Statement of Work for the
Rehabilitation of Town of Oyster Bay Basin (Nassau County Basin No. 495)
Arthur Avenue, Bethpage New York

The Navy operates the GM38 Area Hotspot Groundwater Treatment System (Treatment System) in the Hamlet of Bethpage, Town of Oyster Bay, New York to remediate an area of solvent-impacted groundwater (Figures 1-1 and 1-2). The Treatment System started operation in September 2009 and treats approximately 1.4 million gallons of water per day.

Background

In accordance with a June 6, 2008 equivalency permit with the New York State Department of Environmental Conservation (Attachment A), the Treatment System discharge is to achieve drinking and groundwater water standards (Federal and State maximum contaminant levels). The water is discharged to the Town of Oyster Bay-owned, Nassau County-managed Basin No. 495 in accordance with the September 4, 2008 and July 30, 2009 "Request for Non-Stormwater Discharge Permit Navy GM-38 Groundwater Remediation Project Permit No. NC08-7R" (Attachment A). As part of this agreement, in lieu of a fee of approximately $35,000, the Navy agreed to conduct "services in-kind" as payment, as follows:

- The area around the outfall pipe into the basin must be cleared of all debris and any sediment deposited in the area of the splash pad must be removed.
- Equipment and resources must be provided in order to scarify the basin floor in the area surrounding the outfall in order to achieve sufficient infiltration for the proposed discharge rate.
- The perimeter fencing must be inspected and any openings repaired prior to commencing with discharge activities.
- As this is anticipated to be a ten year project, it is understood that any or all of these activities may need to be repeated as needed during this time frame.

In August 2009, the Navy removed trash, vegetation, debris and sediment from the eastern outfall (see Attachment B - Photos 1, 2 and 3). Approximately 30 cubic yards of material were removed.

Based on aerial photographs in the area, prior to the startup of the Treatment System in the fall of 2009, the basin appears to be dry (Attachment C – Photos 2000, 2004, and 2007). Note that the pre-2009 photos appear to identify disturbed soil running the length of the basin, which are believed to be associated with underground electric transmission lines. Since September 2009, treated water has been discharged to the basin on a nearly continuous basis. Periodically, the Treatment System is shut down for maintenance items, such as replacing the liquid or vapor phase granular activated carbon, which involve 3 to 4 days of down time. In addition, the Treatment System may be shut down during projected severe weather events, or it may shutdown automatically during significant precipitation events (e.g.,

greater than 2 inches of rain in one hour). Monthly monitoring of the treated water provided under separate cover has demonstrated compliance with the equivalency permit. After September 2009, the basin appears to hold water throughout its length and width (Attachment C – 2012 and 2016). There are no records that document the change in the water level in the basin over this time period.

October 2016 Basin Observations

A 2016 aerial photograph of the recharge basin showing existing conditions is presented in Figure 1-3. In October 2016, the Navy conducted a detailed evaluation of the basin. Photographs from this evaluation are provided in Appendix D. General observations during this evaluation are as follows:

- Plastic trash was noted throughout the basin.
- Some dead wood (standing or laying) is present.
- There was no evidence of significant erosion of the sidewalls.
- Standing water was noted throughout the basin. During operation of the Treatment System, the water level was approximately 3 to 5 feet deep throughout the basin, and 4 to 6 feet deep near the Broadway outfall. The water is very clear and relatively cold (mid 50's ^{o}F), consistent with the temperature of groundwater.
- As part of this evaluation, the GM38 Area Hot Spot Treatment System was shut down from October 17, 2016 to October 20, 2017. The water level dropped approximately four feet during this period.
- Except for near the two basin inlets (outfalls), one to the north (Arthur Avenue) and one to the east (Broadway/Treatment System discharge), the bottom of the basin is relatively clear of fine-grained or organic material. A total of 4 to 8 inches of silt buildup were noted in close proximity to the basin outfalls.

Basin Evaluation

The water level (elevation) in the basin is dependent on several factors, including the presence of fine-grained or organic material on or near the surface of the basin, the conductivity of the aquifer near and underneath the basin, and the normal depth to the underlying aquifer. Dirt and oil from adjacent roadways and natural leaf material from within or near the basin can accumulate on the surface of the basin and thereby reduce the infiltration rates. Some fine-grained materials may be present in the Treatment System discharge, but it would be limited by the use of cloth and carbon filters within the treatment process. The presence of fine-grained materials or organic material on or near the surface of the basin can be evaluated by comparing the water level in the basin with the water level underneath or beside the basin. A large difference in water levels would indicate fouling of the surface of the basin. Scrapping of the basin should effectively remove this fouling and improve water infiltration rates.

The conductivity of the aquifer around and underneath the basin is an indication of how water can flow from the basin surface through the local geology. While sand is common in the area, there are areas

where silts and potentially clays may be present and reduce infiltration rates. The conductivity of the nearby aquifer can be evaluated by comparing the water level in a nearby piezometer and the regional water table. Local groundwater mounding is typical of these systems, the magnitude and areal extent of the mounding dependent on the flow rate and the ability of the local geology to dissipate the water. Scrapping the basin would not decrease groundwater mounding. The normal depth of the underlying aquifer (without mounding) can be estimated from shallow monitoring wells.

