1-30-003B

DEPARTMENT OF THE NAVY
ENGINEERING FIELD ACTIVITY, NORTHEAST
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO
5090
Code EV21/JLC

3 JUN 2005

MEMORANDUM

FOR THE MEMBERS OF THE RESTORATION ADVISORY BOARD (RAB) FOR THE INSTALLATION RESTORATION PROGRAM AT NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE, NEW YORK

Enclosed are the meeting minutes from the Restoration Advisory Board (RAB) meeting that was held at the Bethpage Community Center on Wednesday, April 6, 2005.

If you have any questions regarding these minutes, you may send me an email at james.colter@navy.mil or call me at (610) 595-0567, extension 163.

Sincerely,

JAMES L. COLTER
Remedial Project Manager
By direction of the
Commanding Officer

Enclosure: (1) Meeting Minutes from the 4-6-2005 RAB Meeting

Distribution:
NAVAIR, Joe Kaminski
NYSDEC (Albany), Steve Scharf
NYSDEC (Albany), Henry Wilkie
NYSDEC (Stony Brook), Stan Farkas
NYSDOH, Ian Ushe
USEPA Region II, Carol Stein
USEPA Region II, Carla Struble
Nassau County DOH, John Lovejoy
Nassau County DPW, Tim Kelly
Town of Oyster Bay, Hon. John Venditto
Town of Oyster Bay, Richard Pfaender
Town of Oyster Bay DPW, Tom Clark
ECOR, Al Taormina
Tetra Tech FW, Stavros Patselas
Community Co-Chair, Jim McBride
Community RAB Member, Mike Grello
Community RAB Member, Hon. Ed Mangano
Community RAB Member, Linda Mangano
Community RAB Member, Ed Resch
Community RAB Member, Charles Bevilacqua
Community RAB Member, Roy Tringali
Community RAB Member, Rosemary Styne

ATTACHMENT 1

AGENDA

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Bethpage

April 6, 2005
Bethpage Community Center, Bethpage, NY
7:00 p.m.

Welcome and Agenda Review
Joe Kaminski, Naval Air Systems Command

Review and Approval of Minutes
All Members

AOC 22 Pilot Study
Dan Lohavanijaya
Tierra Technologies

Progress Update – GM-38 Remedial Design
Stavros Patselas, Tetra Tech FW

Closing Remarks
Joe Kaminski, Naval Air Systems Command

Presenters will be available after the program for questions.

RESTORATION ADVISORY BOARD (RAB) MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE
BETHPAGE COMMUNITY CENTER
BETHPAGE, NEW YORK
WEDNESDAY, APRIL 6, 2005

The fourteenth meeting of the MWIRP Bethpage RAB began at approximately 7:00 p.m. Meeting attendees included representatives from the Navy, (Jim Colter and Joe Kaminski), Town of Oyster Bay (Rich Pfaender), New York State Department of Environmental Conservation (NYSDEC) (Steve Scharf), New York State Department of Health (NYSDOH)(Trevor Wescott and Wendy Kuehner) RAB community members (Charles Bevilacqua, Rosemary Styne, Ed Mangano, Mike Grello), Bethpage Water District, and local residents. The RAB meeting was attended by an usually large group of residents local to the general GM-38 Area.

One resident noted recommended changing the location of the meeting to the library or high school, since the location of the community center is not well known. Mr. Colter (Navy) replied that a new location will be considered.

Welcome and Agenda Review

The Navy RAB Co-chair, Mr. Joe Kaminski, Naval Air Systems Command, welcomed everyone to the RAB. Mr. Kaminski, began by presenting a brief history of the site. To comply with the community's primary concerns, Mr. Kaminski decided to forego the agenda (Attachment 1) and address the community's primary concerns/issues regarding the GM-38 Remedy. Accordingly, the presentation and discussion regarding the AOC 22 Pilot Study was removed from the agenda.

The GM-38 area update (Attachment 2) was presented during the course of the meeting.

GM-38 – OPEN FORUM

Mr. John Pacifico, a local GM-38 resident, commented that better participation by the community is needed, and noted that the issue is why is it (GM-38 Area) in their neighborhood and why weren't they notified earlier.

A resident questioned how many strippers are in the area. The response was that there are three strippers in the area, two are in one building associated with Bethpage Water District (BWD) Plant 5 and the other is associated with BWD Plant 4.

A resident commented that the construction activities at the GM-38 Area to date are not acceptable. The schedule has been slow.

A resident commented that it has taken 30 years for Navy to clean up the area and asked whether people are aware that this area is considered to be a high cancer area. Also, that the Navy came into the community without notifying the residents.

A resident noted that contamination has been in the area for over 18 years and that they would like to be informed when something happens in the area.

At this point, the meeting had gotten out of control with several local residents making statements. There was no meeting facilitator present at this meeting to help keep the meeting focused.

Mr. Ed Mangano (Nassau County Legislator) commented that there needs to be more community involvement from local community members and he made reference to the efforts taken by John Pacifico. Mr. Mangano went on to say how the Navy has been holding these RAB meetings for sometime and that the meetings are held just about every quarter. Mr. Mangano recommended to the group to listen to the Navy's presentation and reiterated that the RAB is made of community members just like those present.

A resident made a statement that these meetings need to be publicized better. Mr. Colter (Navy) agreed with the resident and noted that "getting the word" out with regards to these meetings has been a continuing challenge. A line must be drawn with regards to the mailing list and, as expected, someone on the other side of the line does not get a notification. Mr. Colter noted that as long as everyone had signed in at the welcome table, their names would be added to the Navy's mailing list and that the Navy will expand the area for notifications and promised to try and do a better job with notifying the local community of upcoming meetings.

Mr. Colter continued to say that the Navy has been working with NYSDEC for several years with regards to the cleanup of contaminated groundwater. Mr. Colter used a poster that showed the extent of the groundwater contaminant plume but emphasized the fact that despite the size of the plume on the poster, approximately 80% of the contamination is still located "onsite", with onsite defined as the Navy/Northrop Grumman properties, and that the remainder of the plume to the south accounts for the remaining 20%.

