



**DEPARTMENT OF THE NAVY**  
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC  
9324 VIRGINIA AVENUE NORFOLK, VA 23511-3095

5090  
OPTE3/18  
MAR 17, 2015

James B. Harrington, P.E.  
Director, Remedial Bureau A  
New York State Department of Environmental Conservation  
Division of Environmental Remediation  
Remedial Bureau A, 12th Floor  
625 Broadway  
Albany, New York 12233-7015

Dear Mr. Harrington,

Subj: NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE  
(130003B), Operable Unit (OU)-2 REMEDY

Thank you for your letter of February 11, 2015 regarding the need to address the hotspot in the OU-2 plume that is located near Bethpage Water District (BWD) Plant 6. Since 2012, the Navy has been installing vertical profile borings (VPBs) and monitoring wells to delineate the hot spot. Information on this hot spot was initially submitted to NYSDEC in February 2014 in reports for VPBs 137, 138 and 139.

Since 2011, BWD has been successfully treating the water with volatile organic compounds (VOCs) at concentrations greater than 1 ppm. As you know, the Navy has compensated BWD for the treatment system upgrades at Plant 6 that allows them to treat these higher levels of VOCs. In addition, the Navy is compensating BWD for operation and maintenance costs associated with VOCs. The Navy is currently working with BWD to extend the operation of Well 6-2 beyond that which is necessary for providing water to their customers. This work is being done as a pilot test that is anticipated to begin in May 2015. It is our understanding that Nassau County Department of Health will only allow the Navy to use Well 6-2 as a remediation well when water is not being distributed to BWD's customers.

While in certain circumstances, the Federal Facility Site Remediation Agreement and Navy OU-2 ROD require the Navy to undertake additional response actions as necessary to address "hot-spot" contamination, the extent and magnitude of the contamination must first be ascertained in order to determine the appropriate response action, including the proper location for a mass removal system.

As detailed in our Strategic Plan (Enclosure 1), the Navy is continuing to delineate the areal extent of the hot-spot. In the interest of accelerating the schedule for the potential installation of an additional stand-alone treatment plant, the Navy is identifying potential land parcels. To allow adequate buffer from the community, we anticipate that a minimum open space of 2 acres is required. To utilize this land, acquisition or long term operational leases will be required. Any work undertaken by the Navy is subject to authorization and the availability of funds, which is, in turn, subject to a determination that the contamination has migrated, at least in part, from the NWIRP.

As requested, the Navy has contacted Ms. Rosalie Rusinko and discussed potential modifications of the FFSRA, if appropriate, to address the ongoing cleanup efforts for the site. Northrop Grumman, as a potentially responsible party under CERCLA and former owner and operator of both the NWIRP and NG properties, is obligated not only to share the financial responsibility but to actively participate in response action implementation.

The Navy is committed to working with you, and welcomes NYSDEC's continuing input towards the mutual goal of ensuring continued safe drinking water in this area. If you have any questions, please contact the Navy's remedial project manager, Lora Fly, at (757) 341-2012.