To evaluate these characteristics, water level measurements were taken in late May and early June 2017 from within the basin, a new piezometer 30 to 60 feet north of the basin (A-7a), and two shallow (water table) wells approximately 1,600 feet away (N-10814 and N-9929) (see Figure 1-2). The two shallow wells (N-10814 and -9929) represent nearby water table wells that would not be directly affected by the operation of this basin. These results are presented in Table 1.

Table 1 – Water Level Data (May/June 2017)

Location	Screen Interval (feet - below ground surface)	Reference Elevation (feet mean sea level)	Depth to Water (feet)	Water Elevation (feet mean sea level)
Basin 495 (Broadway Outfall – top of wall)	Not applicable	76.6 (est.)	(-)1.1	77.7
Basin Piezometer (A-7a)	39	93 (est.)	16.6	77.4
N-10814	68 to 72	93.1	39.2	53.5
N-9929	33 to 37	85.87	35.0	47.9

(-) - Water level was 1.1 feet above the top of the outfall wall.
Est. - The top of the outfall wall was estimated using the surveyed storm drain line invert, measured pipe diameter, and calculated height of the wall above the storm drain. The ground surface for Piezometer A-7a was estimated using the surveyed ground surface in the area.

The difference in elevation between the water level in the Basin (77.7 feet mean sea level [MSL]) and the Basin Piezometer A-7a (77.4 feet MSL) suggests that there is currently little interference from fine-grained or organic materials in the basin sediments.

Based on data from wells N-10814 and -9929, if the Treatment System was not discharging water into Basin 495, the groundwater table in the area would be expected to be at an elevation of approximately 48 to 54 feet MSL, or approximately 25 feet below the bottom of the basin. A comparison of the water level in Basin Piezometer A-7a (77 feet MSL) with the expected groundwater table (without Treatment System discharge) indicates that groundwater in the area is mounded by approximately 23 to 29 feet. Geological data from boring VPB 48 (located in the northeast corner of Basin 495) indicates the presence of fine-grained material at a depth of approximately 30 to 40 feet below ground surface (from the top of bank), which would be expected to inhibit groundwater flow in that area and cause the observed groundwater mounding (Attachment E).

The fact that the water level does not continue to rise over time (e.g., 1.4 feet per day) demonstrates that the basin is able to effectively distribute the treated groundwater. Although dredging of the basin may not significantly decrease standing water in the basin or increase infiltrations rates, the Navy has decided that it is appropriate to dredge the basin at this time. Planned activities are described below.

Proposed Basin Rehabilitation Activities

Pending review/confirmation from the Town and State, no permits are anticipated to be required to perform this work. The following steps are to be taken to rehabilitate Basin No. 495 (see Figure 1-4).

1. Allow the basin to naturally dewater by shutting down the Treatment System. It is expected that approximately one week will be required for the basin to dewater. Due to potential odor associated with organic material in the basin, this work should be conducted when temperatures are anticipated to remain below 60 ^{o}F.
2. Clear and grub vegetation along the basin access road. The material is to be disposed off site. Stabilize the access road as needed to allow vehicle access into the basin. RCA may be used and this material may remain.
3. Remove and dispose off site trash within the boundaries of the basin fencing.
4. Remove and dispose off site dead wood within 5 vertical feet of the basin bottom.
5. Scrape and remove an area of 24 feet by 30 feet by 1.0 to 1.5 feet deep of fine-grained or organic material near the Broadway Outfall. Additional material from near the Arthur Avenue outfall should be addressed similarly. Reuse/dispose of this material off site. During this removal, flush the Broadway Outfall storm drain using treatment plant effluent water. This flushed material is to be removed and reused/disposed off site. If material from the Arthur Avenue storm drain is flushed into the basin while the basin is drained, it should also be removed and reused or disposed off site.
6. Vehicles leaving the work area are to be inspected for loose soil. This material is to be removed (swept) prior to the vehicle leaving the site.
7. For the remainder of the basin, scrape and remove 4 to 8 inches of surface material (average of 6 inches). If compaction of the basin soil occurs during the project, the surface is to be worked to promote drainage.
8. The depth of the scrapping will be dependent on the amount of fine-grained or organic material present. Do not over excavate. The material may be staged near the western edge of the basin to allow natural dewatering. A maximum of 1,400 cubic yards (2,240 tons), including flushed material from the storm drains and the deeper excavated material from near the outfalls are to be removed and reused/disposed off site. The preference for this project is to beneficially reuse the excavated soil to the maximum extent practical.

9. Pre-excavation soil characterization samples shall be collected and analyzed as indicated by the landfill accepting the material. A minimum of five samples (one every 500 tons) is to be tested. Depending on the reuse facility/landfill, additional samples may be required.
10. Place 10 tons of rip rap near the Broadway outfall.
11. Except for the area over the underground electric lines, backfill will not be required. A sandy backfill is to be placed over the underground electric lines to restore cover depth.
12. Install a staff gauge in the basin to allow monitoring of the water level in the basin from the access road. The gauge is to be constructed of stainless steel, with 0.1 foot increments. The gauge shall be set a minimum of 3 feet into the basin bottom, with a 6-foot riser.