A comment was made as to the quality of the drinking water. Mr. Colter explained that the Bethpage Water District, and all of the water districts in this area, regularly monitor the quality of the drinking water and reports this information to the Nassau County Department of Health. The Navy cannot address any issues with regards to the quality of their drinking water. Residents need to discuss their concerns with their local water authority and in the case of the GM-38 Area, the Bethpage Water District.

Mr. Colter went on to explain that a contaminated groundwater plume is moving from the Navy/Northrop Grumman sites to the south and monitoring wells have been installed to monitor the contaminant movement. Within the overall groundwater plume, there is higher concentration plume located in an area referred to as the GM-38 Area. The location for the groundwater extraction and recovery wells and treatment system were selected based on the availability of land and proximity to the GM-38 Area. The plan is to run the system 5 to 10 years to meet cleanup goals. The project is currently in Phase I (draft design phase) which the Navy is prepared to discuss tonight. The draft design will then go to NYSDEC for comments. The Navy will also send a copy to the Town of Oyster Bay and the local community will have a chance to comment through the Town. Any comments made by the community will be considered by the Navy.

A resident inquired what the decibel (noise) level will be when the plant is running. Mr. Patselas replied that there will be construction techniques utilized that will minimize the amount of noise that can be heard from the system. When completed, the noise coming from the system should be equal to or even less than what the residents are used to hearing from the nearby highway.

Mr. Patselas (Tetra Tech EC) presented the current work for the GM-38 Area. Mr. Patselas apologized to the community for any inconveniences that may have occurred due to the drilling. Mr. Patselas noted that drilling activities should be completed within the next couple of weeks and added that they have begun cleanup activities at the dead-ends of North and South Windhorst and Herman Avenues by removing fallen trees and branches.

Mr. Patselas noted that one complaint has been night work and the use of lighting. He indicated that because of the project requirements, there are times that night work was needed and adequate lighting was a major requirement needed to ensure the safety of the workers. In the future if night work is required, activities will be conducted in a manner that will minimize neighborhood impacts.

A resident inquired why the community had to call the police for leaving an open well. Mr. Patselas inquired if the resident was speaking of the weekend of Jan 14 to16. Mr. Patselas apologized for the incident and stated that there was no excuse for what happened. Since that time, a temporary fence has been installed around all work areas and equipment and modifications have been done to all of the fences to prevent entry by kids and pets.

Mr. Patselas further explained the site history of the GM-38 project. In 2003, the design was submitted and in September 2004, a community poster session was held. Construction activities began in October 2004. The treatment plant will be sited along the Seaford-Oyster Bay Expressway. Aesthetic considerations have been included into the design. For example, there will be a berm constructed using excavated soil that will create a visual barrier between the treatment plant

and nearby homes. To add to the visual barrier, trees will be planted on top of the berm. The goal of this project has always been to minimize the removal of as many of the trees as possible, however, some trees had to be removed for the construction.

Other considerations that went into the design of the treatment plant building included the use of lighting shrouds that will reflect the outdoor lights downward, alarms for the system will be silent to the neighborhood, silencers will be installed on all equipment, and insulation will be installed between the double-panel building walls. During the next phase of construction starting in August 2005, a temporary access road will be constructed off of Broadway Avenue. This was included so that the heavy equipment and building materials that will be needed can access the site without traveling down Sophia Street.

Concerns were raised regarding the current location of the drill rig and the need to remove so many trees. Mr. Steve Scharf from NYSDEC noted that the original plan was for one of the recovery wells to be located in the middle of South Herman Avenue. In order to try and minimize impacts to that part of the neighborhood, the NYSDEC asked the Navy consider moving the recovery well to the east behind the trees. The Navy's consultants concluded that moving the well about 100 to 150 feet to the east would have no adverse bearing on the overall design of the recovery system, and contacted the New York State Department of Transportation regarding the possible use of their property to install not only a recovery well, but also the injection wells.

A concern was raised regarding the condition of the streets due to the construction activities. Mr. Colter indicated that the services of a street-sweeper will be procured and that the streets will be swept within the next couple of weeks.

Mr. Anthony Sabino, Attorney for the Bethpage Water District, indicated that he also owns a home in the area. However, he wanted to point out that the contamination that is being discussed is associated with the groundwater and that the water table is located 70 feet below the ground surface. There is no contamination found between the ground surface and the water table and there is no concern for the local residents.

A resident expressed a concern with contaminants being released into the air after being stripped from the water. Mr. Colter replied that vapor-phase carbon will be used to remove the contaminants from the air so that contaminants are not being released into the air. There are air guidelines that have to be met and part of the operation of the system will include air sampling to ensure compliance with these guidelines.

A question was raised about the carbon that is used up. Mr. Colter responded that the spent carbon is disposed of offsite.

A resident expressed concern over the inefficiency of notifications to the people in the area. The resident noted that not everyone in the community subscribes to the Bethpage Tribune and suggested the Navy spend funds on more mailers. The resident also indicated that they were notified about the well being installed, but were not notified about the treatment plant. Mr. Colter apologized for the inadequacy of the meeting and other notifications and promised to try to make a better effort for future notifications.

A resident suggested that future meeting notifications to be added to the water bills that come from the water districts. The Bethpage Water District representative replied that they will do what they can to notify the community of the meetings and will look into ways to improve notification.

A resident inquired if all the hot spots have been found. Mr. Sabino indicated that it was his opinion that all the hot spots have not been found because clay units can cause contamination to move in strange ways.

Mr. Patselas was then asked to continue with his presentation regarding the design of the GM-38 treatment system.

