water Supply Permit, and the City’s Environmental Review of the Continuation of the LAP. The Parties hereby waive their rights under Section 62 of the Watershed MOA to oppose the 2010 Water Supply Permit. In particular, no Party will pursue, nor will CWT, financially or otherwise, support any of its member municipalities in pursuing, and nor will Delaware County, financially or otherwise, support any of the towns in Delaware County in pursuing, any administrative or judicial proceeding challenging the 2010 Water Supply Permit, or the 2010 environmental review of the continuation of the LAP. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties also agree to support one another’s application for full party status to support the issuance of the 2010 Water Supply Permit. Such support does not require any Party to become a party to any proceeding.

(23) Enforceability of this Agreement and the 2010 Water Supply Permit. The Parties to this Agreement intend this Agreement and the conditions of the 2010 Water Supply Permit to be binding and enforceable commitments. The City is responsible for the compliance of its contractors with its obligations under this Agreement. These conditions may be enforced pursuant to paragraphs 177 and 180 through 183 of the MOA by the parties to the Watershed MOA. No Party will assert a defense based on the alleged inapplicability of the MOA to the Land Acquisition Program in the event of litigation seeking to enforce the terms of the continuation of the LAP under the 2010 Water Supply Permit. Nothing herein shall be construed to modify, supersede or be inconsistent with the terms and conditions of the 1997 MOA. This Agreement may be enforced in a court of competent jurisdiction and such action shall be governed by the Laws of the State of New York. In any action relating to real property, the City will not oppose venue in the Supreme Court of the county in which the property is located. Except as set forth above in this paragraph, nothing in this Agreement shall act to confer third party beneficiary rights on any person or entity not party to this Agreement.

(24) Term of Agreement. This Agreement shall be effective as of the 27th day of December in the year two thousand and ten. Paragraphs (4) (Additional Environmental Review for Purchase of Replacement Lands after Expiration of the 2010 Water Supply Permit), (8) (WAC Transparency), (9) (Guidance Documents for Accessing Reserved Uses/Reserved Rights), (15) (Availability and Disposition of Natural Resources), (16) (Allocation of Rights

Associated with Conservation Easements), (17) (Regulations Adopted Pursuant to ECL Article 49), and (23) (Enforceability of this Agreement and the 2010 Water Supply Permit) shall remain in effect for so long as the City or WAC owns land in fee or conservation easements under the LAP. The remaining paragraphs shall remain in effect for the duration of the 2010 Water Supply Permit. This Agreement shall bind the parties and their successors and assigns.

(25) Execution. This Agreement may be executed in one or more counterparts or by facsimile or other electronic means, each of which when executed and delivered shall be an original, and all of which executed shall constitute one and the same instrument.

(26) Additional Parties. This Agreement may be signed by additional parties to the MOA. Such signing will become effective, and such party will be deemed a Party to this Agreement, upon filing with the City a duly executed and acknowledged original signature page. The City will forward a copy of any such executed signature pages to the other Parties.

(27) Authorization to Execute. The Parties signing this Agreement represent that they have been duly authorized to enter into this Agreement pursuant to their respective lawful authorities.

Exhibits

1. 2010 Water Supply Permit
2. Attachment detailing the core elements of Land Trust Program
3. Watershed Agricultural Council (“WAC”) Transparency Policy
4. Schedule for WAC Agricultural Easement Guidelines Development
5. Proposed State Legislation to amend Article 5, Title 4-a of the Real Property Tax Law
6. Tax Litigation Avoidance Program Description
7. Draft Template for Valuation of City’s West of Hudson Reservoirs

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEC PERMIT NUMBER
0-9999-00051/00001

FACILITY/PROGRAM NUMBER(S)
WSA #11,352
Date Filed: January 20, 2010
Ext. No.



PERMIT
Under the Environmental
Conservation Law (ECL)

EFFECTIVE DATE
December 24, 2010

EXPIRATION DATE(S)
As per Special Condition 3

TYPE OF PERMIT (Check All Appropriate Boxes)

NEW RENEWAL MODIFICATION PERMIT TO CONSTRUCT PERMIT TO OPERATE

<input type="checkbox"/>	ARTICLE 15, TITLE 5: PROTECTION OF WATER	<input type="checkbox"/>	ARTICLE 17, TITLES 7, 8: SPDES	<input type="checkbox"/>	ARTICLE 27, TITLE 9: 6NYCRR 373: HAZARDOUS WASTE MGMT.
<input checked="" type="checkbox"/>	ARTICLE 15, TITLE 15: WATER SUPPLY	<input type="checkbox"/>	ARTICLE 19: AIR POLLUTION CONTROL	<input type="checkbox"/>	ARTICLE 34: COASTAL EROSION MANAGEMENT
<input type="checkbox"/>	ARTICLE 15, TITLE 15: WATER TRANSPORT	<input type="checkbox"/>	ARTICLE 23, TITLE 27: MINED LAND RECLAMATION	<input type="checkbox"/>	ARTICLE 36: FLOODPLAIN MANAGEMENT
<input type="checkbox"/>	ARTICLE 15, TITLE 15: LONG ISLAND WELLS	<input type="checkbox"/>	ARTICLE 24: FRESHWATER WETLANDS	<input type="checkbox"/>	ARTICLES 1, 3, 17, 19, 27, 37; 6NYCRR 380: RADIATION CONTROL
<input type="checkbox"/>	ARTICLE 15, TITLE 27: WILD, SCENIC & RECREATIONAL RIVERS	<input type="checkbox"/>	ARTICLE 25: TIDAL WETLANDS	<input type="checkbox"/>	ARTICLE 27, TITLE 3, 6NYCRR 364: WASTE TRANSPORTER
<input type="checkbox"/>	6NYCRR 608: WATER QUALITY CERTIFICATION	<input type="checkbox"/>	ARTICLE 27, TITLE 7: 6NYCRR 360: SOLID WASTE MANAGEMENT	<input type="checkbox"/>	OTHER:

PERMIT ISSUED TO New York City Department of Environmental Protection		TELEPHONE NUMBER 718-595-6586	
ADDRESS OF PERMITTEE 59-17 Junction Boulevard, Flushing, NY 11373			
CONTACT PERSON FOR PERMITTED WORK Caswell F. Holloway, Commissioner		TELEPHONE NUMBER	
NAME AND ADDRESS OF PROJECT/FACILITY N/A			
LOCATION OF PROJECT/FACILITY Counties of Putnam, Westchester, Dutchess, Greene, Sullivan, Schoharie, Ulster, Delaware			
COUNTY Multiple	TOWN/CITY/VILLAGE Multiple	WATERCOURSE/WETLAND NO. N/A	NYTM COORDINATES E: N:

DESCRIPTION OF AUTHORIZED ACTIVITY:

Land and easement acquisition and management program (Land Acquisition Program or LAP) within the New York City water supply watershed for the purpose of water quality protection.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified (see page 2) and any Special Conditions included as part of this permit.

REGIONAL PERMIT ADMINISTRATOR: William J. Clarke	ADDRESS NYSDEC, Region 4 Headquarters 1130 North Westcott Road, Schenectady, NY 12306
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<i>William J. Clarke</i>	DATE 12/24/2010	Page 1 of 30
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Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

GENERAL CONDITIONS

1. Facility Inspection by the Department

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. Relationship of this Permit to Other Department Orders and Determinations

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. Applications for Permit Renewals or Modifications

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

The permittee must submit a renewal application at least:

- a) 180 days before expiration of permits for State Pollutant Discharge Elimination System (SPDES), Hazardous Waste Management Facilities (HWMF), major Air Pollution Control (APC) and Solid Waste Management Facilities (SWMF); and
- b) 30 days before expiration of all other permit types.

Submission of applications for permit renewal or modification are to be submitted to:

NYSDEC Regional Permit Administrator, Region 4		NYSDEC Deputy Regional Permit Administrator, Region 4
1150 North Westcott Road, Schenectady, NY 12306		Stamford Field Office, 65561 SH 10, Stamford, NY 12167
(for Albany, Columbia, Greene, Rensselaer,		(for Delaware, Otsego, & Schoharie Counties)
Montgomery, & Schenectady Counties)		

4. Permit Modifications, Suspensions and Revocations by the Department

The Department reserves the right to modify, suspend or revoke this permit in accordance with 6 NYCRR Part 621.

The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

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1. **Authorization.** As authorized by and pursuant to all the terms and conditions of this permit, including attached exhibits, the City of New York ("City"), through the New York City Department of Environmental Protection ("NYCDEP"), may acquire fee title to, or Watershed Conservation Easements (which also include Watershed Agricultural Easements, Watershed Forest Easements, and Riparian Buffer Easements) on, parcels of land located within the Watershed of the New York City water supply system (Watershed). The terms and conditions of this permit draw their statutory authorization from and are designed to ensure that the project is consistent with, section 15-1503(2) and 15-1503(4) of the Environmental Conservation Law and implementing regulations 6NYCRR601. Nothing herein shall be construed to diminish any obligation of the City arising out of the prior approvals or permits issued by NYSDEC, or its predecessors, including the Water Supply Commission, Conservation Commission and Water Power and Control Commission. This authorization shall not exceed 106,712 acres in total City acquisitions in fee title and Watershed Conservation Easements across the entire Watershed which are acquired (i.e. executed contract to purchase) from January 1, 2010 forward of which no more than 105,043 acres shall be located in the West of Hudson watershed.

2. **Scope.** The 2007 USEPA filtration avoidance determination requires the City to commit Two Hundred Forty One Million Dollars (\$241,000,000) in funding a Land Acquisition Program ("LAP") to acquire fee title to, or Watershed Conservation Easements on, parcels of land in the Catskill and Delaware Watershed. This follows upon an earlier filtration avoidance determination embodied in the 1997 Water Supply Permit and the intergovernmental 1997 New York City Watershed Memorandum of Agreement or MOA that required the City to allocate Two Hundred Fifty Million Dollars (\$250,000,000) to the LAP and an additional Fifty Million Dollars (\$50,000,000) to the LAP between 2002 and 2008. The City's LAP, the City's Watershed Regulations, and the other programs and conditions contained in the Watershed MOA, when implemented in conjunction with one another, are intended to protect water quality while allowing existing development to continue and future growth to occur in a manner that is consistent with the existing community character and planning goals of each of the Watershed communities. The City's land acquisition goals recognize the importance of ensuring that the availability of developable land in the Watershed will remain sufficient to accommodate projected growth without adverse effects on water quality and without substantially changing future population patterns in the Watershed communities.

3. **Permit Duration.** The following special conditions shall expire 15 years from the effective date of this permit: Special Conditions 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 22, 25, 26, 27, 29, 30, 31, 33, and 34. All other special conditions shall remain in effect unless modified pursuant to 6NYCRR621. Operational non expiring permit conditions shall consist of:
 3. Permit Duration
 4. Definitions
 15. Recreational Uses: City Property Owned in Fee Simple for Watershed Protection.
 16. Uses: LAP Fee and Easement Property
 18. Real Property Taxes: Newly Acquired In Fee
 19. Real Property Taxes: Watershed Conservation Easements
 20. Limitation on Transfers to Tax Exempt Entities
 21. Land Held in Perpetuity for Watershed Protection
 23. Water Conservation Program Updates and Approval
 24. Water Conservation Program Implementation
 28. Notices and Submittals
 32. Forest Management Plan

4. **Definitions.** The following terms, as used in this permit, shall have the meaning set forth below:
 - a. "CAPA" means the City Administrative Procedure Act, chapter 45 of the New York City Charter.

- b. "Catskill and Delaware System" means the Ashokan, Cannonsville, Kensico, Neversink, Pepacton, Rondout, Schoharie, and West Branch/Boyd's Corner Reservoirs, and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs.
- c. "Catskill and Delaware Watershed" means the drainage basins of the Catskill and Delaware System. A map of this watershed is set forth in Exhibit 1.
- d. "Catskill Watershed Corporation" or "CWC" means an independent locally-based and locally administered not-for-profit corporation, organized under Section 1411 of the Not For Profit Corporation Law (the "CW Corporation") established in order to foster a working partnership between the City and the WOH Communities, and to manage certain programs more fully described in Special Condition 25 and Exhibit 14 required by this permit under contract to New York City.
- e. "City" means the City of New York, a municipal corporation with its principal office at City Hall, New York, New York 10007. The City is subject to all the terms and conditions in this Water Supply Permit through its implementing agency the NYC Department of Environmental Protection and is responsible for assuring all of its contractors adhere to the same.
- f. "Cluster Development" means the concentrated grouping of residential or commercial development so as to protect water quality and preserve the open space of the development parcel. Cluster Development is also defined within NYS Town Law Section 278 as follows: cluster development shall mean a subdivision plat or plats, approved pursuant to this article, in which the applicable zoning ordinance or local law is modified to provide an alternative permitted method for the layout, configuration and design of lots, buildings and structures, roads, utility lines and other infrastructure, parks, and landscaping in order to preserve the natural and scenic qualities of open lands.
- g. "Coalition of Watershed Towns" or "Coalition" means the inter-municipal body composed of the municipalities located wholly or partially within that portion of the New York City Watershed that lies west of the Hudson river, which have duly entered into a cooperative agreement, pursuant to § 119-o of the New York General Municipal Law, having its principal office at Tannersville, New York.
- h. "Croton System" means the Amawalk, Bog Brook, Cross River, Croton Falls, Diverting, East Branch, Middle Branch, Muscoot, New Croton, and Titicus Reservoirs, Kirk Lake, Lake Gleneida and Lake Gilead, and the tunnels, dams and aqueducts which are part of and connect the above listed reservoirs and controlled lakes.
- i. "Croton Watershed" means the drainage basins of the Croton System. A map of this watershed is set forth in Exhibit 1.
- j. "Drainage Basin" or "Reservoir Basin" means, for purposes of defining the boundaries of the drainage basin of each reservoir or controlled lake, the area of land that drains surface water into, or into tributaries of, a reservoir or controlled lake of the Catskill and Delaware or Croton Systems.
- k. "East of Hudson" or "EOH" means the drainage basins of the specific reservoirs and controlled lakes of the New York City Watershed located east of the Hudson River in the New York counties of Dutchess, Putnam, and Westchester.
- l. "Effective Date" means the date as shown on Page 1 of the issued permit.
- m. "Executive Committee" means the Executive Committee of the WPPC.
- n. "Individual Landowner Forest Management Plan" means a document prepared by a professional forester that is based upon the goals and objectives that individual owners have for their forested properties and updated on a ten year basis. It is a document which shows by maps, tables and written text, the boundaries and size of the forest, what kind and sizes of trees it contains, what needs to be done to produce and harvest forest products or to achieve other non-timber related objectives and how such activities should be designed in order to minimize negative impacts to water quality.

- o. "Filtration Avoidance Determination or "FAD" means the written determination of the United States Environmental Protection Agency, or the New York State Department of Health, determining that surface source waters may be used as a public water supply without filtration.
- p. "Land" means fee title in real property or Watershed Conservation easements on real property, unless a different meaning is clearly intended by the context.
- q. "NYCDEP" means the New York City Department of Environmental Protection, a mayoral agency of the City of New York organized and existing pursuant to the New York City Charter and its contractors.
- r. "NYSDEC" means the New York State Department of Environmental Conservation, an executive agency of the State of New York organized and existing pursuant to the New York Environmental Conservation Law.
- s. "NYSDOH" means the New York State Department of Health, an executive agency of the State of New York organized and existing pursuant to the New York Public Health Law.
- t. "Primacy Agency" means the United States Environmental Protection Agency or the New York State Department of Health, whichever has primary enforcement responsibility for implementation of the federal Surface Water Treatment Rule (40 CFR §141.70 et seq.) pursuant to §1413 of the federal Safe Drinking Water Act (42 U.S.C. §300g-2).
- u. "Riparian Buffer Easement" means a Watershed Conservation Easement, as defined below in paragraph (cc.) on real property (including floodplains) adjacent to streams, lakes, rivers, wetlands, and/or water bodies acquired pursuant to the Riparian Buffer Program described in Special Condition 29.
- v. "Riparian Buffer in fee" means real property (including floodplains) adjacent to streams, lakes, rivers, wetlands, and/or water bodies acquired in fee pursuant to the Riparian Buffer Program described in Special Condition 29.
- w. "TMDL" means Total Daily Maximum Load. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. It is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL stipulates wasteload allocations for point source discharges, load allocations for nonpoint sources, and a margin of safety.
- x. "Uninhabitable Dwelling" means a dwelling which is deteriorated to the extent that: either the cost of rehabilitation which would prevent the continued deterioration of primary components will exceed sixty percent (60%) of the fair market value of the structure (as established by the City's appraisal) or rehabilitation will not prevent the continued deterioration of primary components of the dwelling which will result in unsafe living conditions; and it has not been occupied for one year immediately prior to the signing of an option. As used herein, the term "primary components of a dwelling" shall include: foundations, exterior wall framing, rafters, roof decks, roof coverings, porches, floor joists, sills, headers, electrical systems, heating systems, plumbing systems and septic systems.
- y. "USEPA" means the United States Environmental Protection Agency, an executive agency of the United States, organized and existing under the laws of the United States, with its principal office at 401 M Street, S.W., Washington, D.C. 20460.
- z. "Watershed" or "New York City Watershed" means the drainage basins of the Catskill and Delaware and Croton Systems.
- aa. "Watershed Agricultural Council" or "WAC" means an independent locally-based and locally administered not-for-profit corporation, organized under Section 1411 of the Not For Profit Corporation Law (the "Watershed Agricultural Council") established in order to foster a working partnership between the City and the WOH Communities, and to implement and manage certain programs under contract to New York City including but not limited to Watershed Agricultural Easements.

- bb. "Watershed Agricultural Easement" means a Watershed Conservation Easement, as defined below in paragraph (cc.), on real property in active agricultural production or designated for future agricultural production. Such easements shall allow agricultural production.
- cc. "Watershed Conservation Easement" means an easement, covenant, restriction or other interest in real property, created under and subject to the provisions of Article 49 of the New York Environmental Conservation Law, which limits or restricts development, management or use of such real property for the purpose of maintaining the open space or natural condition or character of the real property in a manner consistent with the protection of water quality generally and the New York City drinking water supply specifically. It also includes Watershed Agricultural Easements, Watershed Forest Easements, and Riparian Buffer Easements)
- dd. "Watershed Forest Easement" means a Watershed Conservation Easement, as defined in paragraph (cc.), on real property in forest production or designated for future forest production. Such easements shall allow forest production.
- ee. "Watershed MOA" or "MOA" means the agreement, entered on January 21, 1997, among the State of New York, the City of New York, the United States Environmental Protection Agency, Catskill Watershed Corporation, the Coalition of Watershed Towns, certain watershed municipalities, and certain environmental groups which established a framework for a "partnership to cooperate in the development and implementation of a Watershed protection program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities."
- ff. "Watershed Protection and Partnership Council" or "WPPC" shall mean a group formed to aid in the protection of drinking water quality and the economic vitality of the Watershed communities. The Council will represent a broad-based diverse group of interests that share the common goal of protecting and enhancing the environmental integrity of the Watershed and the social and economic vitality of the Watershed communities. The Council shall consists of twenty-seven (27) members (sixteen (16) members constituting an executive Committee and eleven (11) additional members), which shall include representatives from the State and City of New York, local governments in the Watershed, the USEPA, business, the environmental community, and water supply consumers.
- gg. "Watershed Regulations" means the watershed rules and regulations applicable to the New York City Watershed, codified as Rules of the City of New York ("RCNY"), Title 15, Chapter 18 and New York Codes, Rules and Regulations, Title 10, Part 128 pursuant to Public Health Law Section 1100.
- hh. "1997 Designated Areas" means the villages, village extensions, hamlets, and commercial or industrial areas designated in accordance with paragraph 68 of the Watershed MOA.
- ii. "1997 Water Supply Permit" means the water supply permit issued by NYSDEC on January 21, 1997, DEC Permit Number 0-9999-00051/00001.
- jj. "Water Supply System" means the system of reservoirs, controlled lakes, structures and facilities such as dams, tunnels, and aqueducts which collect source water for the New York City drinking water supply and transport it to the City of New York.
- kk. "West of Hudson" or "WOH" means the Catskill and Delaware drainage basins of the specific reservoirs of the New York City Watershed located west of the Hudson River in the New York counties of Greene, Delaware, Ulster, Schoharie, and Sullivan.
- ll. "WWTP" means wastewater treatment plant.

5. **Willing Sellers/No Eminent Domain.** The City may acquire fee title to, or Watershed Conservation easements on, real property from willing sellers only. This permit does not authorize the use of any powers of eminent domain.

6. Mapping of Priority Areas.

- a. The Catskill and Delaware Watershed has been mapped, in descending order of priority for acquisition and protection, into Priority Areas 1A, 1B, 2, 3, and 4 by the City as shown in Exhibits 2 (West of Hudson) and 3 (East of Hudson).
 - i. Priority Area 1A is the highest priority. It consists of portions of reservoir basins that are within 60-day travel time to distribution and are in close proximity to an aqueduct intake. It consists of portions of the basins of the Kensico, West Branch, Ashokan, Rondout, Neversink, Pepacton, and Cannonsville Reservoirs. Priority Area 1B consists of portions of reservoir basins that are within 60-day travel time to distribution and not Priority Area 1A. It consists of: all of Boyd's Corners Reservoir basin; the remaining portions of the basins of Kensico, West Branch, and Rondout Reservoirs; and portions of the basins of Ashokan, Cannonsville, and Pepacton Reservoirs.
 - ii. Priority Area 2 consists of the remaining portion of the Ashokan Reservoir basin (portions of terminal reservoir basins that are not within priority areas 1A or 1B).
 - iii. Priority Area 3 consists of portions of reservoir basins with identified water quality problems that are not in priority areas 1A, 1B, or 2.
 - iv. Priority Area 4 is the lowest priority. It consists of the remaining areas within the Watershed.
- b. The Croton Watershed has been mapped by the City into Priority Areas A, B, and C; A being the highest priority.
 - i. The Croton Watershed priority areas are as follows: A (New Croton, Croton Falls, and Cross River Reservoirs); B (Muscoot and portions of Amawalk and Titicus Reservoirs within 60-day travel time to distribution); C (remaining reservoir basins and sub-basins beyond 60-day travel time to distribution).

A map of the boundaries of these Priority Areas is set forth in Exhibit 3 of this permit.

7. Eligibility and Authorization for Acquisition.

- a. To be eligible and authorized for acquisition by the City in fee, parcels of land must be vacant, as defined in Special Condition 8, and meet the size and natural features criteria, as set forth in Special Condition 9, and not fall under the acquisition exclusions (hamlet or village designations), as set forth in Special Condition 10. Acquisition eligibility and authorization for Riparian Buffer fee parcels shall be determined solely based upon their meeting the surface water features thresholds (but not steep slopes thresholds) in Special Condition 9.a.2.a - d. and falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10 unless such exclusion is waived in individual municipalities by the town or village boards by resolution authorizing the Riparian Buffer Program and the specific parcels described and covered by such program.
- b. Parcels of land participating in a federal or state flood buy-out program need neither be vacant, as defined in Special Condition 8, nor meet the size and natural features criteria, as set forth in Special Condition 9 nor are such parcels subject to the acquisition exclusions (hamlet or designations) in Special Condition 10.
- c. To be eligible and authorized for acquisition as Watershed Conservation Easements (except for Watershed Agricultural Easements and Riparian Buffer Easements) by the City, parcels of land must meet the size and natural features criteria set forth in Special Condition 9 and not fall under the acquisition exclusions (hamlet or village designations) in Special Condition 10. All Watershed Conservation Easements may be acquired on land regardless of whether the land is vacant, as defined in Special Condition 8. Acquisition eligibility and authorization for Watershed Agricultural Easement parcels shall be determined solely based upon falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10.

Acquisition eligibility and authorization for Riparian Buffer Easement parcels shall be determined solely based upon their meeting the surface water features thresholds (but not steep slopes thresholds) in Special Condition 9.a.2.a - d and falling outside the acquisition exclusion areas (hamlet or village designations) in Special Condition 10 unless such exclusion is waived in individual municipalities by the town or village boards by resolution authorizing the Riparian Buffer Program and the specific parcels described and covered by such program.

8. Vacant Lands Defined.

- a. Vacant land West of Hudson means land on which there are no structures, other than uninhabitable dwellings or accessory structures (sheds, barns, etc.). If a parcel contains a habitable dwelling, the City will acquire the parcel in fee only if the owner subdivides the parcel so that the City only takes title to the portion of the parcel without the habitable dwelling. The subdivided parcel containing the habitable dwelling must include an adequate area for septic field, reserve area and well. If a parcel acquired in fee contains an uninhabitable dwelling or accessory structure, the City will remove it within two years of acquiring title if requested to do so by the respective town or village during the local consultation period.
- b. Vacant land East of Hudson means land on which there are no inhabited structures at the time the City acquires title. If the City is interested in a parcel that contains a structure that would be inhabited at the time the City acquires title, the parcel must be subdivided so that the City only takes title to the portion of the parcel without the inhabited structure.
- c. The City shall be authorized to use land trusts operating under the Enhanced Land Trust Program established pursuant to Special Condition 33 for WOH as LAP contractors to acquire lands described in this special condition providing that the following requirements are adhered to: the subdivision of the parcels is carried out according to the criteria in 8.a above, the vacant land is conveyed to the City, the portion of the properties containing the habitable dwellings are fully maintained so as to not diminish their monetary value, all local tax (including ad valorem) payments are kept current and such subdivided habitable dwelling properties are placed for sale in the open real estate market. In order for this provision to take effect the Town or Village Board shall adopt a resolution pursuant to such procedures determined to be applicable by such Board within 180 days of the Effective Date of this Permit. Every five years, from the Effective Date of the Permit any Town or Village Board shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to implement the provisions of this paragraph or rescind any prior adopted resolution. All such resolutions shall be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption.

9. Size and Natural Features Criteria.

Applicability defined herein and within Special Condition 7 above.

a. West of Hudson:

1. Size

All eligible and authorized parcels must:

- a. In Priority Area 1A be at least one acre in size.
- b. In Priority Area 1B must be at least five acres in size.
- c. In Priority Areas 2, 3, and 4 must be at least ten acres in size

2. Surface Water Features/Slopes:

All eligible and authorized parcels only in Priority Areas 2, 3, and 4 must either:

- a. Be at least partially located within 1,000 feet of a reservoir; or
- b. Be at least partially located within the 100-year flood plain; or
- c. Be at least partially located within 300 feet of a watercourse, as defined in the Watershed Regulations; or

- d. Contain in whole or in part a federal jurisdiction wetland greater than five (5) acres or NYSDEC mapped wetland; or
- e. Contain ground slopes greater than fifteen percent (15%).

3. Special Criteria:

All eligible and authorized parcels only in Priority Areas 2, 3 and 4 must either:

- a. Be no less than seven percent (7%) Surface Water Features, as set forth in 9.a.2.a - d above, or
 - b. Be no less than fifty percent (50%) slopes of 15% or greater as set forth in 9.a.2.e above.
- b. Parcels which meet the natural features criteria, as set forth in subparagraph a.2, adjoining to lands owned in fee by the City or owned in fee by the State and which would otherwise not be eligible and authorized under the above Special Criteria, as defined in subparagraph a.3 of this special condition, are eligible and authorized for acquisition in fee by the City subject to the following restrictions: 1) individual acquisitions cannot exceed 25 acres, 2) total acquisitions cannot exceed 1,500 acres in West of Hudson over the life of this permit condition, 3) total acquisitions cannot exceed 300 acres in any one county over the life of this permit and 4) such acquisitions must be for one or more of the following purposes of: a) enhancing recreational access or use, b) addressing access deficiencies such as proposed or existing recreational trail interconnections or trailheads, c) State or City owned in fee parcel access, d) addressing land management issues such as preventing unauthorized uses on State or City owned lands, or e) to provide for linking City or State owned lands or to achieve consolidation by purchasing private in-holdings found within City or State owned land.
 - c. The City may acquire parcels of land West of Hudson that do not meet the above size requirements applicable to Priority Areas 1B, 2, 3 and 4 throughout a town or village or only for those parcels located, at least partially, in a 100-year floodplain, if the Town or Village Board waives the size requirements by resolution adopted pursuant to such procedures determined to be applicable by such Board within 180 days of the Effective Date of this Permit. Every five years, from the Effective Date of the Permit any Town or Village Board shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to implement the provisions of this paragraph or revoke a prior waiver if granted. All such resolutions shall be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption.
 - d. There are no parcel size requirements East of Hudson.
 - e. In the Croton Watershed, the City will prioritize its acquisitions based on the Priority Area in which the parcel is located and the natural features of the parcel which could affect water quality.
 - f. The City may aggregate adjoining tax parcels being acquired at one time, or being aggregated with adjoining City-owned land, to meet the minimum acreage (size) requirements as set forth in 9.a.1 above.
 - g. The City may aggregate adjoining tax parcels being acquired at one time to meet the Natural Features Criteria as set forth in 9.a. above so long as the parcels are under related family member ownership or related corporate ownership.
 - h. The natural features criteria determinations of parcel eligibility and authorization shall be based upon information contained in the City's geographic information system, or if available site inspection information, as of the parcel appraisal order date. Where and if available, new, verified, more up to date information shall be used to govern parcel eligibility and authorization up to the conclusion of the local consultation process as set forth in Special Condition 12 including the dispute resolution process as set forth in 12.h.
 - i. Any unacquired parcels not meeting the Special Criteria in this condition but which have appraisal orders which precede the Effective Date of this Permit shall continue to be considered eligible and authorized for acquisition for up to 12 months from the effective date of this permit whereupon such eligibility ceases unless a purchase contract has been signed between the City and the seller.