Bing Maps aerial:
Aerial photograph from ESRI Bing Maps map service
(© 2010 Microsoft Corporation and its data suppliers).

GENERAL LOCATION MAP
NWIRP BETHPAGE, NEW YORK

FILE	112G02230	SCALE	AS NOTED
FIGURE NO.	1-1	REV	DATE 2/7/14

P:\GIS_files\Bethpage\MapDocs\2013\RI_add\BP_longisland-new_8x11.mxd 020714 MMC

N

NORTHROP GRUMMAN

Norcross Ave

Plainview Rd

Seaman Ave

Stymus Ave

Laurel Pl

GM-37D2

GM-71D2

GM-70D2

Broadway

MW-116-5

VPB-42

GM-36D

GM-36D2

MW-117-5

BWD 4-1

BWD 4-2

GM-38D2

GM-38D

VPB-51

GM-38RW03

N-10814

GM-38 RW2-MW2

GM38 AREA HOTSPOT TREATMENT SYSTEM

VPB-48

GM-38RW02

VPB-38

BWD 6-2

BWD 6-1

GM-38RW01

Miller Rd

GM-38 RW1-MW1

MW-118-5

ARTHUR AVENUE BASIN

VPB-47

VPB-40

BWD 5-1

N-9929

VPB-77

Bethpage State Pkwy

Hempstead Tpke

Union Ave

Hicksville Rd

BPOW 01-04

BPOW 01-05

BPOW 01-06

State Hwy 135

Boundary Ave

MONITORING WELL (used for potentiometric surface readings collected during pumping test)

OTHER MONITORING WELL

WATER SUPPLY WELL

RECOVERY WELL

VERTICAL PROFILE BORING

GM-38 AREA GROUNDWATER USE

0 500 1,000 2,000 Feet

GM-38 AREA
PUMPING TEST MONITORING WELLS
NWIRP BETHPAGE, NEW YORK

FILE	112G00622	SCALE	AS NOTED
FIGURE NO.	**1-2**	REV	DATE 1/16/14

P:\GIS_files\Bethpage\MapDocs\MXD\BP_OU2_2013 BP_FIGURE3-1_111913.mxd created by MMC 011614

Aerial Imagery from 2016
http://www.orthos.dhses.ny.gov/arcgis/service

Legend

- 2014 Lidar Elevations (NOAA) (feet msl)
- Streets
- Outfall
- Fenceline
- Top of Basin
- Bottom of Basin
- Access Road

0 25 50 100 Feet

P:\GIS files\Bethpage\MAP DOCS\MXD\2017_SPBP_gm38_conditions_aerial.mxd

NAVFAC Naval Facilities Engineering Command

EXISTING CONDITIONS
GM-38 AREA HOTSPOT
NWIRP BETHPAGE, NEW YORK

FILE	112G08008-WE09	SCALE	AS NOTED
FIGURE NO.	1-3	REV / DATE	7/5/2017

Stewart Avenue
~ 130 ft

Leroy Ave

Arthur Ave

N

Piezometer
A-7a

Access Gate

Arthur Ave.
Outfall

GM-38/Broadway Ave.
Outfall

Access Road

150 ft

484 ft

Area To Be Determined

Clear vegetation and
stabilize access road with RCA

Scrape 4-8" from the basin
and dispose offsite (2,000 tons)

-Remove 12-18" of fine
grained and organic material
-Replace with 10 tons of
Rip Rap

30 ft

24 ft

Flush/Clear sludge
accumulation within
sewer line

Bottom Elevation
~ 71 ft

Broadway Avenue
~ 155 ft

145 ft

Restore cover over
Electric Line

Underground Line
is approximate

476 ft

90
85
80
75

P:\GIS_files\Bethpage\MAP DOCS\MXD\2017_SP\BP_gm38_conditions_plain_063017.mxd

Legend

- Streets
- Outfall
- Electric Line
- 2014 Lidar Elevations (NOAA) (feet msl)
- Rip Rap Area
- Fenceline
- Top of Basin
- Bottom of Basin
- Access Road
- Street

0 25 50 100 Feet

NAVFAC
Naval Facilities Engineering Command

PROPOSED ACTIONS
RE-108 HOTSPOT
NWIRP BETHPAGE, NEW YORK

FILE 112G08008-WE09	SCALE AS NOTED
FIGURE NO. 1-4	REV / DATE 7/31/2017

ATTACHMENT A - CORRESPONDANCE

New York State Department of Environmental Conservation
Division of Water
Bureau of Water Permits, 4th Floor
625 Broadway, Albany, New York 12233-3505
Phone: (518) 402-8111 • **FAX:** (518) 402-9029
Website: www.dec.state.ny.us

Alexander B. Grannis
Commissioner

MEMORANDUM

TO: Steven Scharf, DER

FROM: Jean Occidental, DOW, Bureau of Water Permits JO

SUBJECT: Naval Weapons Industrial Reserve Plant (NWIRP); DER Site # 1-01-001

DRAINAGE BASIN: na

DATE: June 6, 2008

In response to your request and the permittee's SPDES Permit Equivalent Application dated April 27, 2008, attached is the effluent criteria for the above noted groundwater remediation discharge.