Mr. Patselas proceeded to detail the location of the wells installed within the New York State Department of Transportation (DOT) right-of-way (Seaford Oyster Bay Expressway) and the proposed layout of the treatment plant. The proposed layout of the treatment plant will consist of an equalization tank, an air stripping tower, a polishing unit (liquid carbon, and vapor carbon units for air). The building will be 75 feet by 75 feet and 25 feet high. The air stripping tower will be placed within a sump within the building to try and reduce the amount of stack that will be exposed but the tower will still extend an additional 15 feet. The design of the treatment plant will be such that the amount of contaminated groundwater coming into the system should be able to be treated to non-detect levels with the use of the air stripping tower only. However, the liquid-phase carbon is being included into the design so that if the effluent water is not non-detect, then that water will be filtered through the carbon to ensure non-detect levels prior to being injected back into the ground.

A resident asked how the contaminants move. It was indicated that the contaminants (volatile organic compound - VOCs) flow with the groundwater to the south to southeast. As the groundwater moves, it also sinks.

A resident suggested that the DOT right-of-way be restored in stages since the construction is being done in stages. Mr. Patselas responded that they would discuss it with DOT and as soon as the last well is installed they will perform an interim restoration.

Mr. Scharf commented that it has always been a plan of restoration after construction has been completed, but after hearing community concerns, the Navy will perform an interim restoration.

Mr. Patselas noted that the last well is currently being installed, and should be completed by the end of the month. At that time, interim restoration will be done.

A resident inquired if the residents would be involved in the restoration plan. Mr. Patselas replied that any restoration plan will be forwarded to the Town of Oyster Bay and that any community comments should be filtered through the Town. The Town would then discuss these suggestions with the Navy.

A resident asked about how leaks in the piping would be discovered and addressed. Mr. Patselas indicated that all piping will be high density polyethylene, or HDPE and that secondary containment in the form of an additional pipe with a larger diameter will be installed around the smaller diameter pipe so if there is a break, the leak will be contained by the outer pipe. With regards to leaks from within the treatment plant, the plant floor will be sloped, so if there is a leak, the flow will go towards the sump which will contain the spill. This water will then be pumped back through the treatment train.

A resident asked what will happen to the plant when the treatment is done in 5 to 10 years. Mr. Colter replied that the town will get the building. However, if the town would like the Navy to remove the building, then it would be removed.

A resident asked if there is an idea of what will be left in 10 years. Mr. Colter noted that modeling has indicated that the levels of contamination in the groundwater should be down to concentrations of less than 100 ug/l. This level will more closely represent the concentration of contaminated groundwater within the remainder of the off-site plume. Currently, there are 84 wells that are monitored quarterly by Northrop Grumman and there are no other known hot spots.

A resident inquired if this will clean up the groundwater or just prevent the spread of contamination to other districts. Mr. Colter responded that both are true to some extent. The groundwater will be cleaned up to lower concentrations but not to drinking water standards and by removing this mass from this area will also have a benefit to other water districts located further downgradient.

Rich Pfaender, Town of Oyster Bay, pointed out that the town's involvement is to minimize the damage to the area. He indicated that the town would hear the community's concerns with security and restoration and will work in getting a reasonable restoration timeline. He also noted that they would look into a plan to use vegetation with quick growth/cover.

It was decided to adjorn the meeting due to the time and the requirement by the Nassau County Police Department that the Community Center be vacated by 10:30 p.m. With that, Mr. Kaminski adjourned the meeting at approximately 10:30 p.m.

ATTACHMENT 2

GM-38 PRESENTATION

Groundwater Remediation Project

Naval Weapons Industrial Reserve Plant
Bethpage, NY
GM-38 Area

Restoration Advisory Board Meeting
April 6, 2005

TETRA TECH EC, INC.

Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

NAVFAC

Site History

- Chlorinated solvents detected in GW
- GW pump & treat system installed on Northrop Grumman property (Nov 1998)
- GM-38 Area delineated (June 2000-April 2002)
- Conceptual Plans to design and build GWTP in GM-38 Area for mass removal (February 2003)

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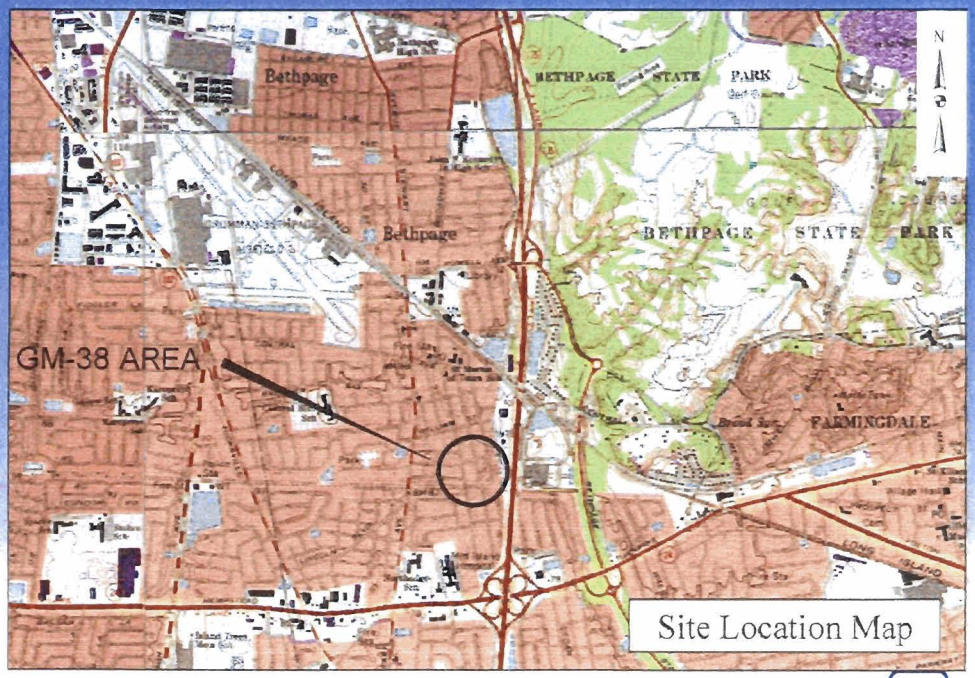
Site History (cont'd)

- Community Workshop (September 2004)
- Pre-design investigation (November 2004)
- Draft Remedial Design (February 2005)
  - Navy and third-party consultant



