1-30-003B

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, MID-ATLANTIC
9742 MARYLAND AVENUE
NORFOLK, VA 23511-3095

IN REPLY REFER TO:

5090
15/OPNEEV4/SWC
31 May 2007

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

Please note that the location of the meeting has been changed!

The Navy would like to announce that a Restoration Advisory Board (RAB) meeting has been scheduled for Wednesday, August 1, 2007. This meeting is open to the general public and will begin at 7:00 PM. The location of the meeting is:

NWIRP Bethpage
Conference Room
999 South Oyster Bay Road
Bethpage, New York 11714
516-346-0344 or 516-702-5861
(To access the NWIRP site, pull up to the gate and the guard will open it for you.)

Items that will be discussed during this meeting will include:

- Site 1 – Tiger Team Study Progress and General Site Update
- Sites 1, 2, and 3 – Five Year Review
- GM-38 Construction Status – Access through Right-of-Entry Issues
- AOC-22 Update
- GM-75/VPB-104 Area Investigation

Attached are the minutes from the November 1, 2006 meeting for your review. These minutes will be discussed and approved at the August 1 meeting. If you need additional information, I am available by telephone, 757-444-4114, or email, susan.clarke1@navy.mil.

Sincerely,

Susan W Clarke

Susan W. Clarke
Remedial Project Manager
By direction of the Commanding Officer

Enclosures: (1) Agenda for the 08/01/07 RAB Meeting
(2) RAB Minutes from the 11/01/06 Meeting

Distribution:
NAVFAC Mid-Atlantic, Nina Johnson
NAVAIR, Joe Kaminski
NYSDEC (Albany), Steve Scharf
NYSDEC (Albany), Henry Wilkie
NYSDEC (Stony Brook), Walter Parrish
NYSDOH, Jacqueline Nealon
NYSDOT, John Petroff
NYSDOT, Vincent Melekian
USEPA Region II, Carol Stein
USEPA Region II, Carla Struble
Nassau County, Tom Maher
Nassau County DOH, John Lovejoy
Nassau County DPW, Tim Kelly
Public Repository
Town of Oyster Bay, Hon. John Venditto
Town of Oyster Bay, Richard Pfaender
Town of Oyster Bay DPW, Tom Clark
Town of Oyster Bay DPW, Matt Russo
Tetra Tech NUS, David Brayack
ECOR Solutions, Al Taormina
Northrop Grumman, Larry Leskovjan
Northrop Grumman, John Cofman
ARCADIS, Carlo San Giovanni
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

RESTORATION ADVISORY BOARD (RAB) MEETING
NAVAL WEAPONS INDUSTRIAL RESERVE PLANT BETHPAGE
BETHPAGE, NEW YORK
WEDNESDAY, NOVEMBER 1, 2006

The seventeenth meeting of the RAB began at approximately 7:30 pm. The meeting was conducted at the security office at the Naval Weapons Industrial Reserve Plant (NWIRP) Bethpage because the Community Center was not available. Meeting attendees included representatives from the Navy, New York State Department of Environmental Conservation (NYSDEC), Town of Oyster Bay, New York State Department of Transportation (NYSDOT), and RAB community members (Charles Bevilacqua, Jim McBride, and Rosemary Styne).

WELCOME AND AGENDA REVIEW

The Navy representative, Susan Clarke, Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic, welcomed everyone to the RAB meeting. Ms. Clarke went over the meeting agenda. The agenda for the meeting is included as Attachment 1.

Meeting attendees discussed ways to get more community interest in the RAB. Ideas to announce RAB meetings included sending post cards, making radio announcements, and putting an advertisement in the Pennysaver. Community and civic groups could be invited to RAB meetings. Fact sheets could be prepared to provide updates on RAB topics.

The location for future RAB meetings was also discussed. Several suggestions were the Bethpage library, Bethpage high school, and the security office at NWIRP Bethpage.

REVIEW AND APPROVAL OF MEETING MINUTES

Ms. Clarke inquired whether the RAB members received the August 2006 minutes, which were distributed in October 2006, and whether there were any questions. There were no questions, but the approval of the minutes was tabled again because of the limited number of RAB community members present at the meeting.

BUDGET AND SCHEDULE

Ms. Clarke provided an update on the budget and schedule for NWIRP Bethpage. A handout was provided showing FY06 budgets and awards and also planned work for FY07. The handout is included as Attachment 2.

Ms. Clarke mentioned that the Navy reached an agreement with the Town of Oyster Bay for access for the GM-38 remediation construction. The access agreement with the Long Island Railroad (LIRR) should be complete soon. Planned work for FY07 includes:

- Site 1 – Polychlorinated biphenyl (PCB) remediation
- GM-75 investigation
- Site 4 – AOC 22 confirmation sampling and additional plume investigation
- Five-year review projects for the recharge basins and salvage storage area

Site 1 and Site 4 (AOC 22) were discussed further as part of the evening's agenda for the RAB presentations. The GM-75 investigation will address an area located at monitoring wells GM-75, where groundwater contamination was found to exceed 500 ug/L. The investigation will evaluate the extent of the contamination and determine whether localized treatment in this area will be needed. The GM-75 investigation will likely be a topic for the next RAB meeting. The Navy is required to review the effectiveness of remedies every 5 years; therefore, the Navy will begin the review of the remedies for the recharge basins (Site 2) and salvage storage area (Site 3) where remedial activities were completed in 2002. The review should begin in the spring of 2007.

Ms. Clarke indicated that except for the Site 1 PCB remediation, sufficient funding is available for the planned FY07 work. The Navy is looking for innovative technologies that could be used for Site 1 PCB remediation that will be within the current budget.

SITE 1 SOILS UPDATE

Ms. Clarke provided a progress update on the Site 1 PCB soil remediation. The Record of Decision (ROD) for Site 1 included soil vapor extraction to treat volatile organic chemicals and excavation of PCB- and metal-contaminated soil. In the ROD, it was expected that the PCB-contaminated soil extended to approximately 10 feet below ground surface (bgs). However, after several investigations, PCB-contaminated soil extending to below the water table (total depth of approximately 65 feet bgs) was found. The costs to excavate at this depth are much greater than the expected costs provided in the ROD and are also much greater than what the Navy has budgeted.

In September 2006, the Navy assembled a team of experts to discuss the options for remediating the PCB-contaminated soil at Site 1. The Navy is expecting to receive the team's findings in the next few weeks and then the Navy will present the findings to NYSDEC. The Navy is looking at innovative technologies that could be used to remediate the soil that would be within the budget for Site 1 remediation.

Mr. Jim McBride, RAB Community Co-chair, asked whether PCBs would be added to the test parameters for groundwater sampling for Site 1. Mr. Steve Scharf, NYSDEC, mentioned that there were some PCB data for the dry well. The Navy indicted that as part of the Site 1 Soil Remedial evaluation, that PCBs in groundwater data will be addressed.

AOC 22/SITE 4 CLOSED LOOP BIOREMEDIATION SYSTEM UPDATE

Mr. David Brayack from Tetra Tech NUS, Inc. (TtNUS) provided a progress update on the AOC 22/Site 4 Former Underground Storage Tank Area. The presentation is included as Attachment 3.