The Division of Water does not have any regulatory authority over a discharge from a State, PRP, or Federal Superfund Site. The Division of Environmental Remediation will be responsible for ensuring compliance with the attached effluent criteria and approval of all engineering submissions. Additional Condition (1) identifies the contact to send all effluent results, engineering submissions, and modification requests. The Regional Water Engineer should be kept appraised of the status of these discharges and, in accordance with the attached criteria, receive a copy of the effluent results for informational purposes.

If you have any questions, please call me at (518) 402-8116.

Attachment

cc: (w/att) RWE, Region 1
C. Webber
BWP Permit Coordinator

Naval Weapons Industrial Reserve Plant

DER site # 1-01-001
Page 1 of 2

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning: April 1, 2009

and lasting until: April 1, 2014

the discharges from the treatment facility to Groundwater shall be limited and monitored by the operator as specified below:

Outfall and Parameters	Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
Treated Groundwater Remediation Discharge from: Recovery Wells 1, 2, and 3					
Flow	Monitor	1100	GPM	Continuous	Recorder
pH (range)	5.5 - 8.5		SU	Weekly	Grab
1,1-Dichloroethane	NA	5	µg/l	Monthly [1]	Grab
1,2-Dichloroethane	NA	0.6	µg/l	Monthly [1]	Grab
1,1-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
cis-1,2-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
trans-1,2-Dichloroethene	NA	5	µg/l	Monthly [1]	Grab
Tetrachloroethene	NA	5	µg/l	Monthly [1]	Grab
1,1,1-Trichloroethane	NA	5	µg/l	Monthly [1]	Grab
Trichloroethene	NA	5	µg/l	Monthly [1]	Grab
Vinyl chloride	NA	2	µg/l	Monthly [1]	Grab
Mercury	NA	0.25	µg/l	Monthly [1]	Grab

Footnotes:

(1) The minimum measurement frequency shall be monthly following a period of 24 consecutive weekly sampling events showing no exceedances of the stated discharge limitations.

Naval Weapons Industrial Reserve Plant

DER site # 1-01-001
Page 1 of 2

Additional Conditions:

(1) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

Steven Scharf
Division of Environmental Remediation
NYSDEC, 625 Broadway
Albany, NY 12233-7015
Phone: (518) 402-9620

With a copy sent to:

Regional Water Engineer
NYSDEC - Region 1
Building 40, SUNY Campus
Stony Brook, New York 11790-2356
Phone: (631) 444-0354

(2) Only site generated wastewater is authorized for treatment and discharge.

(3) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

(4) Any use of corrosion/scale inhibitors, biocidal-type compounds, or other water treatment chemicals used in the treatment process must be approved by the department prior to use.

(5) This discharge and administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.

TETRA TECH EC, INC.

May 27, 2008
FILE #: 2282-0096-08-0012

Raymond A. Ribeiro, P.E.
County of Nassau
Department of Public Works
1194 Prospect Avenue
Westbury, NY 11590-2723

SUBJECT: US NAVY CONTRACT NO. N62472-99-D-0032
CONTRACT TASK ORDER NO. 96
NWIRP, BETHPAGE, NY
DISCHARGE TO COUNTY BASIN # 495

Dear Mr. Ribeiro:

Tetra Tech EC, Inc. (TtEC) performs environmental remediation for the United States Navy under the above referenced contract. This remedial work includes the GM-38 groundwater remediation project, which is associated with the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage located in east central Nassau County, Long Island, New York. The Navy's property totals approximately 109.5 acres and was formerly a Government Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. The majority of the Navy property was recently transferred to Nassau County.

The GM-38 project area is not within the NWIRP property and is located in Bethpage, NY, approximately 8,500 feet south-southeast and hydraulically down gradient of NGC and NWIRP Bethpage. Specifically, the center of the project area is a utility easement that is located east of Broadway Avenue, west of the Seaford – Oyster Bay Expressway (Route 135), and between the north and south dead ends of Windhorst and Herman Avenues. The GM-38 Area Groundwater Remediation project includes the extraction of volatile organic compound contaminated groundwater, treatment within a pre-engineered steel building, and re-injection into the groundwater via up to four injection wells. The SPDES permit application for discharge of treated effluent was submitted on April 30, 2008 to Steven Scharf of the New York State Department of Environmental Conservation, Division of Environmental Remediation. Therefore, a SPDES permit number and the groundwater clean-up limits for this treatment system are currently unavailable.

Due to the necessity to remove existing trees along Route 135 and the long term operation and anticipated future maintenance problems associated with injection wells, TtEC requests permission to use Nassau County Basin #495 as a discharge point for treated

groundwater. The removal of the trees would eliminate a natural barrier between residences and Route 135 which would create a negative reaction from the community. The county basin is located between Stewart Avenue (east of) and Broadway Avenue (west of) and south of Arthur Avenue. Field observations via two stormwater manholes of existing storm water piping and the outfall structure indicates the basin has the capability to handle the treated effluent.