10. Exclusions from Acquisition (Designated Hamlet and Village Areas).

- a. West of Hudson. The following land areas described in subparagraphs i - iv below are hereby excluded from acquisition by the City in fee and Watershed Conservation Easement only if a town or a village designates them as Designated Hamlet (or Village) Areas by Town (or Village) Board resolution within 180 days of the Effective Date of the permit. Such Town or Village Board designation resolutions shall describe the excluded (hamlet or village) land parcels within their jurisdiction covered in subparagraphs i - iv below. Towns and Villages shall have the option to remove parcels from coverage so they would not be part of the designated hamlet or village area. Towns and Villages considering such resolutions shall provide for the following: 1) written notification via regular US Postal Service mail to the affected landowners within their jurisdiction as shown in Exhibits 4 and 5 using the mailing addresses found in the most current municipal tax rolls, 2) general notice to the public via local newspapers, and 3) a public comment period of no less than 30 days following such notices. Then within 21 days following their adoption, Town or Village Board designation resolutions must be submitted by the towns or villages to NYSDEC, the City and affected landowners with a certification and documentation that all requirements of this Special Condition and all applicable laws and regulations have been followed. Thereupon the resolution will take effect and becomes binding upon the City. NYSDEC retains final authority to resolve any dispute under this special condition between the City and Town or Village using the process as set forth in Special Condition 12.h. Towns may designate hamlet areas under subparagraphs ii. and/or land areas under iii. and iv. below. The excluded land areas under this paragraph can consist of only:
 - i. land within an incorporated village designated by the Village Board (Designated Village Area); and
 - ii. land parcels within a town and designated as hamlet in whole or in part by the Town Board (Designated Hamlet Area) from the list of tax parcels and maps in Exhibits 4 and 5; and
 - iii. up to 50 acres of land within a town designated by the Town Board; provided that the lands are outside Priority Area 1A, are identified as whole tax map parcels, and are identified as commercial or industrial areas and provided that any acreage previously so designated by Town Boards is set forth in Exhibits 4 and 5; and
 - iv. lands within a town designated by the Town Board; provided that the lands are designated by tax map parcel and are located within one-quarter mile of a village and abutting the roads set forth in Exhibit 6 of this permit.
- b. The 1997 Town or Village Board Designated Areas by resolution which implemented an acquisition in fee only exclusion made pursuant to the provisions of the 1997 Water Supply Permit shall continue (except for the Town of Shandaken) unless superseded by the new designations authorized in Paragraph a of this Special Condition.
- c. Commencing on the Effective Date of this Permit except for Riparian Buffers in fee or Easements, the City shall not solicit the purchase of either land in fee or Watershed Conservation Easements from any landowner in the Town of Shandaken directly. Specifically, the City will not intentionally initiate contact with any landowner concerning opportunities to sell real property interests, whether by mail, by telephone, in person, or otherwise. Notwithstanding the City's agreement not to solicit landowners directly, nothing herein shall prevent the City from receiving, responding to, or acting upon unsolicited inquiries from owners of land in the Town of Shandaken.
- d. East of Hudson, the City shall not acquire fee title to property zoned commercial or industrial as of the date of the City's solicitation, except that the City may acquire up to five percent (5%) of the total acreage of such property within any town or village unless a town or village in Westchester County agrees, by resolution, to a higher percentage in such town or village.

- e. Any unacquired parcels which become part of the area excluded from acquisition (hamlet designation) under paragraph a. of this condition and have appraisal orders that precede the Effective Date of this Permit shall continue to be considered eligible and authorized for acquisition for up to 12 months from the Effective Date of this Permit whereupon such eligibility ceases unless a purchase contract has been signed between the City and the seller.
- f. Every five years, from the Effective Date of the Permit any town or village shall have a 180 day window following these five year anniversary dates (12/24/2015, 12/24/2020, 12/24/2025) to reassess and if it so chooses to: 1) implement the provisions of Paragraph a. of this Special Condition or 2) rescind any prior designation pursuant to such procedures determined to be applicable by such Board with such resolutions provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption in order for them to take effect. If the Town of Shandaken exercises this option then the provisions of paragraph c. in this special condition are no longer in effect. In order to maintain eligibility and acquisition authorization for any pending parcel specific land acquisition process in those communities the City shall have three months after receiving the town or village board resolution in which to order an appraisal and 12 months for purchase contracts to be signed by the City and the seller otherwise such parcels become excluded from acquisition. The City shall not solicit additional acquisitions upon passage and subsequent submittal to NYSDEC and the City of the designation resolution.
- g. As provided for in Special Condition 7.c above, Riparian Buffer in fee or easements may be acquired by the City even if within a Designated Village or Hamlet Area if the Town or Village Board waives by resolution which may be adopted at any time pursuant to such procedures determined to be applicable by such Board thereby authorizing the Riparian Buffer Program and the specific parcels described and covered. Such resolutions must be provided to NYSDEC, NYSDOH and NYCDEP within 21 days of their adoption in order for them to take effect.
- h. For the Towns of Ashland, Delhi, Hamden, Walton and Windham, the parcels referenced in the cluster development Town Board resolutions attached as Exhibit 13 shall be eligible for coverage under this Special Condition only if such resolutions remain in force. Such resolutions shall encourage and authorize town planning boards to approve cluster development projects.

11. Acquisition Procedures.

At request of a town or village, the City shall make a presentation describing the process the City intends to use to solicit acquisitions.

- a. West of Hudson, the City may make a joint presentation to groups of up to three towns and/or villages. With the consent of the involved towns or villages, the City may also make a joint presentation to groups of more than three towns and/or villages West of Hudson, or to any number of towns and/or villages East of Hudson.
- b. Such presentation shall also include an indication of what land is eligible for acquisition in such town or village (including a map of the town or village reflecting the priority areas and applicable Natural Features Criteria) and the estimated acreage that the City expects to acquire.
- c. The City may solicit landowners directly and acquire such land except as restricted by Special Conditions (SC) 7 – Eligibility and Authorization for Acquisition, SC 8 – Vacant Lands Defined, SC 9 – Size and Natural Features Criteria and SC 10 – Exclusions from Acquisition. The City may also receive, and act upon, unsolicited inquiries from landowners at any time subject to the restrictions of Special Conditions 7, 8, 9 and 10.

12. Local Consultation.

- a. Prior to acquiring any land or Watershed Conservation Easements, the City will consult with the town or village in which the parcel is located. The consultation will ensure that the City is aware of and considers the town's or village's interests and that the terms of this permit are complied with.

- b. The City will provide a local government consultation package with copies to NYSDOH, EPA and NYSDEC that will: 1) identify for the town or village, and for the appropriate County and for NYSDEC, the parcels of any land or Watershed Conservation Easements for which the City has entered into an option or contract to purchase, any structures which may be located on the property; 2) state the City's determination of whether structures are uninhabitable or accessory; 3) include a map or maps depicting the tax parcel boundary of the acquisition property, including the location and attributes of "envelopes" within the proposed acquisition; 4) include an aerial photo of the affected property (if available); 5) identify exclusions (if any) from the acquisition; 6) describe any proposed recreational uses; 7) describe all historical uses including natural resources; 8) identify known available natural resources; 9) include the Community Review Fact Sheet; 10) include a brief summary concerning and map depicting the proposed acquisition and any adjacent proposed City acquisitions in fee or easements including rights of way or adjacent existing City or State owned land in fee or easement; 11) describe any proposed fencing and signing; 12) include the form of easement agreement (if an easement is being acquired); and 13) state that the parcel meets these acquisition criteria: a) Special Condition 9 Size and Natural Features Criteria, b) Special Condition 8 Vacant Lands Defined, c) Special Condition 7 Eligibility and Authorization for Acquisition and d) Special Condition 10 Exclusions from Acquisition.
- c. The City will diligently attempt to group together parcels for review by the town or village and to minimize the number of times it submits parcels for review, and will submit such parcels for review no more frequently than on a monthly basis. The City shall allow the town or village a total of 120 days to undertake all the following:
- review and assess the information contained in the City's submission;
 - conduct public review and interagency consultation where so desired by the town or village; and
 - submit comments to the City.
- e. The town or village review and comments (which may be supplemented with comments from the county) may include:
- consistency with the natural features criteria in Special Condition 9;
 - consistency with the size requirements in Special Condition 9;
 - consistency with the vacancy requirements in Special Condition 8;
 - consistency with local land use laws, plans and policies;
 - the City's proposed fencing and signing;
 - proposed recreational uses;
 - available natural resources and access thereto;
 - access to any development areas;
 - potable water;
 - sewage disposal;
 - consistency with set-back requirements and local land use regulation; and
 - natural resource criteria.
- f. In the event of a mortgage foreclosure, tax foreclosure or judgment sale, the City may submit a parcel for review to a town or village without obtaining an option or contract to purchase.
- g. The City will respond to local government comments and provide notice of any proposed City actions, within thirty (30) days of receipt. Unless a town or village notifies the City of its intent to file an appeal within thirty (30) days of receiving the City's response and an appeal is filed pursuant to paragraph h. below the City may proceed to acquire the parcels

identified in the local consultation process in the village or town. In the event of any dispute, the acquisition of any specific parcel involved shall not proceed except under the dispute resolution/final decision provisions of paragraph h. below.

- h. Disputes between the City and the town or village over whether a particular parcel meets the vacancy, size, or natural features criteria contained in this permit in Special Conditions 8 and 9 will be submitted by the City to NYSDEC (attention: NYSDEC Office of Hearings) prior to the City's acquisition or may be submitted by the disputing town or village no later than thirty (30) days of receiving the City's response to comments under paragraph g above. This dispute, will be resolved based upon the facts as submitted and the terms and conditions of this permit by NYSDEC through a designated Administrative Law Judge in the NYSDEC Office of Hearings. The responding party (the town or village, or the City) may make a submission to NYSDEC in response to the position advocated by the party initiating the dispute resolution process within fifteen (15) days following the City's receipt of the initial submission. NYSDEC shall resolve such dispute or issue a final binding decision within thirty (30) days of the responding party's submittal deadline. NYSDEC's decision shall be a final decision for purposes of Article 78 of the New York Civil Practice Law and Rules. Unless otherwise specified, either party (the City or the community) has sixty (60) days from the date of the NYSDEC decision to commence an Article 78 proceeding in respect of NYSDEC's decision. In the event NYSDEC does not resolve the dispute or issue a final decision within the thirty (30) day time period specified herein then the City may send a request to NYSDEC in writing by certified mail, return receipt requested with copies to the disputing town or village, to issue a final decision pursuant to this paragraph. The Petition in an Article 78 proceeding shall name the City as a Respondent. If within thirty (30) days of the receipt of this letter the dispute is not resolved or a final decision by NYSDEC is not issued then a final NYSDEC decision finding that the disputed acquisition parcels have met the vacancy, size, or natural features criteria contained in this permit in Special Conditions 8 and 9 shall be deemed to have been granted.
- i. To assist towns and villages in the Watershed in their review and comment on proposed City land acquisition in such towns and villages, and the designation of hamlets, commercial/industrial areas, and village extensions and periodic determinations with respect to such designations in Special Condition 10, the City will reimburse each town or village where the City seeks to acquire lands or Watershed Conservation Easements, for actual costs incurred, up to Thirty Thousand Dollars (\$30,000), in the West of Hudson Watershed, up to Twenty Thousand Dollars (\$20,000) in the East of Hudson portions of the Catskill and Delaware Watershed, and up to Ten Thousand Dollars (\$10,000), per town or village in the Croton Watershed and not in the Catskill/Delaware Watershed, Such funding has previously been allocated pursuant to MOA ¶ 148 and the 2007 FAD.

13. Fair Market Value.

- a. The purchase price of all land and Watershed Conservation Easements acquired shall reflect fair market value, as determined by an independent appraisal obtained at the direction of the City and performed by an independent, New York State certified appraiser.
- b. Notwithstanding (a) above, the City may acquire property at less than the fair market value at public auction or at a directly negotiated sale from a bank, other financial institution, or taxing authority in the context of a mortgage foreclosure, tax foreclosure, or legal judgment.
- c. Fair market value shall be determined in accordance with the following definition from the Uniform Standards of Professional Appraisal Practice adopted by the Appraisal Standards Board of the Appraisal Foundation, or in accordance with relevant successor language.
The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this

definition is the consummation of the sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
 2. Both parties are well informed or well advised, and acting in what they consider their best interest;
 3. A reasonable time is allowed for exposure in the open market;
 4. Payment is made in terms of cash in U.S. dollars, or in terms of financial arrangements comparable thereto; and
 5. The price represents the normal consideration for the property, sold unaffected by special or creative financing sales concessions granted by anyone associated with the sale.
- d. For purposes of determining fair market value if all other required governmental permits and approvals have been granted, the appraiser shall assume that any necessary City approvals have also been granted.
 - e. In determining the fair market value, the independent appraisers hired by the City will consider information from a second appraisal, provided by the landowner and made at the landowner's or a third party's expense, provided the second appraisal is made by a New York State certified appraiser and was completed no earlier than one year prior to the City's appraisal and no later than six (6) months after the owner received the City's appraisal. Upon request by the landowner or a third party, the City may extend the time period for completion of a second appraisal.

14. Schedule. The City will solicit acquisitions in accordance with the applicable solicitation plan prepared and submitted to NYSDEC, NYSDOH and USEPA pursuant to the 2007 FAD or its successor (Exhibits 7: 2007, Exhibit 8: 2008-10. The City may, at any time, respond to direct inquiries from property owners anywhere in the Watershed, subject to all applicable Special Conditions in this permit.

15. Recreational Uses: City Property Owned in Fee Simple for Watershed Protection.

- a. The City will consult during the 120-day review period specified in Special Condition 12 with NYSDEC, NYSDOH, USEPA local governments, and the appropriate regional Sporting Advisory Subcommittee, if any, regarding the recreational uses the City deems appropriate on newly acquired parcels in fee.
- b. The City shall allow historic recreational uses, including fishing, trapping, hiking, and hunting, to continue on newly acquired parcels in fee, subject to rules and regulations adopted or permits issued by NYCDEP, unless NYCDEP determines, on a rational basis, that such uses threaten public safety or threaten to have an adverse impact on water quality or NYCDEP operations related to water supply.
- c. The following recreational uses are more likely to be allowed on City land, if appropriate, subject to rules and regulations adopted, or permits issued, by NYCDEP: fishing (including fishing by boat) under regulation; hiking, especially where parcels intersect State trails, snowshoeing; cross country skiing; bird watching, educational programs, nature study and interpretation; and hunting (only in certain areas under certain conditions).
- d. The following activities are not likely to be allowed on City property even if the property was historically utilized for these purposes: boating (other than for permitted fishing by boat and the pilot boating program in paragraph g. of this condition); snowmobiling (except as per paragraph f. of this condition); camping; motorcycling; mountain bicycling; and horseback riding.
- e. Seven (7) years from the Effective Date of the Permit the City shall consult pursuant to paragraph 15.a above regarding recreational uses on City owned property owned in fee simple using the procedures in this special condition and based upon such consultation evaluate if there should be any changes in the allowable recreational uses specified herein. A report shall be prepared and submitted to NYSDEC within 6 months after such consultation. Thereafter, upon

request from NYSDEC, the City shall follow the consultation procedures described in 15.a above and prepare and submit a report to NYSDEC within twelve (12) months after receiving such request. Such requests will be made in writing, will include specific recommendations concerning changes in the allowable recreational uses for the City to consider, and may be made no more often than once every ten (10) years.

- f. Snowmobile Trails. The City will continue to allow snowmobile access on specific City-owned parcels under the following conditions:
 - i. A qualified organization must obtain a land use permit for trails that are part of a regional NYSDEC-sanctioned network to cross City property;
 - ii. Use of the trails must not pose a threat to water quality or NYCDEP operations related to water supply; and
 - iii. A qualified organization must take responsibility for establishment and maintenance of trails.
- g. Expanded Boating Program. The City will continue the Cannonsville Pilot Boating Program (for the purposes of this paragraph, the "Boating Program") including cooperating with CWC to complete the evaluation study to gather data from the Boating Program regarding its impact, if any, upon water quality, and providing recreational opportunities as well as establishing criteria for evaluating the Program. With this study in hand, NYCDEP shall consult with NYSDEC and NYSDOH prior to making any determination if the Boating Program should be continued and/or expanded to other City owned reservoirs.

16. Uses: LAP Fee and Easement Property.

- a. Permitted uses on land acquired in fee by the Land Acquisition Program (LAP): As described in Special Condition 15.b and c.
- b. Uses not likely to be allowed on LAP-acquired fee land: As described in Special Condition 15.d. above.
- c. Prohibited Uses on LAP-acquired fee land: as described in the declaration of restrictions contained in the grant of conservation easement to NYSDEC as shown in Exhibit 9 or as revised by NYSDEC in consultation with NYCDEP.
- d. Reserved Uses/Reserved Rights:
 - 1. The Reserved Uses/Reserved Rights that may be available on LAP Fee and Easement Property include, but are not limited to: communication towers, wind turbines, Farm Support Housing and other buildings used for rural enterprises (Watershed Agricultural Easements only), Commercial Forestry, Commercial Bluestone Mining, and public or private rights of way and utility easements.
 - 2. Watershed Conservation Easements Acquired after the Effective Date of this Permit.
 - a. The City will incorporate into NYCDEP Watershed Conservation Easements appraised on or after the Effective Date of this Permit provisions for the reserved uses/reserved rights listed in subparagraph d.1. above and also provide that the City must review such applications to exercise reserved uses/reserved rights on a case by case basis subject to the terms of the Easement and a determination that the proposed use will not pose a threat to water quality or NYCDEP operations related to water supply.
 - b. The City will ensure that Watershed Agricultural Easements appraised on or after the Effective Date of the Permit shall conform to the WAC model easement found in Exhibit 10, and shall provide the rights provided in paragraphs 2.s, 3, 8, 19, 20, and 24 of the model easement dated September 2, 2010.
 - c. Any unacquired easement parcels shall not be subject to paragraphs d.2.a. and b. of this condition if their appraisal orders precede the Effective Date of this

Permit and the landowner has declined the opportunity to convert the easement to the versions of the NYCDEP and WAC model easements described in paragraphs 16.d.2.a and 16.d.2.b above and a purchase contract has been signed between the City and the landowner/seller within 12 months from the Effective Date of this Permit. Otherwise paragraphs 16.d.2.a. and b. apply.

3. Watershed Conservation Easements Executed Prior to the Effective Date of this Permit.
 - a. Upon request from a grantor of an easement acquired prior to the Effective Date of this Permit, based on a specific proposal to undertake a use that would be a Reserved Use under this Permit but is not included in the existing easement, the City shall make (or shall ensure that its contractor makes) diligent efforts to execute and record amendments to the easement, or otherwise to allow the use if it is permissible without such an amendment, subject to reasonable conditions, so long as:
 - i. The grantor provides the following information about the proposed use:
 1. A project description;
 2. A map depicting the proposed area for the activity and approximate area(s) of disturbance;
 3. A list of all required regulatory approvals associated with the proposed use; and
 4. Information demonstrating that the proposed use will not pose a threat to water quality or NYCDEP operations related to water supply.
 - ii. Any modification to the easement is made subject to all applicable laws and requirements.
 - b. The City shall ensure the following actions: 1) within 180 days of the Effective Date of this Permit, WAC will send a letter to grantors of Agricultural Easements offering to amend existing Agricultural Easements; 2) the letter will specifically propose to add new language to the existing Easement, including but not necessarily limited to sections 2.s, 3, 8, 19, 20, and 24 of the updated model Agricultural Easement, attached as Exhibit 10; 3) the letter will state that WAC will pay for all costs associated with such amendments where grantors agree to amend; and 4) implementation of these provisions.
4. The NYS Conservation Easement for new fee parcels may include the reserved uses/rights as defined in 16.d.1 above. Such NYS Conservation Easements shall provide for the review and approval by the NYSDEC of each proposed wind energy tower/structure or communications tower/structure in accordance with the model NYS Conservation Easement attached as Exhibit 9 unless the NYSDEC waives such individual project review and approval in writing. The City may request on a case by case basis for specific project proposals that NYSDEC amend specific NYS Conservation Easements in order to provide for the wind energy or communications tower reserved uses enumerated in d.1 above. Any modification to such an easement or to the model easement shall be subject to all applicable laws and requirements.

17. Watershed Conservation Easements. In addition to acquisition in fee, the City may acquire Watershed Conservation Easements in accordance with Article 49 of the New York State Environmental Conservation Law and any implementing regulations. The Watershed Conservation Easements will be acquired at fair market value in accordance with Special Condition I3. Watershed Conservation Easements shall consist of Watershed Conservation Easements, Watershed Agricultural Easements, Watershed Forest Easements and Riparian Buffer Easements acquired by either the City or on behalf of the City as part of a contractual agreement between the

City and organizations or governmental agencies, individuals or companies pursuant to all the provisions of this permit.

18. Real Property Taxes: Newly Acquired in Fee under the City's Land Acquisition Program.

- a. The City will not challenge the initial assessed value or adjustments to the assessed value of parcels to be acquired pursuant to the land acquisition program set forth in this permit provided the initial assessed or adjusted value for such parcel does not exceed the fair market value of the parcel multiplied by the applicable equalization rate or a special equalization rate for that assessing unit. For purposes of this paragraph, fair market value equals the parcel's appraised value as finally determined by the City's independent appraiser.
- b. The City will not challenge future assessments on any parcel acquired pursuant to the land acquisition program set forth in this permit or the 1997 Water Supply Permit, provided that in any Town or Village both of the following two conditions are met: (1) the rate of increase of the total assessed value of all parcels purchased by the City under the land acquisition program, as measured from the assessment roll in any year over the assessment roll of the prior year is not greater than the equivalent rate of increase in total assessed value of all non-City-owned parcels classified as forest or vacant; and (2) the ratio of the total assessed value of all parcels purchased by the City under the land acquisition program in the town to the total assessed value of all taxable parcels in the town does not increase from the prior year (after excluding any City acquisitions not included in the prior year's calculation). With respect to each parcel purchased by the City, since the beginning of the LAP in 1997 as well as after the Effective Date of this Permit, this commitment with respect to challenges of future assessments shall last for thirty (30) years from the date of each purchase.
- c. The City will not seek to have any parcels acquired pursuant to this land acquisition program consolidated for purposes of reducing the City's property taxes.
- d. The City shall retain its right as a property owner to challenge in court, or otherwise, assessments of parcels purchased under the land acquisition program if the provisions of paragraphs (a) and (b) are not satisfied. In any such challenge, the City will not seek to have the assessed value of the parcel reduced below the highest value which would result in the assessed value of the parcel satisfying the limitation set forth in paragraph (a) or in the total assessed value of all parcels purchased by the City under the land acquisition program in the town satisfying the limitations set forth in paragraph (b) above.
- e. Except as provided in paragraph (c), the City retains all legal rights held by property owners with respect to any town-wide or county wide revaluation or update (as those terms are defined in Section 102, subdivisions (12-a) and (22) of the RPTL) currently being undertaken or which may be undertaken in the future.
- f. The City shall also make payment for real property tax and ad valorem levies upon properties covered by this Special Condition.
- g. The City shall assure the provisions of this special condition are incorporated into an instrument binding upon the recipient and if successors or assignees in the event of any property transfer or sale.

19. Real Property Taxes: Watershed Conservation Easements. The City shall support the enactment by the State Legislature of amendments as set forth in Exhibit 11 or its equivalent. Among other changes such amendments in Exhibit 11 would extend this statute so its provisions do not expire on 12/31/2016 and also expand property tax payment obligations by the City to include agriculturally exempt Watershed Agricultural Easements pursuant to Article 25-AA Agricultural and Markets Law acquired after 12/31/2010.

- a. Article 5, Title 4-a of the New York Real Property Tax Law is the applicable state law which applies to Watershed Conservation Easements and Watershed Agricultural Easements. After December 31, 2010 the City shall also be bound by the proposed amended provisions in Exhibit 11 unless it or its equivalent has been enacted into law. Should the current statute expire then the

City shall be bound by the provisions of Exhibit 11 in its entirety. Unless Exhibit 11 or its equivalent is enacted into statute the City may not enter into purchase contracts to acquire Watershed Conservation Easements (WCE) or Watershed Agricultural Easements (WAE) except in those towns or villages where the City has entered into agreements with each applicable local property tax and assessing authority or jurisdiction (Local Authority[ies]) to implement the proposed amended provisions of Exhibit 11 on the following schedule: 1) WAEs proposed for acquisition after 12/31/2010, 2) WCEs (including continuation for WAEs) proposed for acquisition after 12/31/2016. In the event the Local Authority[ies] does/do not execute within ninety (90) days a signed agreement provided by the City then the City may execute purchase contracts within that town or village. Exhibit 11 includes the City paying local property tax levies for agriculturally exempt Watershed Agricultural Easements pursuant to Article 25-AA Agricultural and Markets Law which are acquired after December 31, 2010 as well as the continuation past December 31, 2016 of the City's obligation to pay local property taxes for Watershed Conservation Easements and Watershed Agricultural Easements acquired by the City under the LAP. Such agreements shall expire only if Exhibit 11 or its equivalent is enacted into law.

- a. The City will provide to the respective Towns and Villages, as part of the local consultation process, and to the respective sellers, a generic description in plain language of the real property tax consequences to a seller arising from the City's purchase of a Watershed Conservation Easement.
- b. The City shall assure the provisions of this special condition are incorporated into an instrument binding upon the recipient and if successors or assignees in the event of any property transfer or sale.

20. Limitation on Transfers to Tax Exempt Entities. The City will not transfer land including Watershed Conservation Easements, acquired pursuant to this land acquisition program to a tax exempt entity unless the entity executes a binding agreement with the City to comply with the provisions of Special Conditions 18 and 19.a plus 19.c which includes payments in place of property taxes and ad valorem levies as well as with any agreements and requirements that run with the land. This binding agreement shall also provide for the tax exempt entity to enter into its own written agreements acceptable to and with each applicable local property tax and assessing authority or jurisdiction to make payments equal to real property tax and ad valorem levies to satisfy the provisions of this special condition and the binding agreement. The City shall also in each such binding agreement entered into pursuant to this Special Condition make each such local property tax and assessing authority or jurisdiction in which the land subject to transfer to a tax exempt entity is situated, a third party beneficiary. Such agreement will grant each such third party beneficiary the right to enforce against the tax exempt entity and obtain specific performance as a remedy as well as shall run with the land and apply to future grantees or assignees.

21. Land Held in Perpetuity for Watershed Protection. (a) The City will grant a conservation easement that shall run with the land on all land acquired in fee under the land acquisition program to NYSDEC to ensure that such land is held in perpetuity in an undeveloped state in order to protect the Watershed and the New York City drinking water supply. Such easement shall also provide that the Primacy Agency shall have enforcement rights or be specified as a third-party beneficiary with a right to enforce the easement. With respect to lands in Priority Areas 3, 4 or C, such easements will provide that, with the prior agreement of USEPA and NYSDOH, the City may sell such lands free of the easement restriction, in order to purchase already identified replacement lands located in a higher Priority Area. In addition, any lands to be sold shall be offered in the first instance to NYSDEC for the option to acquire pursuant to applicable New York State and NYC laws at fair market value or a mutually agreed upon acquisition price. If so, the replacement lands thus acquired will similarly be subject to conservation easements. The City will not use the granting of conservation easements to reduce property tax liability on the property it acquires. In order to acquire any replacement lands during the term of the land acquisition program, the City shall comply with all of the requirements of this permit. Replacement LAP land

acquisition shall be governed by the provisions of this permit which shall survive expiration for this express LAP purpose.

(b) Watershed Conservation Easements acquired by the City shall be held in perpetuity in order to protect the Watershed and the New York City drinking water supply.

22. Acquisition Reports. The City shall submit acquisition reports every six months from the Effective Date of the Permit to the Primacy Agency (USEPA or NYSDOH), NYSDEC, and the Watershed Protection and Partnership Council. Such reports will include the following information for all parcels and easements acquired during the reporting period: address; description of the property, including any easement; county and town where property is located; tax map number; acreage; closing date; and map of property. The acquisition report shall also contain cumulative totals of acreage solicited and acreage acquired identified by town and Priority Area. Such Reports may be consolidated with reports required to be submitted under a Filtration Avoidance Determination.

23. Water Conservation Program Updates and Approval. The City shall update its current Water Conservation Program dated December, 2006 (Exhibit 13) ("Program") every 5 years thereafter and submit four (4) copies and one electronic copy in PDF, or similar form, of the updated Program to the NYSDEC for approval by no later than six (6) months prior to the end of the five year period. The written Water Conservation Program must be submitted to NYSDEC with sufficient detail and analysis to explain any data, objectives, proposals, estimated savings, measurements, milestones, methods of documentation, results or conclusions contained therein.

24. Water Conservation Program Implementation. The City shall continue to carry out all elements of its approved Water Conservation Program ("Program"). Within one year after the approval of the latest Program by the NYSDEC, and annually thereafter, the permittee must submit to the NYSDEC four (4) copies and one electronic copy in PDF, or similar form, of a Water Conservation Report ("Report"). The Report must address each element of the approved Program and any additional water conservation measures planned or being carried out by the permittee. The Report must be in the same format as the Program and must also include an update on the progress of implementation of all elements of the Program to date, an identification of accomplishments over the previous year; and an explanation for any failure to accomplish an element of the Program. The Report shall also specifically include, but not be limited to, a table that includes the number of meters installed; leaks repaired; miles of water main repaired and replaced; miles of water main leak surveyed; hydrants repaired or replaced; water fixtures rebated and water conservation surveys completed for the City's five boroughs. Each category shall also include the estimated daily gallons of water saved by each action.