The Navy conducted a pilot-test to evaluate an innovative technology to treat deep petroleum contamination at the site. The source of the contamination was several underground storage tanks that contained No. 6 fuel oil. These tanks have been removed. At room temperature, No. 6 fuel oil has the consistency of tar and does not readily move in soil. The system, a Closed Loop Bioremediation (CLB) System, used surfactants and chemical oxidation to dissolve/mobilize the petroleum contamination, and once dissolved/mobilized, biodegradation of the contamination could occur. The system was operated from fall 2004 to spring 2006, and was demobilized in August 2006.

TtNUS will be investigating site soil and groundwater to determine the effectiveness of the treatment system, and to determine the current condition of residual contamination at the site. Mr. Brayack noted that based on current site data, approximately 15 percent of the soil contamination was removed and about 5 drums of free product were collected. The work plan for the proposed testing was submitted and the final round of soil and groundwater testing will be conducted in December 2006. The report will be provided in spring 2007. Based on the findings of the investigation, the Navy will need to determine what additional work is necessary. In particular, the Navy is trying to determine how much free product is present and whether the free product remains relatively immobile.

Several questions and their responses were as follows:

- Is there any residual surfactant in the groundwater? The surfactant is biodegradable; however, as part of the testing, the Navy will collect data to evaluate any changes in the condition of the groundwater.
- What was the original estimate of petroleum contamination before the treatment? Mr. Brayack estimated that there were around 100,000 pounds of petroleum contamination in the soil column (60-foot by 60-foot by 60-foot volume).
- Could the residual contaminated material be excavated? The contamination is deep so it could be difficult and very costly to excavate the soil. The Navy needs to complete the investigation before evaluating options to address residual contamination.

GM-38 REMEDY UPDATE

Mr. Stravros Patselas from Tetra Tech EC, Inc. provided a progress update on the GM-38 Remedy Final Design, including the history of the project, treatment system design, well installations, construction and operation and maintenance. The slides of the presentation of the Groundwater Remediation Project are provided as Attachment 4.

The presentation was similar to the presentations from the June and August 2006 RAB meetings. Since August 2006, there has been progress on the real estate access agreements. The Navy and Town of Oyster Bay were able to reach agreement for Navy contractors to access the area where the treatment system will be constructed (through a public utility easement). As part of the access agreement the Navy will install a third recovery well and conduct appropriate testing to show that operation of recovery wells will not impact the Bethpage Water District potable supply wells in the area. Access agreements with NYSDOT and LIRR are almost complete; the Navy and NYSDOT/LIRR are working out the final wording for the agreements.

Mr. McBride asked whether all of Bethpage Water District concerns were addressed. Mr. Richard Pfaender of Town of Oyster Bay indicated that the town worked with the water district to make sure that all of their concerns were addressed. NYSDEC was also involved in the discussions and agreements that were made to address the concerns. Many of these agreements were made in a meeting held just before the June 2006 RAB meeting and since then everyone was working on the exact wording for the agreement.

Mr. Scharf asked whether a barrier wall was going to be built along Route 135 Seaford-Oyster Bay Expressway. Mr. John Petroff of NYSDOT indicated that he does not expect that NYSDOT will be putting a barrier wall in this area in the near future. Mr. Patselas indicated that the Navy will be planting trees in this area that will act as a barrier.

Mr. Pfaender asked whether the motion detector that will be installed at the treatment plant can be adjusted so that it is not so sensitive (e.g., set off by wind). The plant entry way is the main area where the motion detector is needed. The Navy will need to look at the type of light fixtures that are in the building specifications.

Mr. Patselas indicated that once the access agreements are in place, the Navy will competitively bid the project and obtain the necessary local permits. The bidding process is expected to take up to 2 months, and construction is expected to begin in spring 2007. The draft groundwater monitoring plan has been prepared; the system operations and maintenance (O&M) plan will be prepared after construction is complete.

Mr. McBride suggested that the Navy provide the construction plans and schedule for the treatment system to the local fire department and county fire marshal's office. The Navy will do this and also noted that the fire department will be provided information about the treatment system following the completion of the construction, as well as an opportunity to visit the plant.

CLOSING REMARKS

Ms. Clarke asked whether there were additional questions. There were no further questions; however, Mr. McBride requested that the other Community RAB members consider taking over as RAB Community Co-chair.

The meeting attendees discussed whether to hold the next meeting the first Wednesday in April (the week before Easter) or to consider the last week of March or second week of April instead. The Navy will determine the date and announce the meeting date. The meeting was adjourned at approximately 9:00 pm.

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Bethpage

August 1, 2007
NWIRP Bethpage, Bethpage, NY
7:00 p.m.

Welcome and Agenda Review
Susan Clarke, NAVFAC Mid-Atlantic

Meeting Minutes
All Members

Tiger Team Study and Site 1 - Soils Update
Susan Clarke, NAVFAC Mid-Atlantic

Sites 1, 2, and 3 - Five Year Reviews
Susan Clarke, NAVFAC Mid-Atlantic

GM-38 Construction Status
Susan Clarke, NAVFAC Mid-Atlantic

AOC 22/Site 4 - CLB System Update
David Brayack, Tetra Tech NUS

GM-75 Area Investigation
David Brayack, Tetra Tech NUS

Closing Remarks
Susan Clarke, NAVFAC Mid-Atlantic

Presenters will be available after the program for questions.

ATTACHMENT 1
NOVEMBER 1, 2006 MEETING AGENDA

Agenda

Restoration Advisory Board
Naval Weapons Industrial Reserve Plant Bethpage

November 1, 2006
Bethpage Community Center, Bethpage, NY
7:00 p.m.

Welcome and Agenda Review
Susan Clarke, NAVFAC Mid-Atlantic

Meeting Minutes
All Members

NWIRP Bethpage - Budget and Schedule
Susan Clarke, NAVFAC Mid-Atlantic

Site 1 - Soils Update
Susan Clarke, NAVFAC Mid-Atlantic

AOC 22/Site 4 - CLB System Update
David Brayack, Tetra Tech NUS

GM-38 Remedy Update
Stavros Patselas, Tetra Tech EC

Closing Remarks
Susan Clarke, NAVFAC Mid-Atlantic

Presenters will be available after the program for questions.

ATTACHMENT 2
NWIRP BETHPAGE BUDGET UPDATE

NAVFAC
Naval Facilities Engineering Command

NAVFAC MIDLANT, NORFOLK, VA

NAVAL WEAPONS INDUSTRIAL RESERVE PLANT (NWIRP) BETHPAGE, NEW YORK INSTALLATION RESTORATION PROGRAM

BUDGET UPDATE – FY-06 ACTUAL COSTS AND FY-07 EXECUTION PLAN

Restoration Advisory Board (RAB) Meeting

11/01/2006

NWIRP Bethpage FY-06 ACTUAL EXECUTION

PROJECT	*COST*	*REMARKS*
GM-38 – Additional Well Drilling and Plant Construction	$3,653,466 (awarded 12/15/05)	Currently in process of obtaining Site Access
Community Relations and Consultation Support	$156,688 (awarded 01/23/06)	TtNUS providing continuous support
TOTAL for FY-06 =	***$3,810,154***	