The Navy groundwater treatment system is designed to operate for a life of approximately 10 years at a treatment flow rate of 1,100 gallons per minute. The plant is intended to run continuously except for operation and maintenance shutdowns. TtEC requests to tie into an existing stormwater drain manhole located in the utility easement between the dead end streets of North Herman Avenue and South Herman Avenue. The existing inlet and outlet pipes at this manhole appear to be approximately 24 inches diameter. TtEC proposed to install a 10 inch diameter high density polyethylene pipe (HDPE) from the treatment building and connect into the manhole for discharge. The size of the outfall located near the northeast corner of the basin is approximately 42 inches diameter.

If for any reason discharge into the existing manhole is problematic, TtEC proposes to install the 10 inch HDPE pipe from the treatment building over to Nassau County Basin #495 and construct a Navy discharge outfall.

If you have any questions or comments concerning this request, please contact me at direct office phone no. (215) 702-4099 or by email stavros.patselas@tteci.com .

Sincerely,

Stavros Patselas
Project Manager

cc: Lora Fly, MIDLANT
Al Taormina, ECOR
Brian Blanchard, TtEC
Chung Yi Chiou, TtEC

THOMAS R. SUOZZI
COUNTY EXECUTIVE

RAYMOND A. RIBEIRO, P.E.
COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS
1194 PROSPECT AVENUE
WESTBURY, NEW YORK 11590-2723

July 30, 2009

Mr. Stavros Patselas
Tetra Tech EC
Bucks Town Corporate Campus
820 Town Center Drive, Suite 100
Langhorne, PA 19047

Re: Request for Non-Stormwater Discharge Permit
Navy GM-38 Groundwater Remediation Project
Permit No. NC08-7R

Dear Mr. Patselas:

This is in response to your letter dated April 29, 2009, in which you requested, on behalf of the United States Navy, that a waiver be granted for the fee associated with the above discharge. As you are aware, the Nassau County Department of Public Works previously granted a permit that would allow for treated groundwater from the Navy GM-38 project to be discharged into the positive drainage system that outfalls into Nassau County Storm Water Basin # 495, Bethpage. As outlined in the permit letter dated September 4, 2008, the fee associated with this type of discharge is an annual fee based on the pumping rate of the system. Based on the information provided, the estimated fee in this case would be approximately $35,000.00. The fee as outlined is for the purpose of covering the additional maintenance costs incurred by the County for the increased flow to the basin.

This request has been reviewed and the County is prepared to grant a waiver of the fee in exchange for services in-kind as payment. Specifically, the Department will require that the following scope of work be completed by Tetratech EC, Inc. in and around the storm water basin:

- The area around the outfall pipe into the basin must be cleared of all debris and any sediment deposited in the area of the splash pad must be removed.
- Equipment and resources must be provided in order to scarify the basin floor in the area surrounding the outfall in order to achieve sufficient infiltration for the proposed discharge rate.
- The perimeter fencing must be inspected and any openings repaired prior to commencing with discharge activities.
- As this is anticipated to be a ten year project, it is understood that any or all of these activities may need to be repeated as needed during this time frame.

In addition, permission for access to the County property for this work requires that Tetratech EC, Inc. or its assigned contractor furnish Nassau County with a certificate of general liability insurance naming the "County of Nassau" an additional insured. The limits of the liability in such policy shall not be less than $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.

If you have any questions regarding this matter, please contact Mr. Gerard Ennis at (516) 571-6986.

Very truly yours,

Raymond A. Ribeiro, P.E.
Commissioner of Public Works

RAR:JLD:KGA:jb

c: Joseph L. Davenport, Deputy Commissioner of Public Works
Kenneth G. Arnold, Unit Head, Water/Wastewater Engineering Unit
Gerard Ennis, Hazardous Waste Specialist II

THOMAS R. SUOZZI
COUNTY EXECUTIVE

RAYMOND A. RIBEIRO, P.E.
COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS
1194 PROSPECT AVENUE
WESTBURY, NEW YORK 11590-2723

September 4, 2008

Mr. Stavros Patselas
Tetra Tech EC
Bucks Town Corporate Campus
820 Town Center Drive, Suite 100
Langhorne, PA 19047

Re: Request for Non-Stormwater Discharge Permit
Navy GM-38 Groundwater Remediation Project
Permit No. NC08-7R

Dear Mr. Patselas:

This letter is in response to your letter dated May 27, 2008, in which you requested, on behalf of the United States Navy, that a permit be granted to discharge treated groundwater into a positive drainage system that outfalls into Nassau County Recharge Basin #495 located on the south side of Arthur Avenue, Bethpage. It is our understanding that the discharge would be covered under a NYSDEC SPDES permit and that the groundwater clean-up parameters would be set forth as part of this application.

This matter has been reviewed and this office has no objection to the discharge. Therefore, the County is prepared to grant permission for this discharge with the understanding that the following conditions will apply:

-Nassau County Department of Public Works Water/Wastewater Engineering Unit must be notified prior to discharge.

-Pumping will not take place during a significant rainfall event and would be suspended if the system cannot accept the flow.