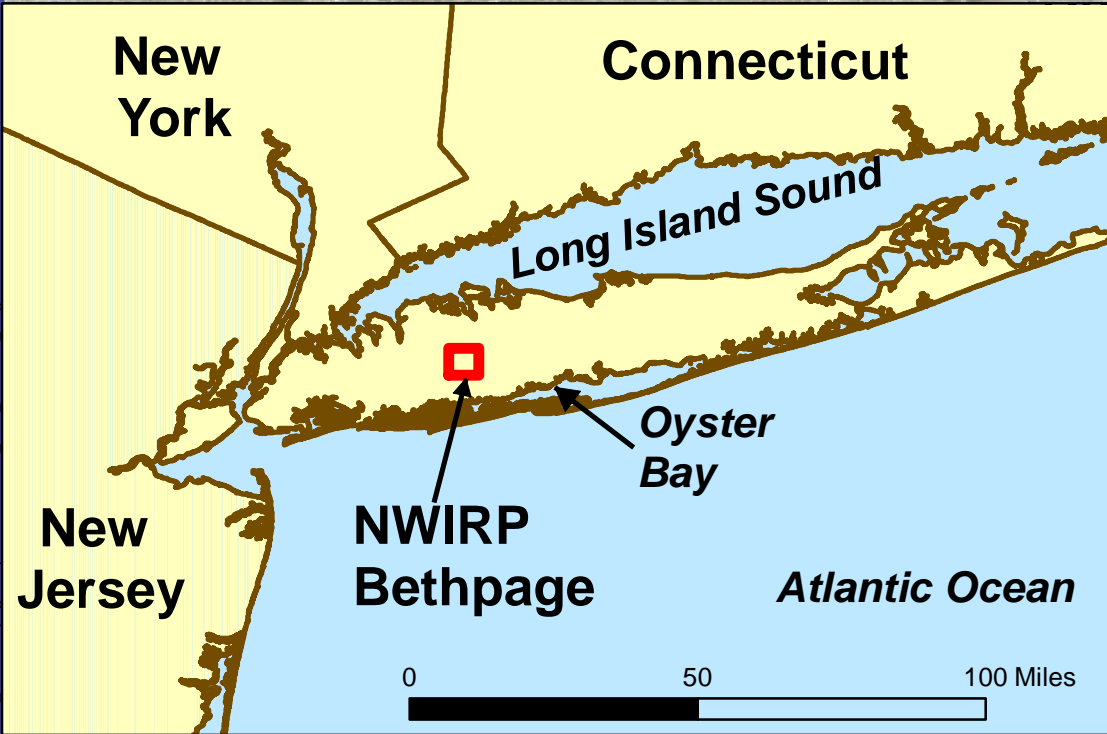
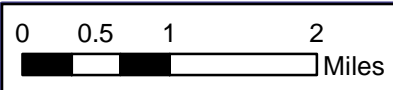
Sincerely,



NINA M. JOHNSON  
Northeast IPT  
Environmental Business Line  
Team Leader  
By direction of the  
Commanding Officer