Site Location Map

Site Plan, GM-38 Area

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Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

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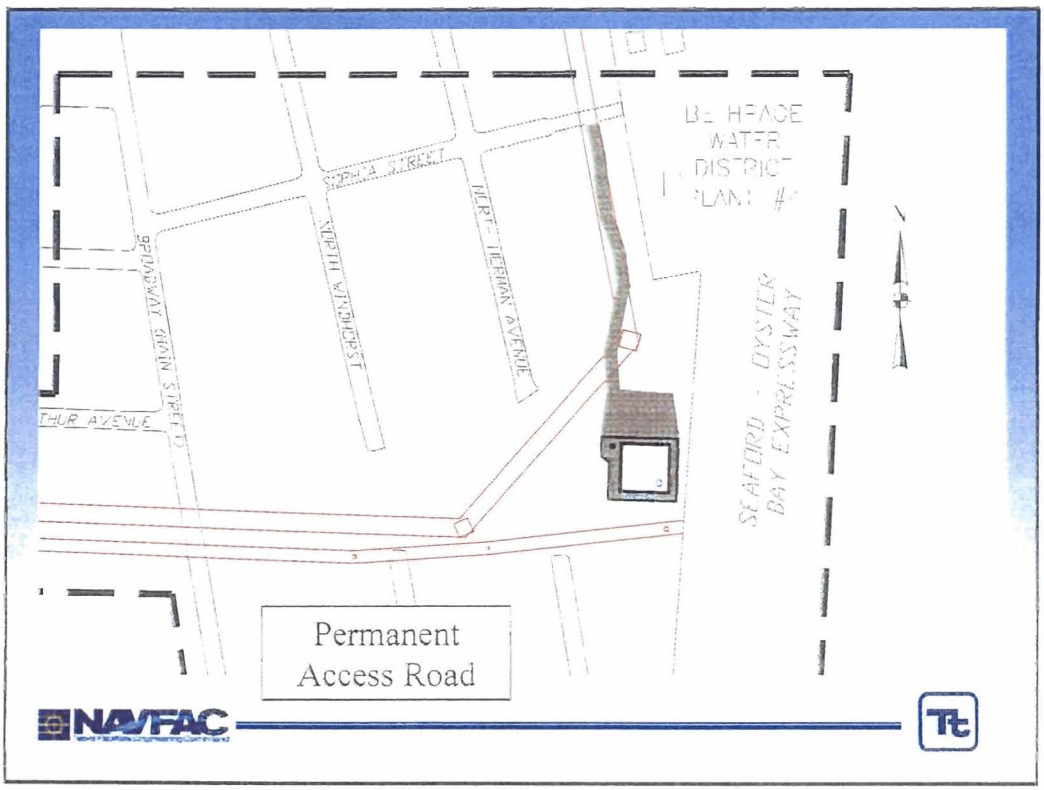
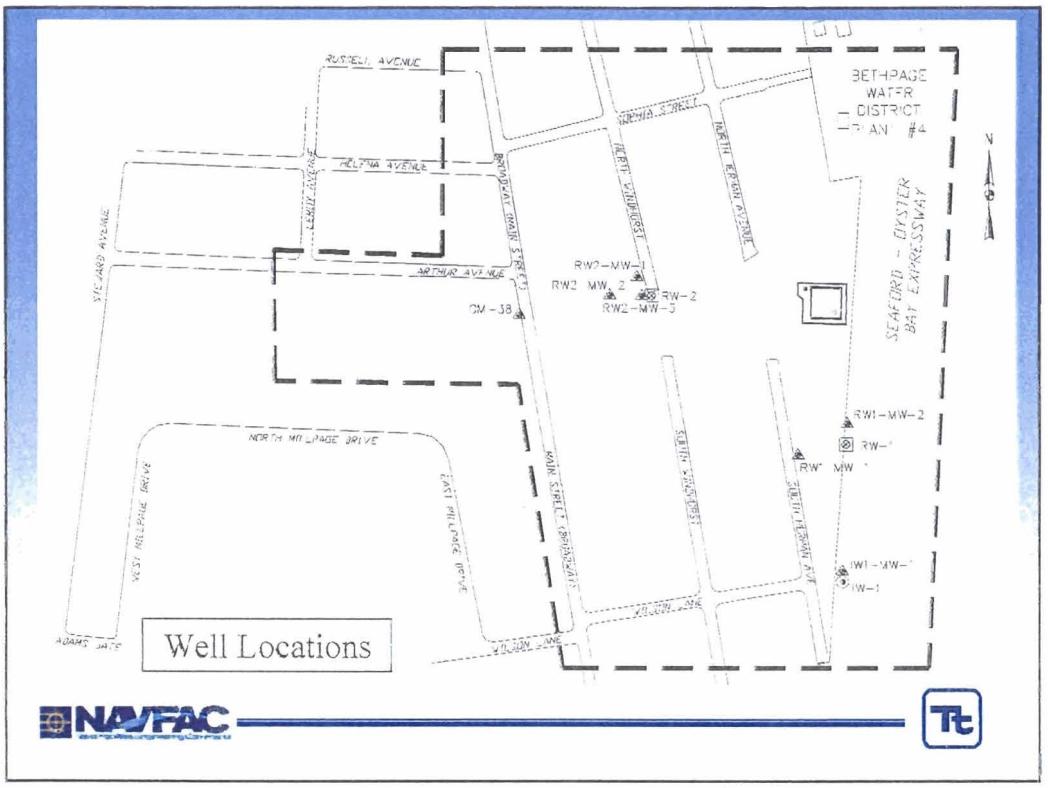
Esthetic Considerations

- Excavated soil used to construct berm
- Maintain as many existing trees as possible
- New trees to be planted
- Exterior building lights with shrouds
- No audible exterior alarms
- Silencer on blower
- Building walls insulated