-Discharge parameters are being met and copies of monthly Discharge Monitoring Reports should be forwarded to this office.

As an additional condition for approval of this discharge, the County of Nassau will require that the contractor provide the equipment and resources necessary to clear and scarify the basin floor in the area surrounding the outfall in order to achieve sufficient infiltration for the proposed discharge rate.

The permittee acknowledges that this permit does not relieve him/her from obtaining any and all other permits or following any and all rules or regulations that may be required by any Federal, State, County, Town, City or Village Agency, Department or Division, or other public or private parties, and that this permit does not supersede any of the above.

As discussed, the fee that has been established for a non-stormwater discharge of this type is $35.00 per GPM of system capacity and is payable on an annual basis. Payment should be made to the Nassau County Treasurer. Please remit payment to the Water/Wastewater Engineering Unit at 170 Cantiague Rock Road, Hicksville, NY 11801.

If you have any questions regarding this matter, please contact Mr. Gerard Ennis at (516) 571-6986.

Very truly yours,

Raymond A. Ribeiro, P.E.
Commissioner of Public Works

RAR:JLD:KGA:cs

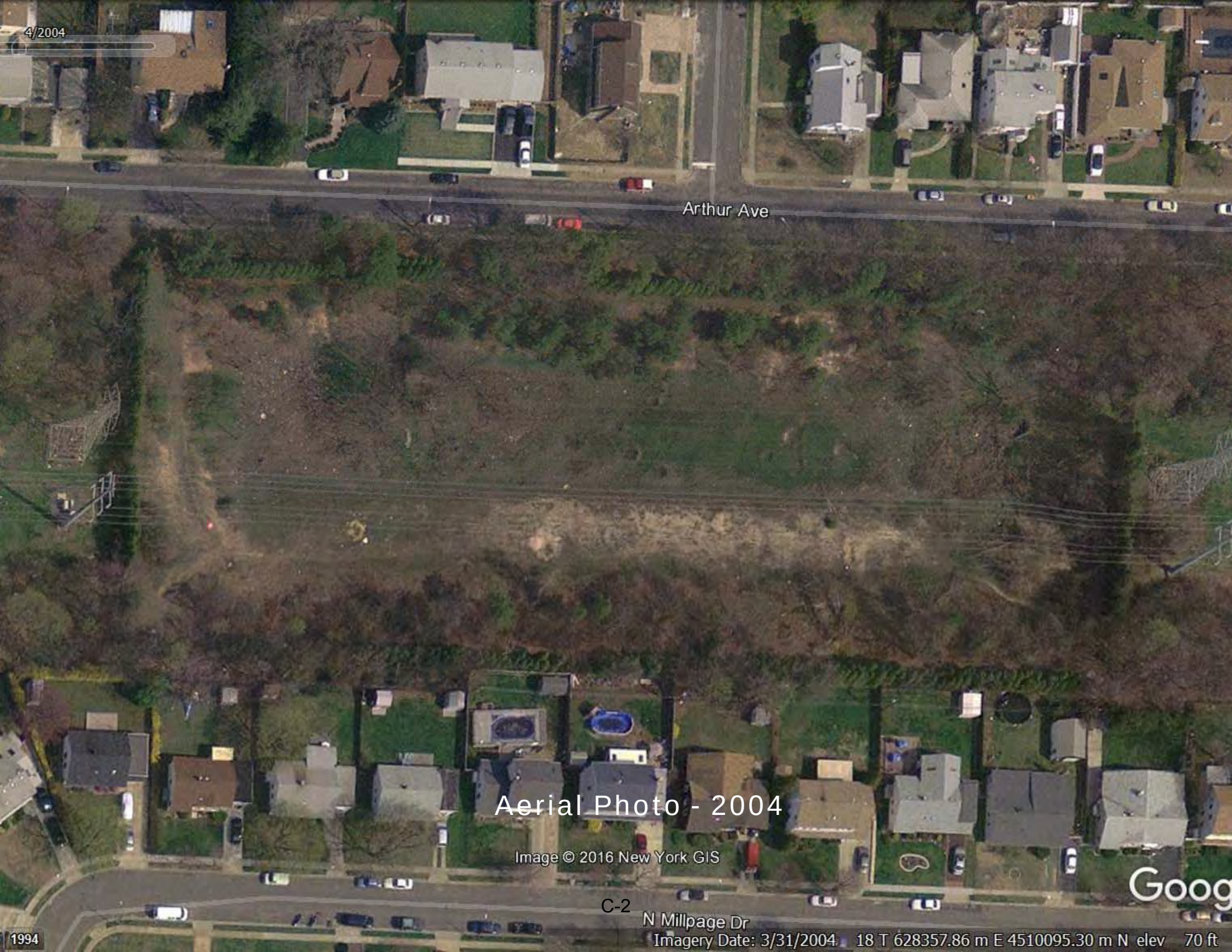
c: Joseph L. Davenport, Deputy Commissioner of Public Works
Kenneth G. Arnold, Unit Head, Water/Wastewater Engineering Unit
Gerard Ennis, Hazardous Waste Specialist II