25. Programs to Foster Cooperation and Requirement to Fund Watershed Protection and Partnership Programs.

a. Pursuant to Section 15-1503(4) of the Environmental Conservation Law, in addition to the foregoing conditions, NYSDEC has determined that the implementation, by the City, of the following programs, originally established by the 1997 Watershed MOA, incorporated as conditions in the 1997, 2002 and 2007 FADs and made a condition of the 1997 Water Supply Permit, as well as those programs identified below will foster cooperation with persons affected by the land acquisition program and assure the LAP is just and equitable to all affected municipalities and their inhabitants and in particular with regard to their present and future needs for sources of water supply. Except as otherwise provided in this permit, the City is required to execute and maintain Valid and Enforceable Program Contracts which implement the programs set forth below and as further described in the following provisions of the MOA which are incorporated by reference as Exhibit 14, and the following Watershed Protection and Partnership Programs: Septic Remediation and Replacement Program; Septic Maintenance Program; Community Wastewater Management Program; Stormwater Retrofit Program; Local Consultation Program; Education and Outreach Program; Tax Litigation Avoidance Program; CWC Operating Funds; Watershed Agricultural Program; Stream Management Program; and East of Hudson Non-Point Source

Pollution Control Program. The City's obligation to execute and maintain Valid and Enforceable Program Contracts for such programs is an independent requirement of this permit and shall continue whether or not the Watershed MOA is valid and enforceable. Nothing in this Permit limits the City's obligations under the MOA.

<u>Exhibit 14 Paragraph</u>	<u>Description</u>
120	Funding of the Catskill Watershed Corporation.
121	SPDES Upgrades.
122	New Sewage Treatment Infrastructure Facilities for Towns, Villages and Hamlets and Community Wastewater Management Program
125	Stormwater Retrofits, including continuation thereof.
126	Sand and Salt Storage Facilities, including continuation thereof.
131	Public Education, including continuation thereof
136	Tax Consulting Fund, which is hereby replaced by the Tax Litigation Avoidance Program
141	Upgrades to Existing WWTPs to comply with Watershed Regulations.
144	Phosphorus Controls in Cannonsville.
148	Local Consultation on Land Acquisition Program., including continuation thereof.

For purposes of this Special Condition, a Valid and Enforceable Program Contract shall mean a contract: (i) for which the City has appropriated sufficient funds to fulfill its obligations under this special condition and to make payments as they become due and owing; (ii) which has been registered pursuant to section 328 of the City Charter; and (iii) which remains in full force and effect and enforceable under applicable law during the term required by this permit. A failure by the City to comply with the condition requiring a valid and enforceable program contract for a program shall not be a violation of this permit if (i) the City continues to make timely payments for the program in accordance with the terms of the relevant paragraph of the MOA and the applicable program contract or (ii) the City has properly terminated the contract pursuant to the terms thereof and the City complies with its obligations to continue to fund or complete the subject program. For purposes of this Special Condition, a payment to be made by the City shall not be considered made to the extent such payments are required to be refunded to the City. In order to ensure the continuity of the programs in paragraph "b" below, the City shall meet annually with CWC prior to the end of CWC's fiscal year (December 31) to evaluate and confirm the availability of adequate and sufficient funding to meet the City's obligations.

b. Watershed Protection and Partnership Programs. In order to continue watershed protection and partnership programs, the City shall provide adequate levels of funding for continuation of all of the Watershed Protection and Partnership Programs required in this permit and in the 2007 FAD and any subsequent FAD or FAD amendment including adequate funding to the CWC and WAC, as described and set forth below:

1. Septic Remediation and Replacement Program:
 - i. Through October 2013, consistent with the terms of the 2007 FAD and pursuant to the City's Program Agreement with CWC, the City shall continue to pay CWC One Million, Three Hundred Thousand Dollars (\$1,300,000) each quarter to fund the Septic Remediation and Replacement Program as established pursuant to Watershed MOA paragraph 124 and as subsequently modified under the 2002 and 2007 FADs. These funds include funds available

- for the Small Business Program and the Cluster System Program as set forth below. For the duration of this Permit, the City will continue to fund the Septic Remediation and Replacement Program at a level to allow a minimum of three hundred (300) septic systems per year to be remediated or replaced, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Septic Remediation and Replacement Program (including the Small Business Program and the Cluster System Program) shall be incorporated herein and made enforceable conditions of this Permit.
- ii. The City shall support the continued use of the Four Million Dollars (\$4,000,000) allocated under the 2007 FAD for the Small Business Program for the duration of this Permit for the purposes described in the 2007 FAD, as refined through the development of the Program Rules. For the duration of this Permit, the City will provide comparable and adequate funding for the Small Business Program, provided that CWC demonstrates that the need for such funding continues.
 - iii. The City shall support the continued use of the Two Million Dollars (\$2,000,000) allocated under the 2007 FAD for the Cluster System Program for the duration of this Permit for the purposes described in the 2007 FAD, as refined through the development of the Program Rules. The City agrees that cluster systems may be an effective solution to address certain problematic septic systems on lots with inadequate space and/or soils to accommodate individual systems in compliance with applicable regulations, and that rather than simple cooperative agreements among common users to a proposed cluster system that are only subject to private enforcement, municipal management and sewer district formation will be needed. Pursuant to the 2007 FAD, the City has identified thirteen areas/small hamlets that may be candidates for or in need of cluster systems. To determine the feasibility of such cluster systems, the City shall, in cooperation with CWC, consider the following issues: determining whether an individual town agrees that there is a need for a collective engineered intervention in a specific identified hamlet; identifying a willing host site for a collective system; establishing a sewer use ordinance; and overseeing project management by CWC or its agents. NYCDEP shall work with CWC to explore implementation of projects under these terms and to continue to examine the program terms to facilitate the advancement of cluster systems. In the event that CWC determines that it is not feasible to further pursue this program, the City shall allow CWC to allocate any remaining funds to either or both the Septic Remediation and Replacement Program or the Small Business Program.
2. Septic Maintenance Program: The City shall support the continued use of the One Million, Five Hundred Thousand Dollars (\$1,500,000) allocated and paid to CWC under the 2002 FAD for the Septic Maintenance Program. For the duration of this Permit, the City will provide additional funding, if necessary, to allow maintenance each year of 20% of the total number of septic systems eligible for maintenance under CWC's Septic Maintenance Program Rules, as revised February 28, 2008, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Septic Maintenance Program shall be incorporated herein and made enforceable conditions of this Permit.
 3. Community Wastewater Management Program: As set forth in the 2007 FAD and as a continuation of the New Infrastructure Program established pursuant to Paragraph 122 of the Watershed MOA, the City shall provide sufficient funding to design and complete Community Wastewater Management Program projects for the remaining communities as set forth in the list contained in MOA Paragraph 122. This includes the hamlets of Trout Creek, Lexington, South Kortright, Shandaken, West Conesville, Claryville, Halcottsville, and New Kingston. Consistent with the City's Program Agreement with CWC, the City shall make payment based on invoices from CWC as needed for project design and implementation costs. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Community Wastewater

- Management Program shall be incorporated herein and made enforceable conditions of this Permit.
4. Stormwater Retrofit Program: Through October 2013, the City shall support the continued use of the Four Million, Six Hundred Fifty Thousand Dollars (\$4,650,000) allocated under the 2007 FAD for the Stormwater Retrofit Program established pursuant to Paragraph 125 of the Watershed MOA. For the duration of the Permit, the City shall continue to fund the Stormwater Retrofit Program to allow the Program to continue at a level of activity that has been maintained since the inception of the Program, consistent with the processes set forth in CWC's Stormwater Retrofit Program Rules, as revised October 6, 2009, provided CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Stormwater Retrofit Program shall be incorporated herein and made enforceable conditions of this Permit.
 5. Local Consultation on Land Acquisition Program: The City shall continue to make available up to Thirty Thousand Dollars (\$30,000) per town or village in the West of Hudson Watershed allocated pursuant to Paragraph 148 of the Watershed MOA and the 2007 FAD for the Local Consultation Program, for purposes described in MOA Paragraph 148 and the 2007 FAD, for the duration of this Permit. The City shall also continue to make available up to Twenty Thousand Dollars (\$20,000) per town or village in the East of Hudson portions of the Catskill/Delaware Watershed allocated pursuant to MOA Paragraph 148 for the Local Consultation Program, for purposes described in the 1997 MOA, for the duration of this Permit. The City shall also continue to make available up to Ten Thousand Dollars (\$10,000) per town or village in the Croton Watershed and not in the Catskill/Delaware Watershed, for purposes described in the 1997 MOA, for the duration of this Permit.
 6. Education and Outreach Program: As set forth in the 2007 FAD, the City shall continue to make available up to Eight Hundred Thousand Dollars (\$800,000) to fund the Education and Outreach Program as established pursuant to Paragraph 125 of the Watershed MOA. Consistent with the City's Program Agreement with CWC, the City shall make payment based on invoices from CWC as needed for eligible projects. For the duration of the Permit, the City will continue to fund the Education and Outreach Program at a minimum level of Two Hundred Three Thousand, Seven Hundred Thirty Four Dollars (\$203,734) per year, provided that CWC demonstrates that the need for such funding continues. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund the Education and Outreach Program shall be incorporated herein and made enforceable conditions of this Permit.
 7. Catskill Watershed Corporation General Operating Expenses:
 - i. General Operating Expenses: For the duration of this permit, the City will continue to fund CWC General Operating Expenses as needed, based on requests for such funding from CWC, which the City shall not unreasonably deny. The City estimates that the total funding will be approximately Four Million, Three Hundred Seventy-Three Thousand, Six Hundred Twenty-Five Dollars (\$4,373,625) over the duration of this Permit. The City shall be bound to provide no less than this amount to fulfill such CWC funding requests.
 - ii. Stormwater Coordination Position: Through 2013, consistent with the terms of the 2007 FAD and pursuant to the City's Stormwater Technical Assistance contract with CWC, the City shall continue to pay CWC Forty-Eight Thousand Dollars (\$48,000) each year to fund a position at CWC to assist the regulated community in complying with the stormwater provisions of the City's Watershed Regulations. For the duration of this Permit, the City will ensure adequate funding and continue to fund an appropriate engineering position at CWC (salary plus cost of standard fringe benefits) to assist applicants undertaking regulated activities to comply with the stormwater provisions of the City's Watershed Regulations. In addition, conditions of any subsequent FAD or FAD amendment requiring the City to fund such an engineering position at the Catskill Watershed Corporation, including annual salary

- plus cost of standard fringe benefits, shall be incorporated herein and made enforceable conditions of this Permit.
8. Tax Litigation Avoidance Program: For the duration of this Permit, the City will fund the Tax Litigation Avoidance Program (TLAP) pursuant to which the City will provide funds in an initial amount of Five Hundred Thousand Dollars (\$500,000), and continued funding up to a cap of Two Million Dollars (\$2,000,000) plus a one time additional reasonable amount for any individual Assessing Authority to be used for the purposes of the TLAP to be administered by the CWC, for use by the jurisdictional local property tax assessing authorities (Assessing Authority[ies]) for the purpose of seeking to avoid the costs and risks of litigation over taxes assessed on dams, reservoirs, wastewater treatment plants and, to the extent applicable, sewer lines (Unique Properties) owned by the City. The City will seek to enter into a Program Agreement with CWC within nine months of the date of this Permit, setting forth the terms and conditions under which TLAP funds may be used by CWC to retain an expert to assist the Assessing Authority in (i) applying and updating templates for assessing Unique Properties owned by the City; (ii) evaluating a Valuation Report provided by the City to an Assessing Authority; and (iii) valuing Unique Properties where the Assessing Authority has undertaken a town-wide revaluation. In addition, under certain limited circumstances, the City will provide limited reimbursement for costs of litigation. The City will not challenge future assessments of Unique Properties, where templates have been established and the Assessing Authorities have used those templates, provided that the City does not dispute the manner in which the Assessing Authority has applied the template. Disputes will be resolved in accordance with the TLAP Program Agreement. The City shall provide a copy of the program agreement to NYSDEC when executed.
 9. Gap Funding: The City will provide reimbursement to CWC of any funds transferred from CWC's Future Stormwater Program to the CWC Septic Program and/or the CWC Stormwater Retrofit Program for the purpose of ensuring continuation of those programs and from the Catskill Fund for the Future to CWC Operating accounts and/or the TLAP pending final funding agreements under the terms of the Second Five Years of the 2007 Filtration Avoidance Determination ("2012 FAD Reauthorization") or of a subsequent Filtration Avoidance Determination, if such a Determination is issued ("2017 FAD" and/or 2022 FAD"). Such reimbursement from the City, including interest foregone by CWC by virtue of having temporarily allocated money from the Future Stormwater Program and/or the Catskill Fund for the Future, shall be provided for in agreements or change orders. The City shall not oppose such agreements and/or change orders being included as conditions of the 2012 FAD Reauthorization or the 2017 FAD.
 10. Geographic Information System: As set forth in the 2007 FAD, the City shall continue to disseminate data to stakeholders and the public as appropriate, including notification of data availability to communities and responses to requests for data.
 11. Watershed Agricultural Program: Through October 2012, consistent with the terms of the 2007 FAD and pursuant to the City's Program Agreement with WAC, the City shall continue to make available up to Thirty-Two Million Dollars (\$32,000,000) to fund the Watershed Agricultural Program. Consistent with the City's Program Agreement with WAC, the City shall make payment based on quarterly invoices from WAC, subject to the terms of the Program Agreement, for farm plans and associated best management practices (BMPs), forest plans and forest BMPs, and other eligible costs relating to WAC's farm and forestry programs. For the duration of this Permit, the City's commitments to fund the Watershed Agricultural Program pursuant to any subsequent FAD or FAD amendment shall be incorporated herein and made enforceable conditions of this Permit.
 12. Stream Management Program: Consistent with the terms of the 2007 FAD and pursuant to the City's contracts with Soil and Water Contract Districts in Delaware County (\$8,251,000), Greene County (\$10,748,506), Ulster County (\$4,460,000), and Sullivan County (\$3,292,684) and with

Ulster County Cornell Cooperative Extension (\$3,647,570), the City shall provide funding for the continuation of each of the existing Stream Corridor Management Program contracts. For the duration of this Permit, the City commits to fund the Stream Corridor Management Program pursuant to any subsequent FAD or FAD amendment which shall be incorporated herein and made an enforceable condition of this permit.

26. Restriction on Acquisition of Title.

a. The City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraph (c) if (1) the City has not appropriated funds for one or more of the programs listed in subparagraph (c) below and thereafter the City fails to make a payment that would otherwise be due and owing under a contract for such unappropriated program and (2) the City has not cured the failure to make such payment within thirty (30) days of the date the payment was due and owing. For purposes of this paragraph only, a failure to make a payment shall be deemed cured if the City makes such payment, with interest at 9% compounded annually from the date such payment was due and owing.

b. Except as provided in paragraph (a) above, the City shall not acquire title to land or Watershed Conservation Easements on land (hereinafter referred to as "Restrictions") as described below in subparagraph (c) if (1) for one or more of the programs listed below, the City does not have a valid and enforceable program contract during the term set forth in Exhibit 14 and thereafter the City fails to make a payment that would otherwise be due and owing under such invalid or unenforceable contract and (2) the City had not cured the failure to make such payment within 8 months of the date the payment would otherwise have been due and owing. The 8 month period is intended to provide the City with time to attempt to resolve the matter which caused the program contract to become invalid and unenforceable without interruption to the land acquisition program. For purposes of this paragraph only, a failure to make a payment shall be deemed cured if the City makes such payment, with interest at 6.5% compounded annually from the date such payment was due and owing.

c. The programs for which such failure to make payment and to timely cure late payment shall lead to Restrictions to the water supply permit under this subpart are: (1) with respect to acquisitions in West of Hudson: Catskill Watershed Corporation Funding, SPDES Upgrades; New Sewage Treatment Infrastructure Facilities; Sand and Salt Storage; Septic Remediation and Replacement Program; Septic Maintenance Program; Community Wastewater Management Program; Stormwater Retrofit Program; Education and Outreach Program; Tax Litigation Avoidance Program; Stream Management Program, (2) with respect to acquisitions in East of Hudson: Non-Point Source Control Program, and (3) with respect to acquisitions in the entire Watershed: Upgrades to Existing WWTPs to Comply with Watershed Regulations; Watershed Agricultural Program and Local Consultation on Land Acquisition.

d. If the water supply permit is Restricted under this Special Condition, the City shall not acquire title to land or Watershed Conservation Easements on land under this permit until, with respect to the program for which the failure to pay led to the Restrictions, the City has made all missed payments which the City failed to pay and which would otherwise be due and owing except that the City failed to maintain a valid and enforceable contract, as provided in paragraphs (a) and (b), as well as interest on such missed payments at the rate set forth in paragraphs (a) or (b), whichever is applicable.

e. The following process shall govern Restrictions on the City's acquisition of an interest in land or Watershed Conservation Easements on land pursuant to this water supply permit under this paragraph:

(i) The City shall notify in writing NYSDEC (Attention: Chief Permit Administrator) the individual members of the Executive Committee, and the CW Corporation as soon as practicable of the commencement of any litigation seeking to invalidate one or more program contracts. The

purpose of the notice is to provide the Parties at the earliest possible point in the litigation an opportunity to discuss such dispute. Additionally, the City will keep such parties advised of the status of the litigation.

(ii) If the conditions set forth in paragraphs (a) or (b) are met, the party to whom the City would otherwise have owed the missed payment ("Contracting Party") may notify the City, the Executive Committee, and NYSDEC in writing that the condition of this permit requiring a valid and enforceable program contract has been violated and that thereafter the City missed a payment under such contract, and that the City has not cured the failure to make such missed payment. The City shall have 10 days from its receipt of the notice to respond in writing to the Contracting Party, the Executive Committee and NYSDEC. If the City agrees with the notice or does not respond within 10 days, the City's permit shall be restricted without further proceedings and the City will not acquire title to land or Watershed Conservation Easements on land under this permit. If the City disputes the notice, NYSDEC shall have 15 days from its receipt of the City's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the condition requiring a valid and enforceable program contract has been violated and whether thereafter the City has missed a payment under such contract and whether the City has not cured the failure to make such missed payment. If NYSDEC determines that these criteria exist, it shall notify the City, the Executive Committee and the Contracting party of its determination within 5 days and the City will not acquire title to land or Watershed Conservation Easements on land under this permit.

(iii) If the water supply permit has been Restricted pursuant to subparagraph (d)(ii) above, and the City believes it has met the conditions set forth in paragraph (c) above so that the Restrictions should be lifted, the City may notify the Executive Committee, NYSDEC and the Contracting Party in writing. The Contracting Party shall have 10 days from its receipt of the City's notice to respond in writing to the City, the Executive Committee and NYSDEC. If the Contracting Party agrees with the City's notice or does not respond within 10 days, the City may resume land acquisition without further proceedings. If the Contracting Party disputes the notice, NYSDEC shall have 15 days from its receipt of the Contracting Party's response to determine, after consulting with the City, Executive Committee and Contracting Party, whether the missed payments have been paid with interest at the applicable rate. If NYSDEC determines that such missed payments have been paid with interest, it shall notify the City, the Executive Committee and the Contracting Party of its determination in writing within 5 days, and the City may thereafter resume land acquisition under this permit.

27. Primacy Agency Determination. The Primacy Agency has regulatory authority under the federal Safe Drinking Water Act and Surface Water Treatment Rule to review and approve any request by the City for a filtration waiver for the Catskill and Delaware portions of the Watershed and to incorporate and enforce conditions to any such Filtration Avoidance Determination it may issue. The Primacy Agency's authority is undiminished by this Water Supply Permit. If the Primacy Agency determines, as part of its review and approval process for such a request that the Natural Features Criteria as contained in Special Condition 9 and/or acquisition exclusions (hamlet or village designations) contained in SC 10 are having or have had a detrimental impact on the ability of the City to protect water quality by unduly restricting the acquisition of land in fee and Watershed Conservation Easements, the Primacy Agency may notify NYSDEC in writing (with copies to the MOA signatories and others upon request) to request the Natural Features Criteria be modified through the formal modification process as a new permit application as set forth in 6 NYCRR621.

28. Notices and Submittals. Except to the extent that any other paragraph specifically requires or authorizes a different form of notice, any notice required or permitted to be given hereunder shall be in writing, and shall be delivered by certified mail, postage prepaid, or by hand, or by overnight courier, or by telecopy confirmed by any of the previous methods, addressed to the receiving party at its address as shown on Exhibit 15 or at such

other or further address as the receiving party shall provide to the other parties in writing from time to time. If any organizations which are to receive any notice, material or information from the City under the terms of this permit are not established or cease to exist, such notice, material or information shall be submitted by the City to NYSDEC.

29. Riparian Buffers Program.

- a. The City shall allocate initially Five Million Dollars (\$5,000,000) of the LAP funds for a program for acquiring Riparian Buffers -in easement or fee as part of a Riparian Buffers Program (RBP) which shall be implemented within 18 months of the Effective Date of this permit and run for no less than 3 years thereafter.
- b. The goals, acquisition criteria, procedures (including implementing entity), and evaluation criteria for the RBP will be developed into a Report (PDI Report) with full City participation through an intergovernmental cooperative effort (RBP Program Development Initiative [PDI]) between the City, Coalition of Watershed Towns (CWT), the Town of Hunter and Greene Land Trust (lead implementing organization) funded by a grant from the Catskill Watershed Corporation (CWC) Local Technical Assistance Program ("LTAP Grant") with the input of a consultative working group including but not limited to NYCDEP, NYSDEC, NYSDOH, CWC, CWT, Delaware County, Greene County, Schoharie County, NRDC, Riverkeeper and NYPIRG.
- c. The City shall submit to NYSDEC a written recommendation regarding the implementation of the Program no less than 3 months before the implementation deadline in paragraph a. of this special condition. If the City's recommendation identifies a need to modify this permit then such recommendation shall be accompanied by a permit modification application. NYSDEC will, after consultation with NYSDOH, NYCDEP, and other agencies or local governments, make a written determination on whether or not it should be implemented and/or expanded beyond the Schoharie Reservoir Basin. Such written determination shall include addressing NYCDEP recommendations.
- d. Pursuant to Special Condition 7 above RBP acquisitions in fee or easement shall be subject only to the eligibility criteria of surface water features in Special Condition 9 Natural Features Criteria and the acquisition excluded areas (hamlet designations) in Special Condition 10. The acquisition exclusion areas (hamlets) may be waived in individual municipalities by the town or village boards by resolution which shall cover the Riparian Buffer Program and the specific parcels described and covered by such program.
- e. The RBP will be implemented in conjunction with one or more Stream Management Plans developed under the City's Stream Management Program, and will be carried out in partnership with one or more land trusts which shall be bound by contract to the City to implement and comply with the provisions of this permit. Consistent with the PDI Report, the land trust(s) will be responsible for coordinating with NYCDEP on tasks that may include but are not limited to: landowner outreach and contact, establishing eligibility and criteria; drafting legal documents; coordinating with NYCDEP to minimize multiple program solicitations; obtaining local approval to pursue acquisitions under the RBP that do not comply with the terms and conditions otherwise applicable to the LAP pursuant to this Permit; ordering appraisals and making purchase offers; acquiring eligible property interests; managing the Local Consultation process; identifying and implementing management practices linked to the goals of riparian buffer protection; stewarding, administering, monitoring, and enforcing the terms of riparian buffer easements or fee acquisitions; and allowing for public access on land acquired in fee simple where applicable. In the event a qualified land trust is not found then the City shall fully implement the program itself.
- f. An evaluation report on the effectiveness of the RBP meeting the requirements of this permit and Filtration Avoidance Determination as well as the goals and evaluation criteria to emerge from the PDI, including recommendations on any proposed changes, if necessary, to improve the program, shall be submitted by NYCDEP to NYSDEC within 6 months before the end of the initial 3 year program period in paragraph a. of this special condition. NYSDEC will evaluate

this program and, after consultation with NYSDOH, NYCDEP, as well as other agencies or local governments, make a written determination on whether or not it should be continued and/or expanded beyond the Schoharie Reservoir Basin. Such written determination shall include addressing NYCDEP recommendations.

30. Revocable Permits for Use of Watershed Property Owned In Fee by NYCDEP.

The City shall amend its revocable permit regulation Title 15, Chapter 17 (Issuance of Temporary Permits for the Occupation of City Property), Section 17-06 (Fees and Charges) of the Rules of the City of New York (RCNY) permit fee schedule to provide for a waiver or reduction for certain municipal and recreational uses.

31. Watershed Forest Conservation Easement Program.

- a. The City shall develop and implement a Watershed Forest Conservation Easement Program within 12 months from the Effective Date of the permit. The Watershed Forest Conservation Easement Program shall be implemented by the City and through WAC or another qualified local and/or regional land trust or by the City on its own. This program shall include the acquisition of Watershed Conservation Easements on eligible lands. The City shall initially commit Six Million Dollars (\$6,000,000) to support this program. Eligible lands shall include the following:
 - i. Land enrolled in WAC's Forest Management Program for which an Individual Landowner Forest Management Plan has been developed; or
 - ii. Land enrolled in NYSDEC's Forest Stewardship Program or Section 480A Forest Tax Law for which an Individual Landowner Forest Management Plan has been developed; or
 - iii. Other land important for watershed, water quality and/or forestry protection.
- b. This program shall be implemented for an initial period of (5) five years. NYCDEP shall submit a written evaluation on the effectiveness of the Watershed Forest Conservation Easement Program in meeting the requirements of this permit and Filtration Avoidance Determination and include recommendations concerning continuation and funding of this Program as well as on any proposed changes, if necessary, to improve the Program. This written evaluation is to be submitted to NYSDEC and NYSDOH (4) four years and (3) three months from the date on which the Watershed Forest Conservation Easement Program commences. NYSDEC will evaluate this Program and, after consultation with NYSDOH, NYCDEP, as well as other agencies or local governments, make a written determination on whether or not it should be continued and/or expanded. Such written determination shall include addressing the recommendations of NYCDEP. If the Program is implemented by WAC or another qualified local and/or regional land trust and a determination is made not to continue the program, all unused funds, including earnings thereon, shall be returned to the City and shall remain available for land acquisition.

- 32. Forest Management Plan.** The City is preparing a forest management plan for its watershed lands, pursuant to Section 4.3 of the 2007 FAD, which is due in November 2011. The plan will include a comprehensive forestry inventory on all lands owned by the City. The NYCDEP Forest Management Plan will include a discussion of fire risk management. The City will conduct a consultation process commencing no less than three months prior to the completion of the plan that will at a minimum include NYSDEC and Delaware County, as well as other Counties and any other interested stakeholders, to cover fire risk management aspects of the plan, forestry practices (including those of NYSDEC) and forest health. The plan shall contain an implementation schedule that shall go into effect once the plan has been submitted to and accepted by the Primacy Agency. The implementation schedule shall also provide for updating the plan 7 years from the Effective Date of the Permit and every 10 years thereafter when

requested in writing by either the Primacy Agency or NYSDEC. Such plan updates shall be in accordance with the provisions and process specified in this special condition.

33. Enhanced Land Trust Program. The City shall develop and implement a program to collaborate with land trusts to acquire properties including but not limited to land with habitable dwellings, in accordance with the provisions of Special Condition 8. Through this Program, in municipalities that have adopted resolutions allowing one or more specified land trusts to work with NYCDEP on acquisitions under this Program, land trusts may acquire property on behalf of the City in accordance with this permit. The City shall continue to participate in the Land Trust Working Group, with representatives of land trusts, the Coalition of Watershed Towns, CWC, and Delaware County, which has developed a number of terms and conditions for the Enhanced Land Trust Program and which will continue to provide guidance as the Program is implemented.