Encl: USN Strategic Work Plan, Operable Unit No. 2 Groundwater,  
NWIRP Bethpage, NY

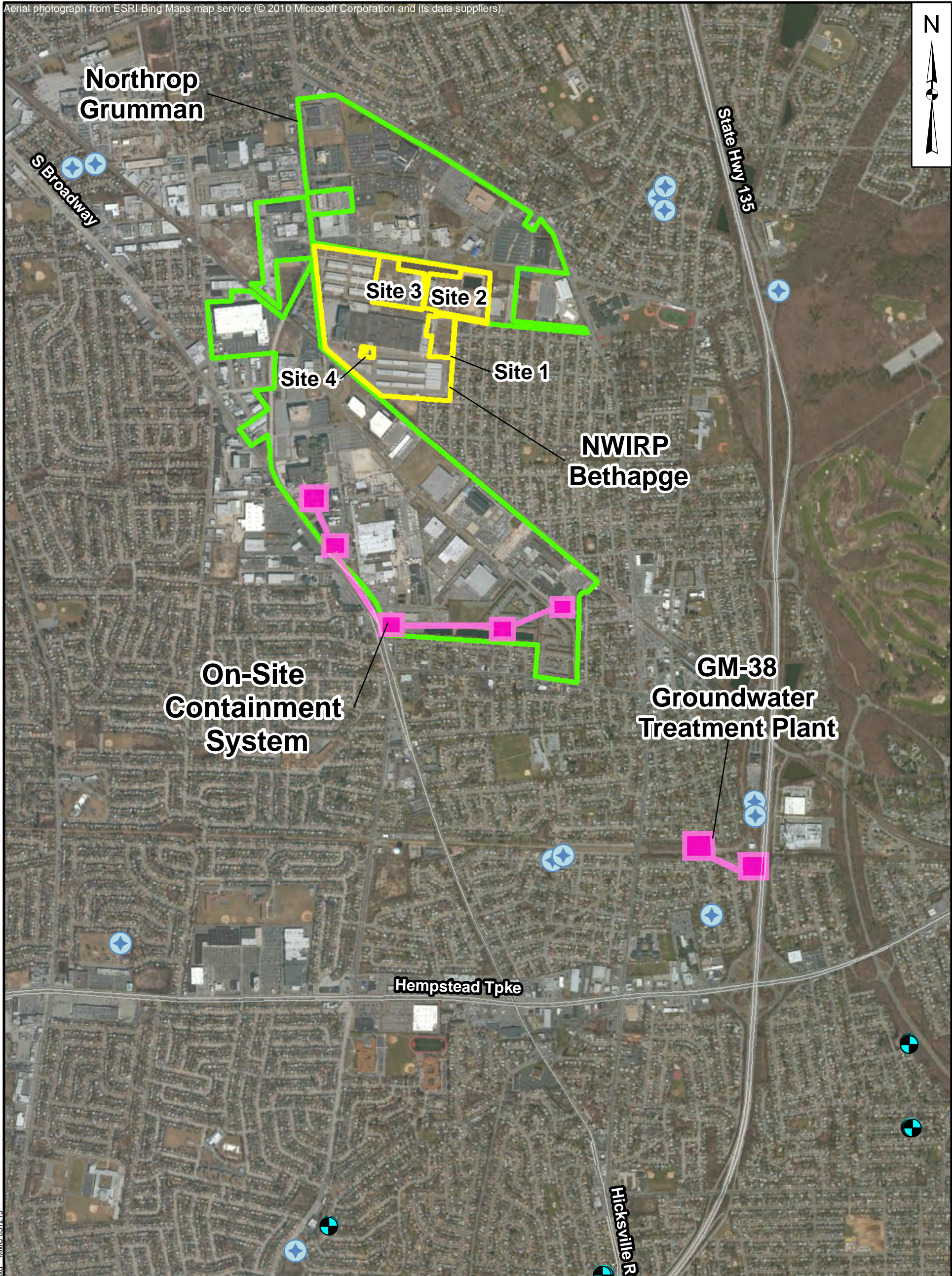
Copy to:  
NAVAIR, William Cords  
NYSDEC, Henry Wilkie  
USEPA Region II, Carol Stein  
Northrop Grumman, Ed Hannon  
Public Repository



