U.S. Army Fort Monmouth Restoration Advisory Board (RAB) April 4, 2013 ~ 7:00 p.m.

AGENDA

- 1. Call meeting to order
- 2. Comments old business
 - Discuss February 7, 2013 meeting minutes.
- 3. Discuss new business
 - Environmental Program post Super Storm Sandy. Wanda Green
 - IRP program status Wanda Green
 - Reports regarding site FTMM-27 (CW-5) Sanitary Treatment Plant Wanda Green
- 4. Round table discussion
- 5. Discuss 2013 meeting schedule.
 - Thursday, July 11, 2013
 - Thursday, October 3, 2013
- *** Please note, RAB meeting announcements will continue to be forward to the media for news release. See website http://www.pica.army.mil/FtMonmouth/. The Army will not send personal emails to the public for notification of the meetings.
- 6. Public comments/questions.
- *** Please limit all comments and questions to three (3) minutes per public member.
- 7. Meeting adjourned.

2013 Fort Monmouth Restoration Advisory Board

Date: April 4, 2013

NAME	ORGANIZATION	ADDRESS	TELEPHONE	EMAIL	SIGNATURE
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valiua Green	O.S. Army Fort Monitorium	U.S. Army Fort Monmouth	702 000 1001	Wallact.o.groomz.olivee.iii	Office.
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William Simmons	Little Silver Business - Little	Freehold, NJ 07728	H-Redacted - Privacy Act	Redacted - Privacy Act	0
		44 Church St.	W-732-747-2133	Redacted - Flivacy Act	
Dan Laudan	Silver Community Hardware	Little Silver, NJ 07739	F-732-747-5420		
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Brian Charnick	Resident - Eatontown	Redacted - I livacy Act	Redacted - Privacy Information Redacted - Privacy Act		gry Glurnick
Edward J. Dlugosz	Resident - Eatontown		WRedacted - Privacy Information	-	est
Frank Barricelli	Resident - Oceanport		H-Redacted - Privacy Act		Le Same
James Allen	Resident - Tinton Falls		H- Redacted - Privacy Act	-	
Dianne M. Crilly	Resident - Shrewsbury		Redacted - Privacy Act Redacted - Privacy Act		1110
Jonathan Cohen	Resident - Tinton Falls		Redacted - Privacy Information Redacted - Privacy Act		Hoth
			ing -		
Rosemary Brewer	Resident - Little Silver		Redacted - Privacy Act Redacted - Privacy Act Redacted - Privacy Act		Kex greenen
Richard Gruskos	Resident - Oceanport		Redacted - Privacy Act Redacted - Privacy Information		full
Tim Rider	U.S. Army Picatinny		W-973-724-6364	timothy.rider@us.army.mil	

FORT MONMOUTH RESTORATION ADVISORY BOARD (RAB) MEETING

April 4, 2013 ~ 7:00 PM

REQUEST TO ASK QUESTIONS

PRINT NAME	ORGANIZATION	ADDRESS	TELEPHONE	EMAIL
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Summary of Reports

FTMM-27: CW-5 Former Sanitary Treatment Plant

WANDA GREEN

BRAC ENVIRONMENTAL COORDINATOR
U.S. ARMY FORT MONMOUTH
APRIL 4, 2013

FTMM-27: CW-5 Former Sanitary Treatment Plant Summary of Reports

- U.S. Army Environmental Hygiene Agency
 Water Quality Engineering Special Study No. 24-016-75/76
 Sanitary and Industrial Waster Water, Fort Monmouth Oct 1974-Jun 1975
- U.S. Army Toxic and Hazardous Materials Agency Installation Assessment of Fort Monmouth, Report 171, May 1980
- U.S. Army Toxic and Hazardous Materials Agency Update of the Initial Installation Assessment of Fort Monmouth and Sub-installations: Charles Wood Area and Evans Area. June 1988
- Roy F. Weston, Inc. Investigation of Suspected Hazardous Waste Site at Fort Monmouth December 1993
- Noy F. Weston, Inc.
 Site Investigation Fort Monmouth Main Post and Charles Wood Area
 December 1995
- Shaw Environmental, Inc U.S. Army BRAC 2005 Environmental Condition of Property, Fort Monmouth, NJ Final 29 January 2007

Report Purpose

- ➤ In mid-1975, in lieu of treating their own waste streams, Fort Monmouth was scheduled to become a customer of the Northeast Monmouth County Regional Sewerage Authority (NMCRSA).
- ▶ Prior to becoming a customer of the NMCRSA, the U.S. Army Environmental Hygiene Agency (USAEHA) conducted a study to characterize the influent waste streams entering Fort Monmouth's Main Post (MP) and Charles Wood Area (CWA) sewage treatment plants (STP) as well as the treated effluent.

Charles Wood Area STP

➤ History

- The CWA STP was a "trickling filter secondary treatment plant" built in 1942.
- The CWA STP had an 800,000-gallon/day capacity and was manned 16 hours/day, 7 days/week.
- Bldg. 2700 comprised approximately 10% of the 0.4 million gallons/day influent into the CWA STP.
- Waste stream from Bldg. 2700 passed through a limestone acid neutralization bed prior to entry into the CWA STP.
- Boiler "blowdown" water from Bldg. 2700 was not treated by the Charles Wood Area STP. The boiler blowdown water was treated with sodium metaphosphate, caustic soda, and tannin, and then discharged from Bldg. 2700 into stormwater sewers that emptied into a tributary of Wampum Brook.

- ➤ Sampling Conducted by USAEHA
 - Flow and pH were monitored 24 hours/7 days per week.
 - Continuous sampling of Bldg. 2700's effluent was conducted 24 hours/7 days per week.
 - Field analyses/measurements included biological oxygen demand, fecal coliform count, pH, conductivity, temperature, and dissolved oxygen.
 - Collected water samples were laboratory analyzed for total solids, total dissolved solids, suspended solids, sulfate, phosphorus, sulfide, nitrate/nitrogen, grease/ oil, chlorides, ammonia-nitrogen, total organic carbon, mercury, cyanide, extractable metals, and phenols.
 - Grab samples were collected from other locations at the CWA at the discretion of the USAEHA project coordinator to determine existing water quality.

- **▶** Conclusions made by USAEHA
 - The STP at CWA was a well-constructed, well-run, and efficient plant.
 - The effluents from the Hexagon Building pose a threat to the acceptability of waste discharged from the CWA to the NMCRSA treatment facility.
 - Unlike the Fort Monmouth CWA STP, the NMCRSA facility has no receiving basin prior to its activated sludge bed, which could cause damage to the biomass (toxicity to the lower organisms).
 - The CWA STP may provide a means for pre-treating the industrial wastes from the Hexagon Building.
 - Recommendations were made to either eliminate the industrial waste streams, pretreat the waste, or connect the effluent rather than the influent of the CWA STP to the NMCRSA facility.

- Conclusions made by USAEHA
 - Fort Monmouth discharged better quality water to the water bodies surrounding the Fort property than existed in the surrounding water bodies themselves.
 - Sampling conducted in Wampum Brook upstream of the CWA STP outfall confirmed the poor condition of Wampum Brook upstream of the CWA.
 - Evidence of oil spills and other releases from civilian industrial operations bordering Wampum Brook were observed by the USAEHJA and noted in the text.
 - The USAEHA stated that "There is little value in discussing the effluents from Bldg. 2700 in terms of averages or medians because of the apparent randomness of discharging wastes from the building. The survey was not of sufficient length to establish any cyclic patterns in the discharges."
 - Chromium was detected at varying concentrations in effluent water from Bldg. 2700.
 - Wampum Brook was very polluted, from sources