34. East of Hudson Non-Point Source Stormwater Program.

a. In order to foster continued partnership and cooperation in the protection of the City's water supply watershed, the City shall provide a total of Fifteen Million, Five Hundred Thousand Dollars (\$15,500,000) ("EOH NPS Fund") to the EOH Watershed Communities to help fund the first five year plan for the stormwater retrofit program to be implemented under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities. The City shall make Ten Million Dollars (\$10,000,000) of the EOH NPS Fund available within 12 months of the Effective Date of this Permit. Provided that no East of Hudson Community brings a legal challenge to this Special Condition of this Permit within 120 days of the Effective Date of this Permit, the City shall make the remaining Five Million, Five Hundred Thousand Dollars (\$5,500,000) of the EOH NPS Fund available within 6 months of receiving written notification that the first Ten Million Dollars (\$10,000,000) have been committed via binding agreements.

b. Up to Two Hundred Thousand Dollars (\$200,000) of the EOH NPS Fund will be available to the EOH Watershed Communities to prepare a report analyzing the potential opportunities for phosphorus reduction in stormwater runoff on lands owned by the City in the EOH Watershed, including a calculation of the total possible phosphorus reduction, the drainage area captured and treated, the estimated cost of such reduction, a description of the retrofit projects on City lands and a timetable for possible implementation of such projects.

c. Up to Fifty Thousand Dollars (\$50,000) of the EOH NPS Fund will be available for the establishment of a Regional Stormwater Entity to administer and coordinate compliance with the MS4 Program.

d. On or before December 31, 2013, the City shall enter into discussions with the NYSDEC and the EOH Watershed Communities regarding requirements for future EOH phosphorus reductions in stormwater as required under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities. In these discussions, the City will consider, among other things, any projects on City lands in the EOH Watershed that would be appropriate for the EOH Communities' Stormwater Management Programs identified in the report prepared pursuant to Paragraph b. above. The City shall make lands available for such projects so long as it determines that the projects will not pose a threat to water quality or NYCDEP operations related to water supply.

e. On or before December 31, 2014, if the City agrees to provide additional assistance to the EOH Communities to achieve the heightened requirements for phosphorus reductions applicable in the EOH Watershed, including but not limited to additional funding, the City shall request that this special condition be modified to incorporate such commitments. If City lands are identified as appropriate for stormwater management projects pursuant to Paragraphs b. and d. above, the City's making such lands

available shall constitute all or a portion of any additional assistance it agrees to provide. Any such required amendment of this special condition shall not require or constitute a reopening of any other provision of this permit. For the duration of this Permit, any City agreement to provide additional funding for the East of Hudson Non-Point Source Stormwater Program as described in this subparagraph shall be incorporated herein and made enforceable conditions of this Permit.

f. Consistent with the terms of the 2007 FAD, the City shall make available Four Million, Five Hundred Thousand Dollars (\$4,500,000) to the EOH Watershed Communities to help fund the first five year plan for the stormwater retrofit program implemented under the heightened requirements for phosphorus reduction in stormwater applicable to the EOH Watershed Communities in the Croton Falls and Cross River basins within the East of Hudson Watershed and any upstream/hydrologically connected basins and shall be made available on the same expedited basis as the funding set forth in subsection "a" hereof.

g. For the duration of this Permit, the City's commitment to fund the heightened requirements of the East of Hudson Non-Point Source Program (which encompasses the stormwater retrofit program and related projects) pursuant to any subsequent FAD or FAD amendment shall be incorporated herein and made enforceable conditions of this Permit. Consistent with the terms of the 2007 FAD, and as set forth in the MS4 SPDES General Permit No. GP-0-10-002 issued by NYSDEC on April 29, 2010 ("the MS4 Permit") (which contains the NYSDEC TMDL reduction requirements, including the heightened requirements applicable to the EOH Watershed Communities), the MS4 requirements are requirements of federal and State law. As stated in the MS4 permit, meeting those requirements is the responsibility of the EOH Watershed Communities.

h. On or before June 30, 2011, the City shall work with the NYSDEC and the EOH Watershed Communities to develop program rules that assure that the funds provided by the City pursuant to this special condition will be easily accessible by the EOH Watershed Communities and will be fully allocated for the implementation of the pending five-year plans for the stormwater retrofit program to be implemented under the heightened requirements for phosphorus reduction applicable to the EOH Watershed Communities, consistent with all applicable legal requirements and the City's fiduciary obligations.

Exhibits:[Corresponding Special Condition]

1. Map of Catskill and Delaware Water Supply and Watershed and Map of Croton Water Supply and Watershed [4c]
2. Catskill and Delaware Watershed Priority Areas West-of-Hudson [6.a]
3. Catskill, Delaware and Croton Watershed Priority Areas East-of-Hudson [6.a, 6.b]
4. List of Tax Parcels in West of Hudson Hamlet Areas [10.a.ii]
5. Maps of West of Hudson Hamlet Areas [10.a.ii]
6. Defined West of Hudson Roads Eligible for Land Acquisition Exemption [10.a.iv]
7. 2007 Solicitation Schedule [14]
8. 2008-2010 Solicitation Plan [14]
9. Model Conservation Easement to be Held by NYSDEC on City Fee Lands [16.c]
10. Model WAC Conservation Easement [16.d.2.b]
11. Draft Legislation to Amend Article 5, Title 4-a of the RPTL for Taxation of Watershed Conservation Easements [19]
12. City's Water Conservation Program dated December 2006 [23]
13. Cluster Development Resolutions [10.h]
14. Watershed Memorandum of Agreement [25 & 26] [incorporated by reference]
15. Notice Addresses

The Enhanced Land Trust Program

The Successor Water Supply Permit includes provisions for an Enhanced Land Trust Program (Program), an enhancement to existing opportunities for DEP to partner with land trusts. The Land Trust (LT) Working Group has agreed to the following parameters for the Program, which is designed to facilitate acquisition in fee of large properties with or without dwellings, where landowners prefer not to work directly with the City, or prefer not to subdivide out any habitable dwelling(s) as is otherwise required by the 1997 New York City Watershed MOA. Under the MOA, the City cannot acquire property with structures other than “uninhabitable dwellings.” While the City may acquire the vacant portions of such property, some landowners have not been willing to subdivide property that would, but for one or more habitable dwellings, be eligible for acquisition and desirable for water quality protection.

The Program will focus initially on what will be a defined group of properties whose sum total acreage will be agreed to at the outset of the Program. The LT Working Group, which met twice between July and September 2010 and will continue to meet for the duration of the Program to exchange information and address issues as they arise, may consider expanding the scope of the Program as implementation progresses. Under the Program, a LT could acquire an eligible property, convey the vacant portion(s) to the City, and separately convey the dwelling(s) (if any) on the remaining parcel(s) to another buyer. The Program parameters are as follows:

A. Land Trust eligibility for the Program and Local Consultation

LTs will consult with municipal governments about local planning goals and potential interest in partnering with LTs. Prior to the LT conducting any property-specific activities under the Program, a municipality must “opt in” to the Program for a specific LT’s involvement for 5-year periods, by resolution. Purchase contracts between a LT and landowner signed within the 5-year periods would remain valid and available for eventual conveyance to the City even if the town rescinded its resolution after the 5-year period. Pending negotiations that had not reached the contract stage by the end of a 5-year period, if the town rescinded its resolution, would not be ‘grandfathered’. An indeterminate period (following execution of the WSP Agreement) is available for town leaders to be informed about this Program by the Coalition and/or LTs, and for towns to formally resolve whether any or all LTs may work on this Program within their bounds. Where a property spans more than one town, the parcel containing the dwelling would be eligible for acquisition under the Program only if the town in which the dwelling exists has opted in to the Program.

- i. DEP will coordinate the Local Consultation (LC) process (WSP Special Condition XX) for properties to be acquired by LTs prior to the LT entering into a purchase contract with a seller. The process would serve for both the LT’s acquisition from the original landowner and also the City’s acquisition from the LT. If a deal is modified in a significant way before closing, LC would be resubmitted (as is the case currently when the City submits acquisitions for LC).

B. Habitable Dwellings:

- i. LTs may acquire property with habitable dwellings for purposes of selling one or more vacant portions, without dwelling(s), to the City. Following subdivision of the dwelling(s) as necessary to sell the vacant portion(s) to the City, the LT will promptly offer the parcel(s) with the habitable dwelling(s) for sale at a competitive price on the open market. No new or additional deed restrictions or covenants – other than those required to create sufficient access for new parcels, or to obtain subdivision approval – shall be created by the landowner or by the LT. The City will pay for all costs (except costs for those services donated by the LT and those not agreed to by the City and LT prior to entering a program contract or purchase contract) related to acquisitions, subdivisions, and dispositions by the LT, including costs associated with the “dwelling” parcel, subject to City approval of the configurations and costs of such projects. These costs, as agreed to under program contract or purchase contract, may include day-to-day property management issues (lawn mowing, snow-plowing, roof repairs, insurance, routine maintenance, etc) as well property taxes for a period up to X years or until the LT sells the properties (whichever is shorter).

C. Identification of Appropriate Properties or Categories of Properties:

- i. In order to be eligible for this Program initially, properties must:
 - a. Be of interest to the City for acquisition;
 - b. Be over X acres in size;
 - c. Be owned by landowners who are unwilling to subdivide out the dwelling themselves, and/or who have been unresponsive to – or rejected – the City’s solicitations.
- ii. The LT Working Group may modify these criteria over time.
 - a. Ground Rules:
 - i. Eminent domain shall not be used by the City or by any LT participating in the Program. (SC 5)¹
 - ii. This Program will not operate in Designated Areas where towns have opted to exclude LAP. (SC 10)
 - iii. This Program will be limited to those LTs that have been ‘accepted’ by town resolution.
 - iv. There will be no acquisition of properties which fail to meet Natural Feature Criteria thresholds. (SC 9)

Comment [DTT1]: The Working Group did not agree on a minimum size, but rather distributed a list of properties larger than 400 acres that otherwise met the criteria. The Group then agreed that 400 acres should not be the defining threshold, but that smaller properties should also be considered. DEP will develop a list so that towns have a sense of the maximum acreage that would be involved in their municipality.

¹ This and similar references are to Special Conditions in the Successor Water Supply Permit.

- v. There will be full transparency – LTs will explain to landowners that the vacant property would be planned for eventual conveyance to DEP, regardless of whether or not there is an advance written commitment that the City will acquire the property.
- vi. LTs will not seek tax exempt status for any property acquired under the Program. (SC 18)
- vii. If any covenants restricting recreational or other uses are added to a property's deed following the commencement of negotiations between a landowner and a LT, the property shall not be eligible under the Program (unless such covenants are removed).

D. Proposed Process:

- i. After the WSP is issued, CWT and/or any interested watershed county would hold meetings with LTs and towns to describe the Program. The presentation(s) would state that towns must elect by resolution to allow specifically-named LTs to pursue acquisitions within their borders that could result in purchase of property with dwellings, and that such resolutions would last a minimum of five years and remain in effect thereafter unless changed by the town no later than X months following the end of each five-year period. The presentations would also inform towns that LTs would potentially acquire properties at below FMV, and that dwellings would be subdivided and conveyed within the marketplace while vacant land would be conveyed to the City under rules established by the MOA and WSP. Acquisitions involving properties with habitable dwellings will not be allowed in Towns that do not adopt a formal resolution in regard to this Program.
- ii. In towns that pass such resolutions, the City and LTs will consult together about which properties would be solicited.
- iii. LTs will then contact landowners to pursue acquisitions; the LT will describe the entire program to landowners with full transparency.
- iv. If a landowner is interested in receiving a purchase offer, the City and LT will coordinate regarding project design, expected subdivision configuration, and ordering and review of appraisal,. An appraisal report will be ordered, reflecting the existing configuration of the property; if a landowner accepts the offer within six months of receiving it, a second report may be commissioned which would reflect the expected configuration following subdivision. The former value will be the basis of the purchase offer by the LT to the landowner,² while the latter value will reflect the FMV price to be

Comment [DTT2]: This detail has not been addressed by the LT Working Group yet.

² As discussed below, if the LT has donated its staff time to the project, the LT may negotiate a price for less than FMV with the seller, if and as such process is explained by the LT to the seller. Under certain circumstances, a landowner may take advantage of donating a portion of the purchase price to the land trust in a structured "bargain sale".

paid by the City to the LT as well as the FMV for the subdivided portion with the dwelling. If subdivision approval is sought during the purchase contract, the plat should not be filed until after the conveyance from seller to LT, to ensure that the appraisal upon which FMV was established matches the configuration acquired. LTs have requested and the City has agreed to revise its appraisal policy for this Program to provide for a two-year window during which the fair market value representing the City's purchase offer to the LT would remain valid. This is because the time between the LT purchase offer to the landowner and the LT entering contract with the City is likely to be considerably longer than the City's current policy window of six months. Following review of the appraisal report by the City and LT, the LT will present a purchase offer to the landowner.

- v. If a landowner accepts the purchase offer, the City shall coordinate Local Consultation prior to the LT entering contract with seller, or alternatively the LT can enter contracts contingent upon results of Local Consultation that might influence whether or how a project can proceed.
- vi. If such local requirement exists, septic percolation / test pit requirements (for the vacant parcel(s) to be subdivided and conveyed to the City) may be waived by the town.
- vii. The City will directly assume the costs of the following specific site services through its vendors during the LT's purchase contract in order to minimize (a) unnecessary duplicative costs by the LT, and (b) the time needed for eventual conveyance to the City:
 - 1. Appraisal report(s)
 - 2. Survey (including subdivision costs up to \$5,000 for subdivision of one dwelling and \$3,000 for each additional dwelling or parcel outside the watershed that requires independent subdivision);
 - 3. Site inspection (phase I and/or II) reports;
 - 4. Title report
- viii. During or prior to the purchase contract between landowner and LT, subdivision will take place. If subdivision occurs prior to this contract, the City may not pay vendors for services directly, in which case City and LT may need to negotiate a structure for reimbursement. If the property being subdivided prior to contract is not placed under contract, the City will have no obligation to pay for such costs.
- ix. After the LT acquires the property, the City and LT will as quickly as possible enter into a purchase agreement for the vacant parcel, and the LT will seek to sell the "dwelling parcel" to the highest bidder on the open market. If the eventual selling price of the dwelling parcel is more than X% higher than the fair market value as established by the most recent

Comment [DTT3]: This amount is to be sufficient to include at least the LT's transaction costs not covered by the City, because the LTs are not willing to track all such incidentals, staff time, etc.

appraisal, [REDACTED] The City will pay for the LT's carrying costs – including property taxes and agreed-upon maintenance – for both the 'vacant' and 'dwelling' properties during the period of LT ownership. The LT will maintain the 'dwelling parcel' in "as-is or better" condition during the term of its ownership.

Comment [DTT4]: This is a placeholder; the land trusts may not be willing to establish such an account, and there remains the question of "whether funds are fungible" to address.

- x. The City acquires the vacant parcel and a private buyer acquires the 'dwelling parcel', if any. If, after X years, the LT does not sell the 'dwelling parcel', the City shall have no further liability and LT shall remain responsible for maintenance and property tax payments until such time as the parcel is conveyed to a private buyer.

Fair Market Value (FMV).

- a. The purchase price of all land acquired by the City from a LT shall reflect FMV, as determined by an independent appraisal obtained by an independent, New York State certified appraiser commissioned by the City jointly with the LT. The purchase price of all land acquired by a LT from a landowner shall reflect FMV, as determined by an independent appraisal obtained by an independent, New York State certified appraiser commissioned by the City jointly with the LT, or at less than such FMV as subject to the conditions described herein.
- a. Notwithstanding other procedures outlined herein, and only in compliance with the MOA, an LT or the City may acquire property at less than the fair market value at a public auction or at a directly negotiated sale from a bank, other financial institution, or taxing authority in the context of a mortgage foreclosure, tax foreclosure, or legal judgment.
- b. For the purpose of determining FMV if all other required governmental permits and approvals have been granted, the appraiser shall assume that any necessary City regulatory approvals have also been granted.
- c. In determining the FMV, the independent appraisers hired by the City will consider information from a second appraisal, provided by the landowner and made at the landowner's, provided the second appraisal is made by a New York State certified appraiser and was completed no earlier than one year prior to the date of the City's appraisal and no later than six (6) months after the owner received the City's appraisal. Upon request, the City may extend the time period for completion of a second appraisal.

End of document

WAC TRANSPARENCY POLICY

Preamble

The effectiveness of the Watershed Agriculture Council (hereinafter called WAC or the Council) has and will continue to be rooted in an all inclusive approach to governance of the organization as well as planning and implementation of programs. The Council is committed to transacting business in an open and transparent manner. Although WAC is not subject to the New York State Public Officers Law, Pub. Off. Law § 84 *et seq.*, including but not limited to the Freedom of Information Law and the Open Meetings Law, and members of its board and committees are not public officers within the meaning of that law, WAC is nevertheless committed to transacting business in an open and transparent manner similar to the procedures contained in the Public Officers Law.

Disclosure of Documents and Records:

1. Policy.
 - a. The Council, Executive Committee, and Easement Committee will make available for public inspection and copying all records, except those that are exempt from disclosure as hereinafter set forth. Minutes of the Council, Executive Committee of the Council, and the Easement Committee will be available within five business days after they have been approved, generally at the next meeting of the appropriate body. Minutes disclosed to the public will not contain information that is exempt from disclosure as provided herein or, if any such exempt information is contained in the minutes, such information will be redacted prior to the minutes being disclosed to the public.
2. Procedure.
 - a. Requests for documents should be made to the Executive Director of the Council. Within five business days of the receipt of a written request for a document or record reasonably described, WAC shall: (1) make such record available to the person requesting it, (2) deny such request in writing or (3) furnish a written acknowledgement of the receipt of such request and a statement of the approximate date, which shall be reasonable under the circumstances of the request, when such request will be granted or denied. WAC shall not deny a request on the basis that the request is voluminous or that locating or reviewing the requested records or providing the requested copies is burdensome. WAC shall make available only documents that actually exist. It shall have no obligation to produce, create or compile documents or records that are not maintained by WAC, even if the information requested does exist in other forms.
 - b. If WAC determines to grant a request in whole or in part, and if circumstances prevent disclosure to the person requesting the record or records within twenty business days from the date of the acknowledgement of the receipt of the request, WAC shall state, in writing, both the reason for the inability to grant the request

within twenty business days and a date certain within a reasonable period, depending on the circumstances, when the request will be granted in whole or in part.

- c. Upon payment of the reasonable fee prescribed therefor, WAC shall provide a copy of such record and certify to the correctness of such copy if so requested, or as the case may be, shall certify that it does not have possession of such record or that such record cannot be found after diligent search.
 - d. WAC shall, provided it has reasonable means available, accept requests for records submitted in the form of electronic mail and shall respond to such requests by electronic mail if the documents requested are available in digital format.
3. Documents and Records Exempt from Disclosure.
- a. The following documents and records are exempt from disclosure pursuant to this Policy: (a) if they are specifically exempted from disclosure by state or federal statute; (b) if disclosed would constitute an unwarranted invasion of personal privacy as determined by the Council; (c) if disclosed would impair present or imminent contracts, contract negotiations, or collective bargaining negotiations; (d) are trade secrets or are submitted to WAC by a commercial enterprise or derived from information obtained from a commercial enterprise and which if disclosed would cause substantial injury to the competitive position of the subject enterprise; (e) are compiled for law enforcement purposes; (f) if disclosed could endanger the life or safety of any person; (g) are inter-agency or intra-agency materials which are not: (I) statistical or factual tabulations or data; (II) instructions to staff that affect the public; (III) final agency policy or determinations; or (IV) external audits; and (h) if disclosed, would jeopardize the capacity of WAC to guarantee the security of its information technology assets, such assets encompassing both electronic information systems and infrastructures.
4. Appeals.
- a. Except as provided in paragraph five, below, any person denied access to a record may within thirty days appeal in writing such denial to the Council, which shall consider such appeal at its next meeting after receipt of such appeal, and fully explain in writing to the person requesting the record the reasons for further denial, or provide access to the record sought.
 - b. A person denied access to a record in an appeal determination under the provisions of subparagraph (a) of this paragraph may initiate the Binding Dispute Resolution Process described below within sixty days of such denial.

5. Special Conditions Related to Trade Secrets.

- a. A person who submits any information to WAC may, at the time of submission, request that WAC except such information from disclosure as a trade secret. Furthermore, a person or entity who submits or otherwise makes available any records to WAC may, at any time, identify those records or portions thereof that may contain critical infrastructure information, and request that WAC except such information from disclosure under this Policy. Where the request itself contains information which if disclosed would defeat the purpose for which the exception is sought, such information shall also be excepted from disclosure. The request for an exception shall be in writing and state the reasons why the information should be excepted from disclosure. Information submitted as provided in this paragraph shall be excepted from disclosure and be maintained apart by WAC from all other records until fifteen days after the entitlement to such exception has been finally determined or such further time as ordered by a court of competent jurisdiction.
- b. On the initiative of WAC at any time, or upon the request of any person for a record excepted from disclosure pursuant to this subdivision, WAC shall:
 - i. inform the person who requested the exception of WAC's intention to determine whether such exception should be granted or continued;
 - ii. permit the person who requested the exception, within ten business days of receipt of notification from WAC, to submit a written statement of the necessity for the granting or continuation of such exception;
 - iii. within seven business days of receipt of such written statement, or within seven business days of the expiration of the period prescribed for submission of such statement, issue a written determination granting, continuing or terminating such exception and stating the reasons therefor; copies of such determination shall be served upon the person, if any, requesting the record and the person who requested the exception.
- c. A denial of an exception from disclosure under subparagraph (b) of this paragraph may be appealed by the person submitting the information and a denial of access to the record may be appealed by the person requesting the record in accordance with this subdivision:
 - i. Within seven business days of receipt of written notice denying the request, the person may file a written appeal from the determination of the agency with the head of WAC, the chief executive officer or governing body or their designated representatives.

- ii. The appeal shall be determined within ten business days of the receipt of the appeal. Written notice of the determination shall be served upon the person, if any, requesting the record and the person who requested the exception. The notice shall contain a statement of the reasons for the determination.
- d. Binding dispute resolution to review an adverse determination pursuant to subparagraph (c) of this paragraph may be commenced pursuant to the binding dispute resolution process described below within sixty days of such determination.

WAC Open Meetings:

1. WAC will provide notice of Council, Executive Committee, and Easement Committee meetings at least one week prior to the meetings on its web site, www.nycwatershed.org. (with the exception of emergency meetings). WAC will also provide notice of such meetings by electronic mail to anyone who requests such notice by sending a request to info@nycwatershed.org.
 - a. The notice shall include the time and location of the meeting as well as a proposed agenda.
 - b. Meetings of the Council, Executive Committee, and the Easement Committee will be open to the public except when the Council, Executive Committee, or the Easement Committee goes into executive session for the purposes hereinafter set forth.
 - c. The agenda provided to the public will identify the topics proposed to be discussed in such executive sessions, but will not include names or any other identifying information associated with specific properties to be discussed in executive session.
 - d. The Council, Executive Committee, and the Easement Committee will take minutes at all meetings, which will consist of a record or summary of all motions, proposals, resolutions and any other matter formally voted upon and the vote thereon. Minutes will consist of a record or summary of the final determination of such action, and the date and vote thereon, provided, however, that such summary need not include any matter which is not subject to disclosure pursuant to this policy.
 - e. No voting may take place in executive session. The Council, Executive Committee, or the Easement Committee may go into executive session upon a majority vote of the members present, taken in an open meeting pursuant to a motion identifying the general area or areas of the subject or subjects to be considered, for the following purposes:

- (a) matters which will imperil the public safety if disclosed;
- (b) any matter which may disclose the identity of a law enforcement agent or informer;
- (c) information relating to current or future investigation or prosecution of a criminal offense which would imperil effective law enforcement if disclosed;
- (d) discussions regarding proposed, pending or current litigation;
- (e) contract or collective bargaining negotiations;
- (f) the medical, financial, credit or employment history of a particular person or corporation, or matters leading to the appointment, employment, promotion, demotion, discipline, suspension, dismissal or removal of a particular person or corporation or matters that, if discussed in public would constitute an unwarranted invasion of personal privacy; or
- (g) the proposed acquisition, sale or lease of real property or interests therein, including the name of the property owner, the exact location of the property and the amount intended to be paid for the property or interest therein.

2. Any person who is allegedly aggrieved by being barred from a public meeting or was allegedly damaged by the failure of WAC to provide notice of a public meeting in the manner set forth above may initiate the binding dispute resolution process described below within sixty days of the date the minutes of such meeting have been (or should have been, pursuant to this Transparency Policy) made available to the public. In any such proceeding, if the ALJ determines that WAC failed to comply with this policy, the ALJ shall have the power, in its discretion, upon good cause shown, to declare that WAC violated this policy and/or declare the action taken in relation to such violation void, in whole or in part, without prejudice to reconsideration in compliance with this policy.
3. An unintentional failure to fully comply with the notice provisions set forth in paragraph 1 above shall not be grounds for invalidating any action taken at a meeting of the Council, Executive Committee, or the Easement Committee.

Binding Dispute Resolution:

1. If a dispute arises in connection with WAC's compliance with this Transparency Policy, following any appeal provided for above, the allegedly aggrieved party may refer the dispute to binding arbitration by requesting in writing that NYSDEC appoint an Administrative Law Judge ("ALJ") to act as an Arbitrator to conduct the arbitration and issue a binding determination. The ALJ shall conduct the arbitration under the version of

the AAA Commercial Dispute Resolution Procedures Expedited Procedure Rules then in effect and/or, upon the consent of all parties, a less formal procedure consistent with the nature and complexity of the dispute.

2. The party seeking arbitration shall provide simultaneous notice to the other party by certified mail with return receipt requested or by overnight mail. The request shall state with particularity the nature of the issue in question.
3. Except as provided below, each party will bear its own costs, including half of any costs assessed by NYSDEC for the ALJ's time and expenses. If the ALJ determines that WAC failed to comply with its Transparency Policy, WAC will be solely responsible for any costs assessed by NYSDEC for the ALJ's time and expenses. If the ALJ determines that WAC has complied with its Transparency Policy alleged aggrieved party will be solely responsible for any costs assessed by NYSDEC for the ALJ's time and expenses.
4. In the case of a decision by the ALJ that WAC failed to disclose a document or record that it should have disclosed pursuant to this Policy, the sole authority of the ALJ shall be to order its disclosure and to allocate the costs and expenses of the binding dispute resolution process as set forth above. In the case of a decision by the ALJ that WAC took an action in violation of the open meetings policy contained herein, the authority of the ALJ shall be limited to rescinding the action or actions taken at such meeting that in fact damaged the party initiating the dispute resolution process (if the ALJ determines that rescission is the appropriate resolution in light of the circumstances presented) and to allocate the costs and expenses of the binding dispute resolution process as set forth above. This binding dispute resolution process is intended to address only the failure of WAC to comply with this Policy. The ALJ shall not have the authority to review the substance of actions taken by the Council or the Easement Committee. The decision of the ALJ is binding upon the parties and may be filed and enforced as a judgment.

Attachment 4:

Estimated Schedule for Development of WAC Reserved Rights Guidelines

Reserved Rights Guidelines

Completed

1. Timber Harvest – Forest Management Plan – 5/7/2009
2. Rights of Way (newer version of CE) – 7/15/2010
3. Timber Harvest – Forest Harvest Plan – 10/1/2009
4. Subdivision (two approvals – preliminary and final) – 10/2/2008

Planned for 2011

5. Accumulation or storage of debris or refuse outside an ADA
6. Future Acceptable Development Area citing
7. Rural Enterprise buildings in ADA
8. Septic System outside ADA (newer version of CE)
9. Stream Bed and Bank Work
10. Wind Turbines, Cell Towers and Commercial Antennae outside ADA

Planned for 2012

11. Agricultural Structures greater than 5000 sq ft aggregate outside an ADA
12. Application of domestic septic effluent, or commercial or industrial sewage sludge
13. Bluestone Mining
14. Creation of Farm Support Housing in ADA
15. Pesticide and Fertilizer application in an FCEA
16. Recreational structures outside ADA over 1000 sq ft aggregate

REAL PROPERTY TAX LAW
ARTICLE 5. ASSESSMENT PROCEDURE
TITLE 4-A. ASSESSMENT AND TAXATION OF WATERSHED CONSERVATION EASEMENTS
AND WATERSHED AGRICULTURAL EASEMENTS ACQUIRED BY OR ON BEHALF OF THE CITY
OF NEW YORK FOR WATERSHED PROTECTION PURPOSES

§ 583. Definitions

As used in this title:

1. "City" means the city of New York.
2. "Tax", "taxes" and "taxation" mean a charge imposed on real property by or on behalf of a county, city, town, village, or school district for municipal or school district purposes, and any special ad valorem levy or special assessment.
3. "Watershed agricultural easement" means a watershed conservation easement which allows the land subject to such easement to be utilized in agricultural production.
4. "Watershed conservation easement" means an easement, covenant, restriction or other interest in real property purchased by or on behalf of the city of New York [on or before December thirty-first, two thousand sixteen] that is located in those areas of the counties of Delaware, Dutchess, Greene, Putnam, Schoharie, Sullivan, Ulster and Westchester located in the watershed of the New York city water supply, created under and subject to the provisions of article forty-nine of the environmental conservation law which, for the purpose of maintaining the open space, natural condition, or character of the real property in a manner consistent with the protection of water quality generally and the New York city water supply specifically, limits or restricts development, management or use of such real property.

§ 584. Taxation of watershed conservation easements and watershed agricultural easements

Any watershed conservation easement shall be subject to taxation for all purposes except as hereafter provided. A watershed agricultural easement shall be subject to taxation as provided in section five hundred eighty-five of this title. The procedures set forth in this title shall govern the levy and payment of taxes on watershed conservation easements and watershed agricultural easements.

§ 585. Taxation or exemption of watershed agricultural easements

1. Any watershed agricultural easement acquired before January first, two thousand eleven shall be exempt from taxation on any assessment roll on which the land subject to the easement qualifies for and receives an agricultural assessment pursuant to article twenty-five-AA of the agriculture and markets law.

2. Any watershed agricultural easement which burdens land which does not receive an agricultural assessment pursuant to article twenty-five-AA of the agriculture and markets law or which is acquired on or after January first, two thousand eleven shall be subject to taxation for all purposes. The taxes levied on such easement shall be levied as provided in this title.

§ 586. Assessment of watershed conservation easements and watershed agricultural easements

1. Upon acquisition of a watershed conservation easement or a watershed agricultural easement, there shall be determined an allocation factor applicable to each parcel subject to such easement. The allocation factor shall be the portion of the value of each parcel which the easement represents, expressed as a percentage. This percentage shall be a fraction, the numerator of which is the fair market value of the easement as finally determined by the city's independent appraisal and the denominator of which is the fair market value of the land subject to the easement, exclusive of improvements and unencumbered by the easement, as finally determined in the city's independent appraisal. The city shall forthwith certify each such allocation factor to the appropriate assessing unit and to the owner of the land subject to the easement. The city shall supply to the assessing unit and the state board the following information used in conjunction with the acquisition of the easement:

(a) the fair market value of the easement as finally determined in the city's independent appraisal;

(b) the fair market value of the land subject to the easement exclusive of improvements and unencumbered by the easement as finally determined in the city's independent appraisal;

(c) the fair market value of each improvement, on the land subject to the easement, as finally determined by the city's independent appraisal;

(d) the name and address of the owner;

(e) the location of the parcel including the tax map parcel designation;

(f) the date the easement was acquired; and

(g) such other information as the assessor may subsequently require for assessment purposes.