Photo 1 - Grubbing Activities, August 2009

Photo 2 - Scarified Basin Near Broadway Outfall

Photo 3 - Cleared Broadway Outfall Pipe and Splash Pad


ATTACHMENT C - AERIAL PHOTOGRAPHS 2000 TO 2016
Arthur Ave
Aerial Photo - 2000
Image © 2016 New York GIS
N Millpage Dr
1994
Imagery Date: 3/31/2000 18 T 628357.86 m E 4510095.30 m N elev 70 ft


4/2004
Arthur Ave
Aerial Photo - 2004
Image © 2016 New York GIS
N Millpage Dr
1994
Imagery Date: 3/31/2004 18 T 628357.86 m E 4510095.30 m N elev 70 ft


5/2007
2016
Arthur Ave
Aerial Photo - 2007
Image © 2016 New York GIS
N Millpage Dr
1994
Imagery Date: 2/28/2007 18 T 628357.86 m E 4510095.30 m N elev 70 ft


3/2012
Arthur Ave
Aerial Photo - 2012
C-4
N Millpage Dr
1994
Imagery Date: 3/6/2012 18 T 628357.86 m E 4510095.30 m N elev 70 ft


5/2016
Arthur Ave
Aerial Photo - 2016
N Millpage Dr
1994
Imagery Date: 5/11/2016 18 T 628357.86 m E 4510095.30 m N elev 70 ft

