UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

STATE OF NEW YORK and BASIL SEGGOS as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources, Plaintiffs, -against- NORTHROP GRUMMAN SYSTEMS CORPORATION, Defendant.	No: 2:22-cv-4091 **COMPLAINT**

Plaintiffs State of New York and Basil Seggos, in his official capacities as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources (collectively, the "State"), by their attorney Letitia James, Attorney General of New York, as and for their complaint, allege as follows upon information and belief:

NATURE OF THE ACTION

1. This is an action under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601-9675 ("CERCLA"), as amended, and New York's common law of public nuisance and restitution (a) to recover costs that have been and will be incurred by the State in responding to the release and threatened release of hazardous substances into the environment at and from certain properties and facilities related to a former industrial complex located in the Hamlet of Bethpage, Town of Oyster Bay, Nassau County, New York (as more specifically defined in Paragraphs 23-29 below, the "Sites") ; and (b) to recover natural resource damages associated with such releases and threatened releases from the Sites.

2. More specifically, this action seeks a judgment against defendant Northrop Grumman Systems Corporation ("Northrop Grumman"):

(a) awarding reimbursement to the State of its costs incurred to date in responding to releases and threats of releases of hazardous substances at and from the Sites;

(b) declaring that Northrop Grumman is liable to the State for the State's future costs in responding to such releases and threats of releases;

(c) compensating the State for damages to its natural resources; and

(d) awarding enforcement costs and interest.

JURISDICTION AND VENUE

3. This Court has jurisdiction over the State's claims arising under the laws of the United States, pursuant to 28 U.S.C. §§ 1331 and 2201 and 42 U.S.C. §§ 9607 and 9613, and has supplemental jurisdiction over the common law claims arising under the laws of the State, pursuant to 28 U.S.C. § 1367. The Court also has jurisdiction to enter a declaratory judgment under 28 U.S.C. §§ 2201 and 2202 and 42 U.S.C. § 9613.

4. Venue is proper in this District pursuant to 42 U.S.C. § 9613(b) and 28 U.S.C. § 1391(b) because the threatened and actual releases of hazardous substances that give rise to this action occurred and/or are occurring within this District and the Sites are located within this District.

THE PARTIES

5. Plaintiff State of New York, as a body politic and sovereign entity, brings this action on behalf of itself and as *parens patriae*, trustee, guardian, and representative on behalf of all residents and citizens of the State, particularly those individuals who live in the vicinity of the Sites. The State does so to recover costs and damages that have been incurred by the State in

responding to the release of hazardous substances at and from the Sites pursuant to State Finance Law § 97-b and to obtain other declaratory relief.

6. Plaintiff Basil Seggos, as Commissioner of the New York State Department of Environmental Conservation ("DEC") and Trustee of the State's natural resources under state and federal law, brings this action to recover damages for injury to and loss of the State's natural resources, to recover costs that have been incurred by the State in responding to the release of hazardous substances at and from the Sites, and to obtain other declaratory relief.

7. Northrop Grumman Systems Corporation ("Northrop Grumman") is a corporation established under the laws of Delaware, with its principal place of business at 2980 Fairview Park Drive in Falls Church, Virginia. Northrop Grumman is authorized to do business in this State with a place of business in Bethpage, New York. Northrop Grumman is the successor to, among other entities, Grumman Aircraft Engineering Corporation and Grumman Corporation.

8. During the period from the 1930s to the present, Northrop Grumman has been the owner of some of the Sites and an operator of all of the Sites. During that ownership and operation, there were releases of hazardous substances on portions of the Sites that Northrop Grumman owned, and Northrop Grumman disposed of hazardous substances on portions of the Sites that Northrop Grumman owned and/or operated.

STATUTORY AND REGULATORY BACKGROUND

CERCLA

9. Under CERCLA, when there is a release or a threatened release of hazardous substances into the environment from a facility, certain categories of persons are liable to the State for the costs that the State incurs to respond to the release or threatened release as long as

the State's response actions are "not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a).

10. "Hazardous substances" are defined in 42 U.S.C. § 9601(14) and include, but are not limited to, substances that the United States Environmental Protection Agency ("U.S. EPA") has designated as hazardous pursuant to 42 U.S.C. § 9602. The substances that U.S. EPA has designated as hazardous are listed in 40 C.F.R. § 302.4.

11. A "release" includes spilling, escaping, leaching, or disposing "into the environment." 42 U.S.C. § 9601(22). The "environment" includes groundwater, land surface, and subsurface strata. 42 U.S.C. § 9601(8).

12. A "facility" includes "any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located." 42 U.S.C. § 9601(9). It also includes buildings, structures, and equipment. *Id.*

13. The term "respond" includes taking "removal" actions, "remedial" actions, and related enforcement activities. 42 U.S.C. § 9601(25). A "removal" action includes the "cleanup or removal of released hazardous substances from the environment" and the assessment and evaluation of a release. 42 U.S.C. § 9601(23). A "remedial" action means "those actions consistent with permanent remedy taken instead of or in addition to removal actions." 42 U.S.C. § 9601(24).

14. The "national contingency plan" is set forth in 40 C.F.R. Part 300.

15. CERCLA also provides that when there is a release or a threatened release of hazardous substances into the environment from a facility, certain categories of persons are liable for "damages for injury to, destruction of, or loss of natural resources, including the reasonable

costs of assessing such injury, destruction, or loss resulting from such a release." 42 U.S.C. § 9607(a).

16. The term "natural resources" includes "land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by . . . any State." 42 U.S.C. § 9601(16).

17. Natural resources damages include, without limitation, injury, destruction, or loss to such natural resources, and the reasonable costs of assessing such injury, destruction, or loss. 42 U.S.C. §§ 9601(6) & (16), 9607(a).

18. The persons liable for response costs and natural resource damages under 42 U.S.C. § 9607(a) include (i) current owners and operators of a facility; and (ii) owners and operators of a facility at the time of disposal of hazardous substances. "Persons" includes, among others, individuals, firms and corporations. 42 U.S.C. § 9601(21).

19. CERCLA provides that, in an action for recovery of costs, "the court shall enter a declaratory judgment on liability for response costs or damages that will be binding in any subsequent action or actions to recover further response costs or damages." 42 U.S.C. § 9613(g)(2).

New York Law

20. The State's third and fourth claims for relief are based on New York common law. These claims seek to abate any existing public nuisance and to recover funds that the State has spent and will spend abating any public nuisance and contamination at or from the Sites.

21. A public nuisance is a condition that offends, interferes with, or causes damage to the public in the exercise of rights common to all, in a manner such as to offend public morals, interfere with use by the public of a public place, or endanger or injure the property, health,

safety, or comfort of a considerable number of persons. In particular, the release or threat of release of hazardous wastes into the environment is a public nuisance.

22. Persons who cause or contribute to the creation or maintenance of a public nuisance are strictly, and jointly and severally, liable for its abatement. Fault is not an issue: a plaintiff seeking to abate a public nuisance is not required to demonstrate negligence or willful conduct on the part of the defendant.

FACTUAL ALLEGATIONS

The Sites

23. In 1983, DEC listed approximately 600 acres in Bethpage on the Registry of Inactive Hazardous Waste Disposal Sites in New York State (the "Registry") as the Grumman Aerospace-Bethpage Facility Site, Site No. 130003 (the "Original Site"). The Original Site is primarily located in an area bounded by Stewart Avenue to the north and east, Central Avenue to the south, Route 107 to the southwest, and New South Road to the west.

24. In March 1993, DEC divided the Original Site into two parts. DEC designated approximately 500 acres of the Original Site on the Registry as the Northrop Grumman-Bethpage Facility Site, Site No. 130003A. DEC designated the remaining approximately 100 acres of the Original Site on the Registry as the Naval Weapons Industrial Reserve Plant Site, Site No. 130003B.

25. In March 2000, DEC divided the Grumman Bethpage Facility Site, Site No. 130003A, into two parts. DEC designated one part, consisting of approximately 26 acres, on the Registry as the Northrop Grumman-Steel Los Plant 2 Site, Site No. 130003C. DEC continued to designate the remaining part of the site as the Northrop Grumman-Bethpage Facility Site, Site No. 130003A.

26. For the purposes of this Complaint, the term "Grumman Site" is defined to include all land and facilities that DEC designated in March 1993 as the Grumman Bethpage Facility Site, Site No. 130003A, including the land and facilities later designated as the Northrop Grumman Steel Los Plant 2 Site, Site No. 130003C, irrespective of any subsequent changes to those sites' boundaries or designations.

27. For the purposes of this Complaint, the term "Naval Weapons Site" is defined to include all land and facilities that DEC designated in March 1993 as the Naval Weapons Industrial Reserve Plant Site, Site No. 130003B, irrespective of any subsequent changes to that site's boundaries.

28. Next to the Grumman Site, between Stewart Avenue and the eastern boundary of that Site, is an area of approximately 18 acres consisting of (a) Bethpage Community Park, part of which had been built on former industrial settling ponds, and (b) a road formerly used to access Plant 24 on the Grumman Site (collectively, the "Settling Ponds Area" or "Operable Unit 3 Area").

29. For the purposes of this Complaint, the Grumman Site, the Naval Weapons Site and the Settling Ponds Area collectively constitute the "Sites." A map showing the location of the Grumman Site and the Naval Weapons Site is attached as Exhibit A.

Historical Activities at the Sites

30. Beginning in the 1930s, Northrop Grumman, through two of its predecessors, Grumman Aircraft Engineering Corporation and Grumman Corporation, along with the United States Department of the Navy (the "Navy"), used the Sites for industrial and research purposes. Among other things, Northrop Grumman was a major manufacturer of military aircraft for the United States at the Sites during World War II and later, including through the Cold War.

31. All manufacturing ceased at the Sites in 1996.

32. At some or all times between the 1930s and the present, Northrop Grumman owned (a) the Grumman Site, and (b) portions of the Settling Ponds Area, including the part on which the industrial settling ponds were located.

33. At some or all times between the 1930s and the present, Northrop Grumman operated (a) the Grumman Site, (b) portions of the Settling Ponds Area, including the industrial settling ponds themselves, and (c) together with the Navy, the Naval Weapons Site.

34. During the period that Northrop Grumman owned part of the Sites and operated the Sites, Northrop Grumman released hazardous substances to the soil and groundwater at parts of the Sites that Northrop Grumman owned and/or operated, including at the former industrial settling ponds in the Settling Ponds Area.

35. Among the hazardous substances released at those parts of the Sites at those times are several volatile organic compounds ("VOCs"), including but not limited to trichloroethene ("TCE"), and other non-VOC hazardous substances, including but not limited to 1,4-dioxane.

36. TCE is a carcinogen that may cause kidney cancer, liver cancer and malignant lymphoma. Short-term exposure to high concentrations of TCE can cause dizziness, headaches, effects on hearing, seeing and balance, liver damage, possible kidney damage and death.

37. U.S. EPA has classified 1,4-dioxane as likely to be carcinogenic to humans. Long-term exposure can harm the liver and kidneys. Short-term exposure can cause eye and nose irritation or, at very high levels, severe kidney and liver effects, and possibly death.

38. Hazardous substances released at or from the Sites have entered the groundwater beneath the Sites because the Sites include or are near areas where precipitation enters the ground and percolates down through the soil to replenish the groundwater.

39. The federal and New York State governments have set out standards, criteria and guidance that establish appropriate, relevant and applicable requirements for investigation and cleanup of inactive hazardous waste sites, including maximum permissible concentrations of hazardous substances in groundwater and soil ("standards").

40. Groundwater contaminated by releases at and from the Sites has had, and continues to have, concentrations of hazardous substances released at or from the Sites, including without limitation TCE and 1,4-dioxane, at levels far exceeding applicable standards.

41. The contaminated groundwater underneath the Sites migrates from the Sites to the south-southeast toward the Great South Bay, which connects to the Atlantic Ocean.

42. Over time, the contaminated groundwater from the Sites has formed multiple underground plumes, each of which continues to move further south-southeast from the Sites. One plume area consists of groundwater that (a) is contaminated by hazardous substances at least some of which were released at or from the Operable Unit 3 Area and (b) has concentrations of such hazardous substances in excess of the respective standards for those hazardous substances (the "Eastern Plume"). Another plume area consists of groundwater that (a) is contaminated by hazardous substances at least some of which were released at or from the Grumman Site and/or the Naval Weapons Site, and (b) has concentrations of such hazardous substances in excess of the respective standards for those hazardous substances (the "Western Plume").

43. The Eastern Plume and the Western Plume, together with other plumes (collectively, the "Plumes"), join and comingle in certain locations. The Plumes are currently

approximately 4.3 miles long and 2.1 miles wide and extend downward to a depth of approximately 900 feet beneath the ground surface.

44. Beneath the Sites is a portion of U.S. EPA-designated sole source aquifer that extends under much of Long Island and is the primary source of drinking water for 2.6 million Long Island residents.

45. Approximately 360 public water supply wells in Nassau County withdraw drinking water from that sole source aquifer.

46. The Plumes have contaminated that aquifer and have affected groundwater intake at 11 public water supply wells operated by the Bethpage Water District, South Farmingdale Water District, and Liberty Utilities (New York Water) Corp., including five public water supply wells operated by Bethpage Water District that are directly downgradient from the Sites and within the central portion of the Plumes. Although all groundwater intake at these wells is subject to treatment before distribution to the public, and all water distributed to the public after treatment meets and has met all relevant drinking water standards, untreated groundwater taken from some of these wells has over time contained increasing concentrations of hazardous substances related to the Sites.

47. The continuing expansion of the Plumes to the south-southeast threatens to contaminate groundwater intake at additional public water supply wells that are currently unaffected by the Plumes.

Investigation and Remedial Work to Date

48. DEC listed the Grumman Site and the Naval Weapons Site on the Registry based on the on-site and off-site presence of hazardous substances in the soil and groundwater.

49. To date, DEC, Northrop Grumman and the Navy have undertaken response activities to address soil and groundwater contamination from the release of hazardous substances at and from the Sites. Those activities have included: investigations; soil remediation; groundwater recovery, treatment and recharge; monitoring and well-head treatment for affected or potentially affected public water supplies; and response actions for soil vapor.

50. An operable unit at a site represents a portion of an overall program to investigate, eliminate or mitigate a release of hazardous substances that for technical or administrative reasons can be addressed separately.

51. Response activities at the Sites have been divided into multiple operable units, two of which are primarily relevant to this Complaint. Operable Unit 2 consists of groundwater contamination originating in part from release of hazardous substances at and from the Grumman Site and the Naval Weapons Site. Operable Unit 3 consists of soil and groundwater contamination originating from release of hazardous substances at and from the Settling Ponds Area.

Operable Unit 2

52. In 1997, in Operable Unit 2, Northrop Grumman began operating a groundwater extraction and treatment system serving as an on-site containment system along the southern and southwestern boundary of the Grumman Site to prevent further migration of contaminants beyond this boundary. Following withdrawal of contaminated groundwater from the aquifer, the groundwater is treated to remove the chemicals of concern and is returned to the aquifer.

53. In March 2001, DEC issued a Record of Decision ("ROD") for Operable Unit 2 groundwater contamination from the Grumman Site ("Operable Unit 2 ROD"). The Operable

Unit 2 ROD selected a remedy for that contamination that includes, among other things, continued operation of the on-site containment system along the southern and southwestern boundary of the Grumman Site. Northrop Grumman continues to operate this system to date.

54. In January 2003, the Navy issued, and in April 2003 amended, a ROD for the Operable Unit 2 groundwater contamination originating from the Naval Weapons Site ("Navy Operable Unit 2 ROD"). The Navy Operable Unit 2 ROD selected a remedy to be implemented by the Navy for that contamination which included, among other things, a system to extract contaminants in the eastern part of the Plumes near the Seaford-Oyster Bay Expressway. The Navy has continued to operate this system since 2008.

55. In April 2015, DEC and Northrop Grumman entered into an Administrative Order on Consent for response actions to address Operable Unit 2 groundwater contamination (the "Operable Unit 2 Consent Order"). In accordance with the Operable Unit 2 ROD and the Operable Unit 2 Consent Order, Northrop Grumman has, among other things, continued to operate the on-site containment system located along the southern and southwestern boundary of the Grumman Site.

Operable Unit 3

56. In 2009, in Operable Unit 3, Northrop Grumman began operating a second groundwater extraction and treatment system, also referred to as an on-site containment system, along the southern boundary of the Settling Ponds Area, that operates in the same manner as the system operating in Operable Unit 2.

57. In March 2013, DEC issued a ROD for Operable Unit 3 soil and groundwater contamination ("Operable Unit 3 ROD"). The Operable Unit 3 ROD selected a remedy for that contamination that included, among other things, continued operation of the on-site containment

system along the southern boundary of the Settling Ponds Area. Northrop Grumman continues to operate this system to date.

58. In May 2014, DEC and Northrop Grumman entered into an Administrative Order on Consent for response actions to address Operable Unit 3 soil and groundwater contamination (the "Operable Unit 3 Consent Order").

59. In accordance with the Operable Unit 3 ROD and the Operable Unit 3 Consent Order, Northrop Grumman is in the process of installing a third groundwater extraction and treatment system to address contamination in a portion of the Plumes downgradient from the Settling Ponds Area known as the RW-21 Area (the "RW-21 System"). Northrop Grumman has installed groundwater extraction wells for this system but has not yet completed the infrastructure to begin use of the wells for treatment.

Current Conditions

60. As a result of response actions, contaminated soil at some areas of the Sites has been addressed, and DEC has delisted portions of the Grumman Site and the Naval Weapons Site from the Registry.

61. Nonetheless, notwithstanding response actions to date, the Plumes still exist and continue to expand, leading to increased concentration of hazardous substances in groundwater further and further downgradient from the Sites. Recent data show TCE concentrations many times greater than the TCE standard in the off-site portion of the Plumes.

62. These current conditions indicate that the response actions to date regarding the Plumes are not fully protective of human health and the environment.

63. In April 2019, DEC issued a feasibility study report examining possible additional actions to remediate the ongoing groundwater contamination along with a proposed amended

ROD, and in December 2019, DEC issued an Amended Record of Decision for Operable Units 2 and 3 ("Amended ROD"). The Amended ROD is attached as Exhibit B.

64. The Amended ROD states that it builds upon the Navy Operable Unit 2 ROD, the Operable Unit 2 ROD and the Operable Unit 3 ROD, and selects a remedy, denominated as "Alternative 5B,"to redress the Plumes' ongoing expansion toward currently unaffected water districts and elevated levels of contamination.

65. The Amended ROD's selected remedy includes significant additional extraction and treatment of contaminated groundwater. The remedy contemplates that extraction wells will be placed along the perimeter of the Plumes to prevent the Plumes from migrating further, while other extraction wells will be placed at points of particularly high contaminant concentrations in the interior of the Plumes to remove significant amounts of the contaminants. The remedy also contemplates construction of new groundwater treatment plants as well as over 23 miles of underground piping to transport the extracted water from the wells to the treatment plants and to transport the treated water from the plants to discharge locations.

FIRST CLAIM FOR RELIEF
CERCLA—COST RECOVERY

66. The State repeats, realleges and incorporates by reference the allegations contained in Paragraphs 1 through 65 in this claim for relief.

67. The Sites are "facilities" as that term is defined in 42 U.S.C. § 9601(9).

68. Buildings, structures, and equipment where hazardous substances were deposited, stored, disposed of, placed, or otherwise came to be located at the Sites are also "facilities" under 42 U.S.C. § 9601(9).

69. There have been "releases" and threatened "releases" of "hazardous substances," as those terms are defined in 42 U.S.C. §§ 9601(14) and (22), at and from the Sites into the "environment," as that term is defined in 42 U.S.C. § 9601(8).

70. Hazardous substances released into the environment at the Sites include, but are not limited to, TCE and 1,4-dioxane.

71. The State has incurred costs, and will continue to incur costs, to "respond," as that term is defined in 42 U.S.C. § 9601(25), to the releases and threatened releases of hazardous substances at and from the Sites and other facilities at the Sites, including costs to assess, monitor, evaluate, oversee, and conduct "removal" and/or "remedial actions," as those terms are defined in 42 U.S.C. §§ 9601(23) and 9601(24).

72. 42 U.S.C. § 9607(a) provides that (i) persons who are current owners or operators of a facility, and (ii) persons who were owners or operators at the time that hazardous substances were disposed of, shall be liable for the costs of removal and remedial actions that are "not inconsistent with the national contingency plan."

73. The response actions that the State has taken and will in the future take to respond to the release of hazardous substances at and from the Sites are not inconsistent with the national contingency plan, 40 C.F.R. Part 300.

74. Northrop Grumman is a "person" within the meaning of 42 U.S.C. § 9601(21).

75. Northrop Grumman owned and still owns parts of the Sites. The United States Government contracted with Northrop Grumman to operate the Sites, and Northrop Grumman disposed of hazardous substances at the Sites within the meaning of 42 U.S.C. § 9607(a)(2) during the period that it owned and/or operated the Sites.

76. Pursuant to 42 U.S.C. § 9607(a), Northrop Grumman is strictly, and jointly and severally, liable to the State for past response costs incurred by the State as a result of the release or threatened release of hazardous substances at and from the Sites and other facilities at the Sites.

77. Pursuant to 42 U.S.C. §§ 9607(a) and 9613(g), Northrop Grumman is strictly, and jointly and severally, liable for future response costs that will be incurred by the State as a result of the release or threatened release of hazardous substances at and from the Sites and other facilities at the Site.

SECOND CLAIM FOR RELIEF
CERCLA—NATURAL RESOURCE DAMAGES

78. The State repeats, realleges and incorporates by reference the allegations contained in Paragraphs 1 through 77 in this claim for relief.

79. Plaintiff Basil Seggos, as Commissioner of DEC, is the designated Trustee of New York's natural resources under CERCLA, 42 U.S.C. § 9607(f)(2)(B).

80. The Sites are "facilities" as that term is defined in 42 U.S.C. § 9601(9).

81. Buildings, structures, and equipment where hazardous substances were deposited, stored, disposed of, placed, or otherwise came to be located at the Sites are also "facilities" under 42 U.S.C. § 9601(9).

82. There have been "releases" and threatened "releases" of "hazardous substances," as those terms are defined in 42 U.S.C. §§ 9601(14) and (22), at and from the Sites into the environment, as that term is defined in 42 U.S.C. § 9601(8).

83. Hazardous substances released into the environment at the Sites include, but are not limited to, TCE and 1,4-dioxane.

84. Those releases of hazardous substances have caused "injury to, destruction of, or loss of natural resources," including but not limited to groundwater, within the meaning of 42 U.S.C. § 9607(a).

85. 42 U.S.C. § 9607(a) provides that (i) persons who are current owners or operators of a facility, and (ii) persons who were owners or operators at the time that hazardous substances were disposed of, shall be liable for "damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss resulting from such a release."

86. Northrop Grumman is a "person" within the meaning of 42 U.S.C. § 9601(21).

87. Northrop Grumman owned and still owns parts of the Sites. The United States Government contracted with Northrop Grumman to operate the Sites, and Northrop Grumman disposed of hazardous substances at the Sites within the meaning of 42 U.S.C. § 9607(a)(2) during the period that it owned and/or operated the Sites.

88. Pursuant to 42 U.S.C. §§ 9607(a) and 9613, Defendant is strictly, and jointly and severally, liable for the State's natural resource damages arising from the release of hazardous substances at and from the Sites.

THIRD CLAIM FOR RELIEF
PUBLIC NUISANCE

89. The State repeats, realleges and incorporates by reference the allegations contained in Paragraphs 1 through 88 in this claim for relief.

90. The release of hazardous substances at and from the Sites and their presence in the environment, including in groundwater and in soil at and in the vicinity of the Sites, offends, interferes and causes damage to the public in the exercise of rights common to all in a manner such as to endanger or injure the property, health, safety or comfort of a considerable number of

persons. Those releases and that presence thus constitute a public nuisance endangering public health and safety.

91. Northrop Grumman participated in the creation and/or maintenance of a public nuisance at and in the vicinity of the Sites.

92. Northrop Grumman is also the owner of part of the Sites on which the public nuisance was created and is maintained.

93. Because Northrop Grumman participated in the creation and maintenance of that public nuisance and is owner of the land upon which the nuisance has been created and maintained, Northrop Grumman had and has a duty to abate that public nuisance and to remediate the contamination. It has failed to adequately do so.

94. As a result of this public nuisance, the State has expended and will in the future expend significant sums of money to abate this nuisance.

95. Accordingly, Northrop Grumman is strictly, and jointly and severally, liable to the State under the common law of public nuisance for the creation and maintenance of a public nuisance at and in the vicinity of the Sites and for all past and future costs of the State to abate that public nuisance.

