

# Phase I & II Environmental Site Assessment

Map 3, Block 28, Lots 5 & 10  
Mechanic Street  
Pawcatuck, Connecticut

**Submitted to:**  
Town of Stonington

**Submitted by:**  
Paul Burgess, LLC  
36 Elm Street  
Stonington, CT 06378



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Paul Burgess, P.E., LEP

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR Part 312.10. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312, unless otherwise stated herein.

**PAUL BURGESS, LLC**  
Environmental Consulting,  
Engineering & Permitting

March 2007

## Executive Summary

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A Phase I and Phase II Environmental Site Assessment (ESA) was conducted for the Town of Stonington on property located on Mechanic Street (Map 3, Block 28, Lots 5 & 10) in Pawcatuck, Connecticut. The site location is depicted on Figure 1 and a site schematic plan is provided as Figure 2.

The size of Parcels 5 & 10 is estimated to be 0.87 acre, based on assessor records. The property is developed as the Pawcatuck Park. It consists of a paved asphalt parking lot, a grassed area along the Pawcatuck River, a gazebo, and a wood walkway and bulkhead along the river. The wood walkway is fenced to prevent access due to unsafe conditions.

The site history indicates that the property was undeveloped in the mid 1800s. By the late 1800s the site was developed with various structures, including a lumber company and a blacksmith shop. Commercial businesses abutting the site were located along Mechanic and West Broad Streets. By the early 1900s, the lumberyard occupied most of site and a coal yard indicated as Wilcox Coal Yard was located in the southern portion of site. By the 1920s and 1930s Wilcox Coal began distributing fuel oil from the site; aboveground fuel oil tanks were located in the general area of the current gazebo as depicted on maps and photographs from that era. Beginning in the 1920s, a gasoline sales and service station building was located off site in the general area of the current Citizens Bank parking lot on West Broad Street, west of the bank building. By the late 1950s/early 1960s the on-site structures were removed, and presumably the Wilcox Coal Company ceased operating on site. Wilcox Coal (Joseph F. Romenella, et. al.) sold the property, which included the Citizens Bank site, to Gulf Oil Corporation in July 1965. Sometime in the late 1960s, Gulf Oil relocated the off-site gasoline station to the current site of the Citizens Bank building. Gulf Oil Corporation sold the property to the Town of Stonington in June 1979, and the site was subsequently developed as a riverfront park. The gasoline station was replaced with the current Citizens Bank building in the mid 1980s.

Based on a review of town land records, no environmental records, orders, or liens were identified for the site.

The main focus of the Phase II Site Investigation was to evaluate the presence of apparent oil that was encountered during the geotechnical investigation of the site. Other recognized environmental conditions that were included in the investigation were:

- On-site fill and coal storage

- Past industrial site usages
- Previous on-site septic system and dry well serving an off-site gasoline and service station
- Off-site sources of contamination (e.g., gasoline station, cleaners)

Analytical results for soils and groundwater obtained during this investigation were compared to the Connecticut Department of Environmental Protection (CTDEP) Remediation Standard Regulations (RSRs).

Extractable total petroleum hydrocarbons (ETPH) analysis exceeded CTDEP RSR criteria at the site. Figure 3 summarizes the ETPH data for the soil interval from 0 to 4 feet below ground surface (bgs). At two boring locations, ETPH exceeded the Residential Direct Exposure Criteria [RDEC] (GP-106 [2 to 4 feet bgs] near the gazebo and GP-112 [1 to 3 feet bgs]) below the parking lot north of the gazebo. It is likely that additional soils exceed this criterion around, and potentially below, the gazebo, which was the location of the former fuel oil tanks. Arsenic also exceeded the RDEC at GP-106 (2 to 4 feet bgs) and GP-9 (3 to 4 feet bgs). If the GP-106 area were to be remediated it is likely that, with additional sampling for arsenic, compliance could be achieved using statistical analysis allowed under the RSRs.

Figure 4 depicts the ETPH data for soil samples collected in the 4- to 8-foot bgs interval. The groundwater is tidally influenced at the site, but is approximately 4 feet bgs. The pollutant mobility criteria (PMC) do not apply to soils below the seasonal high groundwater table. Contaminated soils greater than 4 feet bgs can be considered “inaccessible” and remain in place with a properly recorded environmental land use restriction (ELUR) preventing disturbance of the soil below the ground surface.

Polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs) were also detected in areas where oil odors were present, but were below RSR criteria. Also, PAHs were detected in fill and coal fragment samples, but were also below RSR criteria. No polychlorinated biphenyls (PCBs) were detected.