2. The assessment of a watershed conservation easement or watershed agricultural easement shall be determined by multiplying the allocation factor for that easement as computed in subdivision one of this section by the assessment determined by the assessor for the land subject to such easement exclusive of the improvements thereon. After subtracting the assessment for each watershed conservation easement or watershed agricultural easement from the parcel's total assessment, the remaining assessment shall be entered on the assessment roll as taxable to the owner of the property. Each watershed conservation easement or watershed agricultural easement, whether it encumbers the entire parcel or only a portion thereof, shall be entered as a separate parcel on the taxable portion of the assessment roll and shall be assessed in the name of the city of New York.

3. Not later than twenty days prior to the date provided by law for the completion of the tentative assessment roll in any assessing unit in which watershed conservation easements or watershed agricultural easements are subject to taxation, but in no event any earlier than the taxable status date for such roll, the assessor shall notify the city of the amount of the assessments of such easements and the amount of the assessments of the lands subject to such easements. In the case of a village which has enacted a local law as provided in subdivision three of section fourteen hundred two of this chapter, the town or county assessor, who prepared a copy of the applicable part of the town or county assessment roll

for village tax purposes, shall also notify the city of the amount of the assessments of such easements and the amount of the assessments of the lands subject to such easements located within the village.

4. The city and the owner of the burdened parcel shall each be a person aggrieved by the assessment of the parcel or parcels burdened by watershed conservation easements or watershed agricultural easements for the purpose of seeking administrative and/or judicial review of such assessments. Whenever the city or property owner seeks administrative or judicial review of the assessment of the land subject to such easement, the party seeking review shall provide a copy of the complaint or petition to the other party with an interest in the parcel subject to the easement within twenty days of the filing of a complaint or the service of a petition. The noncomplaining party (owner or city) shall be deemed a party to the proceeding with full rights to participate and bound by the determination of such proceeding.

5. (a) Where a watershed conservation easement or agricultural conservation easement is acquired:

- (i) On a parcel of property which is otherwise fully exempt from taxation, the assessor shall determine the taxable [assessment] assessed value of the easement by multiplying the allocation factor by the total assessed value of the land; or
- (ii) On a parcel of property which is partially exempt from taxation, the assessor shall determine the taxable [assessment] assessed value of the easement by multiplying the allocation factor by the total assessed value of the land; or
- (iii) On a parcel of property which is partially exempt from taxation, the taxable assessed value of the burdened parcel shall be calculated by pro-rating the partial exemption in the same proportion as the allocation factor. The owner of the burdened parcel shall be entitled to the pro-rated portion of the exemption.

(b) The provisions of this subdivision shall not apply to [parcels receiving an agricultural assessment pursuant to article twenty-five-AA of the agriculture and markets law] watershed agricultural easements as described in subdivision one of section five hundred eighty-five of this title or to parcels burdened by such easements.

[6. Whenever a watershed conservation easement or watershed agricultural easement encumbers only a portion of a parcel, the assessor shall henceforth enter that portion of the parcel encumbered by such easement as a separate parcel on all subsequent assessment rolls.]

7. Whenever a watershed conservation easement or watershed agricultural easement encumbers a parcel containing improvements, those improvements shall be separately assessed in the name of the owner thereof.

§ 587. List of watershed conservation easements and watershed agricultural easements

The city shall annually transmit to the state board, to the assessors of each assessing unit in which the city has acquired watershed conservation easements and watershed agricultural easements, and to town or county assessors, who prepare a copy of the applicable part of the town or county assessment roll for village tax purposes as provided in subdivision three of section fourteen hundred two of this chapter, for each such village in which such easements have been acquired, a list of all such easements therein. Such list shall be used by the assessors in preparing the assessment roll or, for village tax purposes the copy of the applicable part, and shall include the appropriate allocation factor or factors,

and each such easement shall be entered as a separate parcel on the tentative assessment roll by the assessor.

§ 588. Payment of taxes on parcels subject to a watershed conservation easement or watershed agricultural easement

1. The city shall pay taxes levied on watershed agricultural easements and watershed conservation easements pursuant to the foregoing sections of this title in the same manner as any other taxes levied upon real property.

2. Payment of taxes by the owner of a parcel burdened by a watershed conservation easement or watershed agricultural easement made taxable pursuant to this title based upon the assessment of the parcel without consideration of that easement shall entitle that owner to a refund pursuant to section five hundred fifty-six of this article, equal to any taxes payable by the city upon such easement. Such owner shall present the certificate issued pursuant to this section and proof of payment to the tax levying body.

§ 589. Change in allocation factor

[1. The allocation factor determined in subdivision one of section five hundred eighty-six of this title shall remain in effect for at least twenty years from the date it is initially certified to the assessing unit.]

2. At any time after [twenty years from the date] the allocation factor is initially certified to the assessing unit, upon the request of the city or the owner of the parcel burdened by the easement, the office of real property services may compute and certify a new allocation factor based on a change in circumstances. A request for a review of the allocation factor shall be made by submitting to the state board (a) a written request by the landowner, (b) a written request by the city setting forth the claimed change in circumstances, (c) a written stipulation entered into by the city and the landowner setting forth the new allocation factor, or (d) an appraisal or appraisals performed by a licensed real estate appraiser within one year of submission setting forth the current fair market value of the easement and the current fair market value of the land subject to the easement exclusive of improvements and unencumbered by the easement. The state board shall define the changes in circumstances required to change the allocation factor. The party seeking the change in allocation factor shall provide copies of the appraisals and written request to the other party.

3. If one party objects to a change in the allocation factor, the party may submit the appraisals specified in subdivision two of this section within ninety days of receipt of the other parties' appraisal or written request.

4. The office of real property services shall review the materials submitted and issue a current allocation factor determined by the materials submitted.

5. If judicial review is sought to challenge a determination under this section, the action shall be commenced in the county in which the real property is located.

§ 589-a. Authority to promulgate rules

In addition to any other authority conferred upon the state board by statute, the state board is hereby authorized to promulgate rules and mandate the use of forms to implement the provisions of this title.

Tax Litigation Avoidance Program (TLAP) Description
December 10, 2010

As part of the negotiations for a Water Supply Permit for the continuation of the Land Acquisition Program (LAP), the City of New York (City), the Coalition of Watershed Towns (CWT), and the Catskill Watershed Corporation (CWC) have discussed the formation of a Tax Litigation Avoidance Program (TLAP). Through the TLAP, the City would provide funds, to be administered by the CWC, for use by watershed Assessing Authorities (towns and villages) for the purpose of avoiding the costs and risks of litigation over taxes assessed on City real property as well as provide data and information to enable assessing authorities to set fair assessments on certain City owned properties in the West of Hudson Watershed. As further detailed below, TLAP funds could be used by CWC to (i) develop and/or complete generic templates for determining the equalized fair market value of reservoir lands, impoundments, and collection systems serving wastewater treatment plants owned by the City; (ii) assist Assessing Authorities in evaluating Valuation Reports provided by the City proposing template values concerning properties within the jurisdiction of the Assessing Authority; and (iii) assist Assessing Authorities in completing and/or or updating such templates no more frequently than at three-year intervals during the pendency of the TLAP. In addition, TLAP funds can, under certain limited circumstances described herein, provide limited reimbursement for Assessing Authorities' costs of litigation. Under the terms of this Agreement, the TLAP will have a term of 15 years, co-terminous with the duration of the Water Supply Permit.

I. The TLAP Properties and Template Application

1. The properties covered by TLAP consist of those listed in Exhibit A attached hereto (TLAP Properties).

2. Within 60 days of the commencement of work date of the TLAP Contract, CWC and the City shall develop Program Rules, a generic participation agreement, and a generic stipulation of abeyance for any pending litigation.
3. Development of Templates:
 - a. Within 6 months of the effective date of the Water Supply Permit, the City and CWC shall finalize a generic template for reservoirs.
 - b. Within 12 months of the effective date of the Water Supply Permit, the City and the CWC shall finalize one or more generic templates for the impoundments. The generic templates for the impoundments will conform with the form and substance of the reservoir templates except for factors directly applicable to the impoundment structures.
 - c. Within 18 months of the effective date of the Water Supply Permit, the City and the CWC shall finalize a generic template for the sewer collection systems, provided that the City has not, within 18 months of the effective date of the Water Supply Permit, by motion or otherwise, established that such properties are not subject to real property taxation, or filed a motion seeking such a determination.
 - d. Upon completion of each generic template, CWC shall provide a draft copy for review and/or comment to each Assessing Authority that is presently a party to a proceeding commenced pursuant to RPTL Article 7 concerning a property that could be subject to that template.
 - e. All time periods described herein shall be subject to reasonable extension upon agreement by the parties.

- f. CWC may use TLAP funds to a maximum of \$50,000 to retain outside appraisers/experts for the development of the generic templates. CWC will endeavor to use such funds in a cost-effective manner, in order to preserve TLAP funds to support expert review of Valuation Reports. The City will not unreasonably withhold agreement to increase that amount for up to an additional \$50,000 if CWC demonstrates that the actual and reasonable costs for engineers or other experts exceed that cap and that such additional funds are reasonable and necessary to complete the generic templates. If these funds are exhausted before the generic templates are complete, the City agrees to consider a request for additional funds to complete the remaining templates, based on a demonstration of need.
4. Within sixty days of an Assessing Authority's receipt of a generic template and commencement date of TLAP contract (including completion of program rules, generic participation agreement, and stipulation of abeyance), any Assessing Authority that is a party to an Article 7 proceeding concerning property that could be subject to that template shall notify the City and CWC if it intends to participate in the TLAP.
5. The City and each such participating Assessing Authority shall then agree to a stipulation ("Stipulation of Abeyance") that provides that (i) the pending Article 7 matter(s) shall not be prosecuted until a participating Assessing Authority comes to an agreement with the City regarding assessment of the property in question, or affirmatively declines to further participate in the TLAP process; (ii) the City shall not challenge on grounds of over-valuation an assessment that is equal to or

less than the final template value as determined in the Valuation Report or otherwise agreed to by the City and the Assessing Authority; and (iii) that the City will not challenge such assessment in any future year provided that the assessment is not greater than the final value determined pursuant to the appropriate template, provided that (a) the City does not dispute the manner in which the Assessing Authority has applied the template; and/or (b) the City does not dispute the starting values used in the template. In addition, and upon approval of both the CWC and the Assessing Authority, CWC and the Assessing Authority shall execute an agreement (“Participation Agreement”) providing, among other things, that the Assessing Authority and CWC shall comply with the confidentiality provisions described in this memorandum, shall, as more fully described below, cause the appropriate individuals to execute Confidentiality Agreements, and that CWC shall procure an expert to review the Valuation Report to assist the Assessing Authority in its review of the Valuation Report. The City shall be a third party beneficiary of every Participation Agreement.

6. Where a template with values for a City-owned wastewater treatment plant has been established prior to the effective date of the Water Supply Permit, the Assessing Authority would not be eligible to request assistance under TLAP until the template is updated. For any town that has not yet completed a template for a City-owned wastewater treatment plant, TLAP funds would be available for the such completion as well as for any updates undertaken pursuant to Section I, Paragraph 7 below.

7. Template values for TLAP Properties may require updating. TLAP funds would be made available to update template values on such properties no more frequently than every 3 years, unless there is an intervening City challenge to the assessment.
8. Notwithstanding the foregoing, if improvements or changes are made to a property subject to a template, an Assessing Authority could request assistance under TLAP to update that template.
9. TLAP funds may only be used to review a single valuation report on a given property at any one time. To the extent a given property is assessed by multiple Assessing Authorities (e.g., a town and a village), only one of those entities can participate in the program.

II. City's Process for Preparing a Valuation Report

1. For properties that are not the subject of pending Article 7 petitions, if the City believes the property is overassessed, it reserves the right to file a grievance and take other steps necessary to preserve its rights to administrative or judicial review of the assessment.
2. To the extent that there are pending Article 7 petitions, the City commits to negotiate in good faith with the Assessing Authority to apply the appropriate template (or, if the applicable template has not yet been completed, to agree upon a generic template with CWC) for valuing the subject property.
3. Until such time as generic templates are completed for reservoirs, impoundment structures and sewer collection systems, the City will refrain from filing any Article 7 petitions challenging assessments where those assessments have not

been changed from the previous year, unless the City filed such a petition in the previous year, in which case the City may continue to file grievances and petitions to preserve its rights. Where an RPTL Article 7 proceeding is pending on an assessment, the City will enter into a stipulation, within 90 days after the effective date of the Water Supply Permit, if the Assessing Authority chooses to put the proceeding into abeyance pending the Assessing Authority's decision under Section I.4. If an assessment has been changed and the City desires to file a petition challenging the assessment the City will stipulate with the relevant Assessing Authorities to adjourn the proceeding after filing pending the Assessing Authority's decision under Section 1.4.

4. Where a generic template has been completed, and the Assessing Authority has determined to participate in TLAP per Section I. 4, the City will stipulate with the Assessing Authority to adjourn the proceeding after filing to provide sufficient time for the preparation of the Valuation Report and the Assessing Authority's review thereof ("Stipulation of Abeyance").
5. Notwithstanding the City filing a grievance, the City will seek to resolve the grievance without court intervention by preparing and providing the affected Assessing Authority with a Valuation Report.
6. The City will hire the necessary expert(s) as described in Section III below and will prepare a Valuation Report specifically for the purpose of review and discussion with the Assessing Authority.
7. A Valuation Report will summarize the data and analysis used, identify sources of all data, and provide the conclusions of the appraiser and/or engineer primarily

focusing on determining the values for each of the applicable line items within the appropriate template. The goal of the Valuation Report is to provide information and a completed template so that the Assessing Authority can make a decision on whether to amend its assessment. An expert retained by CWC for review of the Valuation Report shall have access to all data reviewed by the Valuation Report author(s).

III. Process for Retention of City Expert to Prepare Valuation Report

1. If the City files a grievance and an Assessing Authority agrees to participate in TLAP, the City shall begin the process to prepare a Valuation Report and will submit the proposed appraiser/engineer's name, expertise and qualifications to the designated representatives of the affected Assessing Authority and CWC for approval (City Expert).
2. The Assessing Authority and CWC shall have five weeks from the date of receipt of the submission by the City to approve or object to such City Expert. If no action is taken by the end of the five-week period, such City Expert shall be deemed to have been approved. Any objection to the City Expert can be based only upon that expert's qualifications and expertise. Any objection to the City Expert must be submitted in writing describing the asserted deficiencies of said expert. Approval of the City Expert cannot be unreasonably withheld. Approval by either representative shall be deemed sufficient.

IV. Assessing Authority Review of Valuation Reports and Confidentiality Requirements

1. If an Assessing Authority requests that CWC retain an appraiser and/or engineer to review and evaluate the Valuation Report (CWC's Expert),¹ the CWC will submit the proposed appraiser/engineer's name, expertise and qualifications to the two designated representatives of the City for approval.
2. The City representatives shall have five weeks from the date of receipt of the submission by CWC to approve or object to CWC's Expert. If no action is taken by the end of the five-week period, CWC's Expert shall be deemed to have been approved. Any objection to CWC's Expert can be based only upon that expert's qualifications and expertise. Any objection to CWC's Expert must be submitted in writing describing the asserted deficiencies of said expert. Approval of CWC's Expert cannot be unreasonably withheld. Approval by either representative of the City shall be deemed sufficient.
3. Within 60 days of the commencement of work date of the TLAP Contract, CWC and the City will develop TLAP Program Rules and the form of a Participation Agreement to be executed by each Assessing Authority that participates in TLAP, which will provide that the Valuation Report would be used only for the purposes of negotiation and discussion. The TLAP Program Rules will require that each Assessing Authority execute a Participation Agreement before CWC obtains funds or benefits from the TLAP Program and provide a resolution authorizing same. At a minimum, the Participation Agreement will provide that the Valuation

¹ As necessary, a town may need the services of both an appraiser and an engineer. For the purpose of this Agreement, the term "expert" shall include "experts."

Report will be kept confidential by those individuals who review the Valuation Report and shall not be disclosed to any other individuals or entities including, but not limited to, the media. The Participation Agreement shall also provide that the Valuation Report may not be used by or against any party in any litigation or motion practice including, but not limited to, trial, motion for discovery or preclusion of evidence or as a tool in cross-examination. The foregoing evidentiary prohibition shall not, however, apply to proof required for any attorneys' fees claim as provided for herein, any claim for breach of a Stipulation of Abeyance, or by any other agreement between the City and an Assessing Authority that provides for the admission, in whole or in part, of a Valuation Report. The City shall be a third party beneficiary of each executed Participation Agreement.

4. The Participation Agreement will identify those individuals, specific to the CWC and Assessing Authority involved, who will be reviewing the Valuation Report. For instance, if the Assessing Authority were a town, the reviewers might include the Town Supervisor, Town Clerk, Town Board Members, Town Assessor, or Town Attorney/Attorney for the Town. The Participation Agreement will also identify those individuals who will be reviewing the Valuation Report on behalf of the CWC.
5. The Participation Agreement will also specifically provide that outside counsel to the Assessing Authority, with the exception of the Attorney for the Town or Village referred to in IV.4 above, will not have access to the Valuation Report.

6. To the extent the CWC, Assessing Authority, or the City wishes to provide someone other than the identified individuals access to the Valuation Report, the Participation Agreement shall provide that the requesting party (the CWC, Assessing Authority or the City) must provide the others prior written notice setting forth the identity of such person and the reason for the review.
7. Prior to reviewing the Valuation report, each individual named shall sign a confidentiality agreement in the form agreed to by CWC and the City (“Confidentiality Agreement”).
8. To the extent CWC retains an expert to assist in the Assessing Authority’s review of the Valuation Report, that expert shall enter into the Confidentiality Agreement prior to obtaining access to the Valuation Report. The City’s expert(s) will also be required to enter into the Confidentiality Agreement.
9. If the CWC or an Assessing Authority receives a Freedom of Information Law (FOIL) request for the release of the Valuation Report for an assessment that is in dispute, undergoing a revaluation, or is in litigation, the CWC and/or Assessing Authority agree to assert the Inter-agency materials exception to release of the document. If the head officer, chief executive, or designated records access officer of CWC or an Assessing Authority receives an appeal of a denial of a request for a Valuation Report, the CWC and/or Assessing Authority shall respond and assert the Consultant Report exception to release of the document. The CWC and/or Assessing Authority shall forward to the City copies of the FOIL request, the CWC and/ or Assessing Authority response, and, if applicable, the appeal and response to such appeal.

10. In the event that such a denial of a FOIL request is appealed pursuant to CPLR Article 78 and Section 89 of the Public Officers Law, CWC and/or the Assessing Authority shall inform the City of such appeal. The Corporation Counsel of the City shall file a Motion to Intervene in any such appeal and the CWC and/or the Assessing Authority shall not contest the City's Motion. The CWC and/or the Assessing Authority shall support the City's efforts to successfully litigate the CPLR Article 78 matter. CWC and/or the Assessing Authority shall cooperate fully with counsel for the City in any related FOIL proceedings. Any costs for defense by CWC and/or the Assessing Authority shall be an eligible expense for payment under TLAP.

V. City/Assessing Authority Discussions of Valuation Report and Limitations on Litigation

1. If the parties reach agreement on the fair market value of the TLAP property, the City will discontinue its grievance or petition to the extent an assessment is claimed to be excessive.
2. If the parties cannot agree on fair market value, the City will proceed with its challenge. At the Assessing Authority's election and as provided below, however, the City will limit its challenge to any disputed template line(s).
3. If the dispute is limited by the Assessing Authority and rests upon a disagreement over the determination of any line item(s) in the template, then the parties agree that any court proceeding will be limited to the determination of the line item(s) and that the parties will stipulate to the template methodology and all agreed-upon values and factors.

4. In any litigation, the City may not submit proof of value for any line item that is less than the amount presented in the City's Valuation Report for that line item.

VI. Revaluation

1. TLAP funds may be used by CWC to assist an Assessing Authority in determining the fair market value of the City's property where the Assessing Authority has undertaken a revaluation of all properties within its geographic boundary.
2. In an Assessing Authority where the City owns TLAP Property and the Assessing Authority has decided to conduct a revaluation of all properties within its geographic boundary, the City will assist the Assessing Authority in determining the fair market value of such City property. Prior to the assessment roll being prepared, upon request from the Assessing Authority, the City will prepare a Valuation Report as described in Section II, Paragraph 6. As provided in Section IV, upon request of the Assessing Authority, CWC will retain an expert to assist the Assessing Authority in its review of the Valuation Report. Similarly, a requesting Assessing Authority must also execute a Participation Agreement.
5. If the Assessing Authority assesses the TLAP Property as reflected on the Valuation Report, or as ultimately agreed upon with the City, the City will not file a grievance or petition claiming that the assessment is excessive.
6. If the parties cannot agree on fair market value, the City can proceed with an Article 7 challenge. At the Assessing Authority's election and as provided below, City will agree to limit the challenge to any disputed template line(s).

7. If the dispute is limited by the Assessing Authority and rests upon a disagreement over the determination of any line item(s) in the template, then the parties agree that any court proceeding will be limited to the determination of the line item(s) and that the parties will stipulate to the template methodology and all agreed-upon values and factors.
8. In any litigation, the City may not submit proof of value for a line item that is less than the amount presented in the City's Valuation Report for that line item.

VII. Inequality Claims

1. Nothing contained herein shall affect nor limit the City's right, if any, to claim inequality of the assessment as defined under RPTL § 701 (8).
2. Where the City challenges an assessment as unequal, the parties may rely upon any agreement reached as to the fair market value of TLAP Property. No TLAP funds will be available to defend litigation over the inequality of assessment claim, other than as may be necessary to determine the fair market value of the property. In any such litigation, the Assessing Authority will have the option to rely on the State Equalization Rate for its proof of the appropriate ratio in such a proceeding.

VIII. TLAP Funding

1. TLAP will be administered by CWC pursuant to a program contract that will be duly executed by the City within nine months of the effective date of the WSP. The program contract will require the City to fund TLAP in the initial amount of \$500,000.00, payable within sixty (60) days of the execution of the program contract and will provide additional funding as requested by CWC in increments

not exceeding \$500,000.00. Such additional payments shall be made within ninety (90) days of the request by CWC. The total amount of TLAP funding will not exceed \$2,000,000.00; however a reasonable amount of additional funding will be made available for any Assessing Authority if the TLAP cap has been reached before that Assessing Authority has had an opportunity to participate in TLAP.

2. The program rules to be developed by the City and CWC will include a procedure by which Assessing Authorities would request assistance of CWC through TLAP for CWC retain an expert as set forth herein.
3. CWC will disburse funds based upon disbursement/invoice requests submitted by a retained expert or an Assessing Authority after it has entered into the Confidentiality Agreement with the City and after the City has approved CWC's Expert. The disbursement requests submitted to CWC shall include the fees to be paid to and, with specificity, describe work to be performed by CWC's Expert. Provided that the work reflected on the request covers authorized work (i.e. tasks needed to review the Valuation Report, not including the preparation of any type of self contained appraisal, nor payment to attorneys) the CWC shall disburse the requested funds. TLAP Funds may also be used for CWC administrative costs to administer and manage the TLAP.
4. The CWC shall maintain complete and accurate records in readily accessible files on all of the disbursements made from the Fund.

5. The CWC will provide quarterly reports reflecting the amount of the funds disbursed to the Assessing Authority or retained expert and the identity of the appraiser/expert retained.
6. The City shall have the right to review all disbursement requests. If disbursements are made for unauthorized work, the City shall have the right to recover the amount paid for such unauthorized work directly from TLAP funds.
7. An Assessing Authority will not receive TLAP funds to commission a competing appraisal to be used at trial.
8. The Retained Expert must prepare a written review/critique of the City's Valuation Report and a copy of such report must be provided to the City subject to the same Confidentiality Agreement described above.
9. If an Assessing Authority substantially prevails in the litigation, the City will be responsible for reimbursing two-thirds of the Assessing Authority's attorneys' fees, expert fees, and litigation costs up to \$90,000.00. "Substantially prevails" shall be defined as a final judgment by the Court that awards a value on the disputed component of a template that is 15% or greater than the City's final offer on that individual template line item before it commenced litigation.
10. After the conclusion of two trials in which Assessing Authorities substantially prevail and are awarded attorneys fees as provided in Section VII, Paragraph 9, the City, CWC and CWT will confer to assess if changes are necessary in the attorneys' fees and disclosure provisions of TLAP. The issues to be considered are (i) whether there have been any breaches of confidentiality of Valuation Reports or settlement discussions and whether any breach has materially harmed

any party; and (ii) whether the provisions of Section VIII, Paragraph 9 are fair and equitable to the Assessing Authorities. The City, CWC and CWT will have eight (8) months to reach an agreement as to whether there should be changes to the TLAP on the above listed issues. If the parties cannot reach agreement, the dispute shall be referred to an Administrative Law Judge (ALJ) of the DEC for determination. The City shall be responsible for any costs of the referral to the ALJ. The decision of the ALJ shall be considered a final determination and may be the subject of judicial review pursuant to Article 78 of the CPLR. For the duration of the discussions and ALJ review under this paragraph, and during the pendency of any Article 78 proceeding commenced by CWC and/or CWT, the City shall continue to be bound by the provisions of Section VII, Paragraph 9 until final agreement or resolution. In the event that the City commences an Article 78 proceeding challenging the ALJ's determination, however, the City may, at its election, cease to be bound by the provisions of Section VII, Paragraph 9 above, in which case the City shall also cease acquisitions pursuant to the Water Supply Permit. CWC may utilize TLAP funds for CWC's participation in the process and litigation described in this paragraph.