ATTACHMENT D - BASIN 495 PHOTOGRAPHS - OCTOBER 2016

Photo 1 - Looking East

Photo 2 - Arthur Avenue Outfall

Photo 3 - Middle of Basin

Photo 4 - Basin Looking East

Photo 5 - Basin Looking Northeast

Photo 6 - Basin Looking Southeast

Photo 7 - Arthur Avenue Outfall

Photo 8 - Arthur Avenue Outfall

Photo 9 - Arthur Avenue Outfall

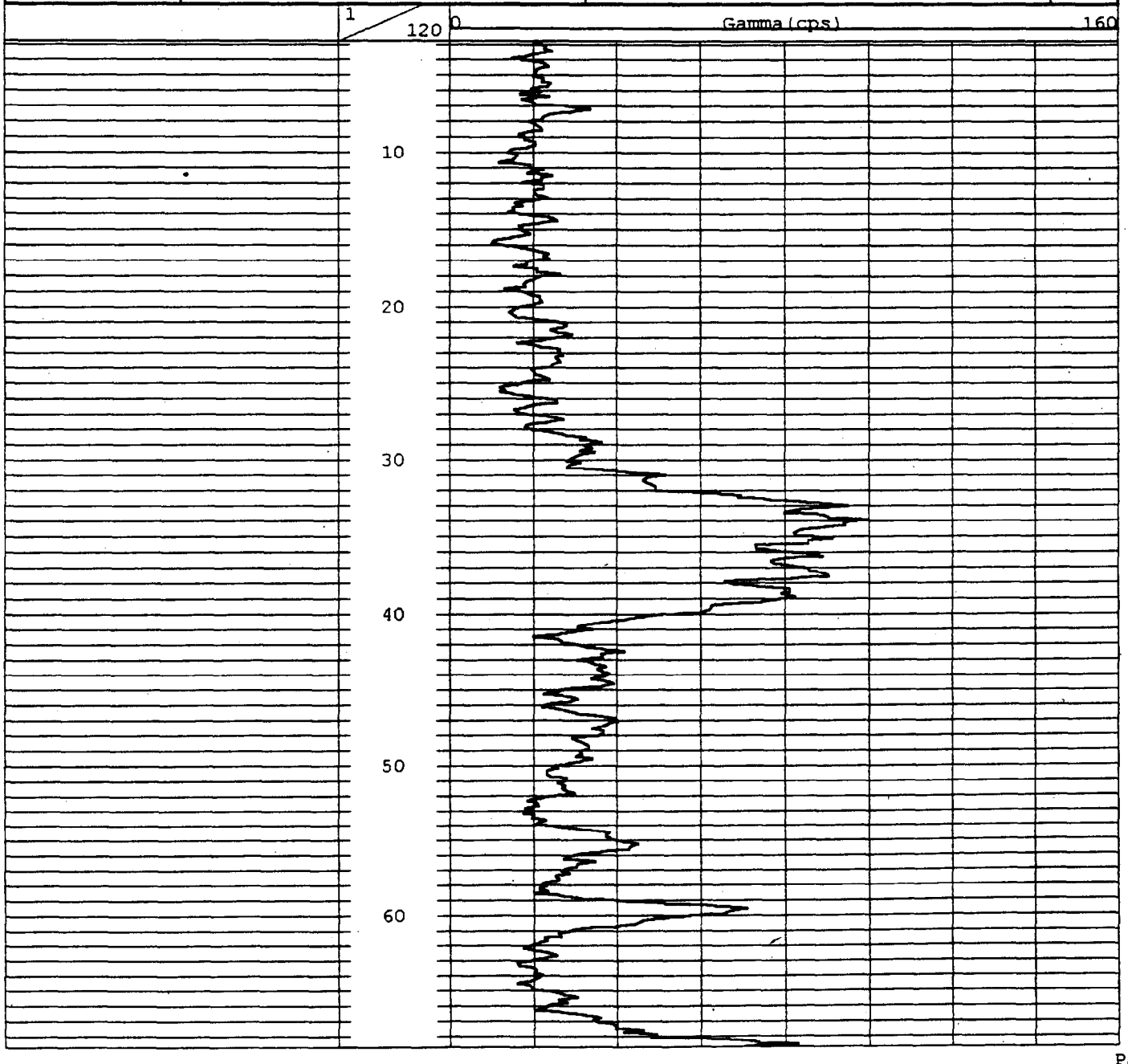
Photo 10 - Broadway Outfall

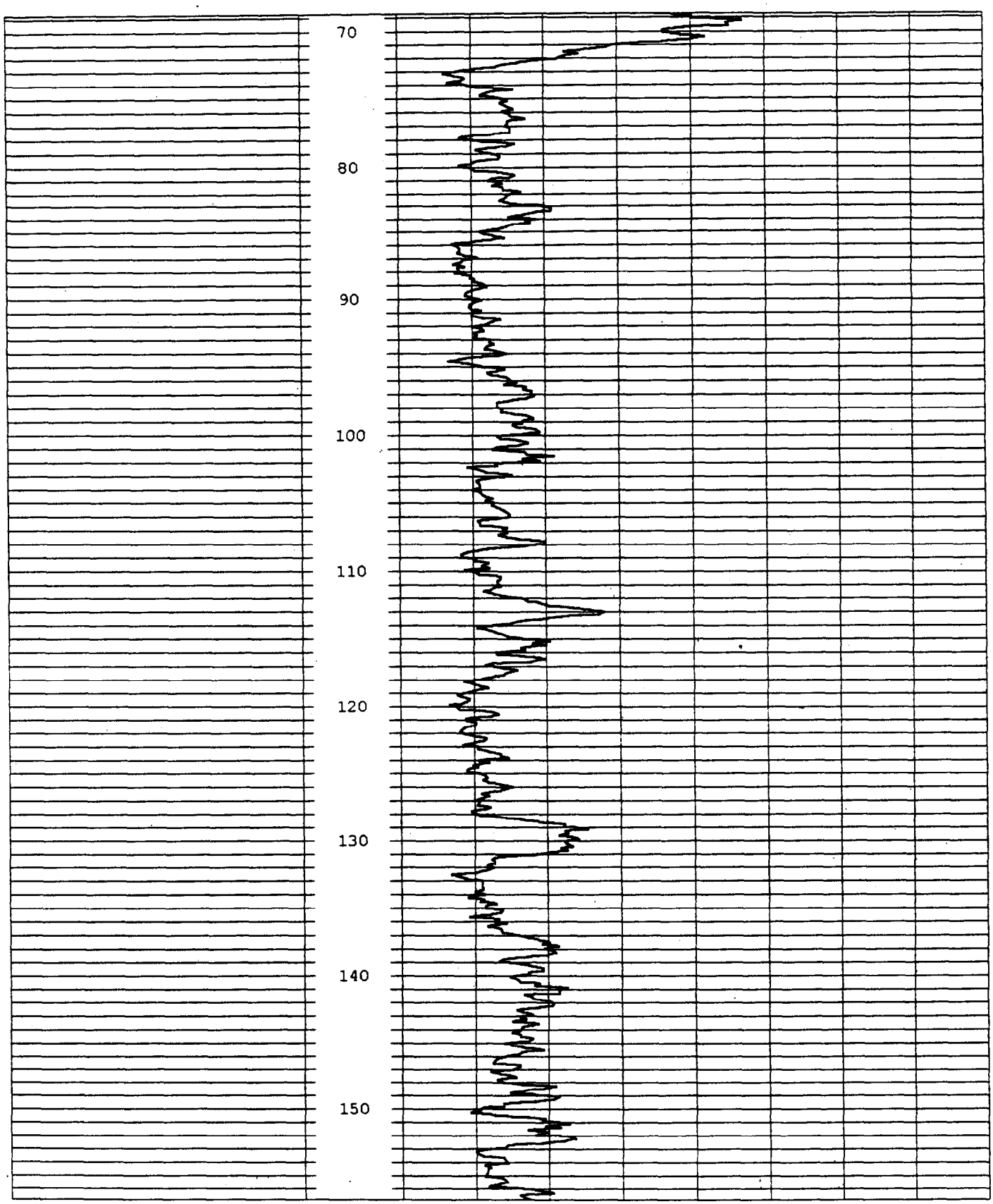
Photo 11 - Broadway Outfall

Photo 12 - Damaged Fence

ATTACHMENT E - VPB 48 GAMMA LOG

	COMPANY: UNI TECH DRILLING			Casing
	Location: ARTHUR AVE., BETHPAGE			
Well	NWIRP BETHPAVE VPB-48		Depth Driller 760 FEET Depth Logger 757 FEET	150 FT. 6"
Date	MAY 30, 2001 BH Fluid	MUD	Logged by: AQUA TERRA	
File Name			Witness: SCOTT NEIL	





E-2
VPB48 C-17