Bing Maps aerial:  
Aerial photograph from ESRI Bing Maps map service  
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<b>GENERAL LOCATION MAP NWIRP BETHPAGE BETHPAGE, NEW YORK</b>	
FILE	112G04583
FIGURE NO.	1
SCALE	AS NOTED
REV	DATE
	3/12/15

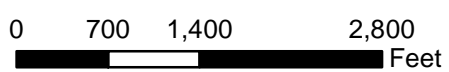
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**Legend**

-  Public Water Supply Well
-  Outpost Well
-  Response Action Wells
-  1997 NWIRP Bethpage Boundary
-  1997 Northrop Grumman Boundary



**SITE LOCATION MAP**  
**SITE 1**  
**NWIRP BETHPAGE, NEW YORK**

FILE	112G04583
FIGURE NO.	2

SCALE	AS NOTED
REV	DATE
	3/12/15



Northrop Grumman (NG)

Hooker, Ruco Superfund Site

Former NWIRP Bethpage

BWD Plant 6 Hot Spot

Deep NG/NWIRP OU2 Plume

NYAW-SNR

BWD

BWD

BWD

BWD

BWD Plant 6

BWD Plant 4

BWD Plant 5

NG/NWIRP 2002 OU2 Hot Spot (GM-38)

LWD

LWD

SFWD Plant 3

Shallow NG/NWIRP OU2 Plume

SFWD Plant 1

SFWD

SFWD Plant 6

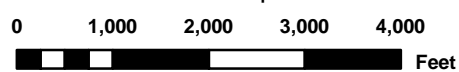
SFWD Plant 4

MWD

Groundwater Flow

Legend

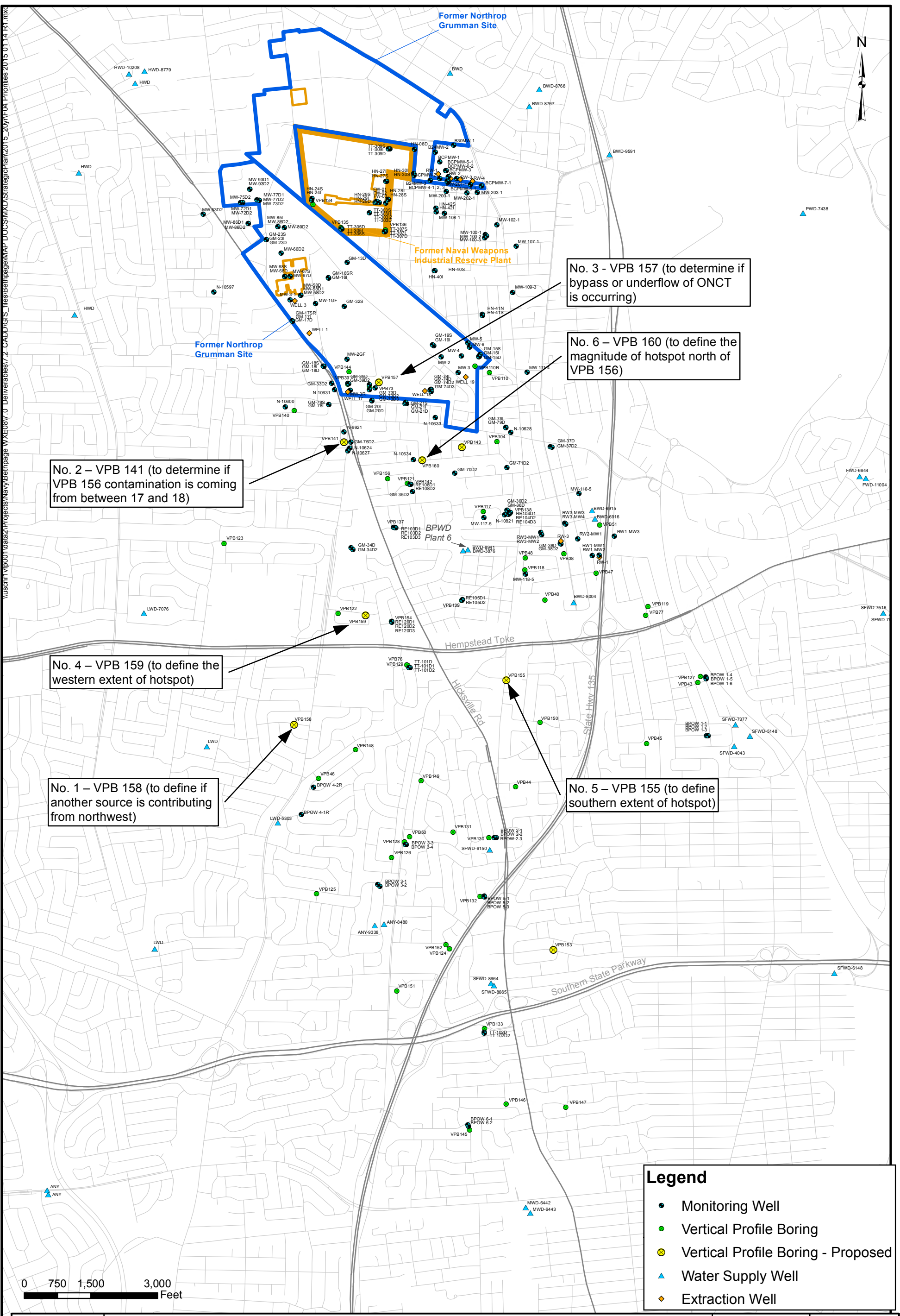
- ★ Public Water Supply Well with VOC Treatment
- ⊕ Public Water Supply Well without VOC Treatment
- Remediation Well
- ▭ 1962 Northrop Grumman Property
- ▭ Hooker Ruco Superfund Site
- ▭ 1997 NWIRP Bethpage Property
- ▭ 1997 Northrop Grumman Property
- ▭ Shallow NWIRP OU2 Plume
- ▭ Deep NG/NWIRP OU2 Plume
- ▭ NG/NWIRP OU2 Hot Spot (GM-38)
- ▭ Bethpage Community Park OU3 Plume
- ▭ BWD Plant 6 Hot Spot



BETHPAGE GROUNDWATER NWIRP BETHPAGE, NEW YORK

FILE	112G04583	SCALE	AS NOTED
FIGURE NO.	3	REV	DATE
			3/12/15

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No. 2 – VPB 141 (to determine if VPB 156 contamination is coming from between 17 and 18)

No. 3 - VPB 157 (to determine if bypass or underflow of ONCT is occurring)

No. 6 – VPB 160 (to define the magnitude of hotspot north of VPB 156)