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Delaware County

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Andes		325.-1-11	516.56	Pepacton Reservoir	Andes
Andes		325.-1-12	43.41	Pepacton Reservoir	Margaretville
Andes		343.-1-4	4,255.13	Pepacton Reservoir	Andes
		Andes Sub-Total:	4,815.10		
Colchester		342.-2-1	6,806.91	Pepacton Dam	Downsville
		Colchester Sub-Total:	6,806.91		
Deposit		350.-1-1	2,217.80	Cannonsville Dam	Deposit
		Deposit Sub-Total:	2,217.80		
Middletown	Margaretville	1.-46-99	0.00	Margaretville Sewer Lines	Margaretville
Middletown	Margaretville	306.14-1-2	42.90	Margaretville WWTP	Margaretville
Middletown		1.-46-98	0.00	Margaretville Sewer Lines	Margaretville
Middletown		325.-3-1	54.69	Pepacton Reservoir	Andes
Middletown		326.-1-1.1	562.90	Pepacton Reservoir	Margaretville
Middletown		326.-1-1.2	1,001.83	Pepacton Reservoir	Margaretville
		Middletown Sub-Total:	1,662.32		
Roxbury		1.-48-99	0.00	Grand Gorge Sewer Lines	Roxbury
Roxbury		92-1-9	2.60	Grand Gorge WWTP	Roxbury
Roxbury		114.-1-1	175.70	Schoharie Reservoir	Roxbury
Roxbury		114.-1-3	404.90	Schoharie Reservoir	Gilboa-Conesville
		Roxbury Sub-Total:	583.20		
Tompkins		270.-1-30	244.33	Cannonsville Reservoir	Walton
Tompkins		270.-1-31	2,813.16	Cannonsville Reservoir	Deposit

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Delaware County (Continued)

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Tompkins		312.-1-2	247.45	Cannonsville Reservoir	Walton
Tompkins		312.-1-3	2,750.40	Cannonsville Reservoir	Deposit
Tompkins		313.-1-8	4,778.85	Cannonsville Reservoir	Walton
Tompkins		332.-1-1	1,192.66	Cannonsville Reservoir	Deposit
Tompkins		332.-1-2	87.84	Cannonsville Reservoir	Deposit
Tompkins		332.-1-3	315.32	Cannonsville Reservoir	Deposit
Tompkins		335.-1-10	527.76	Cannonsville Reservoir	Walton
Tompkins		350.-2-3	2,802.11	Cannonsville Reservoir	Deposit
Tompkins		353.-2-20	6.11	Cannonsville Reservoir Buffer	Hancock
		Tompkins Sub-Total:	15,765.99		
Walton		315.-2-3	1,980.68	Cannonsville Reservoir	Walton
		Walton Sub-Total:	1,980.68		
		Delaware County Summary:	33,832.00		

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Greene County

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Hunter	Tannersville	181.12-6-1.-1	10.60	Tannersville WWTP	Hunter-Tannersville
Hunter Sub-Total:			10.60		
Prattsville		42.00-1-6	70.50	Schoharie Reservoir	Gilboa-Conesville
Prattsville		74.00-1-31	238.20	Schoharie Reservoir	Gilboa-Conesville
Prattsville Sub-Total:			308.70		
Greene County Summary:			319.30		

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Schoharie County

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Conesville		208.-3-15	359.10	Schoharie Reservoir	Gilboa-Conesville
		Conesville Sub-Total:	359.10		
Gilboa		214.-2-2	1,047.30	Gilboa Dam	Gilboa-Conesville
		Gilboa Sub-Total:	1,047.30		
		Schoharie County Summary:	<u>1,406.40</u>		

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Sullivan County

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Neversink		20.-1-24.1	1,221.41	Rondout Reservoir	Tri-Valley
Neversink		23.-1-1	5,966.96	Neversink Dam	Tri-Valley
Neversink		26.-1-29	57.28	Grahamsville Complex (incl. WWTP)	Tri-Valley
Neversink Sub-Total:			<u>7,245.65</u>		
Sullivan County Summary:			<u>7,245.65</u>		

WOH Pre-MOA Lands by County, Town and Tax Map Number
(excluding Aqueducts and Shaft Sites)

Ulster County

<u>Town</u>	<u>Village</u>	<u>Tax Map Number</u>	<u>Assessed Acres</u>	<u>Description</u>	<u>School District</u>
Hurley		46.2-3-1	5,689.59	Hurley Dikes	Onteora
		Hurley Sub-Total:	5,689.59		
Marbletown		46.4-1-29	565.90	East Dike	Rondout Valley
		Marbletown Sub-Total:	565.90		
Olive		45.2-1-1	8,042.40	Ashokan Reservoir & Dam	Onteora
		Olive Sub-Total:	8,042.40		
Shandaken		4.14-1-46	11.70	Pine Hill WWTP	Onteora
Shandaken		4.14-1-46.-1600	10.90	Pine Hill Sewer Lines	Onteora
		Shandaken Sub-Total:	22.60		
Wawarsing		66.4-1-29	2,306.60	Merriman Dam (Rondout)	Ellenville
		Wawarsing Sub-Total:	2,306.60		
		Ulster County Summary:	<u>16,627.09</u>		

Valuation of City of New York Reservoir Lands West-of-Hudson

Sheet 1 - RCNLD Claculations

MUNICIPALITY/ RESERVOIR:

ROLL YEAR

LAND

1)	Hamlet Acres (\$ per lot * # of lots) ¹		\$0
1a)	Hamlet Add-On Factor (Line 1 * 25 %)		\$0
2)			\$0
3)	Rural Acres (\$per acre * # acres) ²		\$0
3a)	Rural Add-On Factor (Line 3 * 15 %)		\$0
4)			\$0
5)	... LandTotal (lines 1 to 4)	Total:	<u>\$0</u>

REPRODUCTION COST NEW

Direct Costs

6)	Fencing ³		\$0
7)	Highway Relocation ⁴		\$0
8)	Utilities ⁵		\$0
9)	Site Preparation (removals) ⁶		\$0
10)	Site Preparation (clearing & grubbing) ⁷		\$0
11)	New Structures and Other Improvements (inc bridges) ⁸		\$0
12)	... Direct Costs Subtotal (lines 6 to 11)	Subtotal:	<u>\$0</u>
13)	Location Factor (line12 * RS Means factor) ⁹		\$0
14)	Construction Contingencies (line 13 * x%) ¹⁰		<u>\$0</u>
15)	... Direct Costs Adjustments Subtotal (lines 13 + 14)	Subtotal:	\$0
16)	Contractor's General Costs (line 15 * x%) ¹¹		\$0
17)	Total Direct Costs (lines 15+16)	Total:	<u>\$0</u>

Indirect Costs

<i>(Excepting line 18, each a % of Direct Costs, line 17)</i>			
18)	Surveying ¹²		\$0
19)	Project Design and Engineering ¹³		\$0
20)	Project Permitting, Environmental Review & related Legal Costs (Line 17 * 2%) ¹⁴		\$0
21)	Project Management (including Wicks Law costs) ¹⁵		#VALUE!
22)	Owner's Liability Insurance ¹⁶		\$0
23)	Allowance for Funds Used During Construction (AFUDC) ¹⁷ .		
24)	... Indirect Costs (lines 18 to 23)	Total:	<u>#VALUE!</u>
25)	Reconstruction Cost New (lines 17+24)	RCN Total:	<u>#VALUE!</u>
26)	RCN Adjusted to Valuation Year (line 25 * Index #)		<u>\$0</u>

PHYSICAL DEPRECIATION

(Based on Depreciation Tables via Worksheet 3)

27)	Reservoir Corpus ¹⁸	None	
	Buildings and support structures pursuant to RPTL		
28)	\$102(12)(b) ¹⁹	\$0	
	Apparatus pursuant to RPTL		
29)	\$102(12)(f). ²⁰	\$0	
30)	... Total Physical Depreciation (lines 27 to 29)	D Total: <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">\$0</td></tr></table>	\$0
\$0			

VALUE

31)	Reconstruction New Less Depreciation (line 26 less line 30)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">#VALUE!</td></tr></table>	#VALUE!
#VALUE!			
32)	RCNLD plus Land (lines 5+31)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">#VALUE!</td></tr></table>	#VALUE!
#VALUE!			
33)	Equalization Rate (State Determination)		
34)	Indicated Assessed Value (line 32 * line 33)	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="text-align: center;">#VALUE!</td></tr></table>	#VALUE!
#VALUE!			

¹ Hamlet valuation will be determined as follows:

- a) Hamlets currently underwater within a town will be identified by the historical acquisition maps assisted as necessary by the historical applicable USGS maps to identify the hamlet areas.
- b) A count would be made of all of the parcels in the hamlet(s), looking at parcels that either had improvements or were “developable” within the thickly settled area.
- c) Comparables sales would be determined by arms-length transactions of vacant developable lots of 1 acre or less in hamlets or villages within the subject town. If there are not enough comparables in the subject town meeting that definition, sales in hamlet or village areas in nearby towns with similar market conditions may be used . The goal would be to find 10 comparable sales to give a statistically valid comparison, but depending upon the availability of comparable sales, that number could be adjusted.
- d) The mean (or average) price of the comparables would be multiplied by the number of hamlet parcels in the town.
- e) It will be necessary to calculate the total acreage included in the hamlets. That will be done by adding up the actual acreage for the parcels in the hamlet, with a cap of 2 acres per parcel. That total acreage would then be subtracted from the town total acreage area to arrive at the rural acreage figure.

² Rural valuation will be determined as follows:

- a) Using a Mass Valuation Methodology that gathers sales data for all arms-length transactions (including NYC acquisitions) of vacant land parcels 25 acres or larger in size. For a statistically valid sampling the goal is to acquire a minimum of 30 comparable sales.
- b) Open issue to define the scope of sales to be included in the data taking into account nearby towns with similar market conditions as necessary, and how many years of sales data to accumulate.
- c) A weighted average of sales price per acre will be determined (sum of all sale prices/sum of all acres)
- d) The weighted average will be multiplied by the total acreage in the town less the hamlet acreage.

³ Use RS Means based upon appropriate material and length

⁴ Use RS Means based upon appropriate material and length

⁵ Methodology is open for discussion. An RS Means factor times a category of utility are the likely parameters.

⁶ Methodology is open for discussion. An RS Means factor for removal of structures times an estimated number of structures and factors for calculating cemetery relocation and gas station relocation are under discussion.

⁷ The extent of clearing will be determined by reference to original plans to determine amount cleared for the reservoirs and any associated construction activities. Modern construction techniques will be consulted to determine the area to be grubbed. The area of clearing and grubbing will be presumed to at least equal the area of the reservoir at the mean high water line. The selected RS Means category should reflect an average of the type of vegetation present throughout the area. An appropriate RS Means component will be utilized, which may have a factor incorporated to reflect the scale of the work if determined to be appropriate.

⁸ Engineering estimates or RS Means where appropriate for reconstruction costs of structures. Actual costs for any new construction.

⁹ Specific location factor under RS Means to be determined.

¹⁰ Percentage of construction contingency to be determined upon consultation with engineers.

¹¹ Percentage of contractors' general costs to be determined upon consultation with engineers.

¹² The method of measuring surveying cost is to be determined upon consultation with engineers.

¹³ The percentage for Project Design and Engineering is to be determined upon consultation with engineers.

¹⁴ An open issue whether Line 5 should be included in the Direct Costs for this line item.

¹⁵ Percentage of project management fees and Wicks Law compliance to be determined upon consultation with engineers.

¹⁶ Percentage to be determined upon consultation with engineers.

¹⁷ Will be determined by multiplying the Direct costs (Line 17 plus the principal payment on the land and tax payments) and Indirect costs (Lines 18 to 22), by the municipal bond rate for the NYC Water Authority, multiplied by one half of the agreed upon duration of construction which will be measured from the date of notice to proceed under the first construction contract for the property.

¹⁸ Depreciation for the reservoir corpus, if any, will be determined after consultation with engineers.

¹⁹ The presumed service lives are as follows: Buildings – 100 years; Roads – 100 years; Fencing – 75 years; Trees where required for stabilization of improvements – 100 years; Bridges – 75 years.

²⁰ To be determined upon consultation with engineers.

**SUPPLEMENTAL AGREEMENT AMONG WEST OF HUDSON WATERSHED
STAKEHOLDERS**

CONCERNING

DEP'S PARTICIPATION IN FEDERAL OR STATE FLOOD BUY-OUT PROGRAMS

AGREEMENT, dated as of the 12th day of December, two thousand and thirteen, agreed to and executed by and among the following parties (collectively, the "Parties" and individually a "Party"):

The City of New York ("City"), including the Department of Environmental Protection ("DEP"), a municipal corporation with its principal office at City Hall, New York, New York 10007;

The Coalition of Watershed Towns ("CWT"), an inter-municipal body composed of municipalities located wholly or partially within the portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement pursuant to Section 119-o of the New York General Municipal Law, having its principal office at Tompkins, New York;

The County of Delaware, a county corporation with its principal office at 111 Main Street, Delhi, New York 13753;

The County of Greene, a county corporation with its principal office at 411 Main Street, Catskill, New York 12414;

The County of Ulster, a county corporation with its principal office at 244 Fair Street, Kingston, New York 12404;

The Catskill Watershed Corporation ("CWC"), an independent locally-based and locally administered not-for-profit corporation, organized and existing under section 1411 of the New York State Not-for-Profit Corporation Law and having its principal office at PO Box 569, Main Street, Margaretville, New York 12455;

The Catskill Center for Conservation and Development ("Catskill Center"), a not-for-profit corporation having its principal offices at PO Box 504, Route 28 Arkville, New York 12406;

New York Public Interest Research Group, Inc. ("NYPIRG"), a not-for-profit corporation having its principal offices at 9 Murray Street, New York, New York 10007;

Open Space Institute, Inc. ("OSI"), a not-for-profit corporation having its principal offices at 1350 Broadway, New York, New York 10018;

The Trust for Public Land ("TPL"), a not-for-profit corporation having its principal offices at 116 New Montgomery Street, San Francisco, California 94150; and

Riverkeeper, Inc. (“Riverkeeper”), a not-for-profit corporation having its principal offices at 20 Secor Road, Ossining, New York.

WITNESSETH:

A. WHEREAS, on January 21, 1997, the Parties, among other entities, entered into the Watershed Memorandum of Agreement (“Watershed MOA” or “MOA”), which established a partnership in which the parties agreed “to cooperate in the development and implementation of a Watershed Protection Program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities.”

B. WHEREAS, among the programs the Parties agreed to in the Watershed MOA is a program for DEP to acquire land in the Watershed for watershed protection (“Land Acquisition Program”), subject to the terms of the Watershed MOA and of the water supply permit issued by NYSDEC on January 21, 1997 (“1997 Water Supply Permit”).

C. WHEREAS, based on extensive negotiations, the Parties and/or their representatives, among other entities, reached agreement on the successor to the 1997 Water Supply Permit (the “2010 Water Supply Permit”), which established the terms and conditions for DEP’s continuation of the Land Acquisition Program through December 23, 2025.

D. WHEREAS, the Parties’ agreement to the terms of the 2010 Water Supply Permit was memorialized in the Agreement among West of Hudson Watershed Stakeholders Concerning NYCDEP’s Continuation of its Land Acquisition Program, dated December 27, 2010 (“2010 LAP Agreement”), which provided, among other things, that the Parties would not oppose the 2010 Water Supply Permit.

E. WHEREAS, following Hurricane Irene and Tropical Storm Lee in August and September 2011, many of the parties to the 2010 LAP Agreement, among other stakeholders, worked to develop ways to focus existing watershed protection programs on issues relating to severe flooding, which can affect both water quality and the viability of watershed communities. Among other things, the stakeholders reached agreement on DEP’s acquisition of certain damaged properties in connection with a federal and State buyout program (“Hurricane Irene Buyout Program”), to be implemented in Delaware, Greene, and Ulster Counties, under the Land Acquisition Program.

F. WHEREAS, FEMA and NYS OEM, in coordination with Delaware, Greene, and Ulster Counties, has completed an assessment of properties potentially eligible for the Hurricane Irene Buyout Program. Through that assessment, a list of eligible properties was developed and no additional properties are expected to be added to the Hurricane Irene Buyout Program. DEP’s total financial contribution to the Hurricane Irene Buyout Program is not expected to exceed \$2.5 million.

G. WHEREAS, the process the Federal Emergency Management Agency (“FEMA”) plans to use for determining the fair market value of properties participating in the Hurricane Irene Buyout Program (“Applicable FEMA Procedures”) is different from the process

set forth in the 2010 Water Supply Permit and the 1997 New York City Watershed Memorandum of Agreement for determining fair market value for other properties DEP purchases under the Land Acquisition Program. In order to facilitate DEP's participation in the Hurricane Irene Buyout Program, and in any subsequent federal or State buyout program, DEP has requested a modification to Special Condition 7(b) of the 2010 Water Supply Permit to allow the fair market value of buyout properties to be determined in accordance with the Applicable FEMA Procedures.

H. WHEREAS, in some instances, the local communities involved in the Hurricane Irene Buyout Program intend to take and retain title to properties acquired through that Program. In accordance with FEMA requirements, such properties will be subject to deed restrictions that limit future development and thus provide water quality protection ("FEMA Deed Restriction"). While in accordance with Special Condition 21(a) of the 2010 Water Supply Permit, DEP will grant conservation easements to DEC on buyout properties it retains in fee, for properties to be held by local communities, DEP cannot grant such easements. Accordingly, DEP has requested a further modification to Special Condition 7(b) of the 2010 Water Supply Permit to clarify that acquisitions by local communities of properties in any federal or State buyout program do not require DEP to grant such conservation easements.

I. WHEREAS, buyout properties to be held by local communities will be afforded protections by the FEMA Deed Restriction, and by the restrictions applicable to all property in the watershed under the *Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources*, 10 New York Codes, Rules and Regulations ("NYCRR") Part 128; 15 Rules of the City of New York ("RCNY") Chapter 18 ("Watershed Regulations").

J. WHEREAS, in an intermunicipal agreement between DEP and the communities participating in the Hurricane Irene Buyout Program, the communities have agreed to include limited additional restrictions/clarification of the FEMA Deed Restrictions (e.g., restricting activity and structures with potential to cause material water pollution) for those properties to which they will take title, in exchange for the City's participation in the Hurricane Irene Buyout Program.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the other parties, the Parties do hereby promise and agree as follows:

(1) The communities have agreed that, subject to FEMA approval, they will grant DEC a conservation easement for properties to which they take title in connection with DEP's participation in any federal or State buyout program, which will maintain the property for open space, recreational, agricultural or wetland management usage and will incorporate the FEMA Deed Restrictions and will further limit new structures that may be built on the property to:

- a. a public restroom that is served by a public sewer system and/or a septic system with a leach field outside of the 100-year floodplain;

- b. a facility that is open on all sides and functionally related to open space use which minimizes the impervious coverage of the ground surfaces to the extent practical, and is designed to maintain or restore natural stormwater flows by maximizing infiltration into the ground; or
- c. structures that are compatible with open space and proper flood plain management policies and practices which minimizes the impervious coverage of the ground surfaces to the extent practical, and are designed to maintain or restore natural stormwater flows by maximizing infiltration into the ground.

(2) Supplemental Limitation on Challenges to DEP's Proposed Modification to Special Condition 7(b) of the 2010 Water Supply Permit. The Parties hereby waive their rights under Section 62 of the Watershed MOA to oppose modification of Special Condition 7(b) of the 2010 Water Supply Permit, which DEP has requested in connection with the Hurricane Irene Buyout Program, and which would also apply in LAP parcels acquired under a future federal or state buy-out program. DEP has requested that the underlined language below be added to Special Condition 7(b):

b. Parcels of land participating in a federal or state flood buy-out program need neither be vacant, as defined in Special Condition 8, nor meet the size and natural features criteria, as set forth in Special Condition 9 nor are such parcels subject to the acquisition exclusions (hamlet or designations) in Special Condition 10. Fair Market Value for parcels of land participating in a federal or state funded flood buy-out program may be determined in accordance with either the process established by the Federal Emergency Management Agency, or as set forth in Special Condition 13. Any parcels of land acquired under a federal or state flood buy-out program which will be held in fee by a local government rather than the City, which are protected from development in perpetuity by deed in accordance with the provisions of 42 U.S.C. § 5170c, are not subject to Special Condition 21(a).

In particular, no Party will pursue, nor will CWT, financially or otherwise, support any of its member municipalities in pursuing, and nor will Delaware, Greene, or Ulster County, financially or otherwise, support any of the towns in those respective counties in pursuing, any administrative or judicial proceeding challenging the modification of the 2010 Water Supply Permit to allow for fair market value of properties participating in any federal or State buyout program to be determined in accordance with the Applicable FEMA Procedures. Similarly, no Party will pursue any administrative or judicial proceeding challenging the modification of the 2010 Water Supply Permit to clarify that DEP is not required to grant conservation easements to NYSDEC for properties acquired pursuant to a federal or State buyout program and held in fee by a watershed community. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties also agree to support one another's application for full party status to support the modification of the 2010 Water Supply Permit. Such support does not require any Party to become a party to any proceeding.

(3) Enforceability of this Agreement. The Parties to this Agreement intend the terms of this Agreement to be binding and enforceable commitments. The City is responsible for

the compliance of its contractors with its obligations under this Agreement. These conditions may be enforced pursuant to paragraphs 177 and 180 through 183 of the MOA by the parties to the Watershed MOA. No Party will assert a defense based on the alleged inapplicability of the MOA to the Land Acquisition Program in the event of litigation seeking to enforce the terms of the continuation of the LAP under the 2010 Water Supply Permit. Nothing herein shall be construed to modify, supersede or be inconsistent with the terms and conditions of the 1997 MOA. This Agreement may be enforced in a court of competent jurisdiction and such action shall be governed by the Laws of the State of New York. In any action relating to real property, the City will not oppose venue in the Supreme Court of the county in which the property is located. Except as set forth above in this paragraph, nothing in this Agreement shall act to confer third party beneficiary rights on any person or entity not party to this Agreement.

(4) Effect on the 2010 LAP Agreement. Nothing herein affects the validity of the 2010 LAP Agreement, which shall remain in full force and effect in accordance with its terms.

(5) Execution. This Agreement may be executed in one or more counterparts or by facsimile or other electronic means, each of which when executed and delivered shall be an original, and all of which executed shall constitute one and the same instrument.

(6) Authorization to Execute. The Parties signing this Agreement represent that they have been duly authorized to enter into this Agreement pursuant to their respective lawful authorities.

**SECOND SUPPLEMENTAL AGREEMENT AMONG WEST OF HUDSON
WATERSHED STAKEHOLDERS**

CONCERNING THE

NEW YORK CITY-FUNDED FLOOD BUYOUT PROGRAM

AGREEMENT, dated as of the 23rd day of May, two thousand sixteen, agreed to and executed by and among the following parties (collectively, the “Parties” and individually a “Party”):

The City of New York (“City”), including the Department of Environmental Protection (“DEP”), a municipal corporation with its principal office at City Hall, New York, New York 10007;

The Coalition of Watershed Towns (“CWT”), an inter-municipal body composed of municipalities located wholly or partially within the portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement pursuant to Section 119-o of the New York General Municipal Law, having its principal office at Delhi, New York;

The County of Delaware, a county corporation with its principal office at 111 Main Street, Delhi, New York 13753;

The County of Greene, a county corporation with its principal office at 411 Main Street, Catskill, New York 12414;

The County of Ulster, a county corporation with its principal office at 244 Fair Street, Kingston, New York 12404;

The County of Schoharie, a county corporation with its principal office at 284 Main Street, Schoharie, NY 12157;

The County of Sullivan, a county corporation with its principal office at 100 North Street, Monticello, NY 12701;

The Catskill Watershed Corporation (“CWC”), an independent locally-based and locally administered not-for-profit corporation, organized and existing under section 1411 of the New York State Not-for-Profit Corporation Law and having its principal office at PO Box 569, Main Street, Margaretville, New York 12455;

The Catskill Center for Conservation and Development (“Catskill Center”), a not-for-profit corporation having its principal offices at PO Box 504, Route 28 Arkville, New York 12406;

New York Public Interest Research Group, Inc. (“NYPIRG”), a not-for-profit corporation having its principal offices at 9 Murray Street, New York, New York 10007;

Open Space Institute, Inc. (“OSI”), a not-for-profit corporation having its principal offices at 1350 Broadway, New York, New York 10018;

The Trust for Public Land (“TPL”), a not-for-profit corporation having its principal offices at 116 New Montgomery Street, San Francisco, California 94150;

Riverkeeper, Inc. (“Riverkeeper”), a not-for-profit corporation having its principal offices at 20 Secor Road, Ossining, New York; and

The Natural Resources Defense Council (“NRDC”), a not-for-profit corporation having its principal offices at 40 West 20th Street, New York, NY 10011.

WITNESSETH:

A. WHEREAS, on January 21, 1997, the Parties, among other entities, entered into the Watershed Memorandum of Agreement (“Watershed MOA” or “MOA”), which established a partnership in which the parties agreed “to cooperate in the development and implementation of a Watershed Protection Program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities” (“MOA Objectives”).

B. WHEREAS, among the programs the Parties agreed to in the Watershed MOA is a program for DEP to acquire land in the Watershed for watershed protection (“Land Acquisition Program”), subject to the terms of the Watershed MOA and of the water supply permit issued by NYSDEC on January 21, 1997 (“1997 Water Supply Permit”).

C. WHEREAS, in December 2007, the CWT, among other entities, filed a Combined CPLR Article 78 Proceeding and Declaratory Judgment Action against the City and DEP, among other respondents, challenging, among other things, the adequacy of the environmental review of the additional allocation of funds to the Land Acquisition Program under the 2007 Filtration Avoidance Determination.

D. WHEREAS, NRDC intervened in the Article 78 Proceeding and Declaratory Judgment Action against the City, by stipulation of the parties to that proceeding and so ordered by the Court on December 22, 2010.

E. WHEREAS, based on extensive negotiations, the Parties and/or their representatives, among other entities, reached agreement on the successor to the 1997 Water Supply Permit (the “2010 Water Supply Permit”), which established the terms and conditions for DEP’s continuation of the Land Acquisition Program through December 23, 2025.

F. WHEREAS, the Parties’ agreement to the terms of the 2010 Water Supply Permit was memorialized in two similar Agreements, one among West of Hudson Watershed Stakeholders and one among certain parties to the Article 78 Proceeding and Declaratory Judgment Action, including NRDC, concerning NYCDEP’s Continuation of its Land Acquisition Program, both dated December 27, 2010 (“2010 LAP Agreements”), which provided, among other things, that the Parties would not oppose the 2010 Water Supply Permit.

G. WHEREAS, following Hurricane Irene and Tropical Storm Lee in August and September 2011, many of the parties to the 2010 LAP Agreement, among other stakeholders, reached further agreements (“2013 Supplemental LAP Agreements”) in connection with an overall plan to work together to focus existing watershed protection programs on issues relating to severe flooding.

H. WHEREAS, the 2013 Supplemental LAP Agreement memorialized the Parties’ agreement to modifications of Special Condition 7(b) of the 2010 Water Supply Permit to facilitate the Hurricane Irene Buyout Program, to be implemented in Delaware, Greene, and Ulster Counties, under the Land Acquisition Program, in conjunction with the Federal Emergency Management Agency (“FEMA”) and the New York State Office of Emergency Management (“NYS OEM”). In particular, the modifications allowed for the use of the FEMA procedures for determining the fair market value of properties participating in the Hurricane Irene Buyout Program. The modifications also allowed for local communities to take and retain title to properties acquired through that Program, establishing a requirement that in such situations, those communities will grant conservation easements to DEC with certain restrictions, including both the restrictions FEMA requires for all buyout properties (“FEMA Deed Restrictions”) and additional restrictions memorialized in the 2013 Supplemental LAP Agreement.

I. WHEREAS, the May 2014 Midterm Revisions to the City’s 2007 Filtration Avoidance Determination (“FAD”) require DEP to commit \$15 Million to a New York City-funded flood buyout program (“NYCFFBO Program”) to be implemented in accordance with the conditions of the 2010 Water Supply Permit, as amended. In accordance with the FAD, after extensive negotiations and outreach, Watershed Stakeholders have agreed upon a process for property evaluation and selection, as documented in “NYC-Funded Flood Buyout Program Property Evaluation and Selection Process,” dated June 1, 2016 (“Process Document”), which relies on a further amendment of the 2010 Water Supply Permit, as described below, to allow DEP to implement the NYCFFBO Program in communities that elect to participate in the Program (“Communities”).

J. WHEREAS, MOA Paragraph 67 prohibits DEP from acquiring property in the West of Hudson watershed with structures other than uninhabitable dwellings or accessory structures unless the property is acquired through an acquisition and relocation program administered pursuant to the Hazard Mitigation Grant Program of the Federal Disaster Assistance Act.

K. WHEREAS, as set forth in the Process Document, the NYCFFBO Program includes the following acquisition categories:

1. **Hydraulic Study Properties** – i.e., derived from an engineering analysis conducted under Local Flood Analysis (“LFA”), New York Rising, or another such program;
2. **CWC’s Flood Hazard Mitigation Implementation Program (“FHMIP”)** – where a property is eligible for Relocation Assistance under CWC’s FHMIP;
3. **Individual Buyout Properties** – Necessary for completion of a planned community-approved Stream Project;

4. **Individual Buyout Properties** – Erosion Hazard; and
5. **Individual Buyout Properties** – Inundation Hazard, which does not include properties covered under Category 1 (Hydraulic Study Properties) or properties within the following areas: (1) parcels in areas known as a “designated hamlet or village” (as specified in Attachments R and S in the MOA) and/or Expanded Hamlet Area (as specified in Exhibits 4 and 5 to the 2010 Water Supply Permit); (2) parcels in areas designated as “commercial or industrial area” up to 50 acres in size by the municipality following the procedures of the WSP; and (3) parcels designated along specified public roads (as specified in Attachment T in the MOA) within 1/4 mile extensions from a village.

Properties in any of these categories may have structures other than uninhabitable dwellings and accessory structures; accordingly, the Parties agree that the 2010 Water Supply Permit must be amended for such acquisitions to proceed, and that the Parties’ written consent is therefore required.

L. WHEREAS, the Parties recognize that properties acquired under the NYCFFBO Program may include areas where there is no significant erosion or inundation hazard, and which are neither needed nor useful for implementation of a CWC FHMIP project or a stream management project. The Parties further recognize that the Communities may elect to take title to such properties, and that prior to acquisition under the NYCFFBO Program, it may not be practicable for such a property to be subdivided, or for the appropriate boundaries for a subdivided parcel to be determined, in order to allow for potential future land uses on the upland portion. Consistent with the objectives of the NYCFFBO Program (flood mitigation and community sustainability), the Parties have agreed to certain restrictions on future use, applicable at or below the 100-year floodplain elevation, as set forth in further detail in the Process Document and below.

M. WHEREAS, on December 23, 2015, CWT submitted to DEP and the regulatory agencies the following list of proposed modifications and enhancements to the Watershed Protection and Partnership Programs (“Supplemental Partnership Programs”), which CWT asserts are critical to the long-term sustainability of the communities:

1. Future Stormwater Fund
 - (a) Replenishment
 - (b) Eligible costs/allocation
2. MOA Paragraph 145 Stormwater Costs Paid by the City
 - (a) CWC to administer program
 - (b) Payments as project proceeds within 90 days of invoice submission
 - (c) Eligible costs to be consistent with MOA Attachments II and WW and to be determined by CWC
3. Small Business Septic Fund
 - (a) Expansion to public entities and institutions

- (b) Engineering evaluations and funding of upgrades to noncomplying regulated activities
- (c) Expansion to include all incremental costs of equipment and methods required by the Watershed Regulations that are not required by State or federal law

4. CWC to administer program concerning the City's obligations to pay certain wastewater treatment plant costs under Public Health Law Section 1104.

N. WHEREAS, as set forth below, the Communities have requested, and the City has agreed to, negotiations concerning the Supplemental Partnership Programs, as a condition of the Communities' agreement to the modification of the 2010 WSP; neither such negotiations, nor the Communities' and the City's commitment to those negotiations, independently constitutes a modification of the MOA, and the Parties have not committed to agree to any specific Supplemental Partnership Program Proposal or proposed amendment to the Watershed Regulations.

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the other parties, the Parties do hereby promise and agree as follows:

(1) Property To Be Owned by Communities. Where a Community elects to take title to real property purchased under this program, the Community shall, at the time of closing, grant to DEC a Conservation Easement under Article 49, Title 3 of the New York State Environmental Conservation Law ("Conservation Easement" or "CE"), the purpose of which will be to maintain the property in accordance with the Restrictions in Flood-Prone Areas set forth below. As set forth in the Process Document, properties to which a Community takes title shall be subject to the following conditions:

- a. Restrictions in Flood-Prone Areas. The Conservation Easement will apply to that portion of the property within the 100-year floodplain¹ and may also apply to any other area agreed to by the Community and DEC, including area(s) necessary to create reasonable boundaries and/or area(s) necessary for the grantee to gain access from a public road for CE inspection and enforcement purposes. The CE will include the following terms:
 - i. A whereas clause stating that the parties (the Community and DEC) acknowledge the importance of preserving natural conditions to promote erosion control and flood protection and will seek to preserve natural vegetation, to the extent practical and consistent with the Grantor's long-term flood mitigation plans.
 - ii. The uses allowable under the CE include and are limited to:

¹ That is, most recently mapped 100-year floodplain as of the date of conveyance of the CE and/or the 100-year floodplain as determined by a site specific flood analysis related to or arising from an LFA or equivalent study and incorporated into a FEMA letter of map amendment.