RUSSELL AVENUE
BETHPAGE WATER DISTRICT PLANT #4
ALPINA AVENUE
LEROY AVENUE
BROADWAY (MAIN STREET)
NORTH THURSTON
NORTH REPTON AVENUE
SEAFORD - OYSTER BAY EXPRESSWAY
ARTHUR AVENUE
SEAFORD AVENUE
RW2-MW-1
RW2-MW-2
RW-2
RW2-MW-3
OM-38
RW1-MW-2
RW-1
RW1-MW-1
IW-1
NORTH MILLPAGE DRIVE
WEST MILLPAGE DRIVE
EAST MILLPAGE DRIVE
MAIN STREET (BROADWAY)
SOUTH THURSTON
SOUTH TERMAN AVE
WILSON LANE
ADAMS PATH
Well Locations
NAVFAC
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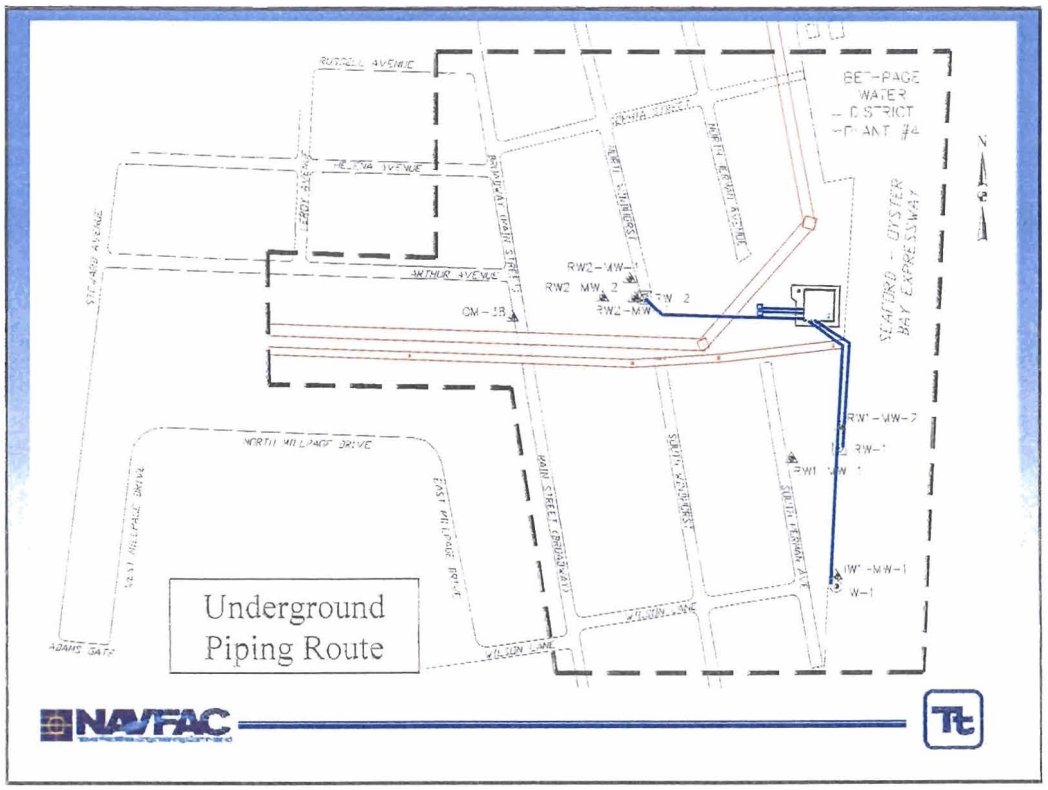
RUSSELL AVENUE
BETHPAGE WATER DISTRICT PLANT #4
ALPINA AVENUE
LEROY AVENUE
BROADWAY (MAIN STREET)
NORTH THURSTON
NORTH REPTON AVENUE
SEAFORD - OYSTER BAY EXPRESSWAY
ARTHUR AVENUE
SEAFORD AVENUE
RW2-MW-1
RW2-MW-2
RW-2
RW2-MW-3
OM-38
RW1-MW-2
RW-1
RW1-MW-1
IW-1
NORTH MILLPAGE DRIVE
WEST MILLPAGE DRIVE
EAST MILLPAGE DRIVE
MAIN STREET (BROADWAY)
SOUTH THURSTON
SOUTH TERMAN AVE
WILSON LANE
ADAMS PATH
Underground Piping Route
NAVFAC
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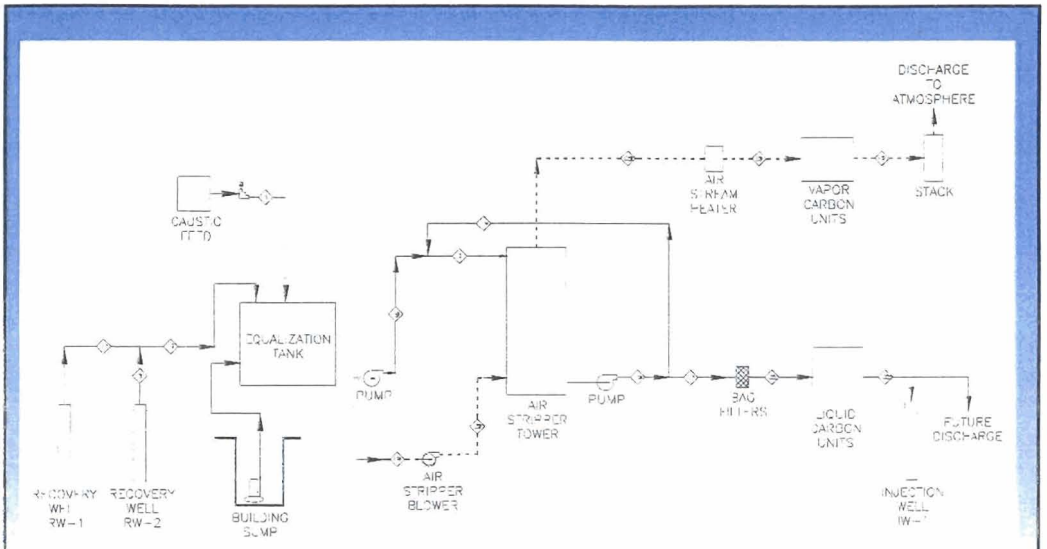