No. 4 – VPB 159 (to define the western extent of hotspot)

No. 1 – VPB 158 (to define if another source is contributing from northwest)

No. 5 – VPB 155 (to define southern extent of hotspot)

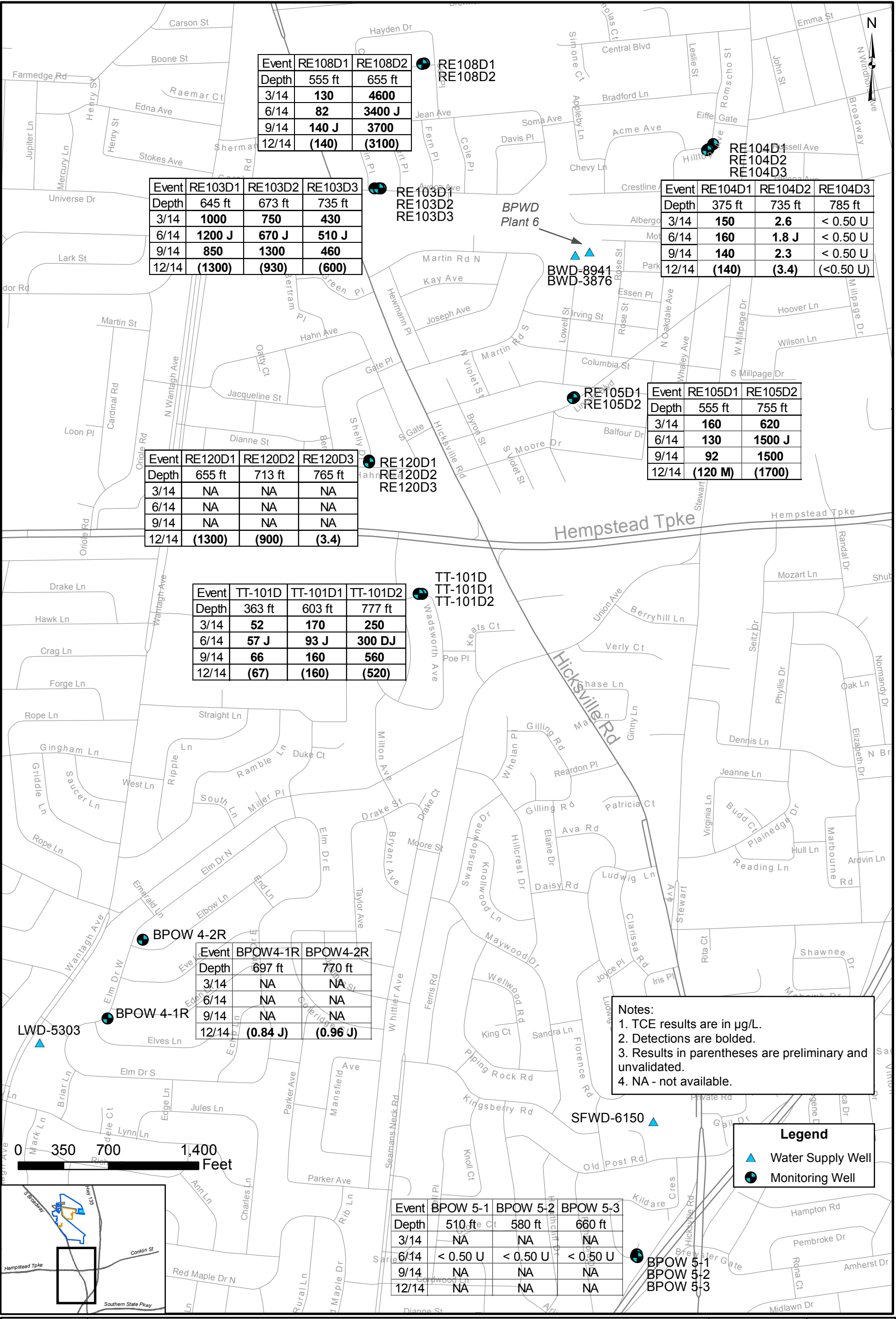
Legend	
●	Monitoring Well
●	Vertical Profile Boring
⊗	Vertical Profile Boring - Proposed
▲	Water Supply Well
◆	Extraction Well