1. uses that would be considered compatible uses or allowable structures under deed restrictions applicable to properties acquired with FEMA flood buyout funding.² Allowable new community structures to promote the use of the property for open space and recreational purposes are limited to:
 - (a) a public restroom that is served by a public sewer system and/or a septic system with a leach field outside of the 100-year floodplain;
 - (b) a facility that is open on all sides and functionally related to open space use which minimizes the impervious coverage of the ground surfaces to the extent practical, and is designed to maintain or restore natural stormwater flows by maximizing infiltration into the ground; or
 - (c) structures that are compatible with open space and proper flood plain management policies and practices which minimizes the impervious coverage of the ground surfaces to the extent practical, and are designed to maintain or restore natural stormwater flows by maximizing infiltration into the ground;
2. uses necessary for the protection, modification, relocation or, where necessary, new construction of infrastructure (water, sewer, roads, telephone and power, including roads providing access to the Upland Portion as defined below), designed in such a way as to avoid exacerbating flood hazards; and
3. flood mitigation projects approved by the Community that are consistent with the goals of flood hazard mitigation and are selected either through:
 - (a) the Local Flood Analysis process (“LFA”), or (b) through another process, such as NY Rising, that includes an engineering analysis meeting the standards of the LFA program.
- iii. Once a community has identified a need to acquire a specific parcel, the community is encouraged to prepare, as part of its local flood hazard mitigation plan, a reuse plan for that parcel (the “Re-Use Plan”). The Re-Use Plan will identify the community’s long term plan for the management, use and development of that parcel subject to and consistent with the Restrictions in Flood-Prone Areas identified above. The Re-Use Plan will be incorporated into the CE.
- iv. In those CEs that do not incorporate a Re-Use Plan, the CE will require notice to and right of objection from DEC of any uses involving new impervious surfaces or grading. In those CEs that do incorporate a Re-Use Plan, the CE will require notice to and right of objection from DEC of any uses involving new impervious surfaces or grading that are not consistent with the Re-Use Plan. The CE will require the Community to use, manage and develop that parcel consistent with the Re-Use Plan.

² See FEMA’s Model Deed Restrictions that support the requirements of 44 C.F.R. Part 80, available at https://www.fema.gov/media-library-data/20130726-1848-25045-1210/fema_model_deed_restriction.pdf.

- v. The CE will require that any use in the Flood Prone Area be consistent with the Flood Prone Restrictions set forth above and be undertaken in accordance with all applicable requirements including, but not limited to, the Watershed Regulations.³
- b. Uses of Upland Areas. The portion of the property that is not subject to the Conservation Easement (“Upland Portion”) may be used and developed in the future, in accordance with all applicable requirements including, but not limited to, the City’s Watershed Regulations. Unless and until the Upland Portion is subdivided or used in accordance with subparagraphs (i) through (iii) below, the Upland Portion must be treated in accordance with the Re-Use Plan or, in the absence of a Re-Use Plan, as if it were subject to the terms of the CE.
 - i. If the Community retains ownership of and uses the Upland Portion for any use that is not consistent with the Re-Use Plan or, in the absence of a Re-Use Plan, would not be allowed under the CE except for relocation of an existing community facility in a floodplain or otherwise subject to erosion or inundation hazard, the appraised value of the Upland Portion must be transferred in accordance with subparagraph (iii) below.
 - ii. The Community may subdivide the Upland Portion and sell it through an arm’s length transaction. If the Upland Portion is sold, the proceeds from the sale of the Upland Portion, less the actual and reasonable expenses incurred by the Community in connection with the NYCFFBO Program, including but not limited to, the cost of subdivision and/or in preparing the property for sale (“Sale Proceeds”),⁴ must be transferred in accordance with subparagraph (iii) below.
 - iii. Sale Proceeds or the appraised value of the Upland Portion as described in the previous two subparagraphs shall be transferred to the CWC’s Flood Hazard Mitigation Implementation Program or any other CWC program relating to flood hazard mitigation in the West of Hudson watershed.
 - 1. If CWC no longer administers a flood hazard mitigation program, such funds shall be transferred to DEP to be used for the NYCFFBO Program or, if such does not exist, for purposes related to acquisition of land or management of natural resources and/or public recreational use in the West of Hudson watershed.
 - 2. If the expenses incurred by the Community in connection with the NYCFFBO Program, subdivision and/or sale are greater than the proceeds from such sale, no funds need be transferred.

³ The Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources, 10 NYCRR Part 128; 15 RCNY Chapter 18.

⁴ Actual and reasonable expenses incurred by the community include consultant, legal, engineering, contracting and administrative expenses relating to: (i) the negotiation and execution of any related agreements; (ii) infrastructure improvements to enhance the sale value; (iii) stewardship for the two years immediately preceding the sale; (iv) closing costs (including, if applicable, realtor, appraisal, title, transfer tax, filing fees); and (v) demolition.

(2) Commitment to Negotiate. Beginning no later than May 15, 2016, DEP will enter into good faith negotiations with the Parties and other stakeholders as described below. The Parties acknowledge that NYSDOH has authority:

- as the primacy agency for the City’s 2017 Filtration Avoidance Determination (“FAD”), to include requirements relating to Partnership Programs in the FAD consistent with the federal Surface Water Treatment Rule; and
- as the agency which must approve any amendments to the City’s Watershed Regulations pursuant to Section 1100 of the Public Health Law, to approve or disapprove any proposed amendments to the Watershed Regulations.

a. Partnership Programs:

- i. Scope. DEP, CWC, and CWT will seek to find a satisfactory resolution for each of the objectives identified above as Supplemental Partnership Programs. CWC, and CWT may identify additional issues by June 1, 2016 (“the Additional Issues”); DEP, CWC and CWT will seek to resolve such issues along with those already identified.
- ii. Timing. Based upon such negotiations, DEP intends to identify enhancements to its existing Watershed Protection and Partnership Programs, satisfactory to DEP, CWC, and CWT, to achieve the objectives identified as the Supplemental Partnership Programs and the Additional Issues in time to include those enhancements in its Long-Term Watershed Protection Program (to be submitted to NYSDOH on or prior to December 15, 2016). DEP, CWC and CWT will advise NYSDOH and DEC no later than September 30, 2016, if they believe that additional assistance is needed to meet the goals and timeframes set forth below. If DEP, CWC and CWT are not able to agree on enhancements necessary to achieve the objectives identified as the Supplemental Partnership Programs by December 15, 2016, CWC/CWT and/or DEP (or both) may request assistance from NYSDOH in resolving any outstanding issues; such request shall include a writing detailing the outstanding issue and proposed resolution.
- iii. Additional Factors. While the Parties agree to open and good faith discussions of issues raised in these negotiations, the City has not agreed to any specific proposal identified in the Supplemental Partnership Programs. The Parties acknowledge that in developing the Long-Term Watershed Protection Program, the City expects to engage in discussions with a variety of stakeholders.

b. Amendments to the Watershed Regulations. The Parties acknowledge that the 1997 Watershed Regulations were developed in conjunction with the MOA in collaboration with the Parties, among other stakeholders, and that the two subsequent amendments were also based on collaborative processes. The City has drafted proposed amendments to the Watershed Regulations based, in part, on concerns expressed by CWT and CWC. Similarly, CWT and CWC have identified areas in which they would like the Watershed Regulations to be amended. Beginning no later than May 15, 2016, the Parties together with other stakeholders

will enter into good faith negotiations to discuss amendments to the Watershed Regulations, including the issues set forth below. The Parties acknowledge that some of these issues may be resolved through process changes rather than through amendments to the Regulations.

- i. Scope. The issues to be discussed include:
 1. Expediting and simplifying DEP's process for reviewing and approving regulated activities
 2. Application of the Watershed Regulations to existing structures and infrastructure, and in particular to noncomplying regulated subsurface sewage treatment systems
 3. Other issues identified by CWT as important to community character and sustainability
- ii. Timing. The Parties will seek to reach an agreement in principle, including proposed amendments, by May 15, 2017.
- iii. Additional Factors. The Parties acknowledge that the Watershed Regulations are a critical element of the City's Long-Term Watershed Protection Program, and thus critical to the City's continued ability to satisfy the federal and State filtration avoidance criteria. In order to achieve the MOA Objectives and to satisfy the filtration avoidance criteria, the Parties will work together, in consultation with NYSDOH and DEC, to identify amendments that, in their judgment, will reduce the regulatory burden on the West of Hudson communities without compromising water quality. The City may amend the Watershed Regulations only with approval from NYSDOH, and must also follow the City's administrative procedures for rulemaking. The Parties further acknowledge that the Watershed Regulations apply in the East of Hudson watershed, and therefore that the East of Hudson communities and other stakeholders not party to this Agreement have an interest in any amendments that will affect their communities

c. Program Contracting Processes.

- i. Scope. The Parties will seek to identify improvements to manage the City's contracting, procurement, and contract administration processes as efficiently as possible.
- ii. Timing. The Parties will seek to complete these discussions by May 15, 2017, with the hope that any improvements in the process will be in place to facilitate implementation of programs under the 2017 FAD.
- iii. Additional Factors. The Parties acknowledge that the City's contracting procedures are subject to a variety of complex requirements under State law, the New York City Charter, the Procurement Policy Board Rules, and other applicable legal requirements. Moreover, the Parties acknowledge that agencies and offices other than DEP and the City Law Department control many elements of the City's contracting process.

(3) Supplemental Limitation on Challenges to DEP's Proposed Modification to Special Condition 7(b) of the 2010 Water Supply Permit. The Parties hereby waive their rights under the Watershed MOA to oppose modification of Special Condition 7(b) of the 2010 Water Supply Permit, which DEP has requested in connection with the NYCFBBO Program. DEP has requested that the underlined language below be added to, and bracketed language below be removed from, Special Condition 7(b):

b. Parcels of land participating in a federal, [or] state, or City flood buy-out program need neither be vacant, as defined in Special Condition 8, nor meet the size and natural features criteria, as set forth in Special Condition 9 nor are such parcels subject to the acquisition exclusions (hamlet or designations) in Special Condition 10. Fair Market Value for parcels of land participating in a federal, [or] state, or City flood buy-out program may be determined in accordance with either the process established by the Federal Emergency Management Agency, or as set forth in Special Condition 13. Any parcels of land acquired under a federal, [or] state, or City flood buy-out program which will be held in fee by a local government rather than the City which are protected from development in perpetuity by deed in accordance with the provisions of 42 U.S.C. § 5170c or equivalent protections enforceable by the department, are not subject to Special Condition 21(a). The City flood buy-out program referred to in this condition is defined and governed by the process, procedures and criteria defined in the document entitled "City-Funded Flood Buyout Program Property Evaluation and Selection Process", dated [August 18, 2015] (Process). In the event the City proposes a material modification to the Process such proposed modification shall be publicly noticed by NYSDEC for public comment and shall be subject to NYSDEC approval as a permit modification under 6 NYCRR Part 621 Uniform Procedures prior to City implementation of such proposed modification. The City flood buy-out program shall provide for the opportunity prior to acquisition for the municipality to review and approve, conditionally approve or reject the proposed parcels within its boundaries.

In particular, no Party will pursue, nor will CWT, financially or otherwise, support any of its member municipalities in pursuing, and nor will Delaware, Greene, Ulster, Sullivan, or Schoharie County financially or otherwise, support any of the towns in those respective counties in pursuing, any administrative or judicial proceeding challenging the modifications of the 2010 Water Supply Permit concerning DEP's implementation of the NYCFBBO Program in municipalities that have explicitly opted to participate. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties also agree to support one another's application for full party status to support the modification of the 2010 Water Supply Permit. Such support does not require any Party to become a party to any proceeding.

(4) Enforceability of this Agreement by NRDC. Independent of the provisions set forth in paragraph (5) below regarding the enforceability of this Agreement by parties to the MOA, pursuant to the enforcement provisions of the MOA, the City and CWT consent to NRDC's enforcement against them of the terms of this Agreement, as binding contractual obligations. Nothing herein shall give NRDC any enforcement rights with respect to the MOA.

(5) Enforceability of this Agreement. The Parties to this Agreement intend the terms of this Agreement to be binding and enforceable commitments. The City is responsible for the compliance of its contractors with its obligations under this Agreement. These conditions may be enforced pursuant to paragraphs 177 and 180 through 183 of the MOA by the parties to the Watershed MOA. No Party will assert a defense based on the alleged inapplicability of the MOA to the Land Acquisition Program in the event of litigation seeking to enforce the terms of the continuation of the LAP under the 2010 Water Supply Permit. Nothing herein shall be construed to modify, supersede or be inconsistent with the terms and conditions of the 1997 MOA. This Agreement may be enforced in a court of competent jurisdiction and such action shall be governed by the Laws of the State of New York. In any action relating to real property, the City will not oppose venue in the Supreme Court of the county in which the property is located. Except as set forth above in this paragraph, nothing in this Agreement shall act to confer third party beneficiary rights on any person or entity not party to this Agreement.

(6) Effect on the 2010 LAP Agreements and the 2013 Supplemental LAP Agreements. Nothing herein affects the validity of the 2010 LAP Agreements or the 2013 Supplemental LAP Agreements, which shall remain in full force and effect in accordance with their terms.

(7) Execution. This Agreement may be executed in one or more counterparts or by facsimile or other electronic means, each of which when executed and delivered shall be an original, and all of which executed shall constitute one and the same instrument.

(8) Authorization to Execute. The Parties signing this Agreement represent that they have been duly authorized to enter into this Agreement pursuant to their respective lawful authorities.

**THIRD SUPPLEMENT TO THE DECEMBER 2010 AGREEMENTS
AMONG WEST OF HUDSON WATERSHED STAKEHOLDERS:
COMMITMENTS RELATING TO THE 2017 FILTRATION AVOIDANCE
DETERMINATION**

AGREEMENT, dated as of the __ day of ____, two thousand eighteen, agreed to and executed by and among the following parties (collectively, the “Parties” and individually a “Party”):

The City of New York (“City”), including the Department of Environmental Protection (“DEP”), a municipal corporation with its principal office at City Hall, New York, New York 10007;

The Coalition of Watershed Towns (“CWT”), an inter-municipal body composed of municipalities located wholly or partially within the portion of the New York City Watershed that lies west of the Hudson River, which have duly entered into a cooperative agreement pursuant to Section 119-o of the New York General Municipal Law, having its principal office at Delhi, New York;

The County of Delaware, a county corporation with its principal office at 111 Main Street, Delhi, New York 13753;

The County of Greene, a county corporation with its principal office at 411 Main Street, Catskill, New York 12414;

The County of Ulster, a county corporation with its principal office at 244 Fair Street, Kingston, New York 12402;

The County of Schoharie, a county corporation with its principal office at 284 Main Street, Schoharie, New York 12157;

The County of Sullivan, a county corporation with its principal office at 100 North Street, Monticello, New York 12701;

The Catskill Watershed Corporation (“CWC”), an independent locally-based and locally-administered not-for-profit corporation, organized and existing under section 1411 of the New York State Not-for-Profit Corporation Law and having its principal office at PO Box 569, Main Street, Margaretville, New York 12455;

The Catskill Center for Conservation and Development (“Catskill Center”), a not-for-profit corporation having its principal offices at PO Box 504, Route 28, Arkville, New York 12406;

New York Public Interest Research Group, Inc. (“NYPIRG”), a not-for-profit corporation having its principal offices at 9 Murray Street, New York, New York 10007;

Open Space Institute, Inc. (“OSI”), a not-for-profit corporation having its principal offices at 1350 Broadway, New York, New York 10018;

The Trust for Public Land (“TPL”), a not-for-profit corporation having its principal offices at 116 New Montgomery Street, San Francisco, California 94150;

Riverkeeper, Inc. (“Riverkeeper”), a not-for-profit corporation having its principal offices at 20 Secor Road, Ossining, New York 10562; and

The Natural Resources Defense Council (“NRDC”), a not-for-profit corporation having its principal offices at 40 West 20th Street, New York, New York 10011.

WITNESSETH:

A. WHEREAS, on January 21, 1997, many of the Parties, among other entities, entered into the Watershed Memorandum of Agreement (“Watershed MOA” or “MOA”), which established a partnership in which the parties agreed “to cooperate in the development and implementation of a Watershed Protection Program that maintains and enhances the quality of the New York City drinking water supply system and the economic vitality and social character of the Watershed communities” (“MOA Objectives”).

B. WHEREAS, among the programs the Parties agreed to in the Watershed MOA is a program for DEP to acquire land in the Watershed for watershed protection (“Land Acquisition Program” or “LAP”), subject to the terms of the Watershed MOA and of the water supply permit issued by the New York State Department of Environmental Conservation (“NYSDEC”) on January 21, 1997 (“1997 Water Supply Permit”).

C. WHEREAS, in December 2007, the CWT, among other entities, filed a Combined CPLR Article 78 Proceeding and Declaratory Judgment Action against the City and DEP, among other respondents, challenging, among other things, the adequacy of the environmental review of the additional allocation of funds to the Land Acquisition Program under the 2007 Filtration Avoidance Determination.

D. WHEREAS, NRDC intervened in the Article 78 Proceeding and Declaratory Judgment Action against the City, by stipulation of the parties to that proceeding and so ordered by the Court on December 22, 2010.

E. WHEREAS, based on extensive negotiations, the Parties and/or their representatives, among other entities, reached agreement on the successor to the 1997 Water Supply Permit (the “2010 Water Supply Permit”), which established the terms and conditions for DEP’s continuation of the Land Acquisition Program through December 23, 2025.

F. WHEREAS, the Parties’ agreement to the terms of the 2010 Water Supply Permit was memorialized in two similar Agreements, one among West of Hudson Watershed Stakeholders and one among certain parties to the Article 78 Proceeding and Declaratory Judgment Action, including NRDC, concerning DEP’s Continuation of its Land Acquisition Program, both dated December 27, 2010 (“2010 LAP Agreements”), which provided, among other things, that the Parties would not oppose the 2010 Water Supply Permit.

G. WHEREAS, following Hurricane Irene and Tropical Storm Lee in August and September 2011, many of the parties to the 2010 LAP Agreement, among other stakeholders, reached further agreements (“2013 Supplemental LAP Agreements”) in connection with an overall plan to work together to focus existing watershed protection programs on issues relating to severe flooding. The 2013 Supplemental LAP Agreements memorialized the Parties’ agreement to modifications of Special Condition 7(b) of the 2010 Water Supply Permit to facilitate the Hurricane Irene Buyout Program.

H. WHEREAS, the May 2014 Midterm Revisions to the City’s 2007 Filtration Avoidance Determination required DEP to commit \$15 million to a New York City-funded flood buyout program (“NYCFFBO Program”), which required further modifications to

the 2010 Water Supply Permit, as amended. The Parties agreed to those modifications, which incorporate a process for evaluation and selection of properties for the NYCFFBO Program, in the “July 2016 Supplemental Agreement.”

I. WHEREAS, the July 2016 Supplemental Agreement also established a framework for negotiations concerning certain proposed modifications and enhancements to the MOA’s Watershed Protection and Partnership Programs (“Supplemental Partnership Programs”) and other issues including, but not limited to, proposed modifications to the *Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources*, Rules of the City of New York, Title 15, Chapter 18 (“Watershed Regulations”).

J. WHEREAS, in accordance with the July 2016 Supplemental Agreement, the Parties discussed the Supplemental Partnership Programs and amendments to the Watershed Regulations and reached a number of resolutions, as described below. For some of the Supplemental Partnership Programs, the resolutions include continued discussions in the context of ongoing work groups, also as described below.

K. WHEREAS, many of the Parties’ resolutions concerning Supplemental Partnership Programs were also described in DEP’s December 15, 2016 Long-Term Watershed Protection Plan (“Long-Term Plan”), submitted in support of DEP’s application for a new Filtration Avoidance Determination (“FAD”) for the Catskill/Delaware Water Supply, and in the FAD issued by the New York State Department of Health (“NYSDOH”), as the primacy agency for the FAD, on December 29, 2017, pursuant to the federal Surface Water Treatment Rule (“2017 FAD”).

NOW, THEREFORE, in consideration of the promises and of the mutual covenants and agreements herein set forth, and of the undertakings of each party to the other parties, the Parties do hereby promise and agree as follows:

- (1) Proposed Amendments to the Watershed Regulations
 - a. The City has agreed to pursue amendments to the provisions of the Watershed Regulations relating to noncomplying regulated activities, subsurface sewage treatment systems, holding tanks, stormwater pollution prevention plans, sewer systems, and variances. DEP’s current proposed revisions, reflecting extensive discussions with the Parties, are set forth in Exhibit A.
 - b. Among other things, under the proposed revisions, DEP would allow reductions in absorption field size for certain subsurface sewage treatment systems, which do not require SPDES permits and are beyond the 60-day travel time, and which provide enhanced treatment of wastewater to reduce the amount of biochemical oxygen demand and total suspended solids of wastewater effluent. In determining whether a proposed system provides such enhanced treatment and is therefore eligible for a reduction in absorption field size, DEP will consider:
 - i. Information provided by the applicant concerning pollutant removal, including manufacturer’s specifications and supporting data; and

- ii. Available guidance from regulatory agencies or other sources including, but not limited to:
 - Onsite Wastewater Treatment Systems Manual, 2002, U.S. Environmental Protection Agency or its successor; and
 - Residential Onsite Wastewater Treatment Systems Design Handbook, 2012, New York State Department of Health or its successor.
- c. DEP has held extensive discussions of the proposed amendments to the Watershed Regulations with stakeholders, including entities that are not Parties to this Agreement. As set forth in the 2017 FAD, DEP submitted a draft of its proposed revisions to NYSDOH, and a timeline for completing proposed changes to the Watershed Regulations, including a target date for adoption by the City, on February 28, 2018.
- d. The Parties acknowledge that NYSDOH has authority to approve or disapprove proposed amendments to the Watershed Regulations pursuant to Section 1100 of the Public Health Law (“PHL”). The Parties further acknowledge that in amending the Watershed Regulations, DEP must follow the rulemaking procedures in the City Administrative Procedure Act (“CAPA”), Chapter 45 of the New York City Charter, and that the proposed amendments will also be subject to environmental review pursuant to New York City’s Executive Order 91 of 1977 and its amendments establishing the City Environmental Quality Review (“CEQR”) procedure, and Article 8 of the Environmental Conservation Law establishing the State Environmental Quality Review Act (“SEQRA”) and its implementing regulations (6 NYCRR Part 617).
- e. DEP will share the proposed amendments to the Watershed Regulations with the Parties, as they may be revised based on further stakeholder discussions, before commencing the CAPA process. If DEP plans to make any material changes from the draft amendments in Exhibit A, DEP will provide an opportunity for informal discussion about any such further proposed revisions before proceeding with CAPA.
- f. Unless DEP proposes material changes from the draft amendments in Exhibit A, the Parties hereby waive any rights under the Watershed MOA including, but not limited to, MOA Paragraph 92, to oppose the amendments to the Watershed Regulations. In particular, no Party will pursue, nor will CWT, financially or otherwise, support any of its member municipalities in pursuing, any administrative or judicial proceeding challenging the amendments to the Watershed Regulations. Should entities other than the Parties request or commence administrative or civil legal proceedings, the Parties also agree to support the amendments to the Watershed Regulations. Such support does not require any Party to become a party to any proceeding.
- g. The Parties agree that once DEP duly amends the Watershed Regulations in accordance with the PHL, CAPA, CEQR, and SEQRA, the amended

Watershed Regulations will be effective and enforceable. In particular, the Parties waive any rights reserved under MOA Paragraph 89 with respect to the draft amendments in Exhibit A. The Parties recognize that the 1997 Watershed Regulations, as revised in 2002, have also been promulgated by NYSDOH, and expect that NYSDOH will revise its rules to conform to the amendments to be adopted by DEP.

(2) Supplemental Partnership Programs. With respect to the West of Hudson Watershed, the Parties have agreed as follows:

- a. Expanded Septic Program. DEP has agreed to fund an expansion of the CWC Small Business Septic and Septic System Rehabilitation and Replacement Programs to include funding as follows:
 - i. 100% of the costs of repairs of and qualifying alterations/modifications¹ to septic systems for:
 - A. Small businesses with 20 or fewer employees²;
 - B. Not-for-profit organizations with 5 or fewer locally-based employees; and
 - C. Governmental entities.³
 - ii. 75% of the costs of repairs of and qualifying alterations/modifications to septic systems up to \$100,000 for a single system, plus 100% of any costs over \$100,000 for:
 - A. Small businesses with 21 or more employees; or
 - B. Not-for-profit organizations with 6 or more locally-based employees.

¹ For purposes of this Program, the term “qualifying alterations/modifications” refers to changes in use of the entity served by the SSTS, including changes in the flow generated by the entity, such that:

- the SSTS will continue to treat sewage without the admixture of industrial wastes or other wastes as defined in Article 17 of the State Environmental Conservation Law; and
- the design flow of the system following the alteration or modification (or the resumption of use of a discontinued SSTS) is no greater than 200% of the flow that would be attributed to the existing use (or use prior to discontinuation) under current design standards, with a maximum increase of 2000 gpd (“maximum qualifying expansion”), except that if the SSTS is subject to a SPDES permit, the maximum qualifying expansion may be no greater than 200% of the flow limit in the SPDES permit, with a maximum of 2000 gpd.

Expansions beyond the maximum qualifying expansion are not qualifying alterations/modifications. An entity that receives funding for a qualifying alteration/modification that does not include the maximum qualifying expansion may be eligible for funding for future qualifying alteration/modifications, up to the maximum qualifying expansion determined as of the date of the first application to CWC for such funding.

² For purposes of this Program, “employee” means full-time equivalent employee.

³ For purposes of this Program, “governmental entities” includes fire districts and other firefighting organizations, regardless of how such districts or organizations are incorporated. Community septic systems funded under the Community Wastewater Management Program are not eligible for Small Business Septic Funds.

- iii. 100% of the cost of any equipment or methods of operation required solely by the Watershed Regulations and not otherwise required by State or federal law for a septic system serving a population center or an entity that is “public” for purposes of PHL Section 1104, as described in the September 27, 1993 NYSDOH Declaratory Ruling, MOA Attachment UU.
- iv. Groundwater Disputes: intermediate-sized SSTs. At the CWC Board’s discretion, 100% of the incremental costs associated with a DEP determination of high groundwater based on soils tests, where:
 - A. The applicant’s licensed professional engineer has issued a written report indicating the absence of seasonally high groundwater at the elevation identified by DEP;
 - B. A DEP licensed professional engineer has provided (or has had an opportunity to provide) a written response justifying DEP’s determination; and
 - C. The CWC Board issues a written finding that upon review of the entire record, the preponderance of the evidence supports the applicant’s licensed professional engineer’s determination and that the preponderance of evidence does not support DEP’s determination of seasonally high groundwater elevation.
- v. Groundwater Disputes: individual residential SSTs. At the CWC Board’s discretion, CWC may make Catskill Fund for the Future (“CFF”) funds, up to \$1.42 million, the amount currently remaining in the Alternate Septic Fund, available to cover the cost of any equipment or methods of operation required solely by the Watershed Regulations and not otherwise required by State or federal law for new septic systems serving single and two family residences and alterations or modifications of such residential septic systems. Eligible costs include, but are not limited to, incremental costs associated with a DEP determination of high groundwater based on soils tests where the applicant’s licensed professional engineer has issued a written report indicating the absence of the groundwater condition identified by DEP. Such funds may also be used to pay costs eligible for Alternate Septic Funds under MOA Paragraph 129.

DEP and CWC will work together in good faith to develop a program agreement and program rules for this Expanded Septic Program. The program agreement will allow reimbursement for eligible costs incurred on or after February 14, 2017. Once CWC and DEP have agreed to program rules for this Expanded Septic Program, and until the program agreement is registered, CWC may pursue one or more of the following options for eligible costs:

- Make determinations as to eligible costs, and notify applicants that CWC will reimburse such costs when the program agreement is registered.

- Use funds under the Septic III program agreement to pay for eligible costs upon amendment of that agreement to authorize such use. DEP will work with CWC to amend that agreement, to allow these additional uses for the remaining funds, in advance of registering the new program agreement.
- Temporarily fund the Expanded Septic Program as a Qualified Economic Development Project loan, using earnings from the Catskill Fund for the Future (“CFF”), to pay for eligible costs. DEP will include funds in the program agreement to repay the loan, including interest at the rate authorized by the CFF Program Rules.

Within 90 days of the effective date of that new program agreement, CWC will transfer any remaining Alternate Septic Funds to either or both the Septic Program or the Stormwater Retrofit Program.