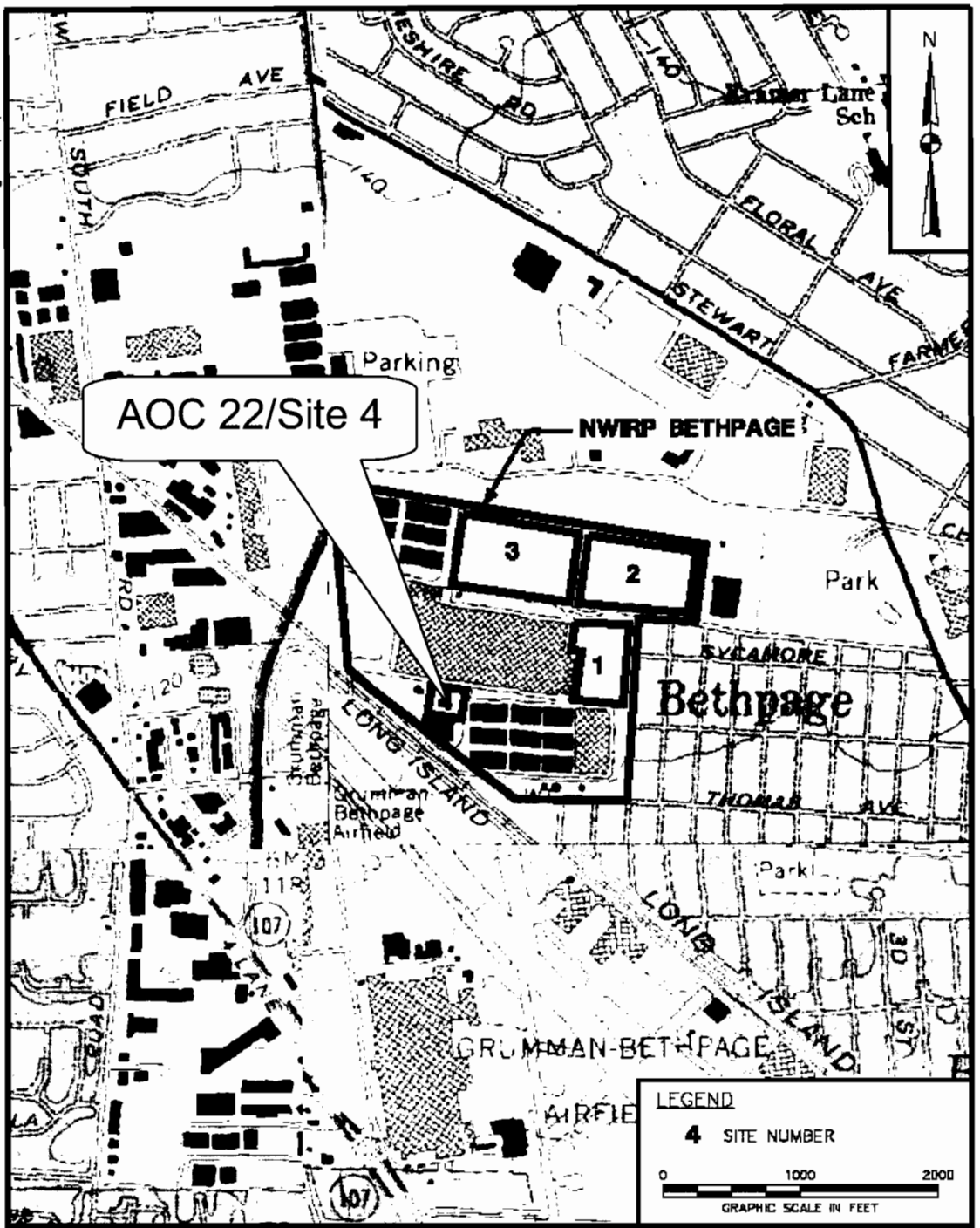
NWIRP Bethpage FY-07 PLANNED EXECUTION

PROJECT	*COST*
Site 1 – PCB Remediation	$2,552,494 (Estimated Cost, to be awarded in the spring)
GM-75 Investigation	$1,298,894 (Estimated Cost, to be awarded soon)
Site 4 – AOC 22, Confirmation Sampling and Additional Plume Investigation	$220,100 (Estimated Cost)
5 Year Review Projects for the Recharge Basins and Salvage Storage Yard	$30,000 (Estimated Cost for both reviews)
TOTAL for FY-07 =	***$4,101,488***

ATTACHMENT 3
AOC 22/SITE 4 FORMER UNDERGROUND STORAGE TANK AREA UPDATE

AOC 22/Site 4
Former Underground Storage Tank Area Update

NWIRP Bethpage
November 1, 2006
Restoration Advisory Board (RAB) Meeting

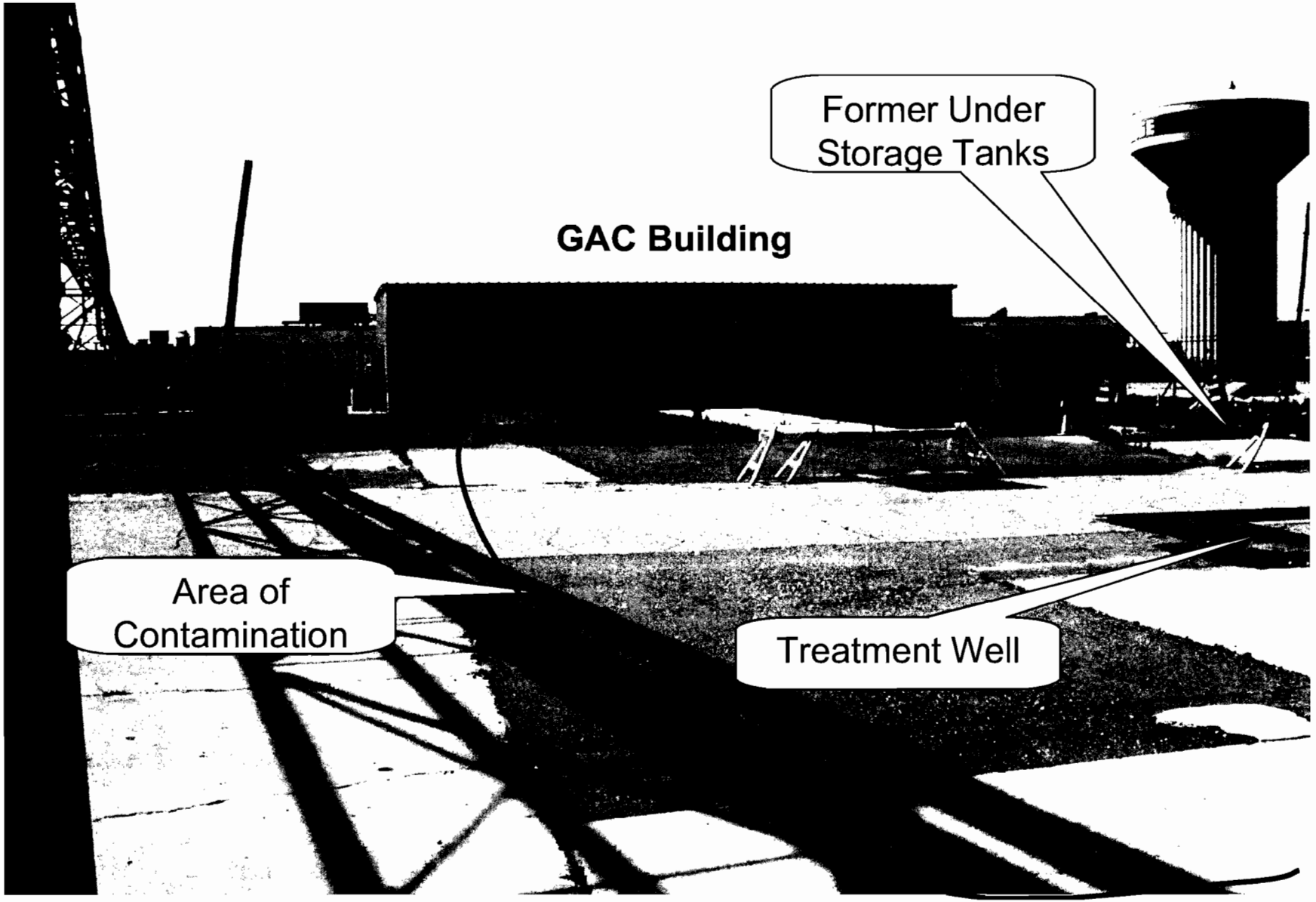


ACAD: 9845CM05.dwg 02/15/08 MF PIT

DRAWN BY MF	DATE 12/9/05	Tetra Tech NUS, Inc.	SITE LOCATION MAP ESD NWIRP BETHPAGE BETHPAGE, NEW YORK
CHECKED BY	DATE		CONTRACT NO. 9845
REVISED BY	DATE		OWNER NO. 0002
SCALE AS NOTED			APPROVED BY / DATE
			DRAWING NO. FIGURE 2-1 / REV. 0