The three on-site groundwater wells were sampled and analyzed. No chemical constituents were detected in the upgradient well (GP-113), except for levels of lead below RSR criteria. No PAHs were detected in any of the wells. ETPH was detected in wells B-6 and GP-109, which are located within the oil-contaminated soil area. There are no RSR criteria for ETPH in GB groundwater areas. No oil product was noted in the wells at the time of sampling and there was no visual evidence of oil migration to the Pawcatuck River. VOCs related to petroleum were detected in wells B-6 and GP-109, but at levels well below RSR criteria. Arsenic, lead, and zinc were detected in well B-6 above the surface water protection criteria

(SWPC). This well water was turbid which likely resulted in the elevated levels. Arsenic was also detected above the SWPC in well GP-109.

This property was also evaluated regarding compliance with the Connecticut Property Transfer Statute (Section 22a-134). This statute pertains to certain property and business transactions involving hazardous waste generators greater than 100 kilograms (220 pounds) in any one month. The CTDEP had no record of hazardous waste manifests for the subject property and the site is not listed as a hazardous waste generator. Therefore, it is my opinion that the Transfer Act does not apply. Regardless, there is no transfer of the property anticipated.

The following conclusion and remediation strategies are provided:

- Excavate and properly dispose the ETPH contaminated soil in the 0-4 feet bgs interval to reduce any concerns about human direct exposure. This will also remove the most elevated area of arsenic detected. It is noted that ETPH was not detected in the 0-1 feet bgs interval that would have a more likely chance for human exposure due to direct contact.
- A deed restriction preventing excavation at the site, without prior approval and appropriate procedures, is recommended.
- In preliminary conversations with William Warzecha regarding the site investigation results, he was in agreement that it was not necessary to close the park.
- Additional soil sample analyses are recommended to confirm statistical compliance of arsenic concentrations with RSR criteria. At that time additional sampling for ETPH may be warranted to more precisely define the limits of soil excavation(0-4 feet bgs) around the gazebo area prior to remediation.
- Follow-up ground water monitoring will be required.



NOTES: DEPICTED FORMER SEPTIC SYSTEM SERVED  
GAS STATION AT EXISTING CITIZEN'S BANK SITE.

BASE MAP PROVIDED BY TOWN OF STONINGTON.

**PAUL BURGESS, LLC**

ENVIRONMENTAL CONSULTING,  
ENGINEERING & PERMITTING

36 ELM STREET  
STONINGTON, CT 06378

FIGURE 2

### SITE SCHEMATIC PLAN

SITE LOCATION:

PAWCATUCK PARK  
STONINGTON, CT

SCALE:

NOT TO SCALE

DATE PREPARED:

MARCH 2007

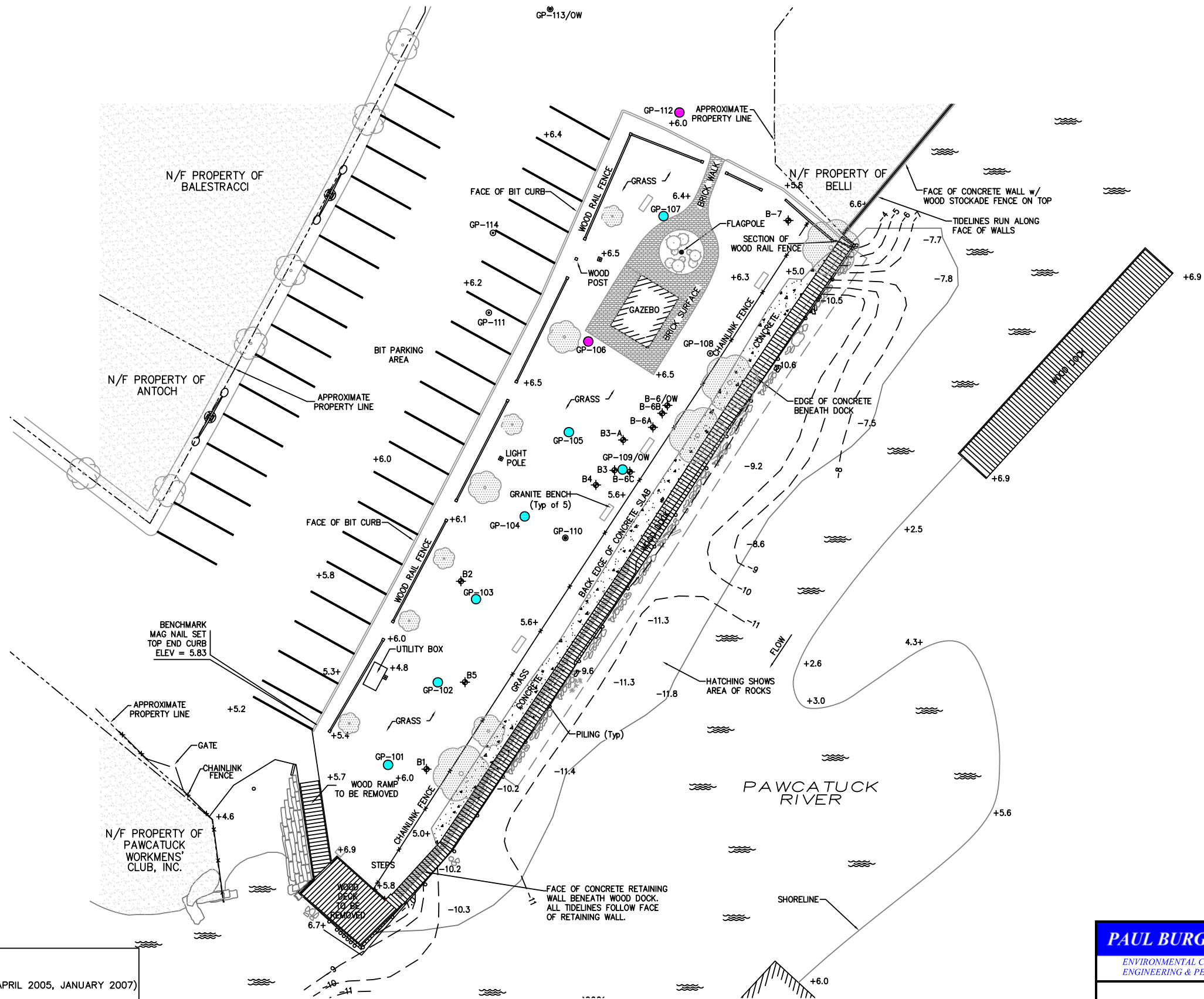
DRAWN BY:

JLS

CLIENT:

TOWN OF STONINGTON

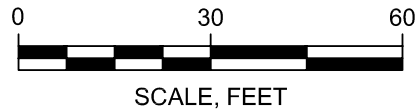




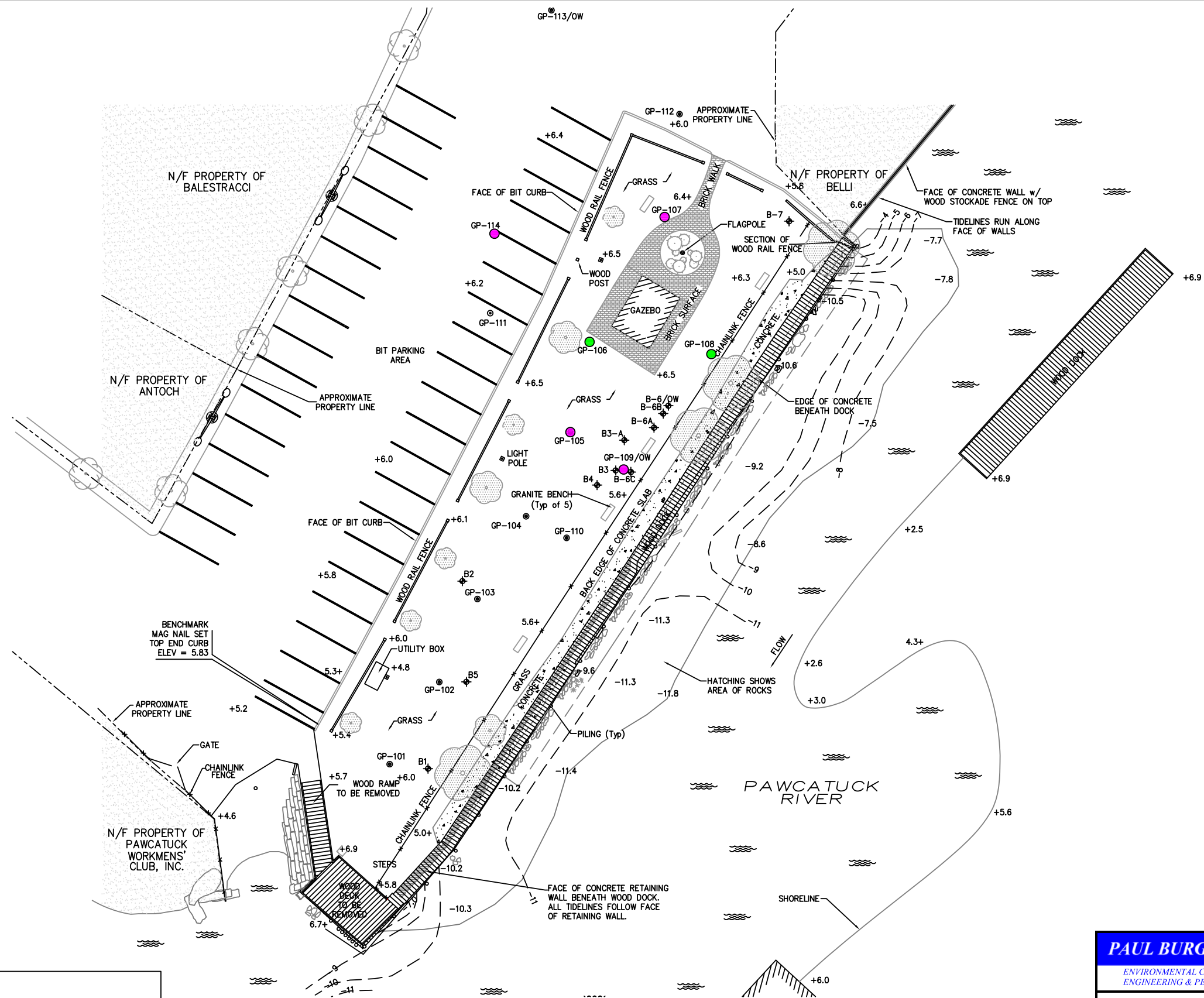
- NOTES:**
- 1. BGS = BELOW GROUND SURFACE.
  - 2. ARSENIC RESULTS NOT DEPICTED, SEE REPORT TEXT.
  - 3. BASE MAP PROVIDED BY DOCKO, INC. BASED ON A SURVEY BY J. DEMPSEY ASSOCIATES.