- Septic Maintenance Funds. DEP will work with CWC to amend the program agreement for the Septic System Maintenance Program to provide that small businesses, not-for-profit organizations, and public entities are also eligible for Septic Maintenance Funding for regular pump-outs of septic systems built since 1997 or repaired/replaced under CWC Programs.
- DEP Application of Emergency Procedures in Reviewing Repairs to Septic Systems. DEP’s Watershed Emergency Septic System Repair Review Protocol, dated September 8, 2016 and revised June 7, 2017, is attached as Exhibit B.
- DEP Review of Soils Tests. DEP’s Guidance, dated January 19, 2017, for Percolation Test and Deep Soils Test Exploration Procedures, is attached as Exhibit C. DEP will also support training, to be coordinated by CWC, for DEP project review staff and design engineers.
- Accepting Septage at WWTPs. DEP will accept septage at the wastewater treatment plants (“WWTPs”) that DEP operates in the West of Hudson Watershed in accordance with the letter dated September 22, 2016, from David S. Warne, Assistant Commissioner, DEP Bureau of Water Supply, to Alan Rosa, Executive Director, CWC, attached as Exhibit D.
- Capital Replacement of Watershed Equipment at WWTPs. The Parties acknowledge that DEP entered into a contract with the New York State Environmental Facilities Corporation (“EFC”) to coordinate and fund replacement, as necessary, of equipment and methods that are required solely by the Watershed Regulations and not otherwise required by federal or State law at WWTPs in the Watershed that were in operation or permitted and under construction as of November 2, 1995 or are “public” pursuant to PHL Section 1104. EFC is seeking to terminate its participation in the program and DEP is actively negotiating a contract with a successor partner.
- Future Stormwater Program. The Parties have agreed to expand both the scope and the funding for the CWC Future Stormwater Program as follows:

- i. Replenishment of Future Stormwater Funds. DEP has agreed to provide \$4,720,869 to replenish the Future Stormwater Funds held by CWC, to be used in accordance MOA Paragraph 128, on or before May 31, 2019.
 - ii. Future Stormwater Controls for Single-Family Houses, Small Businesses, and Low-Income Housing (MOA Paragraph 145) Program. DEP has agreed to contract with CWC to fund payments anticipated under MOA Paragraph 145 to be made directly by the City. A draft program agreement is attached as Exhibit E.
 - iii. In connection with these commitments, the Parties have agreed that CWC will modify the April 2016 revisions to the Future Stormwater Program Rules to clarify that CWC may fund more than 50% of the stormwater costs for a project only if an applicant for funding submits an itemized list demonstrating that the actual, reasonable, and necessary costs for designing, permitting, constructing, and implementing stormwater controls required solely by the Watershed Regulations and not otherwise required by State or federal law (“incremental costs”) exceed 50% of the total stormwater costs. The modifications will also clarify that if CWC determines, based on such an itemized list, that the incremental costs are less than 50%, CWC will reimburse only the itemized incremental costs. The draft program rules for the Future Stormwater Program and the MOA Paragraph 145 Program are attached as Exhibit F.
- h. Interpretation of Certain Stormwater Pollution Prevention Plan (“SWPPP”) Provisions in the Watershed Regulations.
- i. Maintenance of Post-Construction Stormwater Controls. DEP will not require deed restrictions as a condition of its approvals for stormwater pollution prevention plans (“SWPPPs”). DEP has developed a model deed restriction, attached as Exhibit G, that it will offer as a resource to applicants, to assist in complying with the requirement for termination of coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (“Stormwater General Permit”) that there be a mechanism requiring operation and maintenance of post-construction stormwater management practices in accordance with the O&M Plan.
 - ii. DEP will not require applicants to include off-site soil borrow or disposal areas in SWPPPs unless they are adjacent to the project site, consistent with NYSDEC’s Stormwater General Permit.
- i. Coordination of Reviews for Projects Requiring Individual Permits. In rare instances involving proposed development projects of unusual size or potential impact, NYSDEC may determine that a project in the Watershed is not eligible for coverage under the Stormwater General Permit but, rather, requires an individual stormwater permit from NYSDEC. The Parties agree that early communication concerning such projects is important. DEP agrees to inform the Environmental Parties to the MOA (Catskill Center, TPL, OSI,

Riverkeeper, and NYPIRG) and NRDC (Environmental Parties to the MOA and NRDC collectively the “Environmental Stakeholders”) if it receives notice of a project for which NYSDEC requires an individual stormwater permit. DEP and the municipal parties agree to cooperate and coordinate with other regulatory agencies in the environmental and regulatory reviews of such projects in order to allow for timely and efficient regulatory determinations. Without limiting any Party’s discretion to advocate for or against a particular project, the Parties agree that they share the goal of facilitating projects that advance the goals of economic vitality within Watershed Communities and drinking water protection.

- j. Contracting Issues. The Coalition of Watershed Towns and other involved municipalities and organizations (the “Watershed Communities,” “West of Hudson Communities,” or “Communities”) raised concerns about certain requirements associated with DEP’s administration of contracts that may delay implementation or present other obstacles to the efficient implementation of Watershed Protection and Partnership Programs. DEP hosted a meeting with the Parties and its contracting experts on October 18, 2016 to discuss these issues and potential solutions. DEP provided a summary of issues, a copy of which is attached as Exhibit H, and is following up directly with contracting partners to address specific concerns. DEP is committed to managing its contracting, procurement, and contract administration processes in a manner that minimizes delays and other impediments to efficient program administration, consistent with applicable laws, rules, and procedures. The Parties acknowledge that the City’s contracting procedures are subject to a variety of complex requirements under State law, the New York City Charter, the Procurement Policy Board Rules, and other applicable legal requirements. Moreover, the Parties acknowledge that agencies and offices other than DEP and the City Law Department control many elements of the City’s contracting process.
- k. Land Acquisition Program. DEP’s December 10, 2010 Final Environmental Impact Statement for the Extended New York City Watershed Land Acquisition Program (“LAP EIS”) concluded that the acquisition of fee and conservation easement interest of 105,043 acres by DEP and the Watershed Agricultural Council (“WAC”) in the West of Hudson Watershed – the maximum acquisition authorized under the 2010 Water Supply Permit – would not have a significant adverse impact on land use or community character. This conclusion was based, among other things, on detailed Town Level Assessments for twenty West of Hudson towns, including analyses of available developable land, projections of residential development, and projected LAP acquisitions.

In investigating concerns raised by the West of Hudson communities concerning the LAP, DEP determined that its acquisitions in the Town of Delhi had already exceeded the ten-year projection in the Town Level Assessment for Delhi, and that its acquisitions in several other towns might have soon reached the projections in the LAP EIS. Consistent with its

discussions with the communities, DEP issued updated Town Level Assessments in April 2017 which include projections for:

- LAP acquisitions through 2025, based on DEP’s current solicitation strategy;
- residential development through 2025; and
- remaining developable land.

In May 2017, DEP convened a meeting of the Watershed Stakeholders to discuss these results and solicit comments. Written comments were due by October 18, 2017. The Parties agree that a town may use up to \$5,000 of the Local Consultation Funds allocated to the town to retain a consultant to assist the town in reviewing the corresponding Town Level Assessment.

If DEP determines, based on the updated Town Level Assessments, the submitted written comments and any other information developed by DEP and/or provided to DEP by takeholders, that it should modify its 2012-2022 Long-Term Land Acquisition Plan, it will submit potential modifications to NYSDOH by April 30, 2018. Such a submission may include recommendations for modifications to the solicitation and funding milestones for the core LAP, and may also include recommendations for further discussions. DEP will share any such proposed modifications of its solicitation plan with the Parties and convene meetings of the Parties to discuss either the reasons that DEP has determined that no modifications are necessary or DEP’s proposed modified solicitation plan. The scope of DEP’s submission and the stakeholder discussions may include recommendations for modifications to the solicitation and funding milestones for the core LAP.

Pending completion and review of the updated Town Level Assessments, including either adoption of a modified Long-Term Land Acquisition Plan or a determination that no modifications are necessary, DEP has committed to limit “outgoing” solicitations in the towns of Delhi, Windham, Andes, Roxbury, Walton, Kortright, Bovina, Middletown, and Halcott, as set forth below:

- DEP will continue solicitations, in coordination with its partners, in the Streamside Acquisition Program and the NYCFFBO Program.
- DEP will accept “incoming” solicitations – where landowners initiate communication with DEP – in those towns.
- DEP may, at its option, solicit land under its core acquisition program up to the following acreages per town:

<u>Town</u>	<u>Acres</u>
Delhi	0
Windham	1000

Andes	3000
Roxbury	1000
Walton	1000
Kortright	1000
Bovina	1500
Middletown	1500
Halcott	2000

DEP has determined that limiting solicitations as set forth herein will not affect its ability to meet the solicitation targets in the FAD. The Parties agree that DEP is in compliance with the 2010 Water Supply Permit and that supplemental environmental review is not required as a matter of law.

1. Use of DEP Land for Critical Infrastructure or Relocation. The West of Hudson Communities have asked DEP to consider the possibility of making certain lands owned by DEP available for infrastructure or relocation projects, particularly in connection with flood hazard mitigation plans. The Parties have agreed to continue to discuss possible options for such use in the context of hypothetical scenarios that Delaware County is developing, including:
 - relocation of a trailer park out of the floodplain;
 - relocation of a municipal public safety facility; and
 - relocation of a municipal sewer line.

In order to facilitate those discussions, DEP has provided information about the procedures it would need to follow to allow land uses for such purposes, which, in certain cases, would include extinguishment or amendment of the NYSDEC conservation easement.

Interested Parties will meet to continue discussing these scenarios in 2018. While the City has expressed concerns about legal and programmatic obstacles to such transfers, the City is committed to exploring whether practical solutions may exist to address certain situations.

- m. Local Consultation Funds. DEP has agreed to increase the cap on the funding available for eligible community costs related to review of land acquisitions, in accordance with the 2010 Water Supply Permit, to \$40,000 per incorporated town and village. The program agreement or amendment providing such funds will allow such funds to be used for consultants to assist towns subject to updated Town Level Assessments in reviewing their updated Assessments, including reimbursement of funds used for that purpose prior to registration of the program agreement or amendment. DEP will work with CWC to amend the Local Consultation program agreement to authorize use of funds for consultants to assist towns in reviewing their updated Assessments.

- n. Management of City-owned Forestland. The Communities raised concerns over management of City-owned forestland for fire safety. As the Parties recognized, meaningful discussions of fire safety must involve the State, as a major landowner, as well as the City. DEP has agreed to discussions with local emergency management personnel, with the understanding that the State will also be involved.
- o. Emergency stream intervention and BMP repairs. The Parties discussed the possibility of establishing a separate fund to be reserved for emergency repair work relating to severe flooding events. In light of DEP's commitment in the Long-Term Plan to repairing and replacing existing BMPs, separate from its commitment to implement new priority BMPs, the Parties have concluded that a separate fund is not necessary. Rather, the funding for repairs should be used in the first instance for emergency repairs, including limited emergency stream intervention where necessary and appropriate to protect BMP investments.
- p. Expanded CREP. The Parties discussed changes to the Conservation Reserve Enhancement Program ("CREP") that make federal funding available for fallow agricultural lands, and have agreed to a pilot program to explore how these federal funds can be used to complement ongoing efforts to protect and improve the function of riparian buffers in the West of Hudson Watershed. The goal of the pilot program is to initiate and develop an ongoing collaboration and coordination between the CREP and CSBI programs for fallow agricultural lands. In particular, the Parties agree that the Delaware County Soil and Water Conservation District ("DCSWCD") will fund a position at WAC, for the duration of the pilot program, with funds to be granted from an eligible and mutually agreed upon budget line under the Stream Management Program agreement, to administer a pilot program in Delaware County. The local match required under CREP will be paid with funds allocated under the Catskill Stream Buffer Initiative ("CSBI"), in accordance with existing CSBI program procedures. DCSWCD and DEP will work diligently with WAC to develop and implement this WAC Pilot Program, and further agree that:
- The WAC Pilot Program and associated landowner survey will be limited to Delaware County.
 - Eligible landowners, whether in Delaware County or elsewhere in the West of Hudson Watershed, who do not opt to enroll in CREP will continue to be given the opportunity to enroll in CSBI.
 - The WAC Pilot Program will not result in the creation of new Whole Farm Plans but rather develop conservation plans (Riparian Corridor Management Plans) to facilitate CREP contracts.
 - DCSWCD and DEP will work with WAC and the regulatory agencies to establish a timeframe (approximately 18-24 months from commencement of implementation) for completing an evaluation of the WAC Pilot Program, including development of an evaluation

report using metrics to be agreed upon by DCSWCD, DEP, WAC, and the regulatory agencies.

- On a parallel track with the WAC Pilot Program, DEP will work with the CSBI programs in Greene, Schoharie, Sullivan, and Ulster Counties to establish CREP buffers where possible through the CSBI framework. The Parties agree that information gathered through both efforts will be used for long term program development.
- q. SMIP-FHM Benefit Cost Analysis. The Watershed Communities raised concerns about certain projects not being eligible for Stream Management Implementation Program (“SMIP”) funding based on a benefit cost analysis (“BCA”) that does not take water quality benefits into account. Currently, the use of SMIP-Flood Hazard Mitigation Program (“FHM”) funds requires that the estimated benefits of a recommended Local Flood Analysis (“LFA”) project outweigh the costs. While the Parties agree that the FEMA benefit cost analysis is useful in applying for State and federal funds and in estimating the structural damages mitigated by a project, they also agree that a 1.0 benefit cost ratio is not required for SMIP-FHM funding eligibility when it is demonstrated that other meaningful water quality benefits will result from the project.

To explore these issues and recognizing that some social and economic benefits not captured by the BCA can be difficult to quantify, and other grant programs may consider such benefits for justifying funding, the Coalition of Watershed Towns has convened a work group to discuss how to evaluate all of the benefits of flood mitigation projects recommended in the LFAs. DEP provided additional information concerning how such benefits could be accounted for in evaluating projects, and made clear that it agrees that projects with significant water quality and flood hazard mitigation benefits should be eligible. The work group has developed a list of additional community benefits that could be described during the LFA process or by the applicant during the application process. This list of community benefits is a tool that can be used to strengthen grant applications to secure outside funding.

The combination of a FEMA BCA, an inventory of the water quality benefits, and a description of community benefits will aid the SMIP-FHM in funding the best community-supported projects in the WOH Watershed. The inventory will provide a level of detail that is practical to obtain and gives a reasonable level of specificity including, where practicable, enumeration of the water quality benefits of a potential SMIP-FHM funded mitigation project. DEP will use the water quality benefits included in the inventory to accurately evaluate implemented projects, report on overall program achievements, and more accurately value the benefit of flood hazard mitigation projects.

The Parties agree that at the completion of the LFA, those entities working with the community on the LFA will actively assist communities as they prioritize projects and seek funding opportunities from relevant sources. The Parties also agree to prioritize projects that have found grant funding to match

SMIP-FHM funding, recognizing that such outside funding may effectively increase the ratio of water quality benefits to costs to be paid by the City.

- r. DCSWCD Design Issues. DCSWCD raised a number of issues relating to DEP's reviews of designs of projects funded through the DEP Stream Management Program. The Parties agreed that these issues will continue to be discussed in the technical design working group and the quarterly contract progress meeting between DEP and DCSWCD.

Having completed the stream functions pyramid workshop, DEP and DCSWCD will work cooperatively to clarify project design expectations and priorities, and to maximize effectiveness of the design review process. In particular:

- DEP will attend project initiation/pre-design meetings with DCSWCD at the outset of projects that result in the development of goals, objectives, and scheduled milestones for design submissions, design review, and project implementation.
 - DEP will coordinate with DCSWCD on the development of a process and/or procedures for resolving future project disputes if they arise.
 - DEP and DCSWCD will work together cooperatively and proactively to identify and evaluate any bottlenecks or inefficiencies in the overall project design submittal and review process.
 - Upon agreement about project goals, objectives, and the assessments necessary to diagnose causes of instability, DEP and DCSWCD will agree on the most appropriate nationally accepted Design Standards or other standards mutually agreed upon for each project.
 - When DEP funds are being used as the match to outside funding, DEP will use reasonable efforts to work within the timelines and restriction of the grant funding.
 - DEP will use reasonable efforts to coordinate design comments from program staff and regulatory staff to avoid conflicting comments.
 - DCSWCD and DEP will jointly prioritize projects for design and review, based upon program goals, project objectives, and anticipated project timelines (this will include categories of projects with full review, limited review and cursory/no review).
- s. Stream Gauges and Meteorological Station Data. The Watershed Communities proposed that DEP fund a number of new stream gauges in the watershed. DEP does not believe that additional gauges are warranted in connection with water supply operations. The Communities explained that the proposed additional gauges would enable them to obtain better data concerning potential flood events; DEP and DCSWCD are discussing whether it would be useful for DEP to provide the meteorological data that DEP makes available to the National Weather Service ("NWS") to the Communities, either directly or via the NWS website. DEP has also explained that the data

is provided to NWS is not reviewed for quality assurance prior to its submission to the NWS.

- t. Relocating Certain DEP Staff to New CWC Office Space. To promote collaboration, over time DEP intends to assign certain regulatory and program staff to the new CWC offices, currently being planned for a location in Arkville. By sharing work space – centrally located in the heart of the watershed – DEP and CWC can further improve coordination and responsiveness to watershed communities. DEP’s letter of intent is attached as Exhibit I.
- u. Emergency Notification Systems Below Dams. The Watershed Communities proposed that DEP provide funding for emergency notification systems, such as sirens, for communicating with people who live downstream of the dams impounding the City’s reservoirs. While DEP has declined to provide such funding, DEP has agreed to meet with emergency management staff to discuss communication and coordination in the event of an emergency. The Parties acknowledge DEP’s extensive outreach and communication in connection with an incident at Cannonsville Reservoir in the summer of 2015, as well as during Hurricane Irene and Tropical Storm Lee in 2011.
- v. Shokan Community Wastewater Management System. DEP has agreed to fund a community wastewater management system for the hamlet of Shokan in the Town of Olive. CWC has agreed to temporarily fund the engineering study for that project as a Qualified Economic Development Project loan, using the Catskill Fund for the Future (“CFF”), to pay for eligible costs. DEP will include funds in a new program agreement for the Shokan Community Wastewater Management System to repay the loan, including interest at the rate authorized by the CFF Program Rules. DEP and CWC will work together in good faith to develop this program agreement, with the goal of registering the agreement no later than December 31, 2018.

(3) Additional Issues. The Environmental Stakeholders identified a number of issues of concern to them, which were discussed with the governmental and watershed stakeholders on January 20, 2016 and February 14, 2017. The Parties deferred discussion of these issues for the comment process following NYSDOH’s July 31, 2017 issuance of the draft 2017 Filtration Avoidance Determination. The Environmental Stakeholders do not waive any rights with respect to pursuing these issues in connection with the draft 2017 Filtration Avoidance Determination, but otherwise agree to the terms herein.

(4) Enforceability of this Agreement by NRDC. Independent of the provisions set forth in paragraph (4) below regarding the enforceability of this Agreement by parties to the MOA, pursuant to the enforcement provisions of the MOA, the City and CWT consent to NRDC’s enforcement against them of the terms of this Agreement, as binding contractual obligations. Nothing herein shall give NRDC any enforcement rights with respect to the MOA.

(5) Enforceability of this Agreement. The Parties to this Agreement intend the terms of this Agreement to be binding and enforceable commitments. The City is responsible for the compliance of its contractors with its obligations under this Agreement. These conditions may be enforced pursuant to paragraphs 177 and 180 through 183 of the MOA by the parties to the Watershed MOA. No Party will assert a defense based on the alleged inapplicability of the

MOA to the Land Acquisition Program in the event of litigation seeking to enforce the terms of the continuation of the LAP under the 2010 Water Supply Permit. Nothing herein shall be construed to modify, supersede or be inconsistent with the terms and conditions of the 1997 MOA. This Agreement may be enforced in a court of competent jurisdiction and such action shall be governed by the Laws of the State of New York. In any action relating to real property, the City will not oppose venue in the Supreme Court of the county in which the property is located. Except as set forth above in this paragraph, nothing in this Agreement shall act to confer third party beneficiary rights on any person or entity not party to this Agreement.

(6) Effect on Prior Agreements. Nothing herein affects the validity of the 2010 LAP Agreements, the 2013 Supplemental LAP Agreements, or the July 2016 Supplemental Agreement, which shall remain in full force and effect in accordance with their terms.

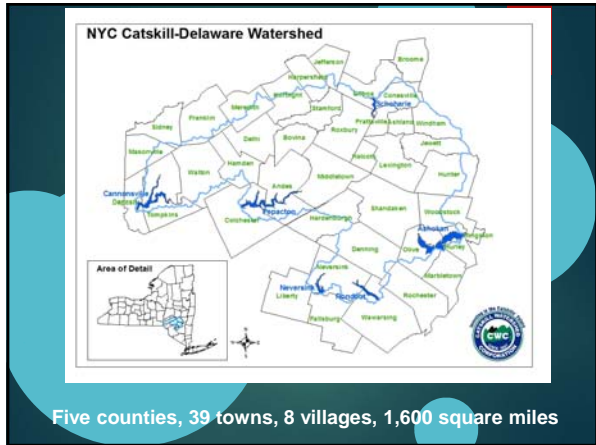
(7) Execution. This Agreement may be executed in one or more counterparts or by facsimile or other electronic means, each of which when executed and delivered shall be an original, and all of which executed shall constitute one and the same instrument.

(8) Authorization to Execute. The Parties signing this Agreement represent that they have been duly authorized to enter into this Agreement pursuant to their respective lawful authorities.

Exhibits:

- A. Proposed Revisions to the Watershed Regulations, April 2018
- B. DEP Watershed Emergency Septic System Repair Review Protocol, June 7, 2017
- C. DEP Guidance for Percolation Test and Deep Soils Test Exploration Procedures, January 19, 2017
- D. September 22, 2016 Letter from DEP to CWC concerning DEP's Acceptance of Septage
- E. DEP-CWC Program Agreement for Future Stormwater Controls for Single-Family Houses, Small Businesses, and Low-Income Housing (MOA Paragraph 145) Program
- F. CWC Program Rules for Future Stormwater Program and the MOA Paragraph Program
- G. Model Deed Restriction for SWPPPs
- H. DEP Summary of Contracting Issues
- I. March 20, 2017 Letter of Intent from DEP to CWC concerning Shared Office Space





Catskill Watershed Corporation

- Not for Profit Local Development Corporation
- Governed by our by-laws, subject to Open Meetings Law and Freedom of Information Law
- CWC Board of Directors composed of 15 individuals
 - 12 local directors elected by 39 member towns
 - 2 Governor appointees, and
 - 1 representative appointed by the Mayor of New York
- Rigorous financial policy and accounts are annually audited by independent auditor. Board of Directors approve all expenditures or contracts over \$10,000
- Per Watershed MOA, most funding decisions are subject to a 15-day notice and right of objection
- Monthly Board and Committee meetings are open to the public

Current Partnership Programs administered by CWC

- Septic Rehabilitation, Replacement and Maintenance
- Community Wastewater
- Stormwater Programs
 - Future Stormwater for new construction
 - Stormwater Retrofits
- Flood Hazard Mitigation Implementation
- Catskill-Fund for the Future
- Public Information & Education Program
- Local Technical Assistance – Sustainable Communities

Other CWC Programs

- Tax Consulting Fund
- Local Consultation on Land Acquisition
- Stormwater Technical Assistance
- Stormwater Planning
- Tax Litigation Avoidance Program



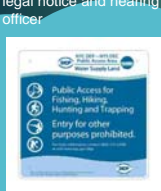
Local Consultation

On noticed purchases, Watershed towns and villages have 120 days to comment on:

1. Consistency with Natural Features Criteria
2. Consistency with size requirements
3. Consistency with vacancy requirements
4. Consistency with local land use laws, plans and policies
5. City's proposed fencing and signing
6. Proposed recreational uses
7. Available development areas
8. Potable water natural resources and access thereto
9. Access to sewage disposal
10. Consistency with set-back requirements and local land use regulations; and
11. Natural resource criteria

CWC Local Consultation Funds can reimburse a town/village for:

- Town Consultant Review (ie: County Planning Department to verify compliance with field visit)
- Public Hearing (ie: for local comments on a proposed purchase) including legal notice and hearing officer



NYCDEP Public Access Area sign



Recreation by Permit Sign South Reservoir Road Margaretville



Fishing Only sign at Ashokan Reservoir in Town of Olive

Involvement of Catskill Watershed Corporation

- Funding for Outreach Coordinator and Assessment Leads
- Demolition of structures after purchase
- Funding for projects on these properties recommended by a community's local flood analysis



CWC funded demolition of home along Manorkill Stream in Town of Conesville

City Funded Flood Buyout

Eligibility

1. Property substantially damaged by prior flooding; or



Fox Hollow, Town of Shandaken
Hurricane Irene Damage

City Funded Flood Buyout

Eligibility

2. Property Hazard – Inundation hazard or slope failure



Photo 8. View of the house from a point directly across East Kill. (Photographed July 18, 2012)

Rosentreter Property, Town of Jewett
Bank Failure on West Kill undermining foundation of residence



City Funded Flood Buyout

Eligibility

3. Recommended by a local flood analysis



Town of Olive Flood Commission walking tour of hamlet of Boiceville

Questions?

cwconline.org
845-586-1400

NYSBA EELS Fall 2018 Meeting

NYC's Watershed Protection Land Acquisition Program

Jeff Senterman, Executive Director
Catskill Center for Conservation and Development

What is the role of the environmental community in the land acquisition program?

Overarching Goal: Ensure clean, safe drinking water for NYC and Hudson Valley residents while ensuring no adverse environmental or community health impacts result from the operation of the water supply

- The task of providing this drinking water includes large scientific, political and economic challenges – all of which benefit from watchdogging by environmental organizations
- While the majority of stakeholders to the MOA are federal, state, county and municipal government agencies or quasi-governmental agencies, the environmental community's position as non-governmental organization (NGO) offers the group a different perspective and different advocacy tools.

Why is the land acquisition program important to the environmental community?

- A recognition that while filtration may be needed in the future, the preferable way to safeguard the drinking water supply was watershed protection. Prevent pollution from entering the system in the first place, instead of trying to filter it out afterwards.
- Protecting watershed lands is the primary line of defense in preventing pollution – a position held by water quality experts, the EPA and the National Academy of Sciences.
- The majority of major unfiltered water systems in the US have been able to avoid a filtration order in large part because the watersheds of those reservoirs are almost completely protected – owned by the water supply or other entities such as the US Forest Service or the National Park Service.

How has the environmental community been involved in the land acquisition program?

- Opposed the proposed filtration order and instead pushed to acquire the most sensitive and fragile lands with high water quality, so as to prevent pollution and haphazard development.
- Supported permanent protection through fee acquisition or conservation easements as a way to keep watersheds rural in character and avoid the suburbanization that was seen in the East of Hudson Watershed.
- During each filtration avoidance determination (FAD) review, the environmental stakeholders have supported the continuation of the land acquisition program and advocated to ensure it remains robust.
- Supported new programs and efforts to protect the sensitive and fragile lands in new ways, such as the NYC Funded Flood Buyout and the Streamside Acquisition Program

How has the Catskill Center been involved in the land acquisition program?

- The Catskill Center is a signatory to the MOA and the only member of the environmental community stakeholders with a focus solely on Catskill issues.
- The Catskill Center has a broad mission to preserve and enhance the environmental, cultural and economic well-being of the Catskills.
- The Catskill Center's work currently focuses on regional advocacy, education and stewardship. The Center is a land trust with several hundred acres of fee holdings and more than 1500 acres of conservation easements across the region.
- The Catskill Center works to ensure that water quality goals are met, while also being balanced with important regional economic concerns, including the ongoing viability of our towns and communities.
- The Catskill Center supports land acquisition to protect sensitive and fragile lands and in recent years has looked to increase the protection of those lands.
 - Special Condition 29 of the 2010 Water Supply Permit sought to establish a Pilot Program for the protection of riparian buffer lands.
 - Working with the Town of Hunter, the Catskill Center prepared a Program Development Initiative Report that described potential programs.
 - Following a request by NYCDEP for a proposal based on the PDI report, in July 2015 the NYCDEP and Catskill Center entered into a contract to establish the Riparian Buffer Acquisition Program (now called the Streamside Acquisition Program), the goal of which was to pilot ways to permanently protect riparian buffer lands.
 - The original program was for 5 years and funded with \$5 million from the NYCDEP LAP. The pilot was established only in the Schoharie Reservoir basin and focused on 300-foot buffers, floodplains and wetland areas adjacent to streams. Acquisitions throughout the municipalities in the Schoharie Basin, including within the hamlet designated areas (something the traditional LAP cannot do) if a Town opts-in their hamlet designated areas.
 - Under the Streamside Acquisition Program (SAP), the Catskill Center is responsible for managing the following aspects:
 - Notice to municipality
 - Selecting properties
 - Soliciting property
 - Visiting property
 - Reviewing w/ NYCDEP, request approval to appraise
 - Appraising property
 - Making an offer and going into contract
 - Completing title research
 - Surveying the property
 - Conducting an Environmental Site Assessment (ESA)

- Debris clean-up
- Property closing
- The NYCDEP is responsible for:
 - Providing funding
 - Providing data, access to GIS systems to Catskill Center
 - Training Catskill Center staff
 - Reviewing properties before solicitation & appraisal
 - Reviewing and approve subcontracted services (e.g. survey, ESA, etc.)
 - Acquiring property
 - Conveying Conservation Easement to NY State
 - Managing property, per policies
- The Catskill Center has two full-time staff dedicated to the SAP and 2 staff partially dedicated to the program. The Catskill Center has opened an office in Tannersville to be within the Schoharie Basin.
- The 2017 FAD called for an immediate 3-year, \$3 million extension of the program and an eventual \$8 million expansion of the program from a single basin pilot program to a West of Hudson Watershed-wide program.
- To date, the SAP has:
 - Solicited 300 parcels
 - Appraised 37 parcels
 - The median parcel size has been 6 acres and the median value has been \$40k/lot or roughly \$6.6k an acre
 - The parcels have averaged 75% riparian buffer and floodplain
 - 22 offers have been accepted
 - 1 property has closed to date
- The future of SAP includes:
 - Potential addition of incentives to increase landowner participation and increase municipal opt-in of hamlet designated areas. Currently being discussed by stakeholders as part of a 2017 FAD deliverable.
 - Additional staff to increase municipal outreach and overall program efforts.
 - Conclusion of pilot phase and future expansion throughout the entire West of Hudson watershed.