Draft Process Flow Diagram

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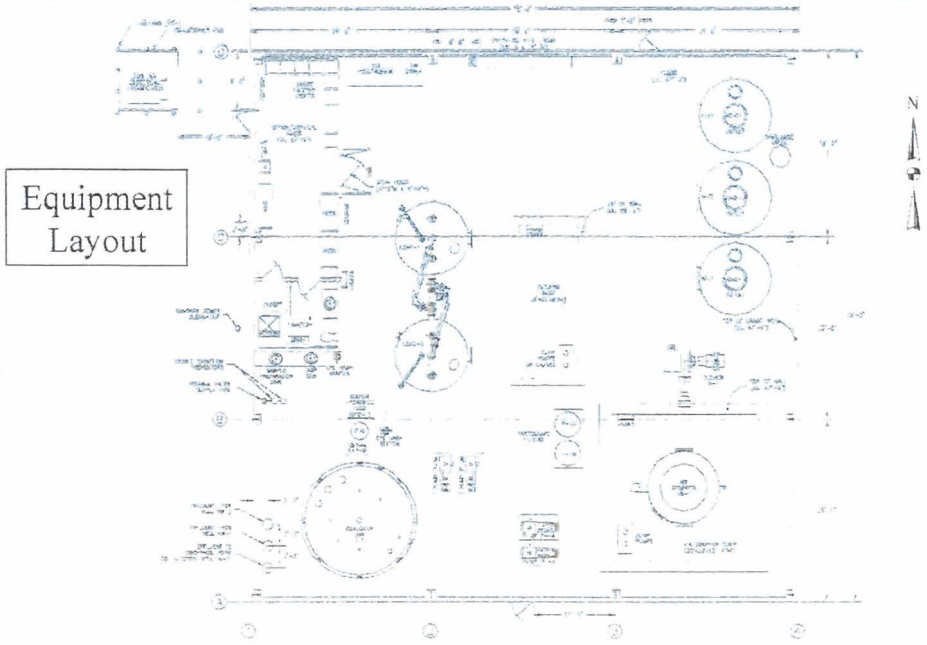

Equipment Layout

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Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

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Well Installations

- Currently on-going (Nov 2004-present)
  - 2 Recovery Wells
  - 1 Injection Well
  - 6 Monitoring Wells

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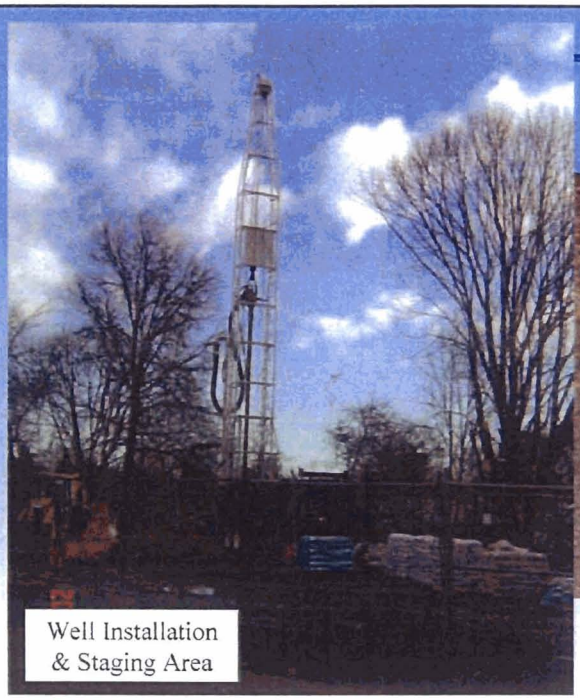
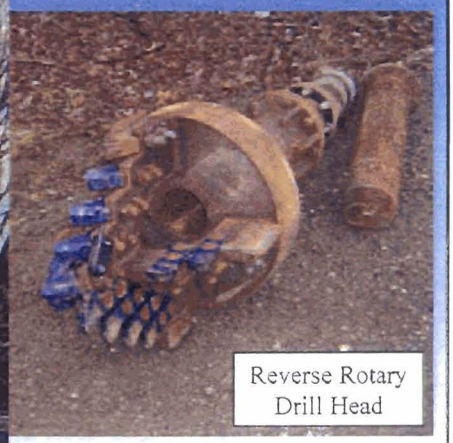


Well Installation
& Staging Area



Reverse Rotary
Drill Head

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Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

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Construction

- Access roads (permanent and temporary)
- Install building footers and foundation
- Trenching to recovery and injection wells
- Building concrete floor
- Set large equipment with crane
- Erect building
- Complete building interior

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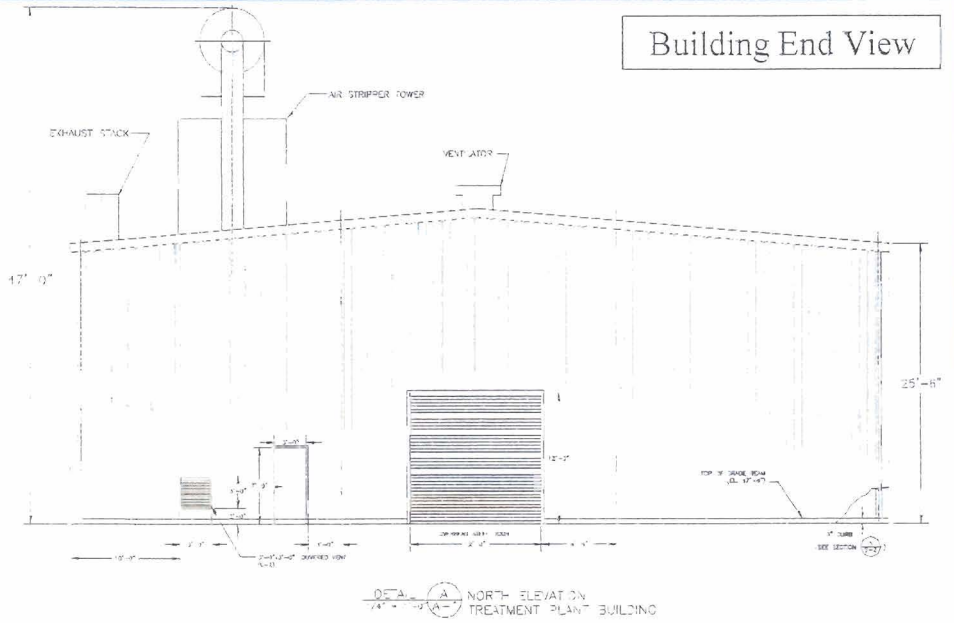
Building End View