**DRILLING PRIORITIES**  
**NAVAL WEAPONS INDUSTRIAL RESERVE PLANT**  
**BETHPAGE, NEW YORK**

CONTRACT NUMBER N62470-11-D8013	CTO NUMBER WE15
APPROVED BY EV	DATE 1/15/2015
APPROVED BY	DATE
FIGURE NO. <b>4</b>	REV 0

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Event	RE108D1	RE108D2
Depth	555 ft	655 ft
3/14	<b>130</b>	<b>4600</b>
6/14	<b>82</b>	<b>3400 J</b>
9/14	<b>140 J</b>	<b>3700</b>
12/14	<b>(140)</b>	<b>(3100)</b>

Event	RE103D1	RE103D2	RE103D3
Depth	645 ft	673 ft	735 ft
3/14	<b>1000</b>	<b>750</b>	<b>430</b>
6/14	<b>1200 J</b>	<b>670 J</b>	<b>510 J</b>
9/14	<b>850</b>	<b>1300</b>	<b>460</b>
12/14	<b>(1300)</b>	<b>(930)</b>	<b>(600)</b>

Event	RE104D1	RE104D2	RE104D3
Depth	375 ft	735 ft	785 ft
3/14	<b>150</b>	<b>2.6</b>	<b>&lt; 0.50 U</b>
6/14	<b>160</b>	<b>1.8 J</b>	<b>&lt; 0.50 U</b>
9/14	<b>140</b>	<b>2.3</b>	<b>&lt; 0.50 U</b>
12/14	<b>(140)</b>	<b>(3.4)</b>	<b>(&lt;0.50 U)</b>

Event	RE120D1	RE120D2	RE120D3
Depth	655 ft	713 ft	765 ft
3/14	NA	NA	NA
6/14	NA	NA	NA
9/14	NA	NA	NA
12/14	<b>(1300)</b>	<b>(900)</b>	<b>(3.4)</b>

Event	RE105D1	RE105D2
Depth	555 ft	755 ft
3/14	<b>160</b>	<b>620</b>
6/14	<b>130</b>	<b>1500 J</b>
9/14	<b>92</b>	<b>1500</b>
12/14	<b>(120 M)</b>	<b>(1700)</b>

Event	TT-101D	TT-101D1	TT-101D2
Depth	363 ft	603 ft	777 ft
3/14	<b>52</b>	<b>170</b>	<b>250</b>
6/14	<b>57 J</b>	<b>93 J</b>	<b>300 DJ</b>
9/14	<b>66</b>	<b>160</b>	<b>560</b>
12/14	<b>(67)</b>	<b>(160)</b>	<b>(520)</b>

Event	BPOW4-1R	BPOW4-2R
Depth	697 ft	770 ft
3/14	NA	NA
6/14	NA	NA
9/14	NA	NA
12/14	<b>(0.84 J)</b>	<b>(0.96 J)</b>

Event	BPOW 5-1	BPOW 5-2	BPOW 5-3
Depth	510 ft	580 ft	660 ft
3/14	NA	NA	NA
6/14	<b>&lt; 0.50 U</b>	<b>&lt; 0.50 U</b>	<b>&lt; 0.50 U</b>
9/14	NA	NA	NA
12/14	NA	NA	NA