FORM CADD NO. TTNUS-AV.DWG - REV 1 -5/10/98

Site 4/AOC 22 Area



Site History

- Three underground storage tanks active in 1940s to 1960s.
- Contained No. 6 Fuel Oil.
- Tanks were removed at an unknown time, probably early 1980s.
- Underground tank slabs/saddles remain.

Environmental Concerns

- Petroleum contamination, measured as total petroleum hydrocarbons (TPH), is primary concern.
- Contamination is mostly adhered to soils – not mobile.
- Polynuclear aromatic hydrocarbons (PAHs) primary chemicals of concern.
- Majority of contamination is near the water table (60 feet below ground surface).
- Limited impact to groundwater.

Closed Loop Bioremediation System

- Treatment Goal: Provide 90 percent reduction in TPH concentration.
- Treat soils and petroleum through the use of surfactants and biodegradation.
- System operated from fall 2004 to spring 2006.
- System demobilized from site in August 2006.
- Based on soil data, approximately 15 percent removal of TPH as of September 2005.

Next Steps

- Conduct final round of soil and groundwater testing, scheduled for December 2006.
- Evaluate petroleum removal.
- Evaluate potential for formation of free product on groundwater and migration through groundwater.
- Report in spring 2007.

ATTACHMENT 4
GROUNDWATER REMEDIATION PROJECT AT GM-38

NAVFAC
Naval Facilities Engineering Command

Groundwater Remediation Project

Naval Weapons Industrial Reserve Plant

Bethpage, NY

GM-38 Area

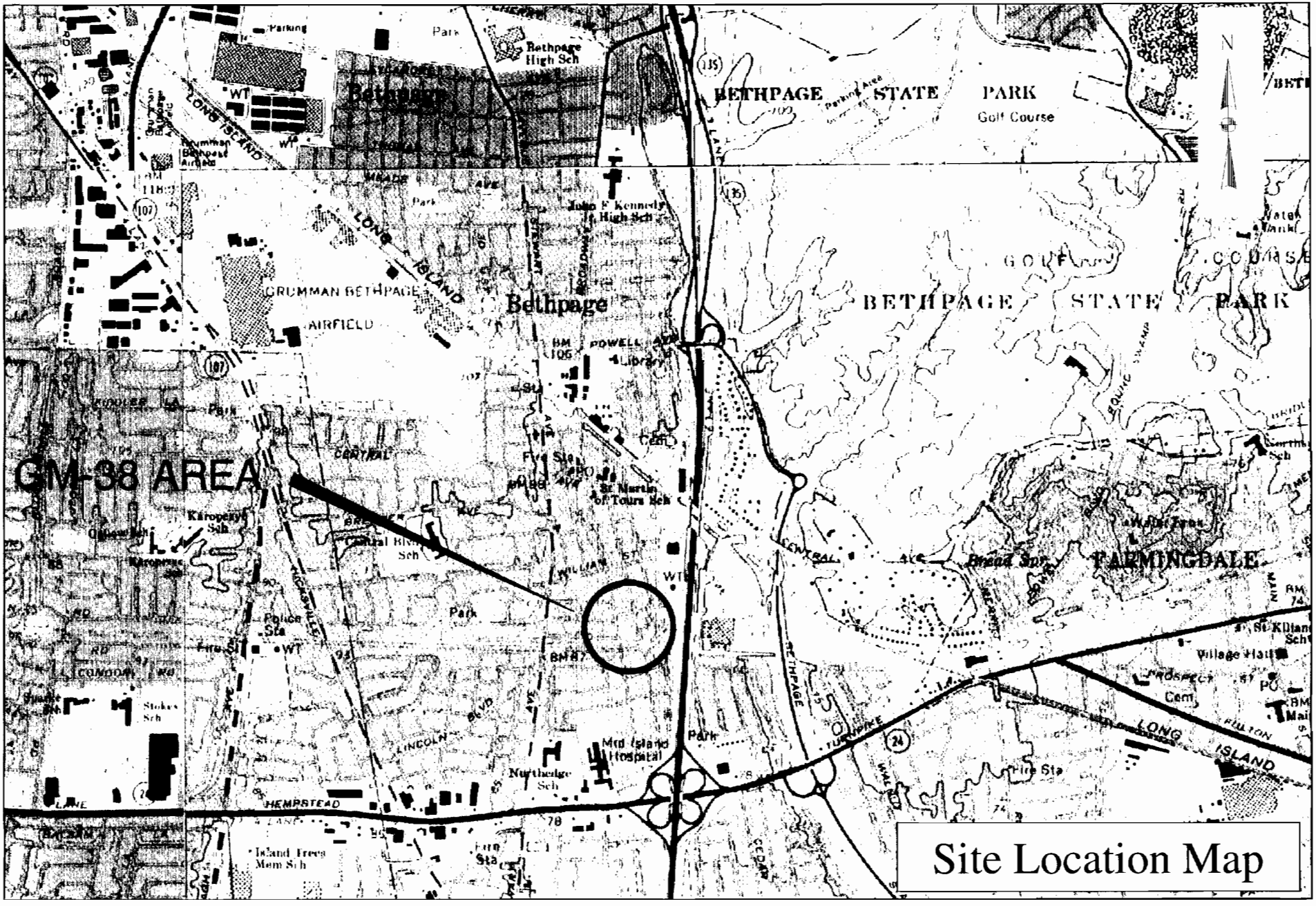
Restoration Advisory Board Meeting

November 1, 2006

SYSTEM CERTIFICATION ISO 14001 SGS

TETRA TECH FC, INC.

zip


GM-38 AREA
BETHPAGE STATE PARK
Golf Course
GRUMMAN BETHPAGE AIRFIELD
Bethpage
FARMINGDALE
Site Location Map

Groundwater Remediation Project

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

NAVFAC
Naval Facilities Engineering Command

Tt

Groundwater Remediation Project

- Project History

Project 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)

Project History (cont'd)

- Community Workshop (September 2004)
- Pre-design investigation (Nov 04 – May 05)
- Draft Remedial Design (February 2005)
  - Reviewed by Navy and Third Party Consultant
- Sampled the GM-38 Area wells (July 2005)
- 90% Draft Final Design (November 2005)

  - Reviewed by same plus NYS DEC, TOB, Nassau County, and public

NAVFAC

Project History (cont'd)