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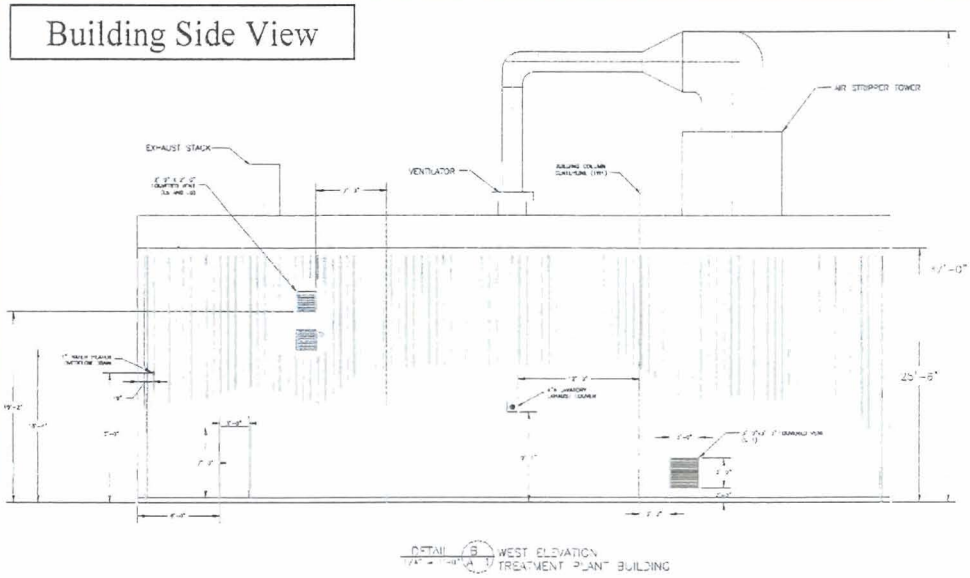
Building Side View



DETAIL 6 WEST ELEVATION
TREATMENT PLANT BUILDING

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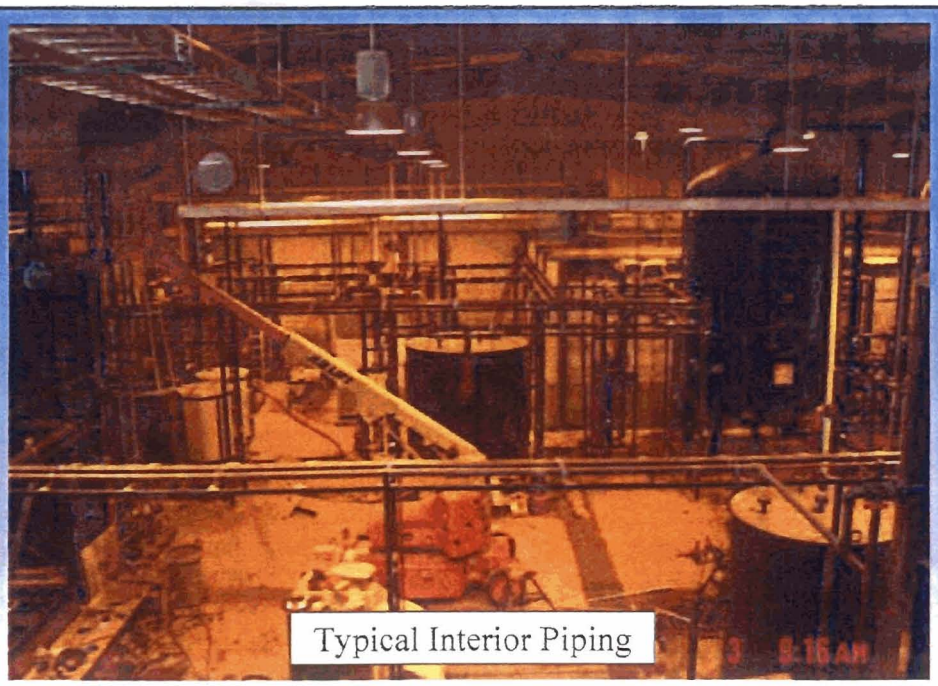