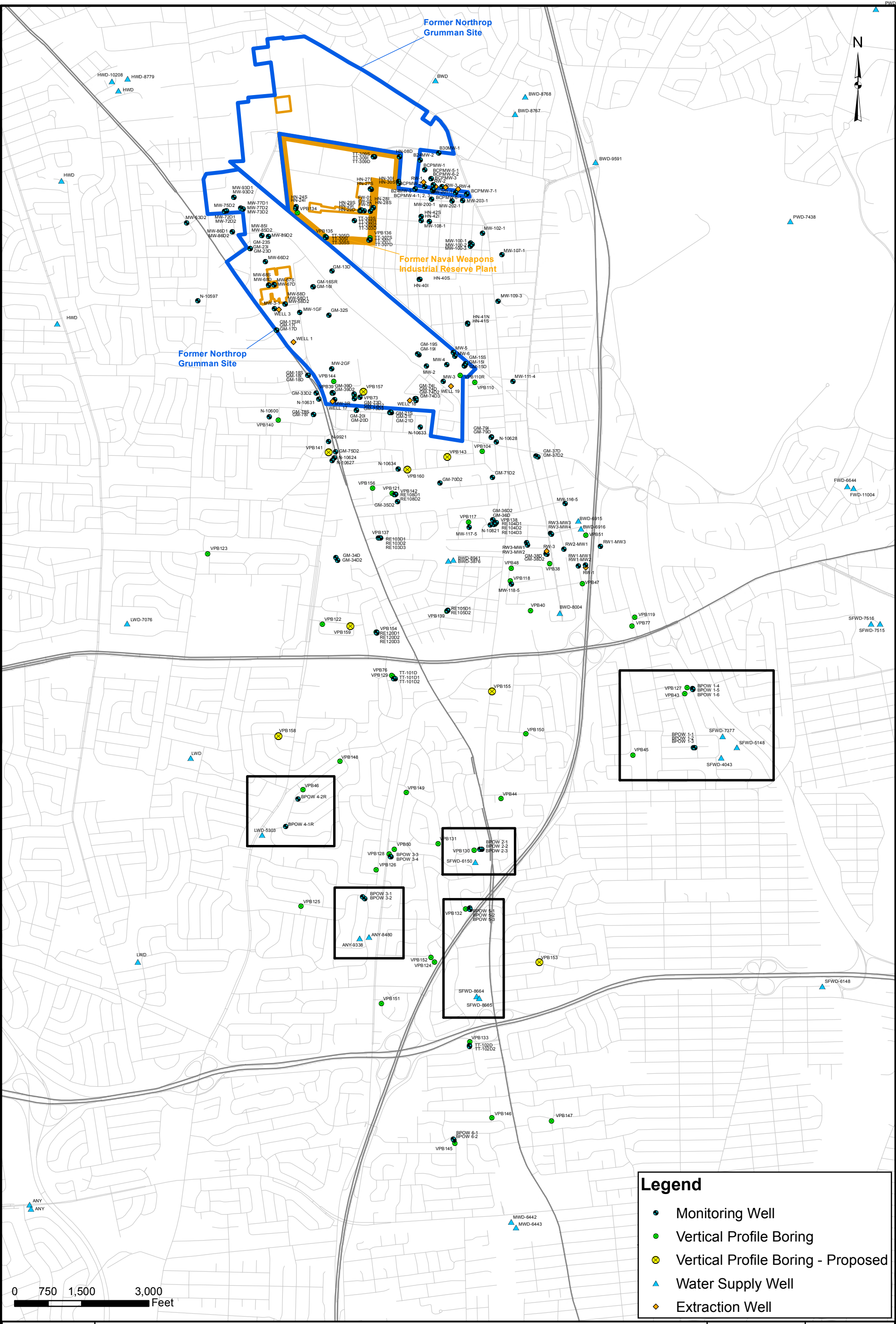
**Notes:**  
 1. TCE results are in µg/L.  
 2. Detections are bolded.  
 3. Results in parentheses are preliminary and unvalidated.  
 4. NA - not available.

**Legend**  
 Water Supply Well  
 Monitoring Well



TCE CONCENTRATIONS  
 2014 QUARTERLY SAMPLING  
 OU2 GROUNDWATER  
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT  
 BETHPAGE, NEW YORK