- Received all public review comments (mid - January 2006)
- Response to comments letter (March 2006)
- NYS DEC requests to finalize design (April 10, 2006)
- Final Design (May 8, 2006)
- RAB Meeting presents final design (June 7, 2006)
- Construction phase planning (November 2005 – ongoing)
- Property access agreements near completion

Groundwater Remediation Project

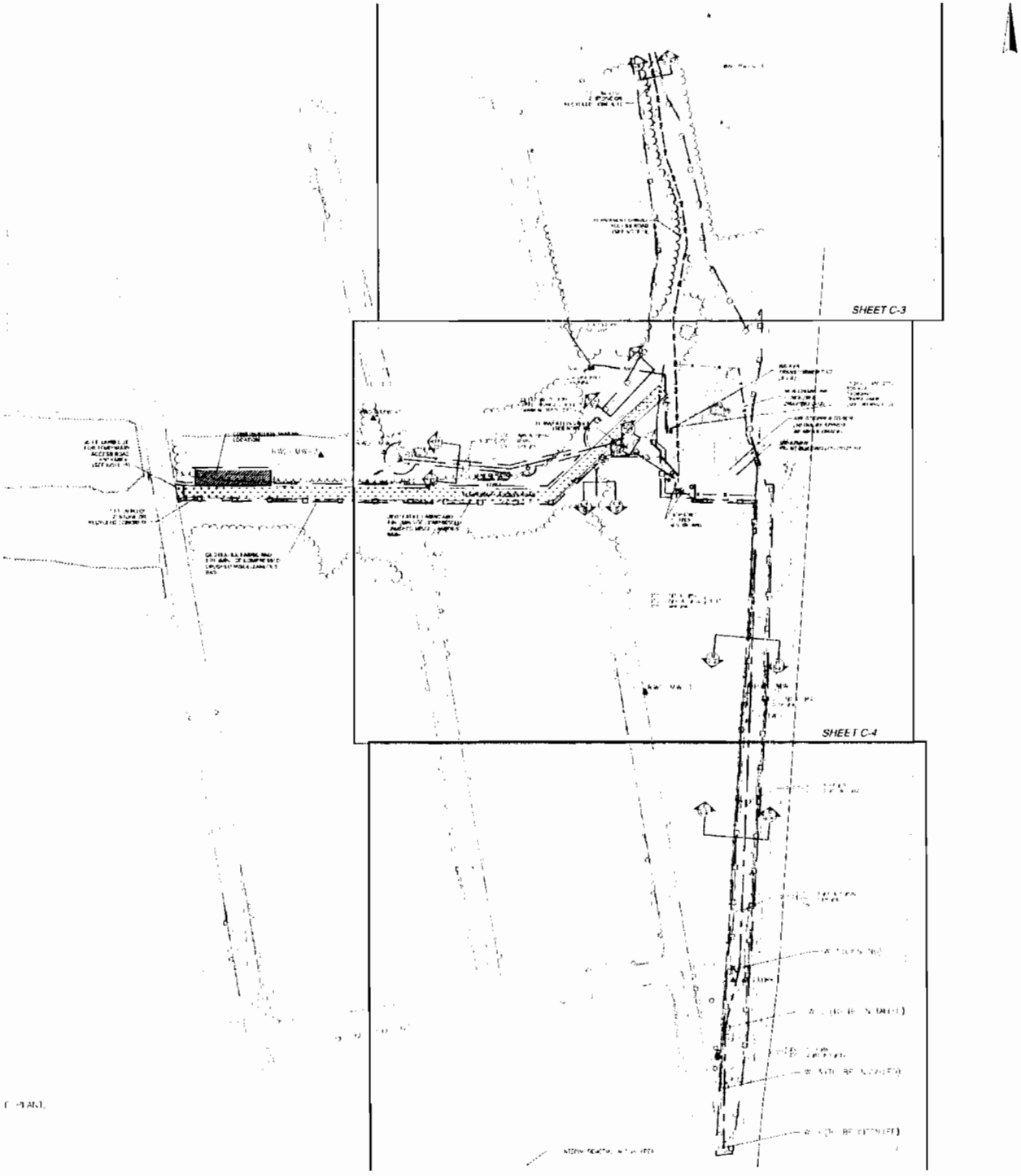
- Treatment System Design

Treatment System Design

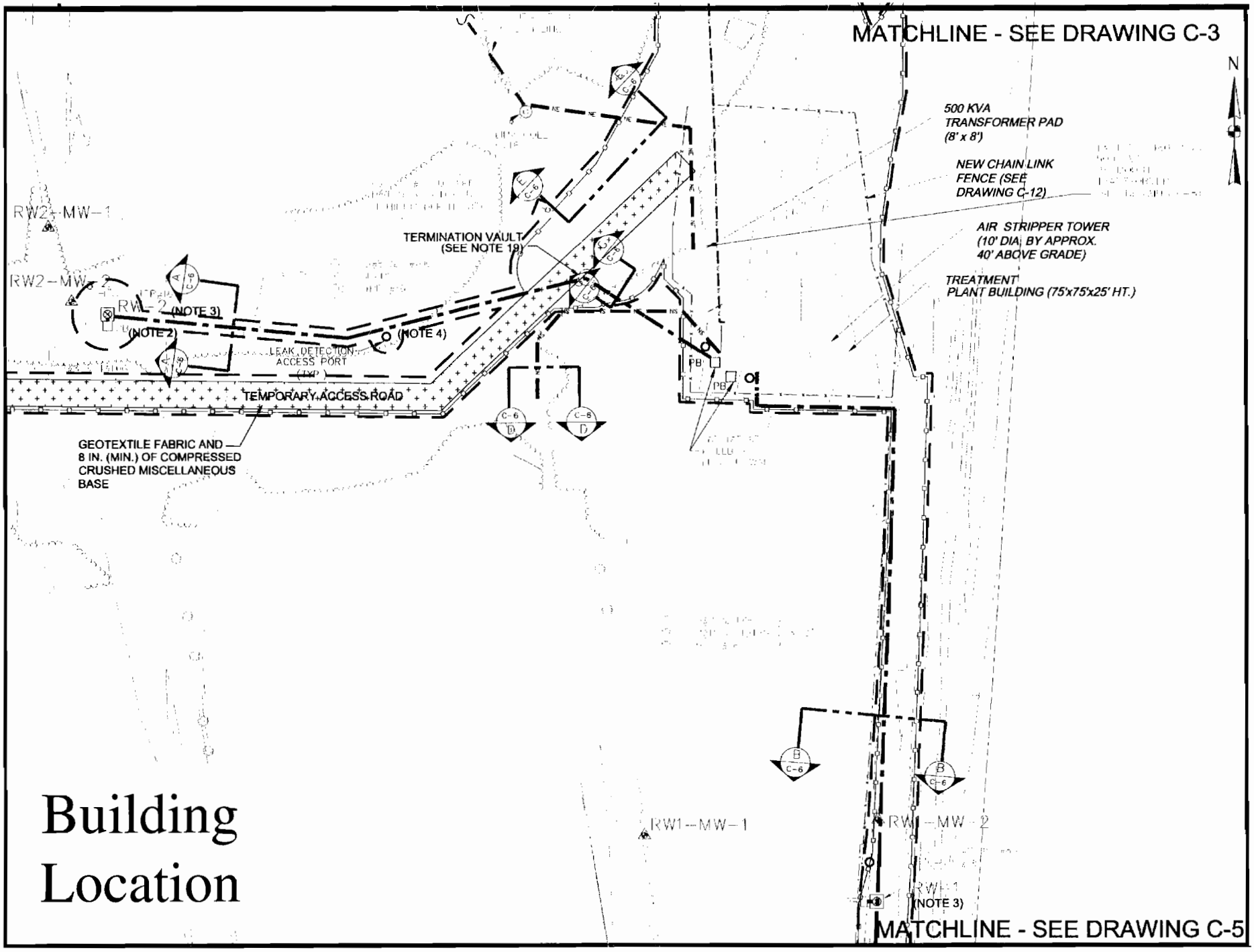
- Mass Removal of Volatile Organic Compounds (VOC's) from groundwater
- Process Flow Rate = 1,100 gallons per minute (gpm)
- Max. Design Flow Rate = 1,375 gpm
- Pumping from two or three recovery wells