**LEGEND**

- B1 DOCKO BORINGS (APRIL 2005, JANUARY 2007)
- GP-101 GEOPROBE BORINGS (FEB. 2007)
- GP-113/OW MONITORING WELL
- TOTAL PETROLEUM HYDROCARBONS GREATER THAN RESIDENTIAL DIRECT EXPOSURE CRITERIA (0-4" BGS)
- SAMPLE COLLECTED (0-4" BGS) AND TOTAL PETROLEUM HYDROCARBONS LESS THAN RESIDENTIAL DIRECT EXPOSURE CRITERIA



<b>PAUL BURGESS, LLC</b>		36 ELM STREET STONINGTON, CT 06378	
ENVIRONMENTAL CONSULTING, ENGINEERING & PERMITTING		FIGURE 3	
<b>SUMMARY OF TOTAL PETROLEUM HYDROCARBONS IN SOILS (0-4' BGS)</b>			
SITE LOCATION:		PAWCATUCK PARK STONINGTON, CT	
SCALE: 1"=30'	DATE PREPARED: MARCH 2007	DRAWN BY: JLS	CLIENT: TOWN OF STONINGTON



- NOTES:**
1. BGS = BELOW GROUND SURFACE.
  2. GROUNDWATER TABLE AT 4' +/-; POLLUTANT MOBILITY CRITERIA NOT APPLICABLE GREATER THAN 4' BGS.
  3. BASE MAP PROVIDED BY DOCKO, INC. BASED ON A SURVEY BY J. DEMPSEY ASSOCIATES.

LEGEND	
	DOCKO BORINGS (APRIL 2005, JANUARY 2007)
	GEOPROBE BORINGS (FEB. 2007)
	MONITORING WELL
	TOTAL PETROLEUM HYDROCARBONS GREATER THAN RESIDENTIAL DIRECT EXPOSURE CRITERIA (>4' BGS)
	PETROLEUM ODORS DETECTED (>4' BGS); SAMPLE NOT COLLECTED FOR ANALYSIS

<b>PAUL BURGESS, LLC</b>		36 ELM STREET STONINGTON, CT 06378	
ENVIRONMENTAL CONSULTING, ENGINEERING & PERMITTING		FIGURE 4	
<b>SUMMARY OF TOTAL PETROLEUM HYDROCARBONS IN SOIL (&gt;4' BGS)</b>			
SITE LOCATION:		PAWCATUCK PARK STONINGTON, CT	
SCALE: 1"=30'	DATE PREPARED: MARCH 2007	DRAWN BY: JLS	CLIENT: TOWN OF STONINGTON