CONTRACT NUMBER N62470-11-D8013	CTO NUMBER WE08
APPROVED BY PS	DATE 1/15/2015
APPROVED BY	DATE
FIGURE NO. <b>5</b>	REV 0



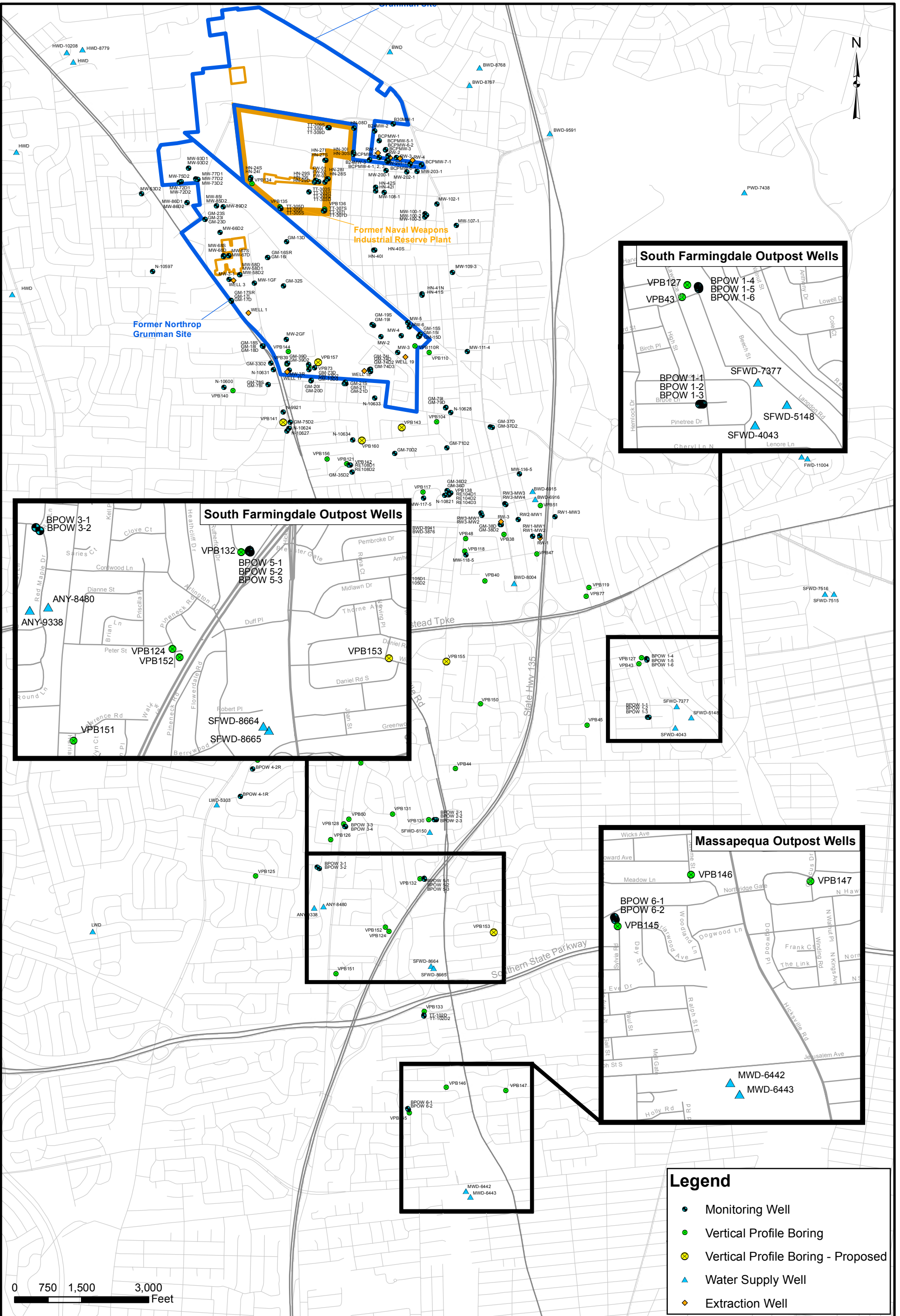
Legend	
●	Monitoring Well
●	Vertical Profile Boring
●	Vertical Profile Boring - Proposed
▲	Water Supply Well
◆	Extraction Well



**VERTICAL PROFILE BORINGS AND CURRENT OUTPOST  
 MONITORING WELL LOCATIONS  
 NAVAL WEAPONS INDUSTRIAL RESERVE PLANT  
 BETHPAGE, NEW YORK**

CONTRACT NUMBER N62470-11-D8013	CTO NUMBER WE15
APPROVED BY EV	DATE 1/15/2015
APPROVED BY	DATE
FIGURE NO.	REV 0





**VERTICAL PROFILE BORINGS AND  
MONITORING WELL LOCATIONS  
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT  
BETHPAGE, NEW YORK**

CONTRACT NUMBER N62470-11-D8013	CTO NUMBER WE15
APPROVED BY EV	DATE 1/16/2015
APPROVED BY	DATE
FIGURE NO. <b>7</b>	REV 0