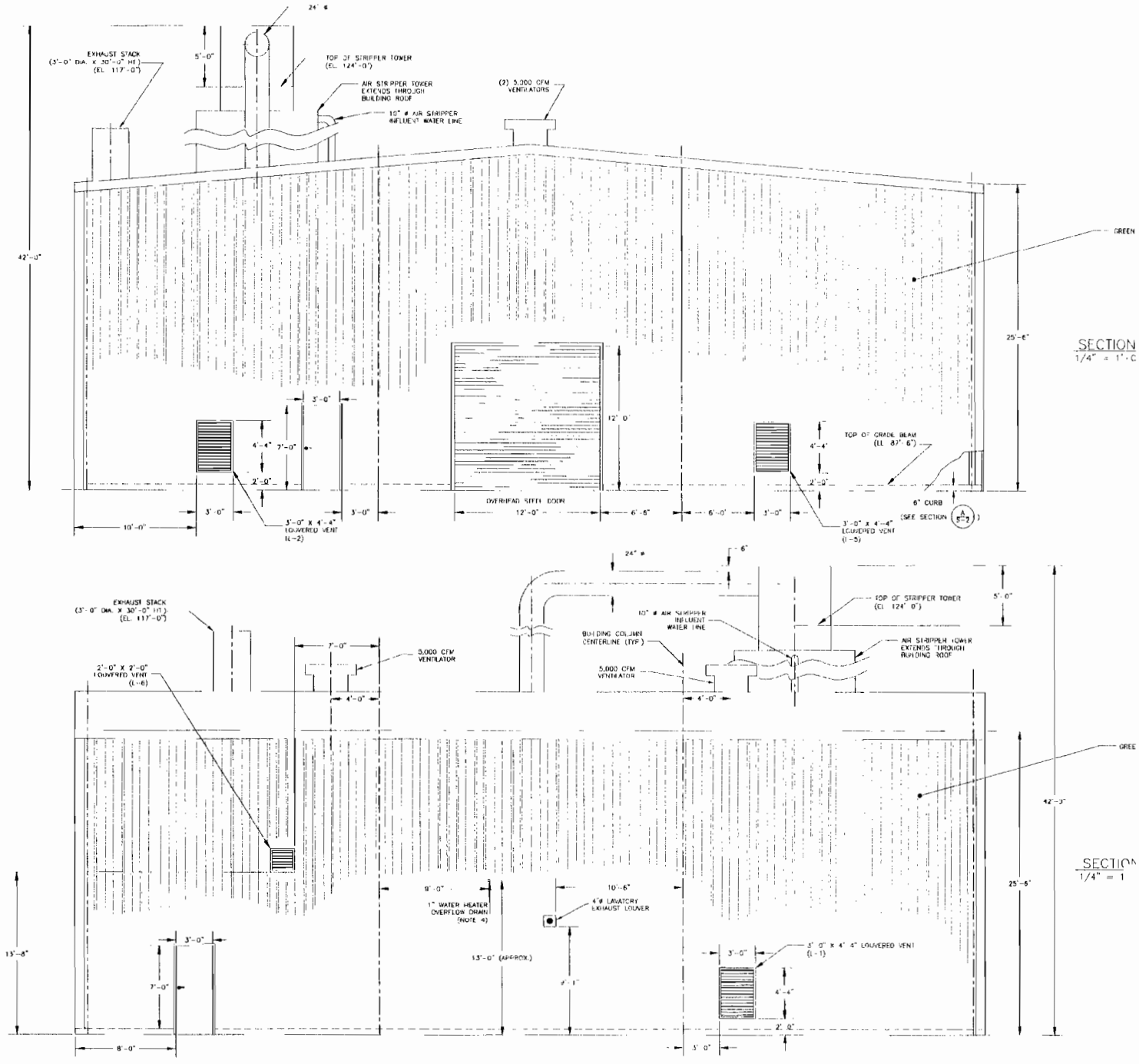
Treatment System Design (cont'd)

- Primary treatment is Air Stripping
- Secondary treatment (polish) is Carbon Media
- Vapors from Air Stripping Treated w/ Carbon Media
- Inject treated water into four injection wells