FOURTH CLAIM FOR RELIEF
RESTITUTION

96. The State repeats, realleges and incorporates by reference the allegations contained in Paragraphs 1 through 95 in this claim for relief.

97. By virtue of the facts stated above, Northrop Grumman had and still has a duty to abate the public nuisance that exists in and around the Sites, and to remediate the contamination.

98. It has failed to adequately abate that public nuisance and to adequately remediate such contamination.

99. The State has discharged and will continue to discharge Northrop Grumman's duty to abate that nuisance and to remediate that contamination.

100. By discharging Northrop Grumman's duty to abate such nuisance and to remediate the contamination, the State has conferred a benefit upon Northrop Grumman.

101. Northrop Grumman is being unjustly enriched by virtue of the State's conferral of a benefit upon it.

102. Under the common law of the State, Northrop Grumman is liable to the State in restitution for the value of the benefit the State has conferred upon it.

PRAYER FOR RELIEF

WHEREFORE, the State requests judgment in its favor and against Northrop Grumman upon each claim set forth above and respectfully requests that this Court enter judgment against Northrop Grumman as follows:

1. Declaring Northrop Grumman to be strictly, and jointly and severally, liable to the State under CERCLA for, and awarding to the State, all costs and expenses, including interest, attorneys' fees and other costs of administration or enforcement, incurred by the State in responding to the releases and threat of releases of hazardous substances at and from the Sites and other facilities at the Sites.

2. Declaring Northrop Grumman to be strictly, and jointly and severally, liable to the State under CERCLA for all future response costs and expenses, including any interest, attorneys' fees, and other costs of administration or enforcement, to be incurred by the State in responding to the releases and threat of releases of hazardous substances at and from the Sites.

3. Declaring Northrop Grumman to be strictly, and jointly and severally, liable to New York under CERCLA for, and awarding to the State, damages for injury to, destruction of, and loss of New York's natural resources.

4. Declaring Northrop Grumman strictly, and jointly and severally, liable for the creation of a public nuisance at and in the vicinity of the Sites, awarding to the State all past costs and expenses, including any interest, attorneys' fees, and other costs of administration or enforcement, of the State in abating that public nuisance, declaring that Northrop Grumman is strictly, and jointly and severally, liable to the State for all future response costs and expenses, including any interest, attorneys' fees, and other costs of administration or enforcement, to be incurred by the State in abating that public nuisance, and ordering Northrop Grumman to carry out and/or pay for the remediation of the Sites and groundwater contaminated as a result of Northrop Grumman's activities and ownership of the Sites..

5. Declaring Northrop Grumman liable to the State in restitution for Northrop Grumman's unjust enrichment as a result of the State's incurring costs to remediate contamination at or in the vicinity of the Sites resulting from Northrop Grumman's activities at the Sites and ownership of the Sites, and awarding the State restitution of all such costs, including any interest, attorneys' fees, and other costs of administration or enforcement.

6. Awarding enforcement costs and interest.

7. Ordering such other and further relief, in law or in equity, as the Court deems just and proper.

Dated: New York, New York
July 13, 2022

LETITIA JAMES
ATTORNEY GENERAL OF THE STATE OF NEW YORK

By: */s/ Andrew G. Frank*
Monica B. Wagner
Deputy Bureau Chief
Andrew G. Frank
Assistant Attorney General
New York Attorney General's Office
28 Liberty Street
New York, New York 10005
Telephone: 212-416-8271
E-mail: andrew.frank@ag.ny.gov

Attorneys for Plaintiffs State of New York and Basil Seggos

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

STATE OF NEW YORK and BASIL SEGGOS as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources,

Plaintiffs,

-against-

NORTHROP GRUMMAN SYSTEMS CORPORATION,

Defendant.

No: 2:22-cv-04091-RPK-ARL

CONSENT DECREE

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Plaintiffs State of New York and Basil Seggos, in his capacity as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources (collectively, the "State"), agree as follows with defendant Northrop Grumman Systems Corporation ("Northrop Grumman"):

WHEREAS, the State has filed a complaint (the "Complaint") and commenced this action pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601-9675 ("CERCLA"), as well as state common law, seeking to recover response costs that have been and will be incurred by the State, as well as natural resource damages, arising out of the alleged releases or threatened releases of hazardous substances to groundwater under or in the vicinity of properties that are located in the Hamlet of Bethpage, Town of Oyster Bay, New York (as more specifically described below, the "Sites");

The Sites

WHEREAS, in 1983, the New York State Department of Environmental Conservation ("DEC") listed approximately 600 acres in Bethpage on the Registry of Inactive Hazardous Waste Disposal Sites in New York State (the "Registry") as the Grumman Aerospace-Bethpage Facility Site, Site No. 130003 (the "Original Site"). The Original Site is principally located in the area bounded by Stewart Avenue to the north and east, Central Avenue to the south, Route 107 to the southwest, and New South Road to the west;

WHEREAS, in March 1993, DEC divided the Original Site into two parts. DEC designated approximately 500 acres of the Original Site on the Registry as the Northrop Grumman-Bethpage Facility Site, Site No. 130003A. DEC designated the remaining approximately 100 acres

of the Original Site on the Registry as the Naval Weapons Industrial Reserve Plant Site, Site No. 130003B;

WHEREAS, in March 2000, DEC divided the Grumman Bethpage Facility Site, Site No. 130003A, into two parts. DEC designated one part, consisting of approximately 26 acres, on the Registry as the Northrop Grumman-Steel Los Plant 2 Site, Site No. 130003C. DEC continued to designate the remaining part on the Registry as the Northrop Grumman-Bethpage Facility Site, Site No. 130003A;

WHEREAS, for the purposes of this Consent Decree (the "Decree"), the term "Grumman Site" is defined to include all land and facilities that DEC designated in March 1993 as the Grumman Bethpage Facility Site, Site No. 130003A, including the land and facilities later designated as the Northrop Grumman Steel Los Plant 2 Site, Site No. 130003C, irrespective of any subsequent changes to those sites' boundaries or designations;

WHEREAS, for the purposes of this Decree, the term "Naval Weapons Site" is defined to include all land and facilities that DEC designated in March 1993 as the Naval Weapons Industrial Reserve Plant Site, Site No. 130003B, irrespective of any subsequent changes to that site's boundaries;

WHEREAS, next to the Grumman Site, between Stewart Avenue and the eastern boundary of that Site, is an area of approximately 18 acres consisting of the Bethpage Community Park, part of which had been built on former Grumman industrial settling ponds, as well as a road formerly used to access Plant 24 on the Grumman Site (collectively, the entirety of the Bethpage Community Park and former access road comprises the "Operable Unit 3 Area");

WHEREAS, for the purposes of this Decree, the Grumman Site, the Naval Weapons Site and the Operable Unit 3 Area collectively constitute the "Sites." A map showing the location of the Sites is attached as Exhibit A;

Historical Activities at the Sites

WHEREAS, beginning in the 1930s, Northrop Grumman, through two of its predecessors, Grumman Aircraft Engineering Corporation and Grumman Corporation, along with the United States Department of the Navy (the "Navy"), used the Sites for industrial and research purposes. Among other things, Northrop Grumman was a major manufacturer of military aircraft for the United States at the Sites during World War II and later, including through the Cold War. Northrop Grumman also manufactured the Apollo Program lunar module and various satellite and other equipment for the National Aeronautics and Space Administration at the Sites. During World War II, and for decades after, chlorinated solvents were not at the time regulated as hazardous substances, hazardous wastes, or pollutants by applicable federal or state laws;

WHEREAS, all manufacturing ceased at the Sites in 1996;

WHEREAS, at some or all times between the 1930s and the present, Northrop Grumman and/or the Navy owned and/or operated (a) the Grumman Site, (b) the Operable Unit 3 Area, and (c) the Naval Weapons Site;

WHEREAS, during that period, DEC has alleged that Northrop Grumman and the Navy released hazardous substances to the soil and groundwater at parts of the Sites that Northrop Grumman and the Navy owned and/or operated;

WHEREAS, among the hazardous substances released at those parts of the Sites at those times are volatile organic compounds, including but not limited to trichloroethene ("TCE");

WHEREAS, hazardous substances released at or from the Sites have entered the groundwater beneath the Sites because the Sites include or are near areas where precipitation enters the ground and percolates down through the soil to replenish the groundwater;

WHEREAS, the federal and New York State governments have set out standards, criteria and guidance that establish appropriate, relevant and applicable requirements for investigation and cleanup of inactive hazardous waste sites, including maximum permissible concentrations of hazardous substances in groundwater ("standards");

WHEREAS, groundwater contaminated by alleged releases at and from the Sites has had, and continues to have, concentrations of hazardous substances, including without limitation TCE, at levels exceeding applicable standards;

WHEREAS, the contaminated groundwater underneath the Sites, though approximately 7 miles north of the Atlantic Ocean, migrates at an estimated rate of 300 feet per year from the Sites to the south-southeast toward the Atlantic Ocean;

WHEREAS, over time, the contaminated groundwater allegedly from the Sites has formed multiple underground plumes, each of which continues to move further south-southeast from the Sites. One plume area consists of groundwater that DEC has asserted: (a) is contaminated by hazardous substances, at least some of which were released at or from the Operable Unit 3 Area, and (b) has concentrations of such hazardous substances in excess of the respective standards for those hazardous substances ("Eastern Plume"). Another plume area consists of groundwater that DEC has asserted: (a) is contaminated by hazardous substances, at least some of which were released at or from the Grumman Site and/or the Naval Weapons Site, and (b) has concentrations of such hazardous substances in excess of the respective standards for those hazardous substances ("Western Plume");

WHEREAS, the Eastern Plume and the Western Plume, together with other plumes (collectively, the "Plumes"), join and comingle in certain locations. The Plumes, according to DEC, are currently approximately 4.3 miles long and 2.1 miles wide and extend downward to a depth of approximately 900 feet beneath the ground surface;

WHEREAS, beneath the Sites is a portion of an Environmental Protection Agency-designated sole source aquifer that is under much of Long Island and that is the primary source of drinking water for 2.6 million Long Island residents;

WHEREAS, approximately 360 public water supply wells in Nassau County withdraw drinking water from that sole source aquifer;

WHEREAS, the Plumes have entered that aquifer and, according to DEC, have affected groundwater intake at 11 public water supply wells operated by the Bethpage Water District, South Farmingdale Water District, and the Liberty Utilities (New York Water) Corp. (formerly New York American Water Company, Inc.), including five public water supply wells operated by Bethpage Water District that are directly downgradient from the Sites and within the east-central portion of the Plumes. All groundwater intake at these wells is subject to treatment before distribution to the public, and all water distributed to the public after treatment meets and has met all relevant drinking water standards; however, untreated groundwater taken from some of these wells has over time contained increasing concentrations of hazardous substances related to the Sites;

WHEREAS, the continuing expansion of the Plumes to the south-southeast, according to DEC, threatens to contaminate groundwater intake at additional public water supply wells that are currently unaffected by the Plumes;

Investigation and Remedial Work to Date

WHEREAS, DEC listed the Grumman Site and the Naval Weapons Site on the Registry based on the on-site and off-site presence of hazardous substances in the soil and groundwater;

WHEREAS, to date, DEC, Northrop Grumman and the Navy have undertaken response activities to address soil and groundwater contamination alleged to be from the release of hazardous substances at and from the Sites. Those activities have included: investigations; soil remediation; groundwater recovery, treatment and recharge; monitoring and wellhead treatment for affected or potentially affected public water supplies; and response actions for soil vapor;

WHEREAS, an operable unit at a site represents a portion of an overall program to investigate, eliminate or mitigate a release of hazardous substances that for technical or administrative reasons can be addressed separately;

WHEREAS, response activities at the Sites have been divided into multiple operable units, two of which are primarily relevant to this Decree. Operable Unit 2 consists of groundwater contamination originating in part from the alleged release of hazardous substances at and from the Grumman Site and the Naval Weapons Site. Operable Unit 3 consists of soil and groundwater contamination allegedly originating in part from release of hazardous substances at and from the Operable Unit 3 Area;

Operable Unit 2

WHEREAS, in 1997, Northrop Grumman began operating in Operable Unit 2 a groundwater extraction and treatment system serving as an on-site containment system along the southern and southwestern boundary of the Grumman Site to prevent further migration of contaminants beyond this boundary. Following withdrawal, the groundwater is treated to remove the chemicals of concern and is returned to the aquifer;

WHEREAS, in 1997, Northrop Grumman also began operating in Operable Unit 2 a soil vapor extraction system, which has prevented and treated, and continues to prevent and treat volatile organic vapors from migrating from Operable Unit 2;

WHEREAS, on March 29, 2001, DEC issued a Record of Decision ("ROD") for the Operable Unit 2 groundwater contamination from the Grumman Site ("Operable Unit 2 ROD"). The Operable Unit 2 ROD selected a remedy for that contamination which included, among other things, continued operation of the on-site containment system along the southern and southwestern boundary of the Grumman Site;

WHEREAS, Northrop Grumman maintains that since operation of the on-site containment system began, an area of groundwater that meets applicable standards has developed downgradient of the remediation system;

WHEREAS, in January 2003, the Navy issued, and in April 2003 amended, a ROD for the Operable Unit 2 groundwater contamination originating from the Naval Weapons Site ("Navy Operable Unit 2 ROD"). The Navy Operable Unit 2 ROD selected a remedy to be implemented by the Navy for that contamination which included, among other things, a system to extract contaminants in the eastern part of the Plumes near the Seaford-Oyster Bay Expressway. The Navy has continued to operate this system since 2009;

WHEREAS, in April 2015, DEC and Northrop Grumman entered into an administrative Order on Consent for response actions to address Operable Unit 2 groundwater contamination (the "Operable Unit 2 Consent Order"). In accordance with the Operable Unit 2 ROD and the Operable Unit 2 Consent Order, Northrop Grumman has, among other things, continued to operate the on-site containment system located along the southern and southwestern boundary of the Grumman Site;

Operable Unit 3

WHEREAS, in 2009, Northrop Grumman began operating in Operable Unit 3 a second groundwater extraction and treatment system, also referred to as an on-site containment system, along the southern boundary of the Operable Unit 3 Area that operates in the same manner as the system operating in Operable Unit 2;

WHEREAS, in 2009, Northrop Grumman also began operating in Operable Unit 3 a soil vapor extraction system that operates and has operated in the same manner as the system operating in Operable Unit 2;

WHEREAS, on March 29, 2013, DEC issued a ROD for the Operable Unit 3 soil and groundwater contamination ("Operable Unit 3 ROD"). The Operable Unit 3 ROD selected a remedy for that contamination that included, among other things, continued operation of the on-site containment system along the southern boundary of the Operable Unit 3 Area;

WHEREAS, since operation of this on-site containment system began, an area of groundwater that meets applicable standards has developed downgradient of the remediation system;

WHEREAS, in May 2014, DEC and Northrop Grumman entered into an administrative Order on Consent for response actions to address Operable Unit 3 soil and groundwater contamination (the "Operable Unit 3 Consent Order"). In accordance with the Operable Unit 3 ROD and the Operable Unit 3 Consent Order, Northrop Grumman has, among other things, continued to operate the on-site containment system located along the southern boundary of the Operable Unit 3 Area;

WHEREAS, also in accordance with the Operable Unit 3 ROD and the Operable Unit 3 Consent Order, Northrop Grumman is in the process of installing a third groundwater extraction

and treatment system to address contamination in a portion of the Plumes downgradient from the Operable Unit 3 Area known as the RW-21 area (the "RW-21 System"). Northrop Grumman has recently secured local access rights so that it can begin operation of the RW-21 System in the third quarter of 2022 and to date, in connection with this system, has installed groundwater extraction wells, designed a treatment plant and the methods of managing the treated water, and designed and installed an underground piping system;

Current Conditions

WHEREAS, as a result of response actions, contaminated soil at some areas of the Sites has been addressed, and DEC has delisted portions of the Grumman Site and the Naval Weapons Site from the Registry;

WHEREAS, notwithstanding Northrop Grumman and the Navy's response actions to date, including the ongoing operation of the two on-site containment systems in Operable Units 2 and 3, DEC has asserted that the Plumes still exist and continue to expand, leading to increased concentration of hazardous substances in groundwater further downgradient from the Sites;

WHEREAS, DEC contends that the response actions to date regarding the Plumes are not fully protective of human health and the environment;

WHEREAS, in April 2019, DEC issued a feasibility study report examining possible additional actions to remediate the ongoing groundwater contamination along with a proposed Amended ROD, and in December 2019 DEC issued an Amended Record of Decision for Operable Units 2 and 3 (the "AROD"). The AROD is attached as Exhibit B;

WHEREAS, the AROD states that it builds upon the Navy Operable Unit 2 ROD, the Operable Unit 2 ROD and the Operable Unit 3 ROD, and selects a remedy, denominated as "Alternative 5B," to redress the Plumes' asserted ongoing expansion towards currently unaffected

water districts and elevated levels of contamination, including the presence of 1,4-dioxane that may originate in part from both the Grumman Site and the Naval Weapons Site and may be present in both Operable Unit 2 and Operable Unit 3 groundwater;

WHEREAS, the AROD's selected remedy includes significant additional extraction and treatment of contaminated groundwater. The remedy contemplates that extraction wells will be placed along the perimeter of the Plumes to prevent the Plumes from migrating further, while other extraction wells will be placed at points of particularly high contaminant concentrations in the interior of the Plumes to remove significant amounts of contaminants. The remedy also contemplates construction of new groundwater treatment plants as well as over 23 miles of underground piping to transport the extracted water from the wells to the treatment plants and to transport the treated water from the plants to discharge locations;

WHEREAS, since issuance of the AROD, DEC has engaged in negotiations with both the Navy and Northrop Grumman to discuss each party's willingness to implement portions of the AROD. As a result of those negotiations, the Navy will be performing work pursuant to an "Explanation of Significant Differences" which the Navy released for public comment on March 3, 2021 (the "Navy ESD") and issued as final on or about September 20, 2021, and Northrop Grumman will be performing work, as required by this Decree, which work will fully address Northrop Grumman's obligations to implement portions of the AROD. This work will include addressing site-related 1,4-dioxane impacts to downgradient public supply wells where the concentration exceeds or is expected to exceed 1.0 ug/L in the next five years;

WHEREAS, the Navy ESD provides for the addition of supplemental groundwater extraction and treatment systems to achieve remedial goals and to incorporate 1,4-dioxane as a chemical of concern into the Navy Operable Unit 2 ROD. Specifically, the Navy has committed

to performing groundwater extraction at six locations described in the AROD. The Navy will place wells to hydraulically contain contaminated groundwater from moving further south, toward the southern edge of the Plumes on the Southern State Parkway. Additionally, the Navy will begin extraction of highly contaminated groundwater in the center of the Western Plume, and the Navy has also committed to a phased approach to possible additional groundwater extraction at five locations discussed in the AROD. The phased approach will allow the Navy and DEC time to monitor the Navy's work and Northrop Grumman's work, to see if and when additional groundwater extraction wells may need to be installed to improve capture of the contaminants in the Plumes;

WHEREAS, the AROD contemplates that various public water supply wells operated by Water Districts in and adjacent to the Plumes will continue to operate (with appropriate treatment to meet drinking water standards) for the foreseeable future. The AROD also indicates that, when appropriate and feasible, certain water supply wells may be moved outside of the Plumes. The AROD contains an estimate of costs to move such water supply wells outside of the Plumes;

WHEREAS, the Navy work performed pursuant to the ESD, the Northrop Grumman work performed under this Decree, and other work to be performed by other parties and/or the State of New York will fulfill the goals set forth in the AROD, namely, to hydraulically contain the Plumes while removing the highest concentrations of contaminants in the interior of the Plumes. A figure showing the various commitments made by each party is attached as Exhibit C;

WHEREAS, the AROD identifies Northrop Grumman, the Navy, and the current owner of the adjacent RUCO Polymer Corp. (Hooker Chemical) inactive hazardous waste site, New South Road Realty, LLC, as alleged potentially responsible parties for contaminated groundwater addressed in Operable Units 2 and 3;

This Action

WHEREAS, the State alleged in its Complaint that Northrop Grumman was a former "owner" and/or "operator" of the Sites at the time of disposal of hazardous substances, and is currently an "owner" of a portion of the former Grumman Site, within the meaning of CERCLA, 42 U.S.C. § 9607(a), that Northrop Grumman is therefore liable for response costs incurred, and to be incurred, by the State in responding to releases or threatened releases of hazardous substances at and from the Sites, and that Northrop Grumman is also liable for any natural resources damages associated with such releases, along with the reasonable costs of assessment of such damages;

WHEREAS, the State alleged in its Complaint that as of the date of the Complaint, the State had incurred costs in responding to the alleged releases or threatened releases of hazardous substances at the Sites, and the State has continued to incur costs since that date and expects to incur further response costs in the future;

WHEREAS, the State alleged in its Complaint that the response actions that the State has taken and will take to respond to the releases or threatened releases of hazardous substances at the Site are not and will not be inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("National Contingency Plan");

WHEREAS, the State alleged in its Complaint that Northrop Grumman is liable under state common law for the abatement of a public nuisance and for restitution of costs incurred by the State to abate such alleged public nuisance;

WHEREAS, before and during the pendency of this action, and without any admission of liability, the State and Northrop Grumman (each a "Party" and together, the "Parties") engaged in settlement discussions to resolve Northrop Grumman's fair and equitable share of (a) the remedial

work to be performed, (b) response costs incurred and to be incurred by the state, and (c) payment to be made in resolution of the State's natural resources damages claims;

WHEREAS, the Parties desire to enter into this Decree in order to fully and finally resolve all Claims that have been and could now or hereafter be asserted by the Parties with respect to the Matters Addressed, as defined below, without the necessity or further expense of prolonged and complex litigation, and without admission of liability;

WHEREAS, the State has determined that settlement of its Claims against Northrop Grumman in accordance with the terms set forth below is fair, equitable, reasonable, and practicable and in the best interest of the public;

WHEREAS, Northrop Grumman and the Navy have resolved potential claims against each other arising out of the Sites and the Plumes, as set forth in a proposed Consent Judgment filed with the United States District Court for the Eastern District of New York on April 12, 2022, C.A. No. 22-cv-2101, Dkt. No. 2;

WHEREAS, although not required by law, the State has provided a 75-day period for public comment of the proposed Decree, and after review of the comments submitted, has decided to proceed with the Decree and submit it to the Court for the Court's review and approval;

WHEREAS, unless otherwise expressly defined herein, terms used in this Decree that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations; and

WHEREAS, for the purpose of this Decree, and in addition to the express definitions of terms set out elsewhere in this Decree, the following terms have the following meanings:

a. **Authorizations**: Any and all permits, easements, approvals, access agreements and/or consents necessary for Northrop Grumman to perform its remedial obligations under this Decree.

b. **Boring**: Vertical Profile Boring.

c. **Claims**: All claims, debts, demands, disputes, rights, actions, causes of action, claims for relief, agreements, suits, matters, liabilities, losses, damages of any kind, interest, attorneys' fees, expert or consulting fees, indemnification, and any and all other costs, expenses or liabilities whatsoever, whether based on federal, state, local, statutory or common law, or any other law, rule or regulation, whether fixed or contingent, accrued or unaccrued, liquidated or unliquidated, known or unknown, at law or in equity, matured or unmatured, in contract, statutory, tort or otherwise, whether class, individual, derivative or otherwise in nature, including but not limited to claims for injunctive relief, costs of response or damages to natural resources pursuant to CERCLA, 42 U.S.C. § 9607(a); provided, however, that that claims subject to Paragraph 49 below are not included within the Claims as defined in this Paragraph.

d. **Days:** Calendar days.

e. **ESE Half-Quadrant**: The east-southeast portion of the Plumes: more specifically, the portion of the Plumes generally between Wilson Lane on the north, Stewart Avenue on the west, Boundary Avenue on the south and Bethpage State Parkway on the east. A map depicting the ESE Half-Quadrant is attached as Exhibit D.

f. **Extraction Well**: A well that extracts contaminated groundwater; such a well may serve either as a containment well, which has a primary function to impede the

expansion of a contaminated groundwater plume, or as a mass flux well, which has a primary function to reduce the amount of contaminants in a plume.

g. **Hazardous Substance**: This term includes, for purposes of this Decree, any substances, as of the Effective Date, encompassed by: CERCLA, 42 U.S.C. §§ 9601(14), 9602(a); 40 C.F.R. § 302.4; New York Navigation Law § 172(15); and 6 NYCRR Part 597.

h. **Natural Resources Damages**: Natural resources damages, including, but not limited to, injury, damage, or loss to such natural resources, as defined in CERCLA, 42 U.S.C. § 9601(6) & (16), or under common law.

i. **Parameters**: The location, depth, pumping rate and other technical characteristics of extraction or monitoring wells.

j. **Panel**: The peer review panel with jurisdiction to resolve certain disputes between the Parties as set forth in Paragraphs 32 through 46 below.

k. **Preliminary Investigation**: The preliminary remedial design investigation to be undertaken, *inter alia*, to provide information useful for determining the extents of the Plumes and the Parameters of remedial elements.

l. **SE Quadrant**: Collectively, the ESE and SSE Half-Quadrants.

m. **SSE Half-Quadrant**: The south-southeast portion of the Plumes: specifically, the portion of the Plumes between Boundary Avenue on the north, Route 107 on the west, North Atlanta Avenue to the south and North Woodward and North Broadway on the east, as depicted on Exhibit D.

n. **VOCs**: The volatile organic compounds listed in Table 1 of Exhibit A of the AROD

o. **Water District**: An entity formed under New York Town Law § 198(3), and the Liberty Utilities (New York Water) Corp. (formerly New York American Water Company, Inc.).