Typical Interior Piping

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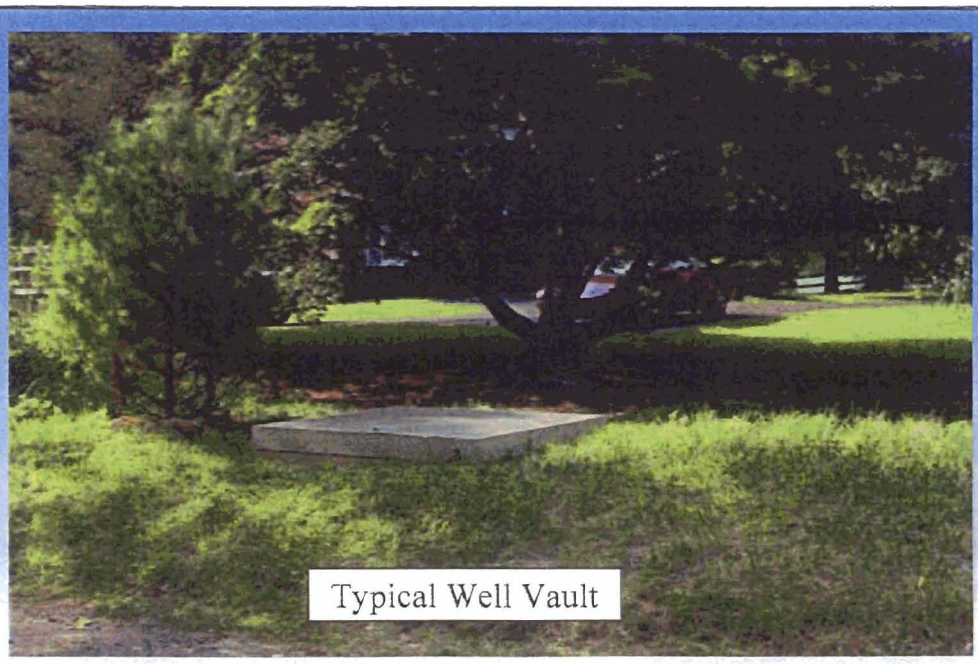
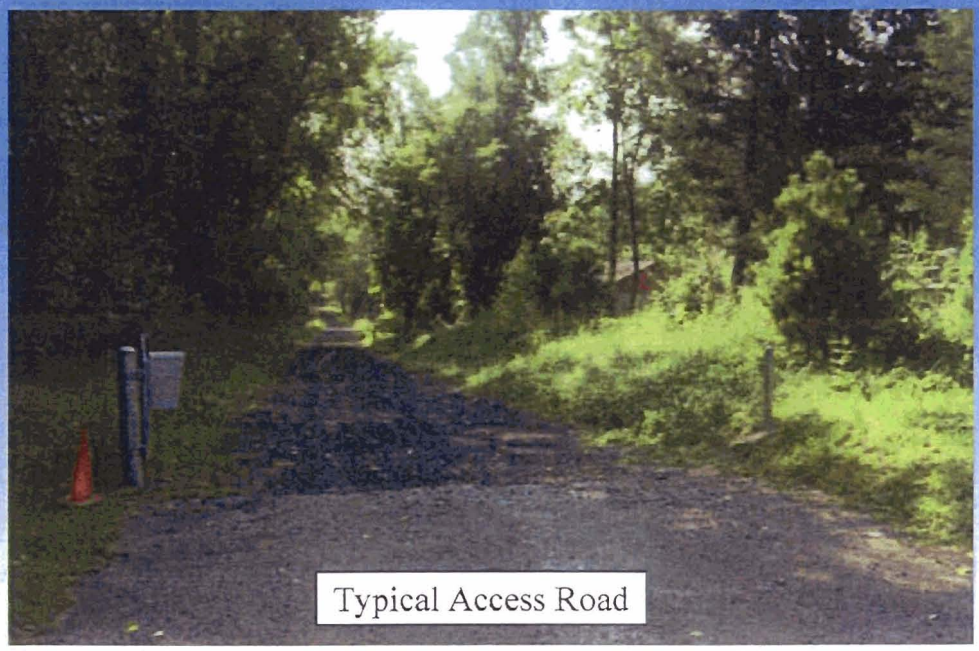
Typical Carbon Units


Typical Well Vault



Typical Access Road

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Groundwater Remediation Project

- Site History
- Treatment System Design
- Well Installations
- Construction
- Operation & Maintenance

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Operation & Maintenance

- Operate 24 hours per day
- Trained personnel visits
  - 3 days per week during initial 6 months
  - Additional visits as needed
- Fire detection and alarm system
- Security alarm system
- Locked fence surrounds building

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Safety Considerations

- Double-walled extraction piping and access ports
- GWTP sloped floor to sump – contain spills
- Liquid-phase carbon units – Total VOC polish
- Backflow preventor on influent potable water line
- Instrumentation
  - Monitor key operating parameters
  - Redundant controls to ensure safe operation
  - Automatic system shut-down signals
  - Requires manual restart
  - Telemonitoring system

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Telemonitoring

- Remote system monitoring via PC
- Alarm conditions communicated to designated personnel via autodialer
- Troubleshooting operational issues before arriving at the site

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Future Operating Considerations

- Piping to termination vaults
  - One vault for additional recovery well
  - One vault for future discharge location
- Current GWTP flow will be 1100 gpm
  - Maximum capacity = 1375 gpm (+25%)
- GWTP can treat future development water
  - Water piped/transported to GWTP sump

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Operation, Maintenance and Monitoring Plan

- Establishes method of operating & tracking progress of GWTP
- Sampling frequency (system & wells)
- Modify GW model with analytical results
  - Decrease in Total VOC over time
- Emergency response and troubleshooting

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Operation, Maintenance and Monitoring Plan (cont'd)

- Components:
  - Regulatory requirements
  - Plant Safety
  - GWTP control and monitoring system
  - GW collection and treatment systems
  - Vapor and ancillary treatment systems
  - Preventative maintenance
  - Exit strategy based on GW modeling

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Operation, Maintenance and Monitoring Plan (cont'd)

- Appendices:
  - Final list of equip., instrumentation & valves
  - Recommended spare parts list
  - Maintenance schedule
  - GWTP start-up procedure
  - Record drawings (surveys, process, PLC, etc.)

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Project Status

- GW investigation:
  - Completed by end April 2005
  - Last well to be installed is RW-1
  - All wells to be developed & sampled
  - Treatability study to be performed
  - Pump tests on both RW's
  - Injection test on IW

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Project Status (cont'd)

- Remedial Design:
  - Will incorporate GW investigation results
  - Incorporate review comments on Draft Design
  - Draft Final Remedial Design submitted to NYSDEC for distribution and review

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Anticipated Schedule

Milestones	Date
Project Planning	On-going
Mobilization	August 1, 2005
Start of Construction	August 8, 2005
End of Construction	September 1, 2006
Plant Start-Up and Shakedown	September 4, 2006
Start of Operation & Maintenance	October 2, 2006

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Wrap-up

Questions?

File on eDOCs? ✓ Yes ____ No
Site Name NWIRP/GRUMMAN
Site # 1-30-003A-OU2
County NASSAU
Town TOB
Foilable ✓ Yes ____ No
Please Write The eDOC File
Name Description RAB0606