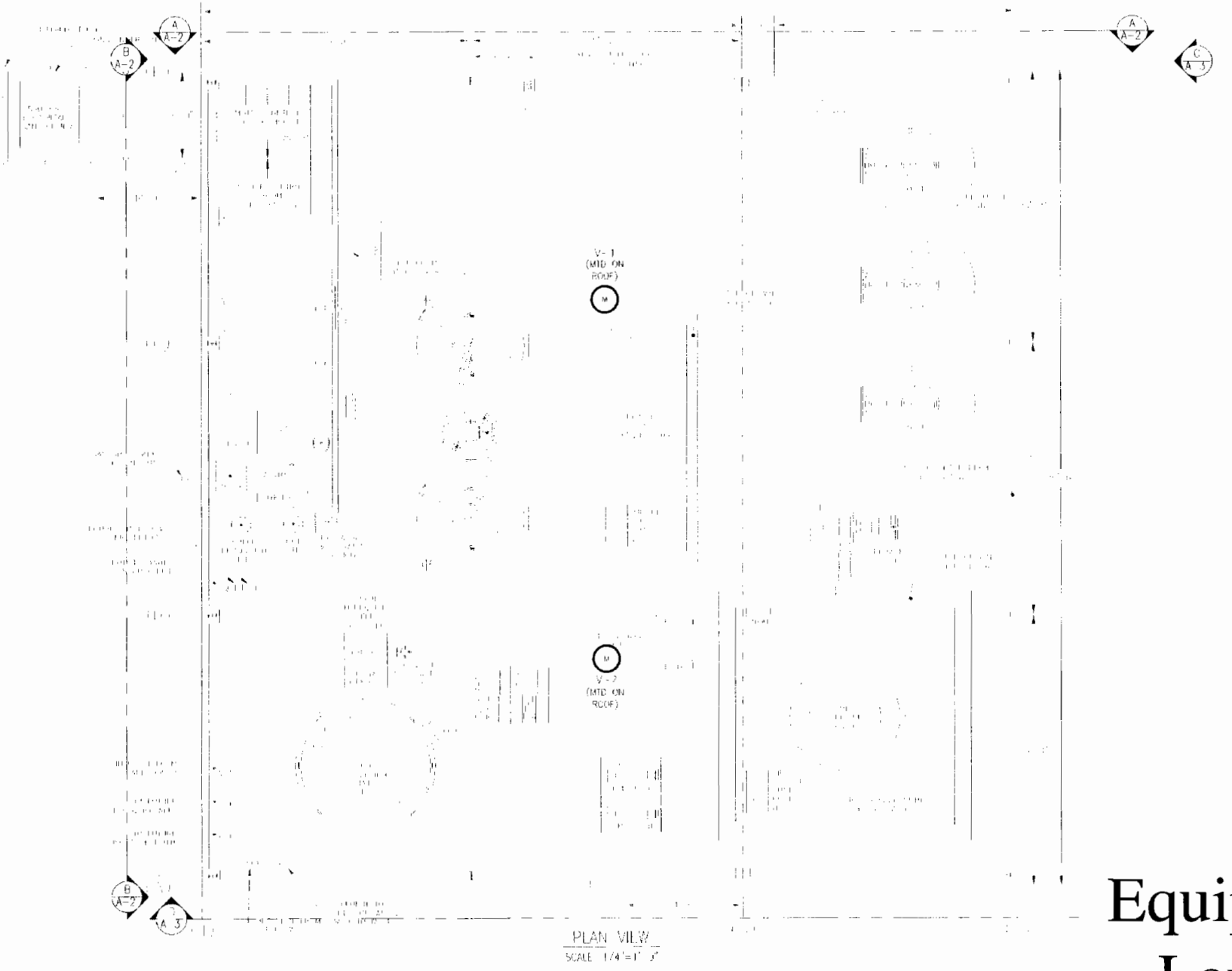


Site Plan


MATCHLINE - SEE DRAWING C-3
N
500 KVA
TRANSFORMER PAD
(8' x 8')
NEW CHAIN LINK
FENCE (SEE
DRAWING C-12)
AIR STRIPPER TOWER
(10' DIA. BY APPROX.
40' ABOVE GRADE)
TREATMENT
PLANT BUILDING (75'x75'x25' HT.)
RW2-MW-1
RW2-MW-2
RW-2
(NOTE 3)
(NOTE 2)
(NOTE 4)
TERMINATION VAULT
(SEE NOTE 19)
LEAK DETECTION
ACCESS PORT
(TYP.)
TEMPORARY ACCESS ROAD
GEOTEXTILE FABRIC AND
8 IN. (MIN.) OF COMPRESSED
CRUSHED MISCELLANEOUS
BASE
PB
PB
RW1-MW-1
RW1-MW-2
RW-1
(NOTE 3)
MATCHLINE - SEE DRAWING C-5
Building
Location



Building Views



Equipment Layout

Groundwater Remediation Project

- Well Installations

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Well Installations

- Currently installed (Nov 2004 - May 2005)
  - 2 Recovery Wells
  - 1 Injection Well
  - 6 Monitoring Wells
- To be installed during construction
  - 3 Injection Wells
  - 1 Recovery Well
  - 8 Monitoring Wells

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Groundwater Remediation Project

- Construction

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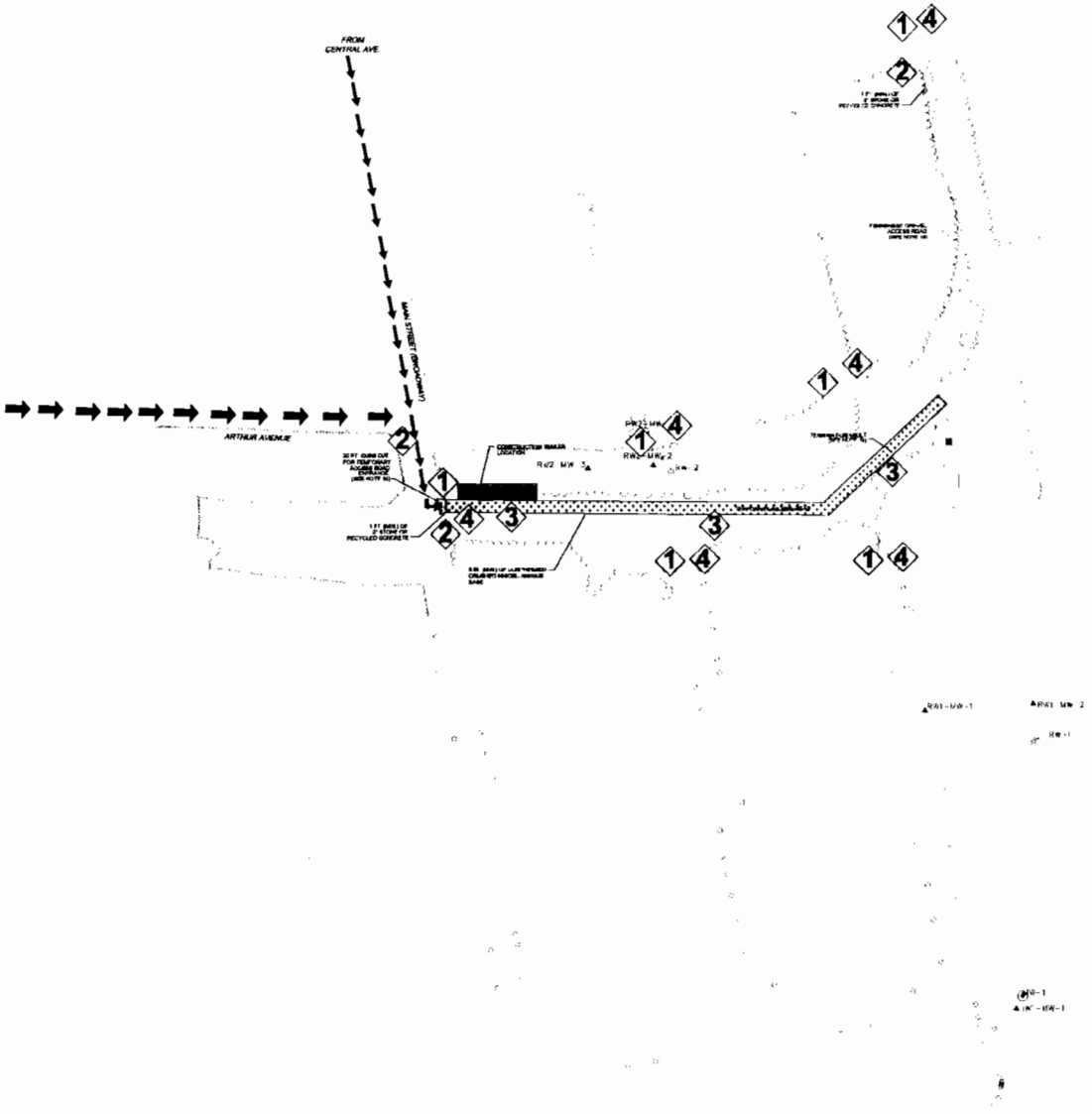
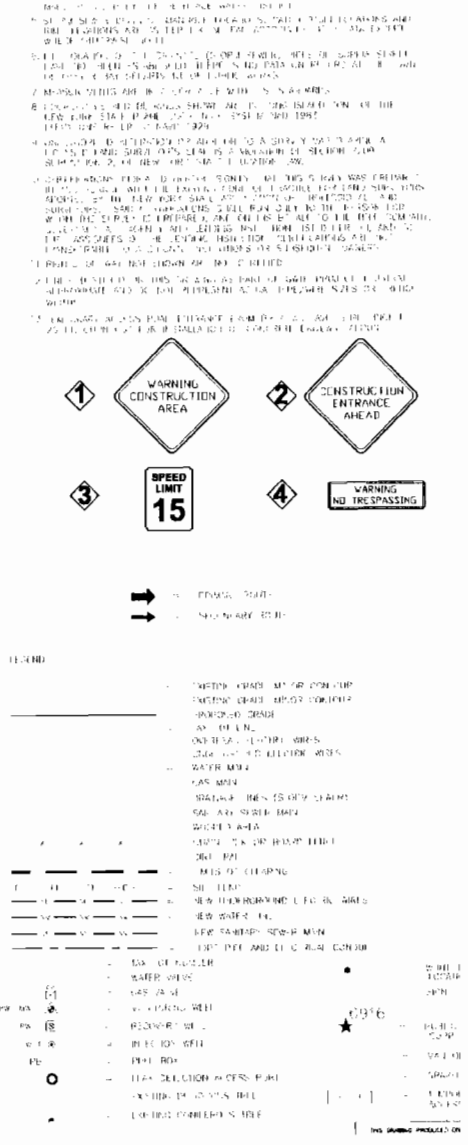
Naval Facilities Engineering Command