NOW THEREFORE, IT IS HEREBY STIPULATED AND AGREED BY AND BETWEEN THE PARTIES AS FOLLOWS:

PURPOSE AND SCOPE OF THIS DECREE

1. The purpose of this Decree is to resolve Claims set forth in the State's Complaint and any other Claims which could have been made by the State against Northrop Grumman with regard to the Matters Addressed, defined in Paragraph 2 below, and thus to resolve all Claims arising from or related to the Sites and/or the Plumes, to release Northrop Grumman from liability for the Matters Addressed, to provide full and complete contribution protection to Northrop Grumman with regard to the Matters Addressed pursuant to CERCLA, 42 U.S.C. § 9613(f)(2), and to provide a bar from actions by certain potentially responsible parties seeking costs of response under CERCLA or other statutory authority or common law.

2. "Matters Addressed," as that term is used in this Decree, is defined to include (a) Claims that were, or could now, or hereafter may be, asserted by the State or certain potentially responsible parties as defined in CERCLA, 42 U.S.C. § 9607(a) and that are identified in Paragraph 54 below, against Northrop Grumman arising out of or in connection with the disposal, releases, and/or threat of releases of Hazardous Substances at and/or from the Sites, including without limitation remediation of the Sites and Plumes; (b) all other Claims that were, or could now, or hereafter may be, asserted by the State against Northrop Grumman under CERCLA and any other federal, state or local statute or regulation, or common law, arising out of or in connection with the Sites and/or the Plumes, including without limitation injuries to, destruction, or loss of natural resources; and (c) actions taken or payments made by Northrop Grumman and/or the Navy

with respect to the Sites and/or the Plumes and/or with respect to natural resources damages, provided, however, that, notwithstanding the foregoing, the Matters Addressed do not cover any Claims that were, or could now, or hereafter may be, asserted by (i) the State against Northrop Grumman under CERCLA or any other federal state or local statute or regulation, or common law, relating to the remediation of soil contaminated with Hazardous Substances in the Operable Unit 3 Area pursuant to the Operable Unit 3 Consent Order, or (ii) the Town of Oyster Bay against Northrop Grumman under CERCLA or any other federal, state or local statute or regulation, or common law, relating to the investigation and remediation of soil contaminated with Hazardous Substances in the Operable Unit 3 Area.

3. The Operable Unit 2 and Operable Unit 3 Consent Orders are incorporated by reference in this Decree. If there are disagreements with respect to work plans, approvals, or submissions under those Consent Orders, DEC and Northrop Grumman will seek to resolve those disagreements using the provisions contained within those Consent Orders. If those disagreements cannot be resolved informally, they will be subject to the Dispute Resolution provisions in this Decree as set forth in Paragraph 31. To the extent there is any inconsistency between this Decree and those Consent Orders, the terms and conditions of this Decree shall govern.

JURISDICTION

4. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1367, 2201 and 2202 and 42 U.S.C. §§ 9607 and 9613. Northrop Grumman hereby waives all objections and defenses it may have to the jurisdiction of the Court or to venue in this District. The Court shall have continuing jurisdiction to enforce the terms of this Decree and to resolve any disputes that may arise hereunder.

PARTIES BOUND

5. This Decree shall apply to, and be binding upon, and inure to the benefit of the State, including its departments, agencies, and instrumentalities, and shall apply to and be binding upon and inure to the benefit of Northrop Grumman and its respective predecessors, including without limitation predecessors Grumman Aircraft Engineering Corporation, Grumman Corporation and Grumman Aerospace Corp., subsidiaries, affiliates, parents, officers, employees, agents, successors, representatives, insurers, and assigns (collectively, the "Northrop Grumman Entities"). Each signatory represents that he or she is fully and legally authorized to enter into the terms and conditions of this Decree and to bind the party on whose behalf he or she signs.

6. Unless otherwise specified herein, this Decree does not impose any obligations on or otherwise bind any non-party. For example, if, in the future, DEC determines that continued pumping of a public water supply well or wells, which a Water District no longer needs for public supply purposes, is necessary to achieve the purposes of the AROD, neither the Water District nor Northrop Grumman (under this Decree) will be responsible for operating or funding operation of such a well.

DISCLAIMER OF ADMISSIONS AND DENIALS

7. Nothing in this Decree shall constitute, or be construed as, an admission or adjudication of any issue of law or fact.

8. Northrop Grumman is entering into this Decree as a compromise of disputed Claims and in doing so does not admit any liability, wrongdoing, or fault under any of the Claims alleged against it in the Complaint, including but not limited to alleged costs of response or damages for loss of any natural resources or services (including but not limited to groundwater).

RESPONSE ACTIONS BY NORTHROP GRUMMAN

9. Northrop Grumman shall undertake the following response actions, which DEC has determined, and this Decree affirms, is the portion of the remediation set forth in the AROD allocated to Northrop Grumman in this Decree and that Northrop Grumman shall address:

a. Extraction Well DEC-EX 6. Northrop Grumman shall connect Extraction Well DEC-EX 6 to the Operable Unit 3 on-site containment system, and will make any necessary upgrades to that containment system to accommodate water from DEC-EX6. This well shall commence operations within approximately six months of the commencement of operations of the RW-21 Remedial System.

b. RW-21 System. Northrop Grumman will install the RW-21 System.

c. Preliminary Investigation of the SE Quadrant and Extraction Wells in the ESE Half-Quadrant. Northrop Grumman shall conduct the Preliminary Investigation of the SE Quadrant in two phases. Phase 1 shall be conducted in the ESE Half-Quadrant and Phase 2 shall be conducted in the SSE Half-Quadrant.

i. Northrop Grumman has submitted and DEC has approved a Work Plan for Phase 1, and upon obtaining access, Northrop Grumman expects to commence the drilling of Borings in the third quarter of 2022. If additional Borings are required after data is gathered during the Phase 1, they shall be part of Phase 2 as set forth in Paragraph 9.c.iv. Phase 1 is the only work that must be undertaken by Northrop Grumman prior to the Effective Date of this Decree.

ii. Upon completion of Phase 1, Northrop Grumman shall (1) prepare a report that describes the results of Phase 1 and that recommends the scope of Phase 2, and (2) install and operate up to three Extraction Wells in the ESE Half-Quadrant. Subject to the three well limitation, DEC shall determine how many Extraction Wells Northrop Grumman shall install and operate in the ESE Half-Quadrant based on the results of Phase 1 and other relevant information. Any such determination by DEC is not subject to dispute resolution or judicial review.

iii. Upon completion of Phase 1, Northrop Grumman shall also perform Phase 2 of the Preliminary Investigation in the general vicinity of Extraction Wells DECHC-12 and DECHC-13 as depicted on AROD Figure 13. The extent of Phase 2 of the Preliminary Investigation shall depend on the results of Phase 1.

iv. In Phase 2, Northrop Grumman shall drill additional Borings as requested by DEC, which request shall take into account the recommendation provided by Northrop Grumman pursuant to Paragraph 9.c.ii.

v. In Phase 1 and Phase 2, Northrop Grumman shall drill up to nine Borings in the SE Quadrant. Subject to that nine-Boring limitation, DEC shall determine how many Borings Northrop Grumman shall drill and sample in the SE Quadrant.

d. Extraction Wells in the SSE Half-Quadrant. To address the alleged loss to the State of natural resources, Northrop Grumman has agreed to install and operate up to two groundwater Extraction Wells in the SSE Half-Quadrant. Subject to the two well limitation, DEC shall determine how many Extraction Wells Northrop Grumman shall install and operate in the SSE Half-Quadrant based on the results of Phase 1, Phase 2, and other relevant information. Any such determination by DEC is not subject to dispute resolution or judicial review.

e. Northrop Grumman can choose, but shall not be required under this Decree, to install or operate more than five groundwater Extraction Wells in the Plumes.

10. Within a reasonable time, Northrop shall submit to DEC Work Plans for the response actions described in Paragraph 9 above, except for any actions for which Work Plans have already been submitted. Such work plans shall include provisions for appropriate treatment of extracted water for all Hazardous Substances, including VOCs that exceed any applicable standards.

11. In undertaking the actions required pursuant to Paragraph 9 above, Northrop Grumman shall use reasonable efforts to coordinate and cooperate with the Navy as the Navy performs separate remedial efforts at and in connection with the Sites and Plumes (outside of the actions to be undertaken by Northrop Grumman pursuant to this Decree). Such Navy efforts include work performed pursuant to various RODs issued by the Navy. In particular, Northrop Grumman shall use reasonable efforts to coordinate Phase 2 of the Preliminary Investigation and installation of Extraction Wells in the SSE Half-Quadrant with the Navy and the Navy's investigative and/or remedial activities along the Southern State Parkway in order to identify Extraction Well Parameters that optimize the Navy's capture of Hazardous Substances within the

Western Plume. The Navy's lack of coordination or cooperation with DEC and/or Northrop Grumman, or the Navy's failure to act with reasonable expedition, shall not be grounds for the State to assert non-compliance by Northrop Grumman with this Decree, terminate this Decree or take other action against or affecting Northrop Grumman; provided, however, that Northrop Grumman provides reasonably prompt notice to DEC of the Navy's lack of coordination or cooperation or failure to act with reasonable expedition (the "Navy's Inaction"), and that such notice describe (a) the Navy's Inaction; (b) the obligation under this Decree that Northrop Grumman was unable to perform or complete as a result of the Navy's Inaction, (c) how the Navy's Inaction prevented Northrop Grumman from performing or completing that obligation, and (d) any mitigation efforts Northrop Grumman made to perform that obligation because of the Navy's Inaction.

RESPONSE COSTS AND NATURAL RESOURCES DAMAGES ASSESSMENT COSTS

12. Northrop Grumman shall pay the State $4,000,000.00, of which $3,600,000.00 shall be for the costs of the State's investigation, including the installation of wells, engineering analyses by HDR (a DEC consultant) and DEC necessary for preparation of the 2019 feasibility study report, preparation of the AROD, and related activities, and of which $400,000.00 shall be for the costs of the assessment of natural resources damages. Costs referenced in this Paragraph 12 are through December 31, 2020.

13. Northrop Grumman shall pay these amounts in two equal installments: $2,000,000.00, of which $1,600,000.00 shall be allocated to the state hazardous waste remedial fund and $400,000.00 shall be allocated to the state Natural Resource Damages Fund, to be paid within 60 days of the Effective Date of this Decree; and $2,000,000.00, which shall be allocated

to the state hazardous waste remedial fund, to be paid within one year after the first payment to such fund becomes due.

14. Northrop Grumman shall also pay costs that the State incurs after January 1, 2021 for its oversight of Northrop Grumman's implementation of the Decree, provided, however, that Northrop Grumman shall not be required to pay any further costs associated with oversight or other DEC or State activities related solely to either the natural resources damages paid under this Decree, including without limitation the assessment of those damages or any further assessment of such damages. For each calendar year in which the Decree is in effect, the State shall prepare a statement setting out the oversight costs that the State has incurred or paid to a contractor during that calendar year (other than costs related to the DEC-appointed member of the Panel, which are addressed separately in Paragraph 36 below). The State shall send that statement to Northrop Grumman as provided in Paragraph 60 below no later than March 31 of the following year, and Northrop Grumman shall pay the total amount set out in the statement (up to the cap amount set forth herein) no later than May 31 of that same year. The State's failure to send the statement by March 31 shall not constitute a waiver of, or otherwise alter or terminate, Northrop Grumman's payment obligations under this Paragraph, provided, that notwithstanding the foregoing, for work commencing in 2022 and later, the State's failure to send the statement by May 31 shall constitute a waiver of the costs for the relevant time period. If the State sends the statement after March 31 but before May 31, Northrop Grumman shall pay the total amount set out in the statement no later than 60 days after the date the State sends the statement. DEC costs incurred for its oversight of Northrop Grumman's implementation of this Decree shall not exceed $100,000.00 per annum, increased annually by the consumer price index issued by the U.S. Department of Labor.

15. Within 7 days of the Effective Date of this Decree, the State shall provide Northrop Grumman with wiring instructions for all payments to be made by Northrop Grumman pursuant to this Decree. Northrop Grumman shall make those payments in accordance with the wiring instructions provided, as the State may revise them from time to time. At the time any payment is remitted, Northrop Grumman shall provide written or electronic notice of the remittance in accordance with Paragraph 60 below.

16. Failure to make any payments required under this Decree in the manner and time period specified in this Decree shall constitute a default under this Decree by Northrop Grumman. In the event of such default, the State shall send written notice of the default to Northrop Grumman. Such notice shall be sent via certified mail to Northrop Grumman at the addresses noted in Paragraph 60 below. Northrop Grumman shall have 30 days from the receipt of such notice to cure the default by payment of the amount originally due. In addition, in the event of such default, Northrop Grumman shall be liable to the State for payment of interest on the amount that is owed but not paid in the manner and time period specified in this Decree for the payment not made. The interest Northrop Grumman owes shall be calculated at the rates and in the manner provided in 28 U.S.C. § 1961; provided, however, that the amount of interest shall be calculated starting from the date of default.

NATURAL RESOURCES DAMAGES ACTIONS

17. Pursuant to the settlement in principle between the Parties that resulted in this Decree, Northrop Grumman has agreed with Bethpage Water District to pay $29,000,000 to the Water District. That agreement is set forth in a Consent Judgment in the United States District Court for the Eastern District of New York entered on May 24, 2022, C.A. No. 22-cv-2050. As a further condition to Northrop Grumman making that payment to Bethpage Water District, the

Bethpage Water District has entered into the Memorandum of Agreement with DEC attached as Exhibit E. That Memorandum of Agreement provides, *inter alia*, that if Bethpage Water District determines to cease use of Plant 5 and/or Plant 6 wells, the Water District must give advance notice to DEC of such intent, and DEC will determine whether it will continue or cause to be continued the operation of one or more of such wells based on the benefit of the continuation of operation to the achievement of the remedial goals of the AROD. Should such notice be given, DEC will provide Northrop Grumman with prompt notice of such intent and Northrop Grumman shall have the right to submit comments to DEC with respect to whether DEC should continue to operate such well(s). Northrop Grumman shall provide to DEC proof of payment of all payments it makes directly to the Bethpage Water District under this Paragraph, within 30 days of making such payment.

18. Pursuant to the Consent Judgment referenced in Paragraph 17 above, Northrop Grumman shall take the following actions at Bethpage Water District's Plant 4:

a. Use Plant 4 for remedial treatment of extracted groundwater, which will lessen the need to construct new facilities, such as piping, buildings and pumping substations and the attendant disruption to the community that would otherwise occur from such construction, and will assist in restoration of claimed injured natural resources;

b. Convert Plant 4's Extraction Wells to injection wells that will inject treated groundwater water deep into the aquifer north of water supply wells and thereby would be expected to afford similar protection as the recharge basin in Bethpage State Park contemplated in the AROD and would be expected to limit the

potential movement of the Western Plume further to the east, which would therefore assist in restoring natural resources;

c. Construct a recharge basin, which will avoid the destruction of up to 18 acres of ecologically valuable mature forest in Bethpage State Park for a recharge basin and recharge the aquifer faster than a more northerly recharge basin in Bethpage State Park.

d. Within a reasonable time, submit to DEC a Work Plan for the actions described in Paragraphs 18.a-c.

19. In addition to the payments made to Bethpage Water District pursuant to Paragraph 17 above, Northrop Grumman will make the following payments to the State for alleged natural resources damages:

a. $34,500,000.00 pursuant to the schedule set forth in Paragraph 19.d below, which shall be allocated to the State's Natural Resource Damages Fund and used by DEC, within its discretion, to implement DEC-selected groundwater protection and restoration projects, including, potentially, projects to benefit those Water Districts affected or potentially affected by the Sites and/or the Plumes, and actions to confirm the absence/presence of toluene near Extraction Well DECHC-05 (which Northrop Grumman alleges does not exist and, if it does exist, that Northrop Grumman is not the source), provided that at least $12,500,000.00 of this amount shall be used by DEC for the installation of: (1) up to two Extraction Wells upgradient of and to protect South Farmingdale Water District Plant 6, in the vicinity of Extraction Well DECHC-04, (2) one or more water supply wells outside of the Plumes to replace South Farmingdale

Water District Plant 6 for the benefit of that Water District, or (3) the addition of treatment for 1,4-dioxane at South Farmingdale Water District Plant 6.

b. In the event Northrop Grumman has entered into a final agreement with South Farmingdale Water District within one year of the Effective Date of this Decree, $12,500,000.00 of this amount may be paid directly by Northrop Grumman to the South Farmingdale Water District for one or more of the purposes set forth in Paragraph 19.a above.

c. As a pre-condition to Northrop Grumman paying South Farmingdale Water District directly under Paragraph 19.b, the Water District will enter into a Memorandum of Agreement with DEC (similar to Exhibit B hereto), committing the Water District to use the payment as set forth in Paragraph 19.a. The Memorandum of Agreement shall provide, *inter alia*, that if South Farmingdale Water District determines to cease use of one or both wells that comprise Plant 6, the Water District must give advance notice to DEC of such intent and DEC will determine whether it will continue or caused to be continued the operation of such Plant (or an individual well) based on the benefit of the continuation of operation to the achievement of the remedial goals of the AROD. Should such notice be given, DEC will provide Northrop Grumman with prompt notice of such intent and Northrop Grumman shall have the right to submit comments to DEC with respect to whether DEC should continue to operate such well(s).

d. In addition to the payments to Bethpage Water District pursuant to Paragraph 17 above, Northrop Grumman shall pay the $34,500,000.00 in installments as

set forth below, which amounts include any payments made directly to the South Farmingdale Water District: $2,000,000.00 to be paid to the State within 90 days of the Effective Date of this Decree; $8,000,000.00 to be paid within one year after the first payment becomes due; $13,000,000.00 to be paid within two years after the first payment becomes due; and $11,500,000.00 to be paid within three years after the first payment becomes due. Northrop Grumman shall provide to DEC proof of payment of any payments it makes directly to the South Farmingdale Water District under this Paragraph 19, within 30 days of making such payment.

e. Payments made to the State shall be deposited in a dedicated sub-fund in the State's Natural Resources Damages Fund.

DEVELOPMENT, PERFORMANCE AND REPORTING OF WORK PLANS

20. Citizen Participation Plan.

a. Within 20 days after the Effective Date of this Decree, Northrop Grumman shall submit to DEC for review and approval a written citizen participation plan for implementation of this Decree prepared in accordance with the requirements of 6 NYCRR § 375-1.10 (the "Citizen Participation Plan").

b. The Citizen Participation Plan shall include provisions for formation of a Community Participation Work Group ("CPWG") for the remedial design of the remedy to be implemented by Northrop Grumman under this Decree and for the Bethpage Community Park soils under the Operable Unit 3 Consent Order. The purpose of the CPWG shall be to assure that, in addition to other elements of the Citizen Participation Plan, Northrop Grumman and DEC keep

the public informed about the progress of such remedial design and consider public input thereon. The CPWG will be managed by a Third Party Facilitator with experience in convening and establishing a CPWG, developing procedures and facilitating public meetings. The Third Party Facilitator shall establish by-laws pursuant to which the CPWG operates, and shall establish meeting schedules and locations, chair such meetings, provide meeting agendas, and shall work with local officials and agencies to solicit interest and membership in the CPWG. The Facilitator shall be proposed and approved by DEC, but such selection shall be subject to Northrop Grumman's approval, which shall not be unreasonably withheld. The CPWG meetings convened by the Facilitator shall be semi-annual. Northrop Grumman agrees to reimburse the DEC for up to one hundred thousand dollars ($100,000.00) in costs associated with contracting with the Facilitator and the establishment and operation of the CPWG, and Northrop Grumman will be invoiced using the same procedures as set forth in Paragraph 14 above.

c. Upon approval by DEC, Northrop Grumman shall implement the Citizen Participation Plan. This Plan shall, upon DEC approval, supersede any prior Citizen Participation Plan prepared under the Operable Unit 2 and/or Operable Unit 3 Consent Orders.

21. All activities conducted pursuant to this Decree shall be conducted pursuant to one or more DEC-approved work plans ("Work Plan" or "Work Plans"); provided, however, that any Work Plan subject to the jurisdiction, and adopted by a determination of, the Panel shall be considered to be a DEC-approved Work Plan. All activities performed pursuant to this Decree

shall not be inconsistent with the National Contingency Plan, as required under CERCLA, 42 U.S.C. §§ 9607(a)(4)(A). The Work Plan(s) under this Decree shall be developed and implemented in accordance with 6 NYCRR § 375-1.6(a) and Subpart 375-6 and constitute enforceable work plans under 6 NYCRR § 375-1.6(d)(2)(i).

22. Northrop Grumman shall submit all Work Plans required or contemplated under this Decree to DEC for DEC review and approval within a reasonable time, with reasonableness to be determined by factors including site conditions and the maintenance of orderly and timely progress of the various elements of work to be done by Northrop Grumman.

23. Upon approval of a Work Plan by DEC (or the determination of the Panel, as applicable), Northrop Grumman shall implement such Work Plan in accordance with the schedule contained therein, subject, *inter alia,* to modifications that might be needed for Northrop Grumman to obtain Authorizations, with such schedule modifications subject to DEC approval pursuant to Paragraph 26 below. Northrop Grumman shall construct the remedial elements set forth in Paragraph 9 within five (5) years from the Effective Date of this Decree; provided, however, that this five (5) year deadline shall be extended to the extent of time lost because (i) Northrop Grumman was unable to obtain Authorizations and/or needed to obtain Authorizations from DEC pursuant to Paragraph 29 below and/or (ii) one or more Force Majeure Events pursuant to Paragraph 58 below. Northrop Grumman may also, for reasonable cause, request an extension of this period, which request shall not be unreasonably denied by DEC.

24. Ninety days after the Effective Date of this Decree, and every 90 days thereafter so long as Northrop Grumman has not received all Authorizations necessary to perform its obligations under this Decree, Northrop Grumman will provide DEC with a status report on its efforts to obtain those Authorizations.

25. Work Plans contemplated under this Decree include:

a. Preliminary Investigation Work Plan: a Work Plan that provides for the investigation of the nature and extent of contaminated groundwater in support of the development of the remedial design, if necessary, for addressing such groundwater;

b. RD/RA Work Plan: a Work Plan that addresses remedial design and remedial action, that is, a Work Plan that provides for the development and implementation of final plans and specifications for implementing elements of the AROD in accordance with this Decree;

c. IRM Work Plan: a Work Plan that provides for an interim remedial measure; and

d. Site Management Plan: a Work Plan that provides for the identification and implementation of institutional and/or engineering controls as well as any necessary monitoring and/or operation and maintenance of the remedy.

26. Submission/Implementation of Work Plans.

a. Any proposed Work Plan that is submitted for DEC's review and approval shall include, at a minimum, a chronological description of the anticipated activities, a schedule for performance of those activities, and sufficient detail to allow DEC to evaluate that Work Plan.

b. DEC shall notify Northrop Grumman in writing if DEC determines that any element of a DEC-approved Work Plan needs to be modified in order to achieve the objectives of such Work Plan or to carry out the terms and conditions of this Decree. Upon receipt of such notification, Northrop Grumman shall, subject to

dispute resolution pursuant to Paragraph 31 or Paragraphs 32 through 46 below, as applicable, modify the Work Plan.

c. DEC may request, subject to dispute resolution pursuant to Paragraph 31 or Paragraphs 32 through 46 below, as applicable, that Northrop Grumman submit additional or supplemental Work Plans within 60 days after DEC's written request.

d. A Site Management Plan shall be submitted by Northrop Grumman in accordance with the schedule set forth in an IRM Work Plan or RD/RA Work Plan.

e. During all field activities conducted under a DEC-approved Work Plan, Northrop Grumman shall have on-site a representative who is qualified to supervise the activities undertaken in accordance with the provisions of 6 NYCRR § 375-1.6(a)(3).

f. A Professional Engineer must stamp and sign all RD/RA Work Plans submitted by Northrop Grumman.

27. Submission of Final Reports and Periodic Reports.

a. In accordance with the schedule contained in a Work Plan subject to modifications approved by DEC, Northrop Grumman shall submit a final report as provided at 6 NYCRR § 375-1.6(b) and a final engineering report as provided at 6 NYCRR § 375-1.6(c).

b. Any final report or final engineering report that includes construction activities shall include "as built" drawings showing any changes made to the remedial design or an interim remedial measure.

c. In the event that the final engineering report requires site management, Northrop Grumman shall submit an initial periodic report in accordance with the schedule in the Site Management Plan, subject to modifications approved by DEC, and thereafter submit further periodic reports in accordance with a schedule determined by DEC. Such periodic reports shall be signed by a Professional Engineer or by such other qualified environmental professional as DEC may find acceptable and shall contain a certification as provided at 6 NYCRR § 375-1.8(h)(3). Northrop Grumman may petition DEC for a determination that Extraction Wells, monitoring wells, and/or institutional and/or engineering controls may be terminated. Such petition must be supported by a statement by a Professional Engineer that such controls are no longer necessary for the protection of public health and the environment. DEC shall not unreasonably withhold its approval of such petition.

d. Within 90 days of DEC's approval of a Final Report, or a longer time period approved by DEC, Northrop Grumman shall submit additional Work Plans if required by DEC in its approval letter for such Final Report.

28. Review of Submittals.

a. DEC shall make a good faith effort to review and respond in writing to each submittal Northrop Grumman makes pursuant to this Decree within 60 days. DEC's response shall include, in accordance with 6 NYCRR § 375-1.6(d), an approval, modification request, or disapproval of the submittal, in whole or in part.

b. Upon DEC's written approval of a Work Plan (or a determination of the Panel, as applicable), such DEC-approved Work Plan shall be deemed to be incorporated into and made a part of this Decree and shall be implemented in accordance with the schedule contained therein, subject to modifications approved by DEC.

c. If DEC modifies or requests modifications to a submittal, it shall specify the reasons for such modification(s). Within 15 days after the date of DEC's written notice that a submittal should be or has been modified, Northrop Grumman shall notify DEC as to whether Northrop Grumman elects to modify, or accept DEC's modifications to, the submittal. If it elects to modify, Northrop Grumman shall make a revised submittal that incorporates all of DEC's modifications to the first submittal in accordance with the time period set forth in 6 NYCRR § 375-1.6(d)(3), subject to any modifications to the time period approved by DEC. In the event that DEC disapproves Northrop Grumman's revised submittal, DEC shall set forth its reasons for such disapproval in writing, and Northrop Grumman may invoke dispute resolution pursuant to Paragraph 31 or Paragraphs 32 through 46 below, as applicable.

d. If DEC disapproves a Northrop Grumman submittal, DEC shall specify the reasons for its disapproval. Within 15 days after the date of DEC's written notice that Northrop Grumman's submittal has been disapproved, Northrop Grumman shall notify DEC of its election to modify the submittal or to invoke dispute resolution pursuant to Paragraph 31 or Paragraphs 32 through 46 below, as applicable. If Northrop Grumman elects to modify the submittal, Northrop

Grumman shall make a revised submittal that addresses all of DEC's stated reasons for disapproving the first submittal in accordance with the time period set forth in 6 NYCRR § 375-1.6(d)(4), subject to any modifications to the time period approved by DEC. In the event that DEC disapproves Northrop Grumman's revised submittal, DEC shall set forth its reasons for such disapproval in writing, and Northrop Grumman may invoke dispute resolution pursuant to Paragraph 31 or Paragraphs 32 through 46 below, as applicable.

e. To the extent that there is a dispute with respect to one of more Parameters in a Northrop Grumman-proposed work plan or submittal that is subject to Panel jurisdiction and brought to the Panel, only the dispute regarding such Parameter(s) is subject to review by the Panel; a dispute over other aspects of a proposed Work Plan or submittal are subject to general dispute resolution pursuant to Paragraph 31 below.

f. Within 30 days after either DEC's approval of a final report or the determination of the Panel resolving a dispute over an issue in what is considered to be a DEC-approved report, Northrop Grumman shall submit such final report, as well as all data gathered and drawings and submittals made pursuant to such report, in an electronic format acceptable to DEC. If any document cannot be converted into electronic format, Northrop Grumman shall submit such document in an alternative format acceptable to DEC.

29. Northrop Grumman shall make reasonable efforts to obtain all Authorizations necessary to perform its obligations under this Decree, including Authorizations necessary under law to obtain access from the Town of Oyster Bay, the County of Nassau, other municipal or local

governmental entity(ies), or other third party(ies) for the installation of any components of the remedy, including but not limited to Borings and any monitoring wells as part of the Preliminary Investigation, any Extraction Wells, any piping and any treatment facility(ies). If Northrop Grumman cannot obtain any such Authorization(s) after making reasonable efforts, it shall provide notification to DEC, together with supporting material demonstrating its efforts to obtain the Authorization(s). Unless DEC reasonably determines that Northrop Grumman has not made reasonable efforts, DEC shall use its authority under New York Environmental Conservation Law § 27-1313(8) to attempt to obtain access for Northrop Grumman to proceed with the subject remedial activity(ies). This provision does not affect DEC's authority under 6 NYCRR § 375-1.12(b), (c), and (d) to exempt Northrop Grumman from the requirement to obtain any State or local permit or other authorization for any activity conducted pursuant to this Decree.

30. Requests by Northrop Grumman for a change to a deadline or time period set forth in this Decree or in an approved Work Plan shall be made in writing to DEC's project attorney and project manager; DEC shall not unreasonably deny such requests and shall send a written response to such requests to Northrop Grumman promptly after any approval or denial of such requests. Changes to deadlines or time periods set forth in this Decree or to approved Work Plans shall not require an order of this Court.

GENERAL DISPUTE RESOLUTION

31. Subject to the limitations on dispute resolution and judicial review in Paragraphs 3 and 9.c.ii and 9.d above, and Paragraphs 35 and 59 below, in the event disputes arise with respect to response actions required by this Decree other than the disputes subject to the jurisdiction of the Panel as set forth in Paragraph 46 below, Northrop Grumman may initiate dispute resolution. Initiation and the conduct of such dispute resolution shall be in accordance with the provisions of

6 NYCRR § 375-1.5(b)(2), provided, however, that Northrop Grumman shall have 30 days to initiate a dispute resolution, and judicial review of decisions under such dispute resolution shall be in this Court.

DISPUTE RESOLUTION THROUGH EXPERT PEER REVIEW PANEL PROCESS

32. The Panel shall be established to resolve certain disputes brought to it by one or both of the Parties and make binding decisions relating to Northrop Grumman's obligations under this Decree. The disputes subject to the Panel's jurisdiction are specified in Paragraph 46 below.

33. The Panel shall be maintained so long as disputes regarding the issues subject to Panel jurisdiction identified in Paragraph 46 below may arise, and may be reactivated to resolve future disputes, if any, upon agreement of the Parties (e.g., disputes relating to operations). In such event, the Parties shall develop standards for resolving such disputes.

34. Establishment of the Panel.

a. There shall be three experts on the Panel: one selected by DEC, one selected by Northrop Grumman, and a third selected by the first two experts.

b. The members of the Panel must have expertise in the following subject areas: coastal plain hydrogeology; groundwater flow and transport modeling; 3-dimensional data visualization; and pump and treat remediation of VOCs. If a putative Panel member has expertise in at least two of these disciplines and familiarity with the other disciplines, and is a member of a firm with expertise in the remaining areas, that member would qualify to serve on the Panel.

c. If the experts selected by DEC and Northrop Grumman cannot agree on the third expert for the Panel, DEC and Northrop Grumman shall each provide the names of two independent experts who meet the foregoing qualifications to a

mediator with expertise in environmental law from the New York City office of the alternate dispute resolution organization JAMS, who shall select the third member of the Panel.

d. The Panel shall be established within 3 months of the first dispute initiated that is within the jurisdiction of the Panel as set forth in this Decree.

35. The decisions of a Panel constituted in accordance with Paragraph 34 above that are either within the scope of Panel authority as set out in Paragraph 46 below or otherwise subject to the Panel's jurisdiction by agreement of the Parties shall be final and binding on the Parties, and not subject to appeal or judicial review.

36. Northrop Grumman shall compensate all three experts on the Panel, at the customary rates for such member and/or the member's firm, for the work on the Panel actually performed up to the amount of $150,000,00 in aggregate; once that amount is incurred, DEC shall compensate the expert it chose while Northrop Grumman shall continue to compensate the expert it chose and the third selected expert; DEC's compensation of its expert shall not be denominated as oversight or similar costs and shall not be charged to Northrop Grumman.

37. Dispute resolution procedure. A dispute subject to Panel resolution shall be brought before the Panel as follows:

a. A Party (the "Notifying Party") can provide notice to the other Party (the "Receiving Party") and the Panel that a dispute within Panel jurisdiction exists ("Initial Notice") and thereby submit that dispute to the Panel; the Initial Notice shall state the basis for Panel jurisdiction. In the event that the Panel is not yet established pursuant to Paragraph 34 above, the Notifying Party shall request

in its Initial Notice that the Panel be established and provide the Initial Notice to the Panel as soon as it is established.

b. If the Receiving Party disagrees that a dispute exists within Panel jurisdiction, it shall submit such objection to the Notifying Party and the Panel within 7 days of receipt of the Initial Notice by the Panel.

c. Within 7 days of receiving an objection to Panel jurisdiction over a dispute pursuant to Paragraph 37.b, the Panel shall set out in writing its determination whether it has jurisdiction over the dispute. The Panel has jurisdiction over a dispute if a timely objection to the Panel's jurisdiction is not submitted under Paragraph 37.b, subject to any extensions to the 7 day deadline set forth in that Paragraph agreed to by the Parties.

38. Any Party may submit a position paper regarding the issue(s) in dispute to the Panel and the other Party within 30 days of submission of the dispute.

39. If data or information beyond the administrative record is used in a submission, a copy of the cited material ("Cited Material") must be provided to the other party. The Panel may allow the author of the Cited Material to be questioned if reasonably available and amenable to such questioning.

40. Either Party may submit a reply to the other Party's position paper within 15 days of the later of: the filing of such a position paper, the provision of Cited Material, or the provision of answers to questions on Cited Material.

41. The Panel has the right to conduct the dispute resolution proceeding, including the authority to: require the Parties to provide additional information; allow questions to be propounded by a Party; meet with the Parties separately or together; and/or take other actions that

would assist the Panel in making a decision or avoid the need to issue a Panel decision. The Panel shall allow oral argument upon request of either Party.

42. Unless the Party raising a dispute before the Panel withdraws the dispute from the Panel or the Parties agree on a resolution of the dispute without a Panel determination, the Panel shall, by a majority vote, issue a binding written Panel decision regarding the issue(s) in dispute, with the reasons for the determination, no later than 20 days after the later of: final submissions by all Parties, oral argument, or the completion of communications between one or both Parties and the Panel. A Panel member that disagrees with the majority decision may issue a dissent at the time of the issuance of the Panel decision. A Party may issue notice demanding a determination after 20 days following a submission or communication if the Panel has not, within that time, notified the Parties that further submissions or communications are needed to reach a determination. Unless the Panel requires additional information, of which it shall notify the Parties within 5 days of such demand for determination, the Panel shall issue its determination within 20 days after the Party sends the notice demanding determination.

43. In the event the Panel rules against DEC on an issue, such ruling does not preclude DEC, in its sole discretion, from taking additional response actions; provided, however, that, subject to Paragraph 49 below, DEC may not seek to recover costs of any such additional remedial actions from Northrop Grumman.

44. Notices and Submissions in Panel Proceedings.

a. All notices and submissions, unless otherwise directed by the Panel, shall be by electronic mail, and the recipient(s) shall confirm receipt.

b. Unless a Party obtains an extension of time from the Panel or by agreement of all Parties, the failure to meet a deadline results in the waiver of the right to make a submission.

45. General dispute standard for Panel decisions. The Panel shall use current data and apply state-of-the art approaches and methodologies in interpolating data, and shall employ hydrogeology, groundwater flow directions, modeling (including solute transport modeling) and other relevant methodologies to reach a scientifically sound resolution. It shall consider all modeling provided to it that has been performed by DEC and its consultants, the United States Geologic Survey, Northrop Grumman and its consultants, and the Navy and its consultants.

46. Dispute subjects subject to Panel decisions and additional standards for Panel decisions. The following issues shall be within the jurisdiction of the Panel:

a. The extent and distribution of the Plumes. The extent and distribution of the substances listed in Table 1 of Exhibit A of the AROD in the Plumes at or above standards must be determined, at a minimum, on data to be collected from the Preliminary Investigation, data from existing monitoring wells sampled within the last 5 years, other data collected within the last 10 years (including Boring data used for screening purposes), and/or groundwater flow information. Accepted standards of data interpolation between two or more points of empirical data shall be applied.

b. The specifications of Extraction Wells, including but not limited to locations, depths, and pumping rates. Extraction Wells functioning as containment wells shall be installed at the aquifer location and depth where data analysis indicates

that VOCs exceeding standards transition to VOCs at or beneath standards, unless wells within the Plumes would achieve such containment.

FAIR AND REASONABLE SETTLEMENT

47. The payments, response actions, and natural resources damages terms under this Decree represent a fair, equitable, and reasonable contribution by Northrop Grumman toward the total response and related costs that have been or may in the future be incurred with respect to the Site and the Plumes, including with respect to releases or threatened releases of Hazardous Substances at and from the Sites and/or the Plumes and to any natural resources damages resulting from such releases. The Parties agree, and this Court by entering this Decree finds, that this Decree has been negotiated in good faith, that settlement of the Matters Addressed will avoid prolonged and complicated litigation, and that this Decree is fair, equitable, and reasonable, and in the public interest.

COVENANTS NOT TO SUE AND RESERVATION OF RIGHTS

48. Covenant Not to Sue Northrop Grumman. As of the Effective Date of this Decree, the State releases and covenants not to sue, execute judgment, or take any civil, judicial or administrative action under any federal, state, local, or common law (other than enforcement of this Decree) against Northrop Grumman or any of the Northrop Grumman Entities for any matter arising out of or relating to the Matters Addressed as defined in Paragraph 2 of this Decree, and thus resolves all Claims against Northrop Grumman or any of the Northrop Grumman Entities arising from or related to the Sites and/or the Plumes except any Claims that could now, or hereafter may be, asserted by the State against Northrop Grumman under CERCLA and any other federal state or local statute or regulation, or common law, relating to the remediation of soil

contaminated with Hazardous Substances in the Operable Unit 3 Area pursuant to the Operable Unit 3 Consent Order.

49. DEC Reservation of Rights.

a. Notwithstanding any release, discharge, or covenant not to sue that Northrop Grumman receives from DEC, DEC reserves, and this Decree is without prejudice to, the right of DEC to institute proceedings in this action or in a new action seeking to compel Northrop Grumman: (a) to perform further response actions relating to the Sites or Plumes, or (b) to reimburse DEC for additional costs of response actions relating to the Sites or Plumes, but in either case only after DEC reasonably adopts a finding, after notice to Northrop Grumman, and only if DEC discovers conditions at the Sites or Plumes attributable to Operable Unit 3 that were previously unknown to DEC and which could not reasonably have been known to DEC as of the date of execution of this Decree ("Unknown Conditions"), and DEC discovers material information about such Unknown Conditions, previously unknown to DEC and which could not reasonably have been known to DEC as of the date of the lodging of this Decree ("Material New Information"); and DEC determines that the previously Unknown Conditions and Material New Information, together with any other relevant information, demonstrate that the conditions at the Sites or Plumes attributable to Operable Unit 3 are not protective of, and constitute a significant threat to, public health or the environment.

b. For purposes of Paragraph 49.a, any conditions or information in the possession, custody, control or knowledge of DEC, or which could have been

reasonably known to DEC, prior to the date of lodging of this Decree, including but not limited to conditions and information set forth in any sampling data and other data, including any chemicals or compounds associated with the Sites or Plumes, and in any analyses, diagrams, maps, reports, and surveys performed at the Sites or Plumes, shall not be considered Unknown Conditions or New Information.

c. In the event of a dispute over DEC's rights under Paragraph 49.a, the dispute, at the option of Northrop Grumman or DEC, may be referred to the Panel for a non-binding recommendation as to whether there has been an Unknown Condition or New Information; if not resolved informally, the dispute shall be determined by this Court as set forth in Paragraph 59 below.

d. Northrop Grumman reserves all rights, including all defenses to any proceedings brought pursuant to Paragraph 49.a, including those rights relating to the Operable Unit 2 Consent Order and the Operable Unit 3 Consent Order. This Decree shall not be construed to require Northrop Grumman to perform any action in response to any proceedings brought pursuant to Paragraph 49.a absent a judicial determination that DEC's requirement of such action is consistent with this Decree.

50. Covenant Not to Sue by Northrop Grumman. Northrop Grumman releases and covenants not to sue, execute judgment, or take any civil, judicial or administrative action under any federal, state, local, or common law against the State, or its employees, departments, agencies, or instrumentalities, or to seek against the State any costs, damages, contribution, or attorneys' fees arising out of or relating to any of the Matters Addressed in this Decree. However, Northrop

Grumman may assert any Claims against any person other than the State, to the extent permitted by law, for any costs, damages, contribution, or attorneys' fees arising out of or related to any of the Matters Addressed in this Decree.

51. Approval Letters and Construction Completion Reports.

a. Upon the completion of Northrop Grumman's obligations under this Decree to undertake the response actions pursuant to Paragraph 9 above and the natural resources damages actions pursuant to Paragraphs 17-19 above (exclusive of any annual payments Northrop Grumman may make or be required to make to Bethpage Water District pursuant to Paragraph 17 above), and DEC review and approval of the Final Engineering Report, and upon a showing by Northrop Grumman, based on the monitoring of groundwater elevation data and groundwater quality data collected from the installed Extraction Wells and monitoring wells for a minimum of four quarters or some other method agreed upon by the Parties, that the Extraction Wells (including DEC-EX 6), injection wells, monitoring wells), conveyance piping, water treatment facility(ies), and recharge basin(s) installed pursuant to this Decree are operating consistent with the DEC-approved Work Plans (or Panel-approved Work Plans, as applicable), DEC shall issue to Northrop Grumman a letter in which DEC will provide a determination that Northrop Grumman has fulfilled the construction-related obligations of this Decree, provided that DEC cannot unreasonably withhold or delay the approval of the Final Engineering Report or the issuance of said letter and further provided that in the event of a conflict between the terms of this Decree and the letter, the former shall govern. DEC's letter will make clear that

all of the systems constructed by Northrup Grumman pursuant to this Decree (e.g., Extraction Wells, injection wells, water treatment facility(ies), recharge basins) shall continue to be operated, and modified if needed, in accordance with the requirements of the DEC-approved Site Management Plan referenced in this Consent Decree.

b. Northrop Grumman shall file a timely Construction Completion Report to DEC upon the completion of each of: (i) the construction of the RW-21 System; (ii) the connection of DECEX-6 to the Operable Unit 3 on-site control system; (iii) the installation of Extraction Wells in the ESE Half-Quadrant, connection to the treatment facility for such system and construction of the means of discharging treated groundwater; and (iv) the installation of Extraction Wells in the SSE Half-Quadrant, connection to the treatment facility for such system and construction of the means of discharging treated groundwater (collectively, "Remedial Systems"); and provided that DEC cannot unreasonably withhold or delay the approval of the Construction Completion Report for each of the four identified Remedial Systems.

CONTRIBUTION PROTECTION AND RELATED MATTERS

52. In consideration of Northrop Grumman's entering into this Decree, the Parties agree that Northrop Grumman is entitled, as of the Effective Date of this Decree, to the full extent of protection from contribution actions or Claims as provided by CERCLA, 42 U.S.C. § 9613(f)(2), the Uniform Comparative Fault Act, New York General Obligations Law § 15-108, and any other applicable provision of federal or state law, whether by statute or common law, extinguishing the potential liability of Northrop Grumman to persons not party to this Decree for

the Matters Addressed. As provided under CERCLA, 42 U.S.C. § 9613(f)(2), and New York General Obligations Law § 15-108, and to the extent authorized under any other applicable law, Northrop Grumman shall be deemed to have resolved its liability to the State under applicable law, including, without limitation, CERCLA, the New York Environmental Conservation Law and common law, for purposes of contribution protection and with respect to the Matters Addressed pursuant to and in accordance with this Decree. The Parties agree that entry of this Consent Decree constitutes a judicially approved settlement for purposes of CERCLA, 42 U.S.C. § 9613(f)(3)(B), pursuant to which Defendant has, as of the Effective Date, resolved liability to the State for the Matters Addressed set forth in this Consent Decree.

53. Any rights Northrop Grumman may have to obtain contribution or to otherwise recover costs or damages from persons not party to this Decree and all Claims and defenses of Northrop Grumman with respect to all persons other than the State are preserved, except as otherwise provided in Paragraph 54 below.

54. Northrop Grumman shall be entitled, to the fullest extent of the law, to protection from any Claims against it by any potentially responsible party, as defined in CERCLA, 42 U.S.C. § 9607(a) and/or identified as such in the AROD (including predecessors and successors thereto), seeking costs of response pursuant to CERCLA, 42 U.S.C. § 9607, and any other applicable provision of federal, state or local statute or regulation, or common law, arising out of or in connection with the Matters Addressed, (a) provided that such potentially responsible party was afforded public notice by the State or the Court of the proposed lodging of this Decree and had an opportunity to comment thereon, and (b) further provided that Northrop Grumman waives its right to seek costs of response pursuant to CERCLA, 42 U.S.C. § 9607, and any other analogous state or local statute or regulation, or common law, or to seek contribution as provided by CERCLA, 42

U.S.C. § 9613(f)(3)(B), the Uniform Comparative Fault Act, New York General Obligations Law § 15-108, and any other analogous state or local statute or regulation or common law, against the Navy for the Matters Addressed set forth in this Decree. This provision for barring further litigation and achieving finality is integral to resolving the Parties' dispute and a necessary condition of Northrop Grumman's agreement to this Consent Decree, as Northrop Grumman would not have agreed to the actions and payments pursuant to this Decree if it could be sued by other potentially responsible parties for response costs in addition to those reflected in this Decree. Provided, however, that nothing in this Decree shall prevent (a) a Water District or (b) the Town of Oyster Bay from raising claims under CERCLA or any other federal, state or local statute or regulation, or common law, including contribution claims, against Northrop Grumman or any other responsible party arising from contaminated groundwater that is the subject of this Decree, and provided further that Northrop Grumman reserves all rights and defenses to such claims, including but not limited to defenses based on response actions taken under this Consent Decree. In the event that a Water District or the Town of Oyster Bay sues Northrop Grumman, or the Navy or the United States, under CERCLA or other laws regarding the Matters Addressed, nothing in this Decree shall prevent Northrop Grumman, or the Navy or the United States, from impleading one another as a third-party defendant.

DISMISSAL OF THE STATE'S CLAIMS AND RETENTION OF JURISDICTION

55. The Complaint against Northrop Grumman is hereby dismissed with prejudice.

56. For purposes of entry and enforcement of this Decree, the parties to this Decree agree that the Court has jurisdiction in this matter and shall retain jurisdiction until Northrop Grumman has fulfilled its obligations hereunder.

EFFECT ON LIABILITY OF OTHER PARTIES

57. Nothing in this Decree is intended as a release of, or covenant not to sue with respect to, any person or entity other than Northrop Grumman or the Northrop Grumman Entities, and the State expressly reserves its rights to assert in a judicial or administrative forum any claim or cause of action, past or future, in law or in equity, that the State may have against any other person, firm, corporation, or other entity.

COMPLIANCE, FORCE MAJEURE, AND ENFORCEMENT

58. Northrop Grumman shall not be in violation of this Decree if Northrop Grumman cannot comply with any requirement because the failure to comply is the result of a force majeure event ("Force Majeure Event"). A Force Majeure Event shall include acts of God, work stoppages due to labor disputes or strikes, fires, explosions, epidemics (including, without limitation, conditions arising from state or local emergency orders issued to respond to the COVID-19 pandemic), delay in obtaining materials due to global supply chain supply holdups, refusal of a governmental authority to provide a necessary Authorization, riots, war rebellion, or sabotage, or any other condition that was not caused by the negligence or willful misconduct of Northrop Grumman and that could not have been avoided by Northrop Grumman through the exercise of due care. If a failure of or delay in performance by Northrop Grumman results from the occurrence of a Force Majeure Event, the delay shall be excused and the time for performance extended by a period equivalent to the time lost because of the Force Majeure Event, if and to the extent that the: (i) delay or failure was beyond the control of Northrop Grumman and not due to its fault or negligence; (ii) delay or failure was not extended because of Northrop Grumman's failure to use reasonable diligence to overcome the obstacle or to resume performance immediately after such obstacle was overcome; (iii) Northrop Grumman provides notice to DEC within 15 days of

Northrop Grumman's knowledge that the event would prevent or delay performance that it is invoking the protection of this provision; and (iv) such notice includes the measures taken and to be taken to prevent or minimize any delays, and may request an appropriate extension or modification as appropriate. Northrop Grumman shall be deemed to know of any circumstance which it, any entity controlled by it, or its contractors knew or should have known.

59. This Court shall have jurisdiction to enforce the Operable Unit 2 Consent Order, Operable Unit 3 Consent Order, Work Plans and submittals issued under this Decree, and decisions made under General Dispute Resolution, including without limitation any formal disputes arising with respect to this Decree or such Consent Orders, and any enforcement or formal disputes shall be brought only to this Court. This Court shall have jurisdiction over, and the State and Northrop Grumman have the right to seek to enforce this Decree in this Court. Consistent with the provisions of Paragraph 3 above, prior to a Party invoking judicial review of the terms and conditions of this Decree, it shall provide the other Party with at least 15 days' notice of the subject matter of the proposed invocation of judicial review, including, as applicable, an opportunity for the other Party to cure any alleged breach of this Decree within a reasonable time (based on the alleged contravention of this Decree), and the Parties shall consult within and seek to reach resolution of the subject matter within 30 days of such notice. If the Parties are not successful in resolving the matter, the Party raising the matter may invoked judicial review.

NOTIFICATIONS

60. Any notification to the State and/or Northrop Grumman shall be in writing or electronic mail and shall be deemed properly given if sent to the following addresses or to such other addresses as the parties may specify:

a. Communication to the State shall be sent to:

Jason Pelton, P.G.
Project Manager
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233
(518) 402-9676
jason.pelton@dec.ny.gov

James Sullivan
New York State Department of Health
Empire State Plaza
Corning Tower, Room #1787 Albany, New York 12237
(518) 402-7860
beei@health.ny.gov

Michael C. Murphy, Esq.
Senior Attorney, Office of General Counsel
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1500
(518) 402-8564
michael.murphy1@dec.ny.gov

Andrew G. Frank, Esq.
Assistant Attorney General
New York State Attorney General's Office
Environmental Protection Bureau
28 Liberty Street, 19th Floor
New York, New York 10005
(212) 416-8271
andrew.frank@ag.ny.gov

b. Communication to Northrop Grumman shall be sent to:

Northrop Grumman Systems Corporation
Attn: Edward J. Hannon, Environmental, Safety, Health and Medical Manager
925 South Oyster Bay Road
M/S Q06305/BP14
Bethpage, NY 11714-3582
edward.hannon@ngc.com

Fern Fleischer-Daves
Assistant General Counsel – Environmental, Health and Safety
and Real Estate Law
Northrop Grumman Corporation
2890 Fairview Park Drive
Mall Stop #12161A
Falls Church, VA 22042-4511
fern.fleischer-daves@ngc.com

Mark A. Chertok, Esq.
Daniel Riesel, Esq
Sive, Paget & Riesel, P.C.
560 Lexington Avenue, 15th Fl
New York, NY 10022
mchertok@sprlaw.com
driesel@sprlaw.com

COMPLETE AGREEMENT

61. This Decree constitutes the complete agreement of the Parties. This Decree may not be amended, modified, supplemented, or otherwise changed without approval of this Court and the written consent of both the State and Northrop Grumman, except as provided in Paragraph 30 above. This Decree may be signed in counterparts.

EFFECTIVE DATE

62. This Decree shall become effective when it is entered by the Court (the "Effective Date"). Unless otherwise specified, all times for performance of activities under this Decree shall be calculated from that date.

EFFECT OF FAILURE TO OBTAIN COURT APPROVAL

63. If for any reason the Court should decline to approve this Decree in the form presented, or if approval and entry is subsequently vacated on appeal of such approval and entry, this agreement is voidable at the sole discretion of any Party, and the terms of the agreement may not be used as evidence in any litigation between the Parties.

FINAL JUDGMENT

64. This Decree and its exhibits are the final, complete, and exclusive agreement and understanding among the Parties regarding the settlement embodied in the Decree. The Parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Decree.

65. Upon entry of this Decree by the Court, this Decree shall constitute a final judgment. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Federal Rules of Civil Procedure 54 and 58.

AGREED TO BY:

Dated: June 27th, 2022

STATE OF NEW YORK and BASIL SEGGOS, as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources

By: _____

Name: Thomas Berkman
Title: Deputy Commissioner and General Counsel, New York State Department of Environmental Conservation

Dated: _____, 2022

NORTHROP GRUMMAN SYSTEMS CORPORATION

By: _____

Name: Colin R. Miller
Title: VP Mission and Quality Assurance, Northrop Grumman Systems Corporation, Aeronautics Systems Sector

FINAL JUDGMENT

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AGREED TO BY:

Dated: _____, 2022

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By: _____
Name: Thomas Berkman
Title: Deputy Commissioner and General Counsel, New York State Department of Environmental Conservation

Dated: June 27, 2022

NORTHROP GRUMMAN SYSTEMS CORPORATION

By: _____
Name: Colin R. Miller
Title: VP Mission and Quality Assurance, Northrop Grumman Systems Corporation, Aeronautics Systems Sector

SO ORDERED THIS _____ DAY OF _____, 2022

_____
United States District Judge

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

STATE OF NEW YORK, and BASIL SEGGOS, as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources,	:	
Plaintiffs,	:	No. 2:22-cv-04091-RPK-ARL
-against-	:	
NORTHROP GRUMMAN SYSTEMS CORPORATION,	:	
Defendant.	:	

MEMORANDUM OF LAW OF PLAINTIFFS STATE OF NEW YORK AND BASIL SEGGOS IN SUPPORT OF THEIR MOTION TO APPROVE CONSENT DECREE

LETITIA JAMES
Attorney General of the State of New York
New York State Attorney General's Office
28 Liberty Street
New York, New York 10005
(212) 416-8271

Monica Wagner,
Deputy Bureau Chief
Andrew G. Frank,
Assistant Attorney General
Environmental Protection Bureau
Of Counsel

July 13, 2022

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PRELIMINARY STATEMENT

For six decades, defendant Northrop Grumman Systems Corporation and its predecessors (together, "Northrop Grumman") manufactured military and space aircraft on 600 acres of property in Bethpage and used an adjacent area for disposal of wastes in settling ponds (together, the "Sites"). Hazardous substances used in the manufacturing process were released to the soil and groundwater, resulting in underground plumes of contaminated groundwater over four miles long (the "Plumes") in Long Island's "sole-source aquifer," which is used for drinking water. In this lawsuit under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") and state common law, plaintiffs State of New York and Basil Seggos, Commissioner of the New York State Department of Environmental Conservation ("DEC") (together, the "State") and Northrop Grumman have entered into a proposed Consent Decree (the "Decree") that provides that Northrop Grumman will take action to remediate the contamination, compensate for the State's loss of natural resources, and pay a portion of DEC's costs in connection with the contamination.

The Sites were owned by Northrop Grumman and the United States Department of the Navy, which was also involved in the manufacturing operations. Northrop Grumman and the Navy have already taken a series of remedial actions—consisting primarily of extraction and treatment of contaminated groundwater and then discharge of the treated water back into the aquifer—to address the contaminated Plumes. While those actions have remediated the contamination to some extent, the Plumes continue to expand and further contaminate or threaten to contaminate drinking water, requiring additional remedial action.

The proposed Decree provides that Northrop Grumman will install additional wells and related treatment in the "Eastern Plume," and the Navy has separately committed to do so in the

"Western Plume." While DEC anticipates that those remedial actions will ultimately remediate the Plumes, in the meantime the State will have lost clean groundwater in the Long Island aquifer, which is a valuable natural resource. To compensate for that loss, the proposed Decree provides that Northrop Grumman will pay $41.5 million dollars to compensate the water districts that have had to treat drinking water withdrawn from the Plumes or move water supply wells outside the Plumes and pay $22 million to DEC to implement restoration projects that will benefit the aquifer. Northrop Grumman will also reimburse DEC $4 million for costs it has incurred in connection with the remediation of Sites as well as future remedial oversight costs.

The Court should approve the Decree because, as required for settlements in CERCLA lawsuits, the Decree is fair, reasonable, and serves the goals of CERCLA. The Decree is procedurally fair because it was negotiated by knowledgeable parties with skilled counsel and substantively fair because it allocates a fair share of responsibility for remediation, loss of a natural resource, and DEC's costs to Northrop Grumman. The Decree is reasonable and serves the purposes of CERCLA because the remedial actions to be taken by Northrop Grumman, along with work to be performed by the Navy and either other potentially responsible parties or the State, will achieve DEC's remedial goals.

BACKGROUND

A. CERCLA

CERCLA is "a broad remedial statute" with "two primary goals: (1) enabling the [government] to respond efficiently and expeditiously to toxic spills, and (2) holding those parties responsible for the releases liable for the costs of the cleanup." *B.F. Goodrich Co. v. Murtha*, 958 F.2d 1192, 1197-98 (2d Cir. 1992). The centerpiece of CERCLA's statutory scheme is the imposition of strict, joint and several, and retroactive liability for cleanup costs and

natural resource damages on certain classes of entities. *See*, *e.g.*, 42 U.S.C. § 9607(a); *Murtha*, 958 F.2d at 1198 ("Congress envisioned. . . the taxpayers [would] not [be] required to shoulder the financial burden of a nationwide cleanup."). Those classes of entities include current owners of a facility and owners and operators of a facility at the time of disposal of hazardous substances. 42 U.S.C. § 9607(a)(1) & (2).

Under 42 U.S.C. § 9607(a), the United States and States may bring an action against those entities to recover the costs of responding to a release of hazardous wastes and for natural resource damages caused by the release. *See generally New York v. Shore Realty Corp*., 759 F.2d 1032 (2d Cir. 1985). A court may award past costs and damages and issue a declaratory judgment on liability that "will be binding on any subsequent action or actions to recover further response costs or damages." 42 U.S.C. §§ 9607(a), 9613(g)(2).

Costs include the costs of "removal" actions, including investigations, and "remedial" actions, and are recoverable so long as they are "not inconsistent with the national contingency plan." *Id*. § 9607(a)(4)(A); *see also id.* § 9601(23) (defining "removal" to include "such actions as may be necessary to monitor, assess, and evaluate" a release or threatened release), *id.* § 9601(24) (defining "remedial action" to include "those actions consistent with permanent remedy taken"). Natural resource damages are awarded when "[r]esponse actions, if any, carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action." 43 C.F.R. § 11.23(e)(5).

CERCLA allows recovery of natural resource damages for contaminated groundwater. *See* 42 U.S.C. §§ 9601(6), (16); *Artesian Water Co. v. Gov't of New Castle County*, 851 F.2d 643, 650 (3rd Cir 1988) ("CERCLA regards the aquifer as a natural resource whose injury gives the state a cause of action"). When a State recovers damages for injuries to natural resources, the

damages may be used "only to restore, replace, or acquire the equivalent of such natural resources." 42 U.S.C. § 9607(f)(1).

CERCLA provides that "[t]he Governor of each State shall designate State officials who may act on behalf of the public as trustees for natural resources" under this CERCLA. *Id.* § 9607(f)(2)(B). Since 1987, the DEC Commissioner has been the Trustee of New York's natural resources under CERCLA. *See, e.g.*, DEC, DEE-15: Natural Resource Damages Enforcement Policy (May 17, 1989).[1]

Private parties have the right to bring two categories of claims under CERCLA. First, like the United States and States, a private party that has incurred costs voluntarily may sue to recover its costs under 42 U.S.C. § 9607(a)(4)(B). *See United States v. Atlantic Research Corp.*, 551 U.S. 128, 139 (2007). Second, under 42 U.S.C. § 9613(f)(1), a private party that is sued for costs incurred by a government or another private party may bring a claim against other parties to contribute to those costs.

Congress mandated that whenever "practicable" and in the "public interest" settlements of CERCLA claims should be encouraged and facilitated. 42 U.S.C. § 9622(a); *see also Bedford Affiliates v. Sills*, 156 F.3d 416, 427 (2d Cir. 1998) (CERCLA settlement provisions serve to "aid in the expeditious resolution of environmental claims"). To encourage settlement, CERCLA provides that, when a private party settles its liability to the United States or a State, "[it] shall not be liable for claims for contribution regarding matters addressed in the settlement." 42 U.S.C. § 9613(f)(2); *see also B.F. Goodrich Co. v. Betkoski*, 99 F.3d 505, 527 (2d Cir. 1996)

[1] http://www.dec.ny.gov/regulations/25235.html.

(quoting the statute), *abrogation on other grounds recognized by New York v. Nat'l Servs. Indus., Inc.*, 352 F.3d 682, 683 (2d Cir. 2003).

B. FACTUAL BACKGROUND

1. The Sites

Northrop Grumman and the Navy conducted industrial and research activities on 600 acres in Bethpage (the "Original Site"), which DEC listed on the Registry of Inactive Hazardous Waste Disposal Sites in New York State (the "Registry") in 1983. Declaration of Jason Pelton, P.G. ("Pelton Decl.") ¶ 10 (June 21, 2022); DEC, Amended Record of Decision: Northrop Grumman Bethpage Facility and Naval Weapons Industrial Reserve Plant ("Amended ROD") at 9 (Dec. 2019).[2]

In 1993, DEC divided the Original Site into two parts, designating approximately 500 acres as the Northrop Grumman-Bethpage Facility Site ("Grumman Site")[3] and the remainder as the Naval Weapons Industrial Reserve Plant Site ("Naval Weapons Site"). Pelton Decl. ¶ 10; Amended ROD at 9. Next to the Grumman Site is an area of approximately 18 acres consisting of Bethpage Community Park, part of which was built on former industrial settling ponds, and a road ("Settling Ponds Area") (together with the Grumman Site and the Naval Weapons Site, the "Sites). Pelton Decl. ¶ 11. The map on page 9 below depicts the Grumman Site, and the Naval Weapons Site, and indicates the approximate location of the Settling Ponds Area.

[2] The Amended ROD is attached as Exhibit B to the Decree.

[3] DEC later designated approximately 26 acres of this 500-acre site as the Grumman Steel Los Plant 2 Site, Site No. 130003C. The term "Grumman Site" as used in this memorandum includes those 26 acres.

At some or all times between the 1930s and the present, Northrop Grumman owned and operated the Grumman Site and portions of the Settling Ponds Area, and together with the Navy, operated the Naval Weapons Site. Pelton Decl. ¶ 12.

2. Historical Activities at the Sites

Beginning in the 1930s, Northrop Grumman and the Navy used the Sites for industrial and research purposes. *Id*. ¶ 13; Amended ROD at 9. Among other things, Northrop Grumman was a major manufacturer of military aircraft for the United States at the Sites during World War II and later, including through the Cold War. Pelton Decl. ¶ 13. All manufacturing at the Sites ended in 1996. Pelton Decl. ¶ 13; Amended ROD at 9.

Northrop Grumman released hazardous substances to the soil and groundwater at parts of the Sites, including the industrial settling ponds in the Settling Ponds Area. Pelton Decl. ¶ 14; Amended ROD at 9. Those hazardous substances include several volatile organic compounds ("VOCs"), including trichloroethylene ("TCE"), and other non-VOC hazardous substances, including 1,4-dioxane. Pelton Decl. ¶ 14; Amended ROD at 13.

TCE is a carcinogen that may cause kidney cancer, liver cancer and malignant lymphoma. Short-term exposure to high concentrations of TCE can cause dizziness, headaches, effects on hearing, seeing and balance, liver damage, possible kidney damage and death. Pelton Decl. ¶ 15; Agency for Toxic Substances & Disease Registry, Toxicological Profile for Trichloroethylene at 3-4 (June 2019).[4] 1,4-dioxane is likely to be a carcinogen; long-term exposure to it can harm the liver and kidneys, and short-term exposure can cause eye and nose irritation or, at very high levels, severe kidney and liver effects, and possibly death. Pelton Decl.

[4] https://www.atsdr.cdc.gov/ToxProfiles/tp19.pdf.

¶ 15; Agency for Toxic Substances & Disease Registry, Toxicological Profile for 1,4-Dioxane at 3-4 (April 2012).[5]

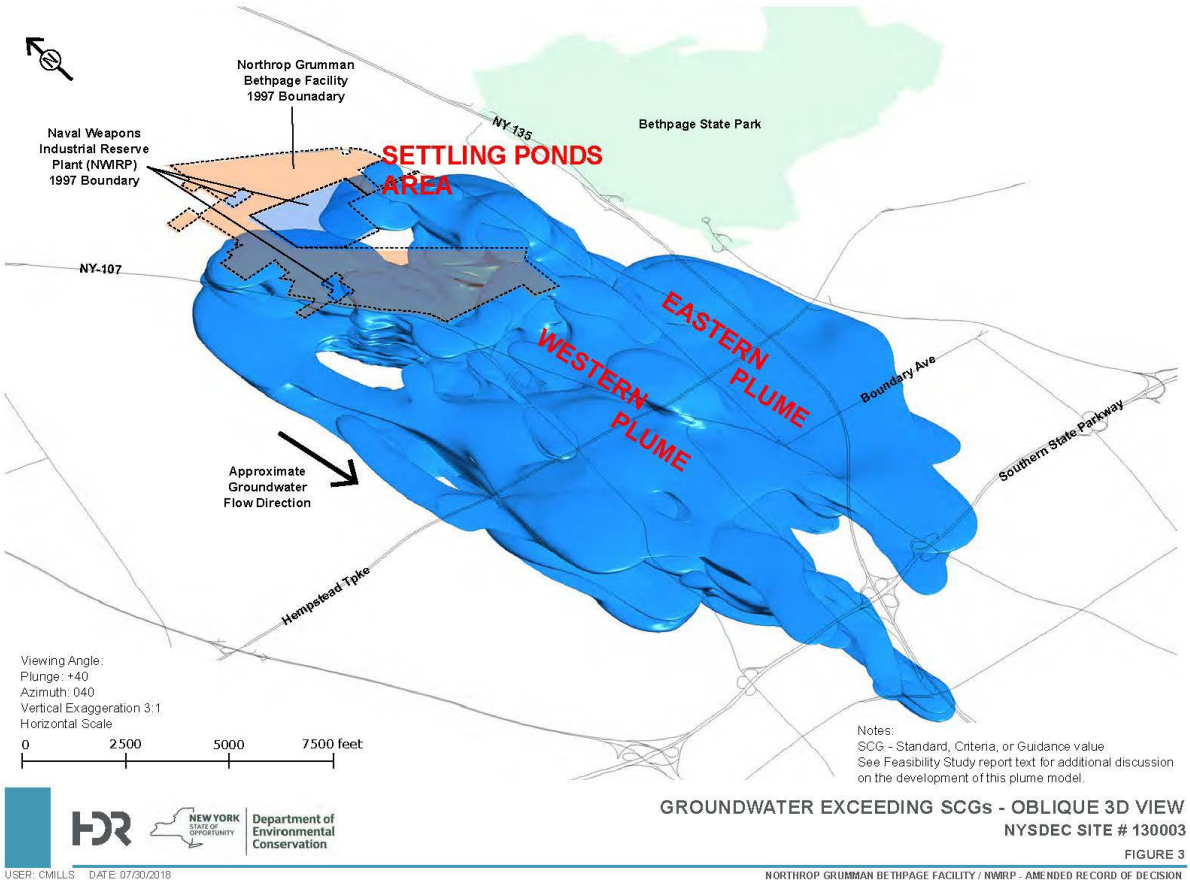
3. Contamination of Groundwater

Hazardous substances released at the Grumman Site, the Naval Weapons Site, and the Settling Ponds Area have entered the groundwater beneath the Sites. Pelton Decl. ¶ 16; Amended ROD at 6. The concentrations of hazardous substances, including TCE and 1,4-dioxane, in the groundwater far exceed federal and New York State groundwater standards. *See*, *e.g.*, Pelton Decl. ¶ 16; Amended ROD at 15, 22, 29.

Over time, the contaminated groundwater from the Sites has formed two underground plumes, each of which continues to move further south-southeast from the Sites. Pelton Decl. ¶ 17; Amended ROD at 8, 15. The groundwater in the Eastern Plume was contaminated by hazardous substances at least some of which were released at Settling Ponds Area. Pelton Decl. ¶ 17. The groundwater in the Western Plume was contaminated by hazardous substances at least some of which were released at or from the Grumman Site and/or the Naval Weapons Site. *Id.* There may be hazardous waste sites north and west of the Sites that contributed hazardous substances to the Plumes. *Id*.

This map depicts the Grumman Site, the Naval Weapons Site, the approximate location of the Settling Ponds Area, and the Western and Eastern Plumes, as those plumes are delimited by volatile organic compound contamination exceeding applicable standards, criteria and guidance.

[5] https://www.atsdr.cdc.gov/ToxProfiles/tp187.pdf.



Pelton Decl. ¶ 18; Amended ROD, Figure 3 (with added labels in red).

The Eastern Plume and the Western Plume join and comingle in certain locations. Pelton Decl. ¶ 19; Amended ROD at 8. The Plumes are currently approximately 4.3 miles long and 2.1 miles wide and extend to a depth of approximately 900 feet. Pelton Decl. ¶ 19; Amended ROD at 8. They continue to expand to the south-southeast. Pelton Decl. ¶ 19; Amended ROD at 15.

The groundwater beneath the Sites is part of an EPA-designated sole-source aquifer extending under much of Long Island and is the primary drinking water source for Long Island residents. Pelton Decl. ¶ 20; Amended ROD at 8. Approximately 360 Nassau County public water supply wells take water from that aquifer. Pelton Decl. ¶ 20; Amended ROD at 8.

The Plumes have contaminated that aquifer, affecting groundwater intake at 11 public water supply wells operated by the Bethpage and South Farmingdale Water Districts and Liberty Utilities (New York Water) Corp., including five wells operated by the Bethpage Water District that are directly downgradient—comparable to downstream for surface water—from the Sites. Pelton Decl. ¶ 21; Amended ROD at 8-9. Although all water intake at these wells is treated, and all water distributed to the public meets all drinking water standards, untreated groundwater taken from some of these wells has over time contained increasing concentrations of hazardous substances. Pelton Decl. ¶ 21; Amended ROD at 9. The Plumes' continuing expansion threatens to contaminate water intake at additional public water supply wells. Pelton Decl. ¶ 21.

4. Investigation and Remedial Work to Date

DEC, Northrop Grumman and the Navy have taken action to address soil and groundwater contamination from the release of hazardous substances at the Sites. *Id.* ¶ 22. Those activities have included investigations; soil remediation; extraction and treatment of contaminated groundwater; and funding treatment for public water supplies. *Id.* The Decree concerns the contaminated groundwater in the Plumes and does not provide relief for soil contamination, which is separately addressed in a May 2014 administrative consent order between DEC and Northrop Grumman. *Id*.

An "operable unit" at a hazardous waste site represents a portion of an overall program to investigate, eliminate or mitigate a release of hazardous substances that for technical or administrative reasons can be addressed separately. Pelton Decl. ¶ 23; Amended ROD at 10. Response activities at the Sites have been divided into multiple operable units, two of which are primarily relevant to this Decree. Pelton Decl. ¶ 23; Amended ROD at 10. Operable Unit 2

consists of the Western Plume. Pelton Decl. ¶ 23; Amended ROD at 10. Operable Unit 3 consists of soil contamination and the Eastern Plume. Pelton Decl. ¶ 23; Amended ROD at 10.[6]

a. Operable Unit 2

The Western Plume, which is in Operable Unit 2, extends from the Grumman and Naval Weapon Sites south-southeast for approximately four miles. Pelton Decl. ¶ 24. Both Northrop Grumman and the Navy have performed remedial actions to address the Western Plume. *Id.*

In 1997, Northrop Grumman began operating a "groundwater extraction and treatment system" along the southern and southwestern boundary of the Grumman Site to treat contaminated groundwater and prevent further migration beyond this boundary. Pelton Decl. ¶ 25; Amended ROD at 19. That system consists of five extraction wells that withdraw contaminated groundwater, treatment plants to remove contaminants from the groundwater, and discharge of the treated water to the aquifer. Pelton Decl. ¶ 25; Amended ROD at 19. A Record of Decision ("ROD") for Operable Unit 2 groundwater contamination that DEC issued in March 2001 found that those five wells should continue to operate, and Northrop Grumman agreed to do so in an April 2015 administrative consent order. Pelton Decl. ¶ 25.

In January 2003, the Navy issued, and in April 2003 amended, a ROD for the Operable Unit 2 groundwater contamination originating from the Naval Weapons Site. Pelton Decl. ¶ 26; Amended ROD at 11. Under that ROD, the Navy installed and is operating two extraction wells in the Western Plume and one well near the Seaford-Oyster Bay Expressway that extracts groundwater related to the Western Plume. Pelton Decl. ¶ 26.

[6] Operable Unit 1 consists of contaminated soils on the Grumman Site and the Naval Weapons Site. Amended ROD at 10.

b. Operable Unit 3

The Eastern Plume, which consists of contaminated groundwater emanating from the Settling Ponds Area, is in Operable Unit 3. *Id.* ¶ 27. In 2009, Northrop Grumman began operating four extraction wells along the southern boundary of the Settling Ponds Area. *Id.*; Amended ROD at 19. In March 2013, DEC issued a ROD for Operable Unit 3 ("Operable Unit 3 ROD") finding that those wells should continue to operate. Pelton Decl. ¶ 27.

In May 2014, DEC and Northrop Grumman entered into an administrative consent order requiring Northrop Grumman to install three extraction wells in the "RW-21 Area" in the Eastern Plume downgradient from the Settling Ponds Area and a plant to treat the contaminated groundwater extracted from those wells. *Id.* ¶ 28. Northrop Grumman has installed those wells but has not yet completed the infrastructure to begin use of the wells for treatment. *Id.*

5. Further Remediation of the Plumes

Notwithstanding the actions taken by Northrop Grumman and the Navy, the Plumes continue to expand. *Id.* ¶ 29. DEC estimates that approximately 31 percent of the contaminated water is in the Eastern Plume and 69 percent in the Western Plume. *Id.* ¶¶ 29, 40-44.

In the December 2019 Amended ROD, DEC described additional remedial actions to address the Plumes' expansion. *Id.* ¶ 30; Amended ROD at 6. The Amended ROD also addressed 1,4-dioxane—a previously unregulated "emerging contaminant"—in the Plumes for the first time. Pelton Decl. ¶ 30; Amended ROD at 22, 25. The Amended ROD contemplates that 24 additional wells will be installed along the perimeter of the Plumes to prevent the Plumes from migrating further and at points of particularly high contaminant concentrations in the interior of the Plumes to remove significant amounts of the contaminants. Pelton Decl. ¶ 30;

Amended ROD at 24-25. The Amended ROD also contemplates construction of new plants for treatment of the extracted groundwater. Pelton Decl. ¶ 30; Amended ROD at 25-26.

6. The State's Past Costs

As outlined above, since the early 1980s, DEC has done a significant amount of work regarding the Sites and in the Plumes, including investigation, feasibility evaluations, and preparation of records of decision and multiple administrative orders. This work was performed by DEC staff and outside contractors. The total cost for this work through December 2020 is $8,302,021.07. Pelton Decl. ¶ 68 & Exhibit D. DEC has also spent $411,797.69 to prepare an analysis of natural resource damages. *Id.* ¶ 69 & Exhibit E.

7. The State's Natural Resource Damages

Natural resource damages are assessed when "[r]esponse actions, if any, carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action." 43 C.F.R. § 11.23(e)(5). While DEC anticipates that remedial actions will ultimately remediate the contamination, that may take more than one-hundred years, Amended ROD at 44, and in the meantime the State has lost clean groundwater in the Long Island aquifer. That groundwater is a valuable natural resource, including a source of drinking water. Declaration of Scott Friedman ("Friedman Decl.") ¶ 7 (June 21, 2022).

C. THE DECREE

In this action, the State seeks, among other things, an award of its past costs and natural resource damages against Northrop Grumman and a declaratory judgment that Northrop Grumman is liable for the State's future costs. *See*, *e.g.*, Complaint ¶ 2. If this case were to proceed, the State anticipates extensive discovery that would involve not only Northrop Grumman and the State, but also the Navy and other potentially responsible parties. If this case

were then to go to trial, the State anticipates that the trial would be extensive, with the parties presenting evidence about Northrop Grumman's role in creating that contamination, as well as the role of the Navy and other potentially responsible parties.

After issuing the 2019 Amended ROD, DEC began separate negotiations with Northrop Grumman and the Navy about further remediation and natural resource damages. DEC has reached agreement with Northrop Grumman and the Navy on remediation and with Northrop Grumman on natural resource damages, and continues to discuss such damages with the Navy.

Under the Decree, Northrop Grumman will perform additional remedial action in the Eastern Plume, make payments and take action to address loss to the State's natural resources, and pay the State's past and future costs related to the company's remedial actions and this Decree.

1. Remedial Actions

As discussed above (pp. 10-11), Northrop Grumman operates five extraction wells on the southern/southwestern boundary of the Grumman Site in the Western Plume (Operable Unit 2) and four extraction wells on the southern boundary of the Settling Ponds Area in the Eastern Plume (Operable Unit 3). As also discussed above (p. 11), pursuant to a May 2014 administrative consent order with DEC, Northrop Grumman has installed three extraction wells in the Eastern Plume downgradient from the Settling Ponds Area but is not yet operating them.

The proposed Decree provides that Northrop Grumman will (1) complete the work required by the May 2014 administrative order; (2) connect an extraction well installed by DEC in Operable Unit 3 to an existing treatment plant and then operate that well; and (3) investigate the southeast quadrant of the Eastern Plume and, depending on the results of the investigation, install up to five extraction wells in that quadrant. Decree ¶ 9. The result of these actions will be

to hydraulically contain the Eastern Plume to keep it from expanding further, while removing the most concentrated mass of contamination in that plume. Pelton Decl. ¶ 31.

Two of the five wells to which Northrop Grumman has committed would address shallower contamination that may have a source other than the settling ponds in the Settling Ponds Area for which Northrop Grumman is responsible. *Id.* ¶ 32. Northrop Grumman agreed to install those wells to meet its responsibility for natural resource damages. *Id.*

Thus, Northrop Grumman has committed to operate thirteen wells and to potentially operate five additional wells depending on the outcome of further investigation. In addition to those wells, the Navy operates two wells in the Western Plume and will install and operate additional wells in that Plume, as described in an "Explanation of Significant Differences" (a document setting out changes to the remedy selected in a ROD) that the Navy issued in September 2021. *Id.* ¶¶ 26, 35. In the Explanation, the Navy commits to installing seven extraction wells principally along the southern edge of the Western Plume to hydraulically contain that Plume, and to installing five more wells in that Plume if necessary. *Id.* ¶ 35 & Exhibit A at 25-26, 28-29. As discussed below (pp. 17-18), in a proposed Consent Judgment filed with this Court on April 12, 2022, Northrop Grumman has agreed to compensate the United States $35 million for response costs incurred at the Sites. *Id.* ¶ 35.

DEC believes that other parties may also be responsible for contamination in the Western Plume and will make efforts to obtain the agreement of those other parties to perform remedial work. Pelton Decl. ¶ 36. If those efforts are unsuccessful and remedial work beyond that agreed to by Northrop Grumman and the Navy is necessary, DEC will perform the work using funds from the State's Hazardous Waste Remedial Fund, also known as the State Superfund, and seek recovery of the costs from the other parties. *Id.*

2. Loss to the State's Natural Resources

In addition to requiring Northrop Grumman to perform remedial work, the Decree requires the company to make payments and take action to more quickly restore the loss to the State of clean groundwater while the Plumes have been and will continue to be remediated.

Northrop Grumman will make total payments of $63.5 million to DEC and the Water Districts that have been most impacted by the Plumes. Decree ¶¶ 17, 19.a & b. Pursuant to its agreement in principle with DEC, Northrop Grumman has entered into an agreement to pay $29 million to the Bethpage Water District. Pelton Decl. ¶ 37; Decree ¶ 17. As discussed below (p. 17), that agreement, which also includes a payment of $20 million to the Bethpage Water District by the United States, was entered as a Consent Judgment in this Court on May 24, 2022.

Under the proposed Decree in this action, Northrop Grumman will pay $12.5 million directly to the South Farmingdale Water District for either the construction of new water supply wells or treatment for 1,4-dioxane at existing water supply wells, assuming that Northrop Grumman and the Water District are able to reach agreement on that payment. Pelton Decl. ¶ 38; Decree ¶ 19.a & b. DEC estimates that actions undertaken by the Bethpage and South Farmingdale Water District using the payments under the Decree will enable production of approximately 29.9 billion gallons of drinking water for consumers. Pelton Decl. ¶ 63.

Northrop Grumman will also pay $22 million to DEC.[7] Pelton Decl. ¶ 39; Decree ¶ 19.a & b. DEC anticipates that it will spend those funds on restoration projects to restore the Long Island aquifer through measures that will infiltrate uncontaminated water into the aquifer such as acquisition of land for preservation and construction of recharge basins (low-lying land where

[7] This represents $34.5 million less the $12.5 million to be paid to South Farmingdale Water District. Decree ¶ 19.a & b.

stormwater collects and infiltrates into groundwater), and other restoration projects to be selected in the future. Pelton Dec. ¶ 39. Using recharge basins and land acquisition to estimate the benefit of that payment, DEC anticipates that its expenditures will infiltrate approximately 3.7 billion gallons of clean water into the aquifer. Friedman Decl. ¶ 19.

Northrop Grumman will also take two other actions to address loss to the State's natural resources. First, as discussed above (p. 14), Northrop Grumman has committed to install two wells if DEC determines the wells are necessary, even though Northrop Grumman may not be responsible for the shallow contamination that the wells would address. DEC estimates the cost of constructing and operating those wells at $40.9 million. Pelton Decl. ¶ 32. Northrop Grumman will also construct a recharge basin on the Bethpage Water District's Plant 4 site, which will avoid destruction of up to 18 acres of ecologically valuable forest in Bethpage State Park that was originally planned to be converted into a recharge basin. Decree ¶ 18.c.

3. DEC's Costs

The Decree provides that Northrop Grumman shall pay the State $4 million in costs. Decree ¶ 12. Of this amount, $3.6 million represents reimbursement of costs incurred by DEC for work related to this Decree and Northrop Grumman's remediation of the Plumes. *Id.* The remaining $ 0.4 million represents costs the State has incurred for its natural resource damages assessment. *Id.* Northrop Grumman's payment is approximately 45 percent of the State's total costs of approximately $8.7 million. *See* p. 12 above. The Decree also provides that Northrop Grumman will pay the costs that the State incurs in the future for its oversight of Northrop Grumman's implementation of the Decree. Decree ¶ 14.

4. Releases and Other Parties' Claims

If approved by the Court, the Decree would resolve Northrop Grumman's liability to the State for the release of hazardous substances at the Sites except its liability regarding (1) soil contamination and (2) unknown conditions, as further described in the Decree. Decree ¶¶ 2, 49. As provided by CERCLA and New York law, the Decree gives Northrop Grumman protection from claims by other parties with respect to hazardous substances released at the Sites. *Id.* ¶¶ 52, 54. The Decree also preserves Northrop Grumman's right to sue parties other than the State for matters related to the Plumes, and the rights of water districts and the Town of Oyster Bay to raise claims against Northrop Grumman arising from the Plumes. *Id.* ¶¶ 2, 53, 54.

D. RELATED CONSENT DECREES

As discussed above (p 17), Northrop Grumman, the United States, and the Bethpage Water District entered into a Consent Judgment entered by this Court on May 24, 2022 ("Bethpage Consent Judgment"). *Bethpage Water District v. United States, et al.*, C.A. No. 2:22-cv-02050-NG-RLM, Dkt. No. 10-1. That judgment provides that Northrop Grumman will pay the Water District $29 million to use the District's Plant 4 to treat contaminated groundwater and to compensate the District for costs it has and will incur for installation of water supply wells outside of the Plumes and treatment of 1,4-dioxane. *Id.* ¶ 6.b & p. 3 (first and second Whereas clauses); *see also* Decree, Exhibit E § III.A. The judgment also provides that the United States will pay $20 million to the District. Bethpage Consent Judgment ¶ 6.a.

As also discussed above (pp. 17-18), the United States and Northrop Grumman have entered into a settlement regarding the hazardous substances released here that the United States has lodged with this Court as a proposed Consent Judgment. Consent Judgment, *United States v. Northrop Grumman Systems Corp., et al.*, C.A. No. 2:22-cv-02101-NG-ST, Dkt. No. 2. That

Consent Judgment provides that Northrop Grumman will pay $35 million to the United States and resolves all claims between them with certain exceptions, including claims regarding natural resource damages. *Id.* ¶¶ 5. 19. Pending approval of that Consent Judgment by this Court, the Decree here addresses claims between the United States and Northrop Grumman by protecting each of them from claims for response costs by the other. Decree ¶ 54.

The South Farmingdale Water District has entered into a consent judgment with the United States that this Court entered on May 24, 2022. Consent Judgment, *South Farmingdale Water District v. United States, et al.*, C.A. No. 2:22-cv-2051-NG-RLM, Dkt. No. 11-1. That judgment provides that the United States will pay that District $15.5 million to compensate the Water District for its installation of water supply wells outside of the Plumes and treatment of 1,4-dioxane. *Id.* ¶ 6.a & p. 2 (fifth Whereas clause). That District and Northrop Grumman are engaged in negotiations that may also result in a consent judgment under which Northrop Grumman pays the District $12.5 million, as discussed above (p. 15).

ARGUMENT

THE COURT SHOULD APPROVE THE DECREE.

"[T]he usual federal policy favoring settlements is even stronger in the CERCLA context." *B.F. Goodrich Co. v. Betkoski,* 99 F.3d 505, 527 (2d Cir. 1996), *abrogation on other grounds recognized by New York v. Nat'l Servs. Indus., Inc.*, 352 F.3d 682, 683 (2d Cir. 2003); *see also United States v. Hooker Chem. & Plastics Corp.,* 776 F.2d 410, 411 (2d Cir. 1985). A court reviewing a CERCLA consent decree should not substitute its judgment for that of the parties. *United States v. Akzo Coatings of America, Inc.,* 949 F.2d 1409, 1435 (6th Cir. 1991); *New York v. Next Millennium Realty, LLC*, No. 06-CV-1133 (SJF) (AYS), 2016 WL 11189177,

at *2 (E.D.N.Y. June 1, 2016); *United States v. Hooker Chem. & Plastics Corp.,* 540 F. Supp. 1067, 1072 (W.D.N.Y. 1982), *aff'd on other grounds*, 749 F.2d 968 (2d Cir. 1984).

In that context, judicial review consists of determining whether the consent decree is fair, reasonable and consistent with the purpose of CERCLA. *In re Cuyahoga Equipment Corp.,* 980 F.2d 110, 118-19 (2d Cir. 1992); *City of Bangor v. Citizens Communications Co.*, 532 F.3d 70, 86, 95 (1st Cir. 2008); *United States v. Cannons Eng'g Corp.,* 899 F.2d 79, 85 (1st Cir. 1990). "Protection of the public interest is the key consideration in assessing whether a decree is fair, reasonable and adequate." *Akzo Coatings*, 949 F.2d at 1435.

Fairness, reasonableness and fidelity to the statute "are all mutable figures taking on different forms and shapes in different factual settings." *Cannons Eng'g*, 899 F.2d at 85. "Congress intended, first, that the judiciary take a broad view of proposed settlements, leaving highly technical issues and relatively petty inequities to the discourse between parties; and second, that the district courts treat each case on its own merits, recognizing the wide range of potential problems and possible solutions." *Id.* at 85-86.

A court's analysis of these three factors is conducted with deference where, as here, "a government actor committed to the protection of the public interest has pulled the laboring oar in constructing the proposed settlement." *Next Millennium*, 2016 WL 11189177, at *2 (quoting *Cannons Eng'g*, 899 F.2d at 84); *see also Hooker Chem.,* 776 F.2d at 411. Such a settlement "carries with it a strong presumption of validity." *Hooker Chem.,* 540 F. Supp. at 1080.[8] That

[8] Based on First and Ninth Circuit caselaw, this Court has ruled that States are entitled to deference in CERCLA consent decrees but not the same level of deference as EPA. *Next Millennium*, 2016 WL 11189177, at *2 (citing *Arizona v. City of Tucson*, 761 F.3d 1005, 1014 (9th Cir. 2014), and *City of Bangor*, 532 F.3d at 95). To the State's knowledge, the Second Circuit has not addressed that issue. In *Arizona*, the Ninth Circuit stated that a court may take into account a state agency's "competence, . . . resources, and . . . philosoph[y] concerning the

deference "is heightened in a situation where the cards have been dealt face up and a crew of sophisticated players, with sharply conflicting interests, sit at the table." *Cannons Eng'g*, 899 F.2d at 84.

The Decree is fair, reasonable, and consistent with CERCLA's purposes.

A. The Proposed Decree Is Fair.

In evaluating fairness, courts consider both procedural fairness, which focuses on the negotiation process that led to the consent decree, and substantive fairness, which focuses on the decree's apportionment of responsibility. The Decree is procedurally and substantively fair.

1. The Proposed Decree is Procedurally Fair.

A settlement is procedurally fair if there was "candor, openness, and bargaining balance" in the negotiation process. *Next Millennium*, 2016 WL 11189177, at *3 (citation omitted); *see also Cannons Eng'g*, 899 F.2d at 86. Consent decrees negotiated by knowledgeable parties represented by skilled counsel assisted by expert technical staff are the hallmark of procedural fairness. *See*, *e.g.*, *Cannons Eng'g*, 899 F.2d at 84. Here, DEC counsel with years of experience with settlement and other aspects of CERCLA cases, supported by DEC's project manager for the Sites and other technical staff, negotiated for the State. Northrop Grumman, a Fortune 500 company, was represented by private counsel for two law firms, Greenberg Traurig and Sive, Paget & Riesel, who also have extensive CERCLA and other environmental experience and who were also supported by technical staff. DEC and Northrop Grumman are very familiar with the

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enforcement of environmental laws . . . in assessing the deference owed to an agency's expertise." 761 F.3d at 1014, n.8. The State notes that this Court has awarded the State $6.7 million in costs in a CERCLA case, finding, among other things, that the testimony of the DEC engineer who managed the site cleanup was "knowledgeable and meticulous." *New York v. Adamowicz*, 16 F. Supp. 3d 123, 126 (E.D.N.Y. 2014), *aff'd*, 609 Fed. Appx. 19 (2d Cir. 2015).

issues raised by contamination at the Sites and in the Plumes, having been involved in remedial work for the Sites and the Plumes for decades.

Moreover, although CERCLA does not require that the State do so, *see* 42 U.S.C. § 9622(d)(2) (requiring public participation with respect to settlements submitted by the federal government but not States), DEC made the draft Decree available for a 30-day public comment period, later extended by 45 days.[9] DEC considered the comments submitted and when appropriate revised the Decree to reflect them. Pelton Decl. ¶ 65. For example, the Town of Oyster Bay objected that the Decree purportedly extinguished the Town's rights to seek reimbursement from Northrop Grumman for certain remediation costs that the Town incurred. *Id*. The proposed Decree did not extinguish the Town's rights, but to avoid any doubt, DEC and Northrop Grumman added language to the Decree to expressly preserve the Town's claims, if any, against Northrop Grumman. *Id.*; Decree ¶¶ 2, 54. In response to comments, the Decree was also revised to include a deadline for Northrop Grumman's remedial actions and a more robust process for citizen participation. Pelton Decl. ¶ 66; Decree ¶¶ 20.b, 23.

2. The Proposed Decree is Substantively Fair.

CERCLA settlements are substantively fair when they are "roughly correlated with[ ] some acceptable measure of comparative fault, apportioning liability among the settling parties according to rational (if necessarily imprecise) estimates of how much harm each [potentially responsible party] has done." *Cannons Eng'g*, 899 F.2d at 87. But where, as here, "sophisticated actors know how to protect their own interest" and "are well equipped to evaluate

[9] *See* DEC, ENB Statewide Notices, https://www.dec.ny.gov/enb/20210922_not0.html (Sept. 22, 2021), DEC, ENB Statewide Notices, https://www.dec.ny.gov/enb/20211020_not0.html (Oct. 20, 2021).

risks and rewards," a court "has little need [ ] to police the substantive fairness of a settlement among settling parties." *Next Millennium*, 2016 WL 11189177, at *3 (quoting *55 Motor Ave. Co. v. Liberty Indus. Finishing Corp.*, 332 F. Supp. 2d 525, 531 (E.D.N.Y. 2004)); *see also United States v. Gencorp, Inc.*, 935 F. Supp. 928, 934 (N.D. Oh. 1996).

There are circumstances where "[i]t is impossible to explain an allocation of liability in minute detail" because "the historical record is incomplete." *United States v. Charles George Trucking, Inc.*, 34 F.3d 1081, 1088 (1st Cir. 1994). As a result, "most courts recognizing an obligation to make findings on comparative fault in the CERCLA context have framed the obligation in such a way as to afford an exception for cases in which reliable information is unavailable." *Id.* "When substantive fairness cannot be measured directly, a court must devise alternate methods of testing for it." *Id.* at 1089.

Here, the evidence necessary to allocate comparative fault among Northrop Grumman, the Navy and any other responsible parties has not been developed because DEC and Northrop Grumman have been focused for several decades on remediating the Plumes, as has the Navy, rather than assessing fault or identifying parties other than Northrop Grumman and the Navy whose activities may have contributed hazardous substances to the Plume. In the absence of that evidence, the actions that Northrop Grumman and the Navy have taken to date to remediate the Plumes provide an alternative means to apportion responsibility fairly.

Northrop Grumman has taken primary responsibility for remediating the Eastern Plume (Operable Unit 3), where it operates four extraction wells on the southern boundary of the Settling Ponds Area and agreed in an administrative consent order to operate three additional wells. *See* p. 11 above. Northrop Grumman and the Navy have shared responsibility for remediating the Western Plume (Operable Unit 2), where Northrop Grumman is currently

operating five extraction wells on the southern boundary of the Grumman Site and the Navy is operating three extraction wells. *See* p. 10 above. Based on that sharing of responsibility by Northrop Grumman and the Navy for remediating the Plumes—and recognizing that other parties may bear some responsibility—the proposed Decree fairly allocates responsibility to Northrop Grumman for (1) additional remedial actions; (2) the loss to the State's natural resources that is not addressed by remediation of the Plumes; and (3) the costs incurred by DEC to investigate the Sites, oversee the remedial actions, and assess natural resource damages.

Additional remedial actions. The proposed Decree and the Navy's Explanation of Significant Differences assign responsibility for future remedial work to Northrop Grumman and the Navy, respectively. In addition to the five wells that Northrop Grumman is currently operating in the Western Plume and the four wells it is currently operating in the Eastern Plume, the Decree provides that Northrop Grumman will operate four additional extraction wells in the Eastern Plume—three wells as required by the May 2014 administrative order and one DEC extraction well —and will operate up to five more extraction wells in the area of that Plume as determined by DEC after further investigation. Decree ¶ 9; *see also* p. 13 above. As discussed above (p. 14), two of those five wells would address shallower contamination that may have a source for which Northrop Grumman is not responsible, and Northrop Grumman has agreed to them to meet its responsibility to the State for natural resource damages.

In addition to the two wells that the Navy is currently operating to treat contaminated groundwater in the Western Plume, *see* p. 10 above, the Navy has committed to installing seven wells in the Western Plume and to installing five more wells in that Plume if necessary, *see* p. 14 above. In a proposed Consent Judgment, Northrop Grumman has also agreed to compensate the United States $35 million for response costs incurred at the Sites. *See* pp. 14, 17-18 above.

Loss to the State's natural resources. While DEC anticipates that remedial actions will ultimately remediate the Plumes over time, that may take more than one-hundred years, Amended ROD at 44. In the meantime the State has lost clean groundwater in the Long Island aquifer, which is a valuable natural resource, including as a source of drinking water, Friedman Decl. ¶ 7. DEC has again relied on the past remedial actions taken by Northrop Grumman and the Navy to allocate responsibility for the damage to natural resources. DEC anticipates that the natural resource damages paid by Northrop Grumman will restore approximately 33.6 billion gallons of contaminated groundwater, which represents approximately 129 percent of the contaminated water in the Eastern Plume or approximately 39 percent of the contaminated water in both Plumes. Pelton Decl. ¶ 63 (drinking water treated for 1,4-dioxane); Friedman Decl. ¶¶ 19-21 (water infiltrated into aquifer). Northrop Grumman has also committed to address loss of the State's natural resources by installing two extraction wells in the Eastern Plume based on further investigation, even though it may not be responsible for the contaminated groundwater that those wells would treat, and to construct a recharge basin at Bethpage Water District's Plant 4. Pelton Decl. ¶¶ 31-32; Decree ¶¶ 9.d, 18.c.

DEC has relied on past remedial actions to allocate responsibility for natural resource damages because it remains in confidential negotiations with the Navy regarding those damages. DEC not only lacks an evidentiary record to assess fault, as discussed above (p. 22), but has determined, in consultation with the Navy, that disclosure of DEC's assessment of natural resource damages could interfere with those negotiations, Pelton Decl. ¶ 70; *see Gencorp*, 935 F. Supp. at 934 (upholding settlements without disclosure of shares of liability because each settling party "has every incentive to pay whatever is necessary to extricate itself from the case").

The provisions of the Decree regarding natural resource damages require Northrop Grumman to make payments and take action that will more quickly restore the loss to the State of clean groundwater while the Plumes are being remediated. The Decree provides that Northrop Grumman will make total payments of $63.5 million—the largest natural resource damage payments in New York history—to the Bethpage and South Farmingdale Water Districts, which withdraw and treat water from the aquifer for drinking water, and to DEC for projects that will provide clean water into the aquifer. Decree ¶¶ 17, 19.a & b.

Pursuant to its agreement in principle with DEC, Northrop Grumman entered into an agreement to pay $29 million directly to the Bethpage Water District. *Id.* ¶ 16.a & Exhibit E. This Court entered that agreement as a Consent Judgment on May 24, 2022. *See* p. 17 above.

The proposed Decree in this action provides that Northrop Grumman will make an additional payment of $34.5 million for the lost natural resources, $12.5 million of which will be paid directly to the South Farmingdale Water District for either the construction of new water supply wells or treatment of water for 1,4-dioxane at existing water supply wells, assuming that Northrop Grumman and the Water District are able to reach agreement on that payment. Decree ¶ 19.a & b.[10] DEC estimates that the actions undertaken by the Bethpage and South Farmingdale Water Districts using Northrop Grumman's funds will enable the production of approximately 29.9 billion gallons of drinking water meeting relevant standards. Pelton Decl. ¶ 63.

Northrop Grumman will pay DEC the remaining $22 million. Pelton Decl. ¶ 39; Decree ¶ 19.a & b. DEC anticipates that it will spend its funds on restoration projects that will benefit

[10] If Northrop Grumman and South Farmingdale Water District are not able to reach agreement, then Northrop Grumman will pay the $12.5 million to DEC, and DEC will use it for the same purposes as the District would have. Pelton Decl. ¶ 45; Decree ¶ 19.a & b.

Long Island's sole source aquifer through measures that will infiltrate uncontaminated water into the aquifer such as land preservation or recharge basin construction, and other restoration projects to be selected in the future. Pelton Decl. ¶ 39. Using expenditures on recharge basins and land acquisition to estimate the benefit of that $22 million payment, DEC anticipates that spending that $22 million on such projects will infiltrate approximately 3.7 billion gallons of clean water into the aquifer. Friedman Decl. ¶ 19.

Northrop Grumman will take additional actions to address its responsibility for the damage to the State's natural resources. As discussed above (p. 14), two of the wells that it will install if DEC determines that they are necessary would address shallower contamination that may have a source other than the Settling Ponds Area for which Northrop Grumman is responsible. DEC estimates the cost of constructing and operating those two wells at $40.9 million. Pelton Decl. ¶ 32. Northrop Grumman will also construct a recharge basin on the Bethpage Water District's Plant 4 site, which will avoid the destruction of 18 acres of ecologically valuable mature forest in Bethpage State Park that was originally planned to be converted into a recharge basin. Decree ¶ 18.c.

DEC estimates that the payments to it and the Water Districts will enable the production of approximately 33.6 billion gallons of water that meets relevant regulatory standards. Friedman Decl. ¶ 19 (via infiltration, 3.7 billion gallons); Pelton Decl. ¶ 63 (via 1,4-dioxane treatment, 29.9 billion gallons). This amount represents a significant portion of the contaminated groundwater that was generated by the Plumes—restoring approximately 129 percent of the contaminated water in the Eastern Plume, or approximately 39 percent of the contaminated water in both Plumes. Friedman Decl. ¶¶ 19-21 (via infiltration, 14 percent of Eastern Plume and four percent of total); Pelton Decl. ¶ 63 (via 1,4-dioxane treatment, 115 percent of Eastern Plume and

35 percent of total). A settlement that addresses more than 100 percent of the Eastern Plume, where Northrop Grumman has taken primary remedial responsibility, along with payments, remedial actions, and restoration projects that can be implemented in the near term as opposed to after years or decades of litigation, is in the public interest and substantively fair.

Costs. Finally, the proposed Decree requires Northrop Grumman to pay $4,000,000 to compensate DEC for costs that it has incurred related to this Decree and Northrop Grumman's responsibility for the Plumes, including costs to investigate the Sites, oversee the remediation, and assess the State's natural resource damages. Decree ¶ 12; Pelton Decl. ¶¶ 68-69 & Exhibits D and E. Northrop Grumman's payment is approximately 45 percent of the State's total costs of approximately $8.7 million. *See* pp. 12, 16 above. With certain limitations, the Decree also provides that Northrop Grumman will pay the costs that the State incurs in the future for its oversight of Northrop Grumman's implementation of the Decree. Decree ¶ 14.

B. <u>The Proposed Decree Is Reasonable</u>.

Courts consider several factors in determining whether a settlement is reasonable and consistent with CERCLA. *See, e.g., City of Bangor*, 532 F.3d at 86. The most important consideration is the decree's effectiveness as a vehicle for addressing the environmental contamination. *Akzo Coatings*, 949 F.2d at 1437. When, as here, a settlement includes remediation measures, its reasonableness should take into account the efficaciousness of those measures. *City of Bangor*, 532 F.3d at 86; *Cannons Eng'g*, 899 F.2d at 89. Other factors include the decree's capacity to sufficiently compensate the public for the remedial cost and the relative strength of the parties' litigating positions. *See Cannons Eng'g*, 899 F.2d at 90*; City of Bangor*, 532 F.3d at 86; *Next Millennium*, 2016 WL 11189177, at *4.

Based on these factors, the Decree is reasonable. First, the Decree effectively addresses the contamination in the Plumes. The principal means for remediating that contamination is extraction of groundwater followed by treatment and discharge of clean water back into the aquifer. DEC expects that the Plumes will be effectively remediated by the 12 extraction wells that Northrop Grumman and the Navy currently operate, the three additional wells that Northrop Grumman is completing in the Eastern Plume, the up to five additional wells that Northrop Grumman will install in that Plume, the seven additional wells that the Navy will install in the Western Plume, and the potential wells to be installed in the Western Plume—five by the Navy, and four by other polluters or DEC—based on further investigation. Pelton Decl. ¶¶ 25-27 (12 currently operating wells); *id.* ¶ 28 (three additional Northrop Grumman wells); *id.* ¶ 31 (up to five additional Northrop Grumman wells under this Decree); *id*. ¶ 35 (seven additional Navy wells); *id.* ¶ 35-36 (nine potential wells).

Some commenters asserted that the Decree is inadequate because the Amended ROD requires 24 additional wells but Northrop Grumman and the Navy have committed only to 15 additional wells. *Id*. ¶ 67. DEC has determined that not all 24 are necessary and intends to pursue other potentially responsible parties to install any necessary additional wells in the Western Plume. *Id*. If those efforts are unsuccessful, DEC intends to construct and operate those wells and associated treatment systems using the State Superfund and seek cost recovery from any responsible parties. *Id*. Moreover, as noted above (p. 14), the Navy has provisionally committed to five additional wells should data indicate they are necessary.

Second, the Decree also provides adequate compensation to the public. Northrop Grumman will reimburse the State for DEC's costs to date related to the Decree and for its costs

of monitoring and supervising the implementation of the Decree going forward. Pelton Decl. ¶¶ 68-69; Decree ¶¶ 12, 14.

As for the third factor, this matter presents substantial litigation risk for both parties. While DEC believes that Northrop Grumman's liability as an owner and operator of the Sites is not subject to dispute, there would be risk in litigating over the details of Northrop Grumman's specific contributions to the contamination. At present, DEC has little documentary or testimonial evidence regarding activities at the Sites from the 1930s until the 1990s, when industrial operations ended. In addition, there has been only limited litigation regarding natural resource damages for groundwater contamination in general, and that litigation has had mixed outcomes. *See, e.g.*, *New Mexico v. Gen. Elec. Co.*, 467 F.3d 1223, 1250-52 (10th Cir. 2006).

As a result, there is significant litigation risk for both the State and Northrop Grumman. Any residual contamination not addressed by actions to be taken by Northrop Grumman and the Navy reflects a reasonable discount for the State's risk. *See*, *e.g.*, *City of Bangor*, 532 F.3d at 87 (approving decree that "would at least match (and may well exceed) any remedy that might have been developed in a . . . trial" (internal quotation marks omitted)); *United States v. Ashland, Inc.*, No. 04-CV-904S, 2008 WL 2074079, at *2 (W.D.N.Y. May 14, 2008) (approving consent decree when it was "evident that both sides have considered the substantial litigation risks relative to fault, including minimal records, the difficulty of allocating liability, the existence of affirmative defenses, and the possibility that Defendant could be held liable for more than the settlement amount"). Even assuming that DEC would obtain as strong a result from litigation as it has negotiated in this Decree, the Decree provides additional value because it provides remediation and natural resource action immediately rather than several years from now after the Parties would have completed district court litigation and any appeals.

C. The Proposed Decree Is Consistent with CERCLA's Purposes.

The proposed Decree also satisfies CERCLA's two main objectives. The first objective is "to encourage prompt and effective responses to hazardous waste releases and to impose liability on responsible parties." *Cuyahoga Equipment Corp.*, 980 F.2d at 119; *Next Millennium*, 2016 WL 11189177, at *4. The second objective is "to encourage settlements that would reduce the inefficient expenditure of public funds on lengthy litigation." *Cuyahoga Equipment Corp.*, 980 F.2d at 119; *Next Millennium*, 2016 WL 11189177, at *4. As explained above, this Decree serves both objectives because it provides prompt and effective remediation, imposes significant liability for remediation and natural resource damages on Northrop Grumman, and avoids what would likely be inefficient, lengthy and costly litigation. *See*, *e.g.*, *City of Bangor*, 532 F.3d at 88 (approving decree that parties agreed would be a "cost-effective solution").

CONCLUSION

The State respectfully requests that the Court approve the Decree.

Dated: New York, New York
July 13, 2022

Respectfully submitted,

LETITIA JAMES
ATTORNEY GENERAL OF THE STATE OF NEW YORK

By: */s/ Andrew G. Frank*
Monica B. Wagner
Deputy Bureau Chief
Andrew G. Frank
Assistant Attorney General
New York Attorney General's Office
28 Liberty Street
New York, New York 10005
Telephone: 212-416-8271
E-mail: andrew.frank@ag.ny.gov

Attorneys for Plaintiffs State of New York and Basil Seggos

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

STATE OF NEW YORK and BASIL SEGGOS as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources, Plaintiffs, -against- NORTHROP GRUMMAN SYSTEMS CORPORATION, Defendant.	:	No: 2:22-cv-04091-RPK-ARL

DECLARATION OF JASON PELTON, P.G.

JASON PELTON declares as follows:

1. I am a Licensed Professional Geologist in the State of New York employed as an Engineering Geologist II and Section Chief in the Division of Environmental Remediation of the New York State Department of Environmental Conservation ("DEC"). I have been employed at DEC since 2004.

2. Most recently, starting in 2016, I have served as the project manager for investigation and remediation activities related to certain properties in Bethpage, New York, namely, the Northrop Grumman Bethpage Facility site, the Naval Weapons Industrial Reserve Plant site, and an adjacent area used for disposal of wastes in settling ponds (together, and as described in more detail below, the "Sites").

3. Before that, I spent over three years implementing a statewide water quality monitoring program, developing and implementing a pesticide pollution prevention strategy for

Long Island, and preparing pesticide environmental fate reviews and groundwater modeling for new pesticide active ingredient applications.

4. Before that, for over ten years I served as a DEC project manager for investigation and remediation activities at 20 hazardous waste sites. This involved several high-profile projects including a mile-long solvent plume beneath a residential area at the Modock Road Springs Site, a solvent plume impacting two nearby public water supplies at the Scotia Naval Depot, and the cleanup and redevelopment at the Former General Motors Assembly Plant Site in Sleepy Hollow.

5. Before joining DEC, I was a groundwater management planner for Schenectady County, where I assisted with the management of a sole-source aquifer that five communities used as a public drinking water source, and a hydrogeologist with a private engineering firm.

6. I received a Master of Science degree in Hydrogeology from Rensselaer Polytechnic Institute in 1998, a Bachelor of Science degree in Water Resources from the State University of New York at Oneonta in 1995 and an Associates Degree in Applied Science in Ecology and Environmental Technology from Paul Smith's College in 1992.

7. I submit this declaration in support of the Motion to Approve Consent Decree filed in this Court by the State of New York and Basil Seggos, as DEC Commissioner and natural resource trustee for the State (together, the "State").

8. In this declaration, I provide background information about the context of the proposed Consent Decree (the "Decree") between the State and Northrop Grumman Systems Corporation ("Northrop Grumman"). I also explain certain DEC estimates regarding (a) the division of the contaminated groundwater between the two main plumes arising from activities at

the Sites, and (b) anticipated benefits from some of the natural resource damage funding that Northrop Grumman will provide under the Decree.

9. I base this affidavit on my personal knowledge obtained from my work as project manager for the Sites, my discussions and other communications with DEC staff and consultants hired by DEC, and my general background and experience relating to hydrogeology and hazardous waste remediation.

Background Relevant to the Consent Decree

The Sites

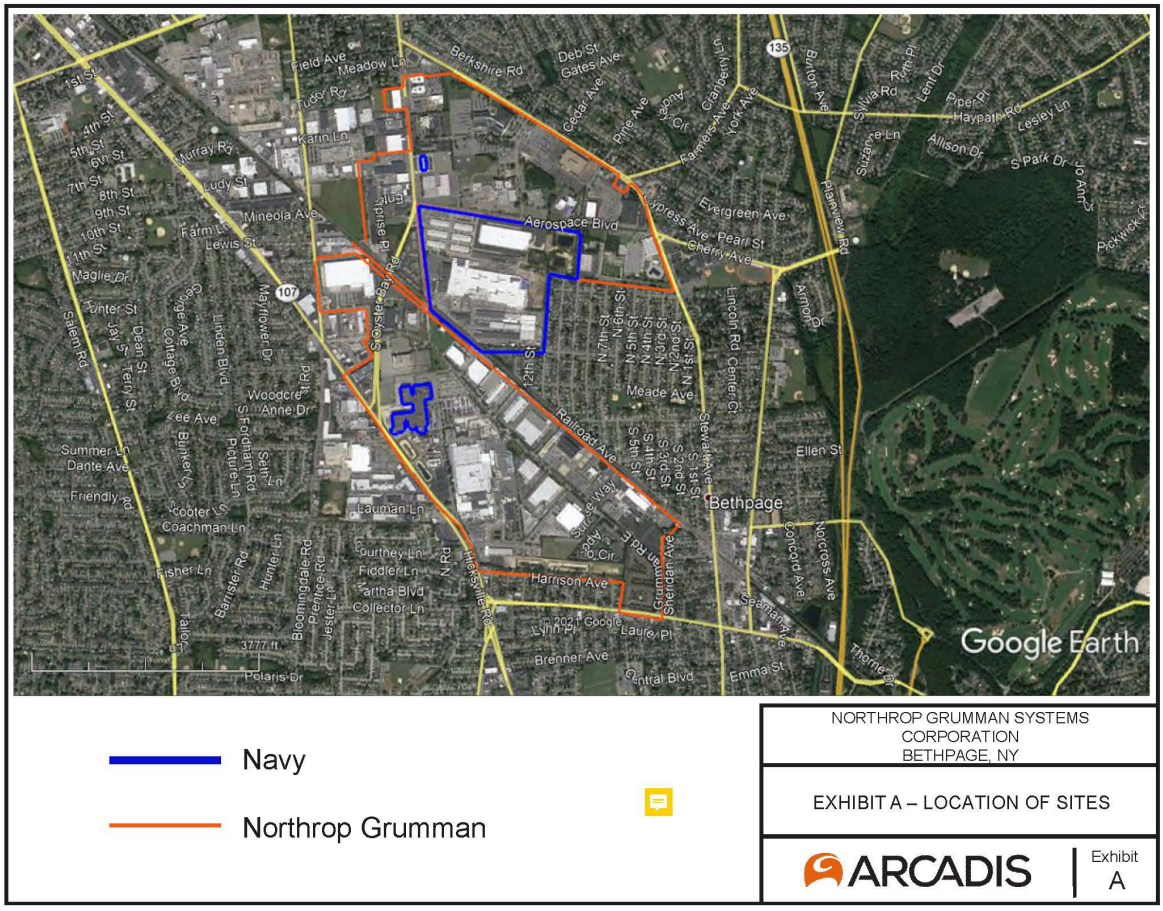
10. Northrop Grumman and the United States Department of the Navy conducted industrial and research activities on 600 acres in Bethpage (the "Original Site"), which DEC listed on the Registry of Inactive Hazardous Waste Disposal Sites in New York State (the "Registry") in 1983. DEC, Amended Record of Decision: Northrop Grumman Bethpage Facility and Naval Weapons Industrial Reserve Plant ("Amended ROD") at 9 (Dec. 2019).[1] In 1993, DEC divided the Original Site into two parts, designating approximately 500 acres as the Northrop Grumman-Bethpage Facility Site ("Grumman Site")[2] and the remainder as the Naval Weapons Industrial Reserve Plant Site ("Naval Weapons Site"). *Id.*

11. Next to the Grumman Site is an area of approximately 18 acres consisting of (a) Bethpage Community Park, part of which was built on former industrial settling ponds, and (b) a road formerly used to access Plant 24 on the Grumman Site (collectively, the "Settling

[1] The Amended ROD is attached as Exhibit B to the Consent Decree.

[2] DEC later designated approximately 26 acres of this 500-acre site as the Grumman Steel Los Plant 2 Site, Site No. 130003C. Amended ROD at 9. The term "Grumman Site" as used in this declaration includes those 26 acres.

Ponds Area") (together with the Grumman Site and the Naval Weapons Site, the "Sites"). The map below depicts the Grumman Site, with the original boundaries outlined with a red line, and the Naval Weapons Site, with the original boundaries outlined with a blue line.



Decree, Exhibit A.

12. At some or all times between the 1930s and the present, Northrop Grumman owned and operated the Grumman Site and portions of the Settling Ponds Area in which the Bethpage Community Park is now located, including the portion of the Settling Ponds Area where the industrial settling ponds were located, and together with the Navy, operated the Naval Weapons Site.

Historical Activities at the Sites

13. Beginning in the 1930s, Northrop Grumman and the Navy used the Sites for industrial and research purposes. Amended ROD at 9. Among other things, Northrop Grumman was a major manufacturer of military aircraft for the United States at the Sites during World War II and later, including through the Cold War. All manufacturing at the Sites ended in 1996. *Id*.

14. Northrop Grumman released hazardous substances to the soil and groundwater at parts of the Sites, including the industrial settling ponds in the Settling Ponds Area. *See*, *e.g.*, *id.* Those hazardous substances include several volatile organic compounds ("VOCs"), including trichloroethylene ("TCE"), and other non-VOC hazardous substances, including 1,4-dioxane. *Id.* at 13.

15. TCE is a carcinogen that may cause kidney cancer, liver cancer and malignant lymphoma. Short-term exposure to high concentrations of TCE can cause dizziness, headaches, effects on hearing, seeing and balance, liver damage, possible kidney damage and death. Agency for Toxic Substances & Disease Registry, Toxicological Profile for Trichloroethylene at 3-4 (June 2019).[3] 1,4-dioxane is likely to be a carcinogen; long-term exposure to it can harm the liver and kidneys and short-term exposure can cause eye and nose irritation or, at very high levels, severe kidney and liver effects, and possibly death. Agency for Toxic Substances & Disease Registry, Toxicological Profile for 1,4-Dioxane at 3-4 (April 2012).[4]

[3] https://www.atsdr.cdc.gov/ToxProfiles/tp19.pdf

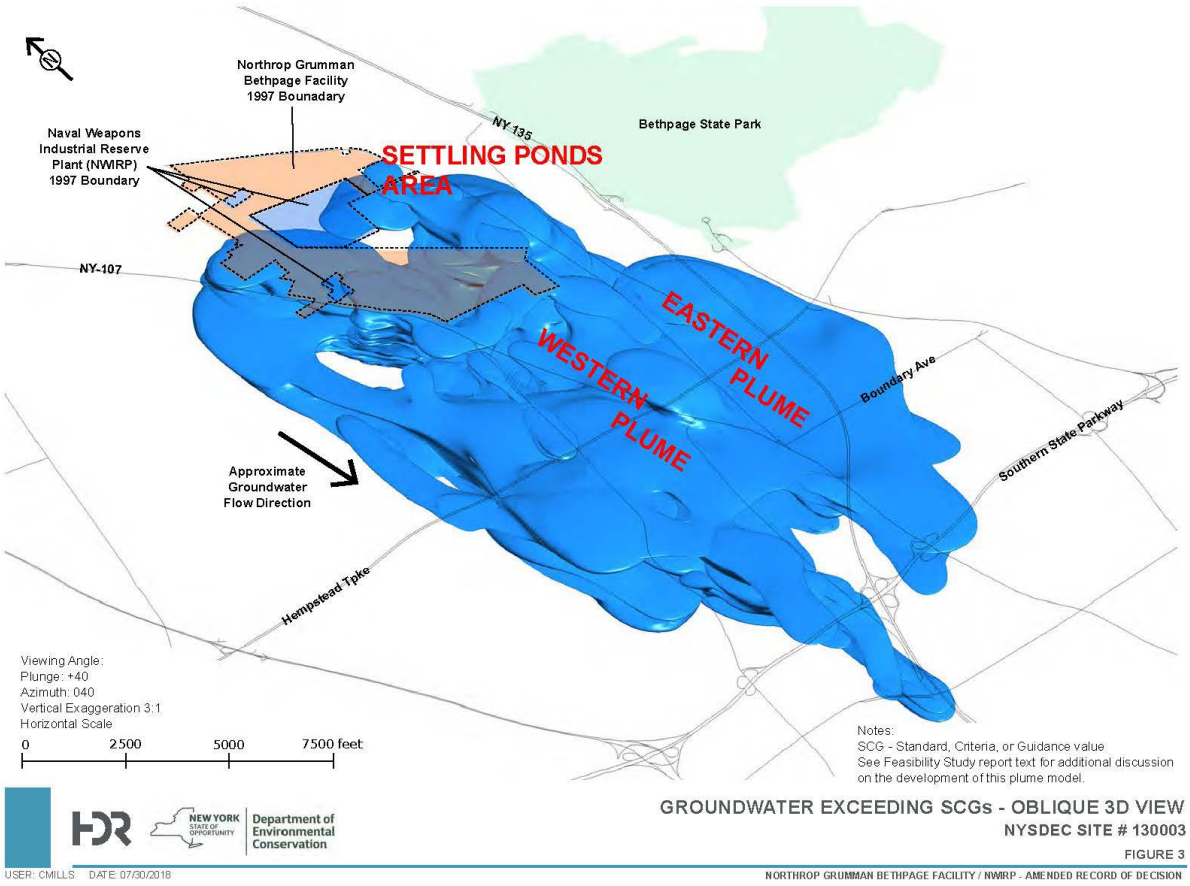
[4] https://www.atsdr.cdc.gov/ToxProfiles/tp187.pdf

Contamination of Groundwater

16. Hazardous substances released at the Grumman Site, the Naval Weapons Site, and the Settling Ponds Area have entered the groundwater beneath the Sites. *See*, *e.g.*, Amended ROD at 6. The concentrations of hazardous substances, including without limitation TCE and 1,4-dioxane, in the groundwater far exceed federal and New York State groundwater standards. *See*, *e.g.*, *id.* at 15, 22, 29.

17. Over time, the contaminated groundwater from the Sites has formed two underground plumes, each of which continues to move further south-southeast from the Sites. *Id.* at 8, 15. The groundwater in the Eastern Plume was contaminated by hazardous substances at least some of which were released at Settling Ponds Area. The groundwater in the Western Plume was contaminated by hazardous substances at least some of which were released at or from the Grumman Site and/or the Naval Weapons Site. There may be hazardous waste sites north and west of the Sites that contributed to hazardous substances to the Eastern and Western Plumes.

18. This map depicts the Grumman Site, the Naval Weapons Site, the approximate location of the Settling Ponds Area, and the Western and Eastern Plumes, as those plumes are delimited by the extent of contamination exceeding applicable standards, criteria and guidance.



Amended ROD, Figure 3 (with added labels in red).

19. The Eastern Plume and the Western Plume, together with other plumes (collectively, the "Plumes"), join and comingle in certain locations. *See*, *e.g.*, Amended ROD at 8. The Plumes are currently approximately 4.3 miles long and 2.1 miles wide and extend downward to a depth of approximately 900 feet beneath the ground surface. *Id.* The Plumes continue to expand to the south-southeast. *Id.* at 15.

20. The groundwater beneath the Sites is a portion of an EPA-designated sole-source aquifer that extends under much of Long Island and is the primary source of drinking water for 2.6 million Long Island residents. *See*, *e.g.*, *id.* at 8. Approximately 360 public water supply wells in Nassau County withdraw drinking water from that sole-source aquifer. *Id.*

21. The Plumes have contaminated that aquifer and have affected groundwater intake at 11 public water supply wells operated by the Bethpage Water District, South Farmingdale Water District, and Liberty Utilities (New York Water) Corp., including five public water supply wells operated by the Bethpage Water District that are directly downgradient—in the direction of groundwater flow (comparable to downstream for surface water)—from the Sites and within the central portion of the Plumes. *Id.* at 8-9. Although all groundwater intake at these wells is subject to treatment before distribution to the public, and all water distributed to the public after treatment meets and has met all relevant drinking water standards, untreated groundwater taken from some of these wells has over time contained increasing concentrations of hazardous substances related to the Sites. *Id.* at 9. The continuing expansion of the Plumes to the south-southeast threatens to contaminate groundwater intake at additional public water supply wells.

Investigation and Remedial Work to Date

22. DEC, Northrop Grumman and the Navy have undertaken response activities to address soil and groundwater contamination from the release of hazardous substances at the Sites. Those activities have included investigations; soil remediation; extraction and treatment of contaminated groundwater; and funding well-head treatment for affected or potentially affected public water supplies. The proposed Decree concerns the contaminated groundwater in the Plumes and does not provide remedial relief for soil contamination, which is separately addressed in a May 2014 administrative consent order between DEC and Northrop Grumman regarding the Settling Ponds Area.

23. An "operable unit" at a hazardous waste site represents a portion of an overall program to investigate, eliminate or mitigate a release of hazardous substances that for technical or administrative reasons can be addressed separately. Amended ROD at 10. Response

activities at the Sites have been divided into multiple operable units, two of which are primarily relevant to this Decree. *Id.* Operable Unit 2 consists of the Western Plume of groundwater contamination originating from release of hazardous substances at the Grumman Site and the Naval Weapons Site. *Id.* Operable Unit 3 consists of soil contamination and the Eastern Plume of groundwater contamination originating from release of hazardous substances at the Settling Ponds Area. *Id.*[5]

Operable Unit 2

24. The contaminated Western Plume, which is in Operable Unit 2, extends from the Grumman and Naval Weapon Sites south-southeast in the direction of groundwater flow for approximately four miles. Both Northrop Grumman and the Navy have undertaken remedial actions to address the Western Plume.

25. In 1997, Northrop Grumman began operating a "groundwater extraction and treatment system" along the southern and southwestern boundary of the Grumman Site to treat contaminated groundwater and prevent further migration of contaminants beyond this boundary. *Id.* at 19. That system consists of five extraction wells that withdraw contaminated groundwater, two treatment plants to remove contaminants from the groundwater, and discharge of the treated water to the aquifer. *Id.* A Record of Decision ("ROD") for Operable Unit 2 groundwater contamination from the Grumman Site that DEC issued in March 2001 found that those five wells should continue to operate, and Northrop Grumman agreed to do so in an administrative consent order issued in April 2015.

[5] Operable Unit 1 consists of contaminated soils on the Grumman Site and the Naval Weapons Site. *Id.* at 10.

26. In January 2003, the Navy issued, and in April 2003 amended, a ROD for the Operable Unit 2 groundwater contamination originating from the Naval Weapons Site. *Id.* at 11. Under that ROD, the Navy installed and is operating two extraction wells in the Western Plume and an extraction well near the Seaford-Oyster Bay Expressway that extracts contaminated groundwater related to the Western Plume.

Operable Unit 3

27. The Eastern Plume, which consists of contaminated groundwater emanating from the Settling Ponds Area, is in Operable Unit 3. In 2009, Northrop Grumman began operating four extraction wells along the southern boundary of the Settling Ponds Area. *Id.* at 19. In March 2013, DEC issued a ROD for Operable Unit 3 ("Operable Unit 3 ROD") finding that those wells should continue to operate.

28. In May 2014, DEC and Northrop Grumman entered into an administrative consent order requiring Northrop Grumman to install three extraction wells in the "RW-21 Area" in the Eastern Plume downgradient from the Settling Ponds Area and a plant to treat the contaminated groundwater extracted from those wells. Northrop Grumman has installed those wells but has not yet completed the infrastructure to begin use of the wells for treatment.

Further Remediation of the Plumes

29. Notwithstanding the remedial actions taken by Northrop Grumman and the Navy, the contaminated Plumes continue to expand. As I explain below, DEC estimates that approximately 31 percent of the contaminated water is in the Eastern Plume and 69 percent in the Western Plume.

30. In the December 2019 Amended ROD, DEC described additional remedial actions to address the Plumes' expansion toward currently unaffected water districts and elevated

levels of contamination. *Id.* at 6. The Amended ROD also addressed 1,4-dioxane—a previously unregulated "emerging contaminant"—in the Plumes for the first time. *See*, *e.g.*, *id.* at 22, 25. The Amended ROD contemplates that 24 additional wells will be installed along the perimeter of the Plumes to prevent the Plumes from migrating further and at points of particularly high contaminant concentrations in the interior of the Plumes to remove significant amounts of the contaminants. *Id.* at 24-25. The Amended ROD also contemplates construction of new plants for treatment of the extracted groundwater as well as underground piping to transport the extracted water from the wells to the treatment plants and to transport the treated water from the plants to discharge locations. *Id.* at 25-26.

Northrop Grumman Actions Under the Decree

31. Under the proposed Decree, Northrop Grumman commits to taking a number of actions to address remediation and natural resource damages. Among these is a commitment to install up to five extraction wells in an area of the Eastern Plume known as the southeast quadrant. Decree ¶ 9.c & d. The result of this work, along with other work Northrop Grumman would perform under the Decree, would be to hydraulically contain the Eastern Plume to keep it from expanding further, while removing the most concentrated mass of contamination in that plume.

32. Because two of those wells would address shallower contamination that may have a source other than the settling ponds in the Settling Pond Area for which Northrop Grumman is responsible, Northrop Grumman agreed to install those two wells to meet its responsibility for natural resource damages. DEC estimates that those wells will cost $40.9 million to install and operate.

33. Other Northrop Grumman commitments under the Decree relating to natural resource damages are discussed below.

Remedial Actions by Other Entities

34. As noted above, the proposed Decree provides that Northrop Grumman will undertake significant remedial actions beyond those it has already undertaken. These actions will be in addition to remedial actions that have and will be taken by the Navy in the Western Plume. As discussed above, the Navy operates two extraction wells in that Plume.

35. In September 2021, the Navy issued an "Explanation of Significant Differences" (a document setting out changes to the remedy selected in a ROD) in which it committed to installing seven additional extraction wells principally along the southern edge of the Western Plume to hydraulically contain that plume and to installing five more wells if necessary to address contamination. Naval Facilities Eng'g Systems Command, Final: Explanation of Significant Differences Operable Unit 2 Record of Decision at 25-26, 28-29 (Sept. 2021) (attached as Exhibit A hereto). In a proposed consent judgment filed with this Court on April 12, 2022, Civil Action No. 22-2101, Dkt. 2, Northrop Grumman has also agreed to compensate the United States $35 million for response costs incurred at the Sites.

36. DEC also believes that other parties may also be responsible for the contamination of the Western Plume (specifically the north and western parts of the Western Plume) and will make efforts to obtain the agreement of other parties that contributed hazardous substances to the Plumes to perform remedial work, including potentially four additional wells in the Western Plume. If those efforts are unsuccessful and remediation is necessary beyond the remediation to which Northrop Grumman and the Navy have committed, DEC will perform the

remedial work using funds from the State's Hazardous Waste Remedial Fund, also known as the State Superfund, and seek recovery of the costs from the other responsible parties.

Northrop Grumman's Natural Resource Damage Payments Under the Decree

37. The Decree requires that Northrop Grumman pay $29 million to the Bethpage Water District representing natural resource damages. Decree ¶ 17. Pursuant to the proposed Decree, Bethpage Water District has entered into a consent judgment to govern payment of the $29 million, which this Court entered on May 24, 2022. Consent Judgment, *Bethpage Water District v. United States, et al.*, C.A. No. 2:22-cv-02050-NG-RLM, Dkt. No. 10-1. In addition, the district will receive funds from the Navy, which payment is also covered in that consent judgment.

38. The Decree also provides that Northrop Grumman will pay $12.5 million to the South Farmingdale Water District representing natural resource damages, subject to Northrop Grumman and the South Farmingdale Water District entering into a final agreement regarding that payment. Decree ¶ 19.a & b. If Northrop Grumman and the South Farmingdale Water District do not enter into that agreement, Northrop Grumman will not pay the $12.5 million to that district, but will instead pay that amount to DEC to be allocated to the State's Natural Resource Damage Fund. *Id*.

39. The Decree requires Northrop Grumman to pay an additional $22 million to DEC to be allocated to the State's Natural Resource Damage Fund. *Id.* DEC anticipates that it will spend the $22 million on restoration projects through measures that will infiltrate uncontaminated water into the aquifer such as acquisition of land for preservation and construction of recharge basins (low-lying land where stormwater collects and infiltrates into groundwater) and other restoration projects to be selected in the future.

Evaluating the Percentage Shares of the Contaminated Water in the Two Plumes

40. DEC has evaluated the benefits that will result from these natural resource damage payments. As part of that effort, I evaluated the relative percentages of the contaminated water in the Eastern Plume, also known as the Operable Unit 3 Plume, and the Western Plume, also known as the Operable Unit 2 Plume.

41. I started by examining the extent of the combined Plumes as defined by the area in which contaminants of interest exceed federal or state groundwater standards, criteria or guidance values. To assist in this task, I generated three-dimensional representations of the combined Plumes using Leapfrog© groundwater modeling software along with groundwater data collected from 2008 through 2017 as updated with new data in 2022.

42. I then bifurcated the combined Plumes into two portions – the Eastern Plume and the Western Plume – based on DEC's knowledge of the source(s) of the contamination, the three-dimensional plume representations, and the hydrogeologic conditions of the aquifer in which the Plumes are located.

43. Next, I used the Leapfrog© software to measure the volumes of the bifurcated Eastern Plume and Western Plume.

44. Based on this analysis, DEC estimates that the Eastern Plume contains 31 percent of the contaminated water in the combined Plumes and the Western Plume contains 69 percent of that water.

Evaluation of Additional Drinkable Water Provided by Northrop Grumman's Natural Resource Damage Payments

45. DEC anticipates that, under the Decree, the amounts paid to the Bethpage Water District and the South Farmingdale Water District (together, the "Districts") will be used for

funding systems for treating 1,4-dioxane in the Plumes at the districts' existing water supply wells and/or constructing and operating new water supply wells outside of the Plumes. In the event that the $12.5 million potential payment to the South Farmingdale Water District is instead made to DEC, *see* Paragraph 38 above, DEC anticipates spending the $12.5 million for the same purposes.

46. I estimated the amount of drinkable water that would result from the expenditure of these funds on 1,4-dioxane treatment by the two districts.

47. To do so, I multiplied (a) the water districts' estimates of the number of years of operation of their 1,4-dioxane treatment systems that could be funded by Northrop Grumman's payments by (b) the annual amount of water that operation of the 1,4-dioxane treatment systems over that period of time would allow the districts' wells to produce.

Bethpage Water District

48. It is DEC's understanding that Bethpage Water District has installed and is operating treatment equipment for 1,4-dioxane at three of its wells.

49. DEC obtained from Bethpage Water District estimates of the future costs for 1,4-dioxane treatment at those three wells. Specifically, the district estimates that $24,972,333, or approximately $25 million, in present value terms, would fund the cost of operation and maintenance for 1,4-dioxane treatment at those three wells for a 40-year period. Bethpage Water District, Incurred and Estimated 1,4-Dioxane Treatment Costs for Plume-Impacted Wells (attached as Exhibit B hereto).

50. Because the water obtained through those three Bethpage Water District wells is at risk of 1,4-dioxane contamination, DEC assumes for the sake of this analysis that the wells would be unusable without the 1,4-dioxane treatment. Accordingly, I have assumed that the

benefit accruing from installation and operation of 1,4-dioxane treatment at these wells is the full amount of drinkable water to be produced by these wells.

51. As part of its remedial work related to the Plumes, DEC has obtained data regarding the production of water from those three wells. Using that data from 2005 through 2017 (13 years of pumping data), I have calculated an average annual production of 466,029,462 gallons of water from the three Bethpage Water District wells.

52. I then reduced that water production figures by 8 percent to estimate the amount of drinkable water produced for consumers, since some of the water withdrawn through the wells is not distributed to consumers because of water system leaks or for other reasons. *See*, *e.g.*, Bethpage Water District, 2020 Drinking Water Quality Report at 1, https://bethpagewater.com/Portals/0/Content/2020%20BWD_ADWQR_2021_D5_V3_singlepages%20%281%29.pdf. With that reduction, the average annual production of consumed water from the three Bethpage Water District wells is 428,747,105 gallons.

53. I use that annual water production figure as an estimate of future production from the three Bethpage Water District wells. Multiplying that average annual production by the 40 years of operation and maintenance that the Northrop Grumman payment would fund, I estimate that $25 million paid by Northrop Grumman would produce approximately 17.1 billion gallons of drinkable water for consumers.[6]

54. This 17.1 billion gallons represents approximately 66 percent of the approximately 26 billion gallons of contaminated water in the Eastern Plume, and approximately

[6] This is an underestimate, as Northrop Grumman is actually paying a larger amount, $29 million, to Bethpage Water District.

20 percent of the approximately 85 billion gallons of contaminated water in both plumes. *See* Declaration of Scott Friedman ("Friedman Decl.") ¶¶ 13, 14, 15 (June 21, 2022).

South Farmingdale Water District

55. I used the same approach as above to estimating the amount of drinkable water for consumers that Northrop Grumman's $12.5 million payment to South Farmingdale Water District would produce.

56. It is DEC's understanding that South Farmingdale Water District is currently in the planning phase for installation of treatment equipment for 1,4-dioxane at the district's Well 6-2, and DEC estimates that this treatment equipment may begin operation in 2023.

57. DEC obtained from South Farmingdale Water District estimates of the future costs for 1,4-dioxane treatment at Well 6-2. Specifically, the district estimates that $12,234,161, or approximately $12.5 million, in present value terms, would fund the cost of operation and maintenance for 1,4-dioxane treatment at Well 6-2 for a 40-year period. South Farmingdale Water District, Expended and Anticipated 1,4-Dioxane Treatment Costs for Plume-Impacted Wells (attached as Exhibit C hereto).

58. Because the water obtained through Well 6-2 is at risk of 1,4-dioxane contamination, DEC assumes for the sake of this analysis that the well would be unusable without the 1,4-dioxane treatment. Accordingly, I have assumed that the benefit accruing from installation and operation of 1,4-dioxane treatment at Well 6-2 is the full amount of drinkable water to be produced by that well.

59. As part of its remedial work related to the Plumes, DEC has obtained annual data regarding the production of water from Well 6-2. Using that data from 2005 through 2018 (14

years of pumping data), I have calculated an average annual production of 347,618,429 gallons of water from that well.

60. As above, I then reduced that water production figure by 8 percent to give me the amount of drinkable water produced for consumers. With that reduction, the average annual production of consumed water from South Farmingdale Water District Well 6-2 is 319,808,955 gallons.

61. I use that water production figure as an estimate of future production from Well 6-2. Multiplying that average annual production by the 40 years of operation and maintenance that the Northrop Grumman payment to South Farmingdale Water District would fund, I estimate that the $12.5 million paid by Northrop Grumman would produce approximately 12.8 billion gallons of drinkable water for consumers from Well 6-2.

62. This 12.8 billion gallons represents approximately 49 percent of the approximately 26 billion gallons of contaminated water in the Eastern Plume, and approximately 15 percent of the approximately 85 billion gallons of contaminated water in both plumes. *See* Friedman Decl ¶¶ 13, 14, 15.

63. Together, the amount of drinkable water for consumers produced by the payments to the Bethpage Water District and the South Farmingdale Water District total approximately 29.9 billion gallons of drinkable water for consumers. This represents approximately 115 percent of the approximately 26 billion gallons of contaminated water in the Eastern Plume and approximately 35 percent of the approximately 85 billion gallons of contaminated water in both plumes. *See id*.

Responses to Public Comments

64. DEC provided a 75-day period for submission of public comments.

65. DEC considered the comments submitted and when appropriate revised the Decree to reflect them. For example, the Town of Oyster Bay objected to the Decree on the ground that the Decree purportedly extinguished the Town's rights to seek reimbursement from Northrop Grumman for costs that the Town incurred to remediate contamination at the Settling Ponds Area. The proposed Decree did not extinguish the Town's rights but to avoid any doubt on that point, DEC and Northrop Grumman added language to the Decree to expressly preserve the Town's claims, if any, against Northrop Grumman. Decree ¶¶ 2, 54.

66. In response to comments, the Decree was also revised to include a schedule for Northrop Grumman's remedial actions and a more robust process for citizen participation. Decree ¶¶ 20.b, 23.

67. Some commenters asserted that the Decree is inadequate because the Amended ROD requires 24 additional wells, but Northrop Grumman and the Navy have committed only to installing 15 additional wells. DEC has determined that not all 24 are necessary and intends to pursue other potentially responsible parties to install any necessary additional wells in the Western Plume. If those efforts are unsuccessful, DEC intends to construct and operate any necessary additional wells and associated treatment systems using the State Superfund and then seek cost recovery from any responsible parties.

Additional Information

68. DEC has estimated the costs it has incurred for investigatory and other work on the Plumes through December 2020 as $8,302,021.07. Memorandum to Andrew Guglielmi from Karen Diligent (undated) (attached as Exhibit D hereto). Under the Decree, Northrop Grumman will pay $3.6 million of this amount to compensate DEC for the portion of those costs that DEC

has incurred related to this Decree and Northrop Grumman's responsibility for the Plumes, including costs to investigate the Sites and oversee the remediation. Decree ¶ 12.

69. DEC has estimated the costs it has incurred for preparation of a natural resource damage assessment for the Plumes through March 2022 as $411,797.69. Memorandum to Andrew Guglielmi from Nancy Allen (May 6, 2022) (attached as Exhibit E hereto). Under the Decree, Northrop Grumman will pay $400,000.00 of this amount to compensate DEC for essentially all of the costs it has incurred related to its assessment of natural resource damages relating to the Plumes. Decree ¶ 12.

70. Although DEC has prepared that natural resource damage assessment, DEC has determined, in consultation with the Navy, that disclosure of the assessment could interfere with the on-going confidential negotiations between DEC and the Navy over a potential natural resource damage payment by the Navy to the State.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 21, 2022

Jason Pelton

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

STATE OF NEW YORK and BASIL SEGGOS as Commissioner of the New York State Department of Environmental Conservation and Trustee of New York State's Natural Resources, Plaintiffs, -against- NORTHROP GRUMMAN SYSTEMS CORPORATION, Defendant.	:	No: 2:22-cv-04091-RPK-ARL

DECLARATION OF SCOTT FRIEDMAN

SCOTT FRIEDMAN declares as follows:

1. I am a Principal at Industrial Economics, Incorporated, also known as IEc. IEc is a consultancy that provides expertise in, among other areas, environmental economics and environmental science.

2. I have over 15 years of environmental consulting and project management experience at IEc and through my previous employment. My research and professional experience is focused on quantifying the harms resulting from contaminant releases and estimating associated damages.

3. I have extensive experience working on natural resource damage assessments following the release of hazardous substances and oil spills. Specifically, I have worked on over three dozen natural resource damage assessments, including several assessments for contaminated groundwater.

4. I have a B.A. in Biology from Colby College and a Master of Science in Biology from the College of William and Mary.

5. The New York State Department of Environmental Conservation ("DEC") engaged me to assess the appropriate measure of monetary damage associated with contaminated groundwater resulting from releases to the environment from facilities in Bethpage, New York, historically owned and operated by entities related to Northrop Grumman Systems Corporation ("Northrop Grumman") and the United States Department of the Navy (together, the "Grumman and Navy Sites"). I personally directed and performed the work IEc did in connection with this engagement.

6. I base this affidavit on my personal knowledge obtained from my work on this engagement, my discussions and other communications with other IEc staff, IEc subcontractors working under my direction, and DEC staff, as well as my general background and experience in assessing natural resource damages.

7. Groundwater in Long Island forms an EPA-designated "sole-source" aquifer that is a valuable natural resource, including as the primary source of drinking water for Long Island residents.

8. The aquifer is "recharged" by the infiltration of precipitation from the surface into the ground.

9. Based on review of relevant data and information, I concluded that groundwater associated with the Grumman and Navy Sites was injured consistent with federal regulations set out at 43 C.F.R. Part 11.

10. There are at least two plumes of contaminated groundwater relevant here. One is associated with the Grumman and Navy Sites and has been referred to as the Operable Unit 2

Plume or Western Plume. The other is associated with former settling ponds just to the east of the Grumman Site and has been referred to as the Operable Unit 3 Plume or Eastern Plume. The two plumes intermingle and are sometimes referred to as a single plume.

11. I estimated the annual sustainable yield (volume) of groundwater from the contaminated plume area based on the groundwater recharge rate at the site. The two primary inputs to this quantity are (a) the areal extent of the groundwater contamination plume and (b) the net recharge of precipitation from the surface into the injured groundwater. That is, how much precipitation infiltrates into the injured groundwater from the surface above the Eastern and Western Plumes.

12. I calculated these annual amounts for each year from 1981 through 2119 (since the area of the plume changed over time). I then calculated a discounted present value of this harmed volume using a three percent discount rate. I extended the date of injury 100 years into the future based on the contaminant profile and ongoing and planned remedial activities. I discount these future values back to 2019 to generate a total present value harm.

13. Using this approach, I have estimated the present value (2019) volume of injured groundwater in the two plumes over the life of the plumes as approximately 85 billion gallons.

14. DEC has evaluated the percentage of the total areas of the Eastern and Western Plumes, concluding that approximately 31 percent of the contaminated groundwater is in the Eastern Plume and approximately 69 percent in the Western Plume. Declaration of Jason Pelton, P.G. ¶¶ 29, 40-44 (June 21, 2022).

15. Applying these percentages to the total present value (2019) of approximately 85 billion gallons of injured groundwater, the volume of the injured groundwater in the Eastern

Plume over the life of the Plumes is approximately 26 billion gallons, and the volume in the Western Plume is approximately 59 billion gallons.

16. I understand from DEC that the State of New York and Northrop Grumman will be signing a consent decree regarding these plumes, and that as part of this consent decree, DEC will receive at least $22 million to be deposited in the state Natural Resource Damages Fund for use by DEC on restoration projects that will benefit Long Island's sole source aquifer, such as measures to allow for recharge of uncontaminated surface water into the aquifer or other types of restoration projects to be selected in the future.

17. I have identified three feasible options to preserve future recharge: (1) preservation of undeveloped, uncontaminated land for the purposes of groundwater recharge protection, (2) creation of new recharge basins (depressed land where surface water infiltrates into the ground), and (3) retrofitting (refurbishing) existing recharge basins.

18. Assuming an equal mix of the three restoration options in the surrounding geographic vicinity of the contaminated plume, the cost of restoration may be approximately $6.00 per thousand gallons in 2019 dollars.

19. Based on this cost estimate, the $22 million payment could result in the restoration of approximately 3.7 billion gallons of present value (2019) groundwater.

20. This would represent approximately 14 percent of the approximately 26 billion gallons of injured groundwater in the Eastern Plume.

21. Alternatively, this would represent approximately four percent of the total of approximately 85 billion gallons of injured groundwater in both plumes.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 21, 2022

Scott Friedman