Construction

- Project Signage and Traffic Controls
- Erosion and Sediment Controls
- Access Roads (permanent and temporary)
- Install Building Footers and Foundation
- Trenching to Recovery and Injection Wells
- Utility Tie-in Connections (electric, phone, water, and sanitary sewer)
- Building Floor

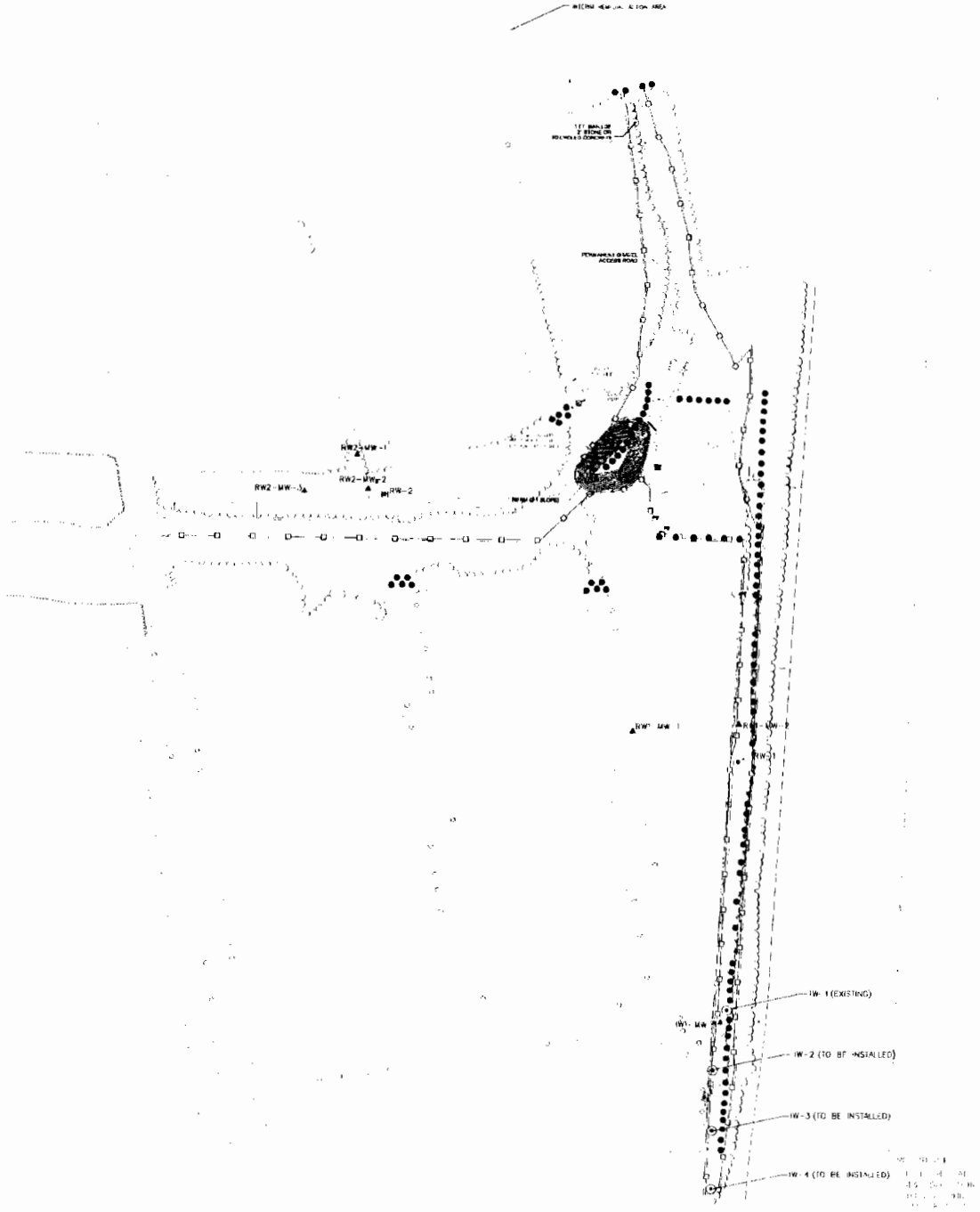




Traffic Control Plan

Construction (cont'd)

- Set Large Equipment with Crane
- Erect Building Structure
- Interior Piping and Electric
- Install Fire Alarm and Security Systems
- Install and Test Instrumentation
- Test and Balance All Systems
- Site Restoration



	LBS/ACRE	LBS/1000 SQ. FT.
EMPIRE BIRDSFOOT TREFOIL[2] OR	5	0.20
COMMON WHITE CLOVER[2]	8	0.20
PLUS		
TALL FESCUE	20	0.45
PLUS		
RED TOP OR	2	0.05
RYEGRASS (PERENNIAL)	5	0.10

[2] ADD INOCULANT IMMEDIATELY PRIOR TO SEEDING

Site Vegetation Plan

Esthetic Considerations

- Excavated soil used to construct berm
- Maintain as many existing trees as possible
- 100 new trees to be planted
- Building exterior to be a natural color
- Exterior building lights are motion activated
- No audible exterior alarms
- Chain link fence with privacy screening

Groundwater Remediation Project

- Operation & Maintenance

NAVFAC
Naval Facilities Engineering Command

Operation & Maintenance

- Operate 24 hours per day
- Trained personnel visits
  - 3 days per week during initial 6 months
  - Additional visits as needed
- Monitoring plan currently in draft version
- Operation & Maintenance plan to follow
- Establishes method of operating & tracking progress of GWTP

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
  - To monitor key operating parameters
  - Redundant controls to ensure safe operation
  - Automatic system shut-down signals
  - Requires manual restart
  - Telemonitoring system to view operation remotely

Future Operating Considerations

- Piping to termination vaults
  - 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

Project Status

- Obtain real estate access agreements from three property owners – Town of Oyster Bay, NYS DOT and Long Island Railroad
- TOB has recently signed the access agreement
- Notice to Proceed from NYS DEC and TOB
- Obtain all necessary local permits
- Competitive bidding for all subcontracted work and equipment
- Mobilize and start construction

Anticipated Schedule

Milestones	Date
Project Planning	On-going
Mobilization & Start of Construction	Spring 2007
End of Construction	Winter - Spring 2008
Plant Start-Up and Shakedown	Spring - Summer 2008
Start of Operation & Maintenance	Summer 2008

Wrap-up

Questions?

File on eDOCs? ✓ Yes ____ No
Site Name I-30-CC3B
Site # NWIRD
County Nassau
Town TO3
Foilable ✓ Yes ____ No
Please Write The eDOC File
Name Description 03-01-07 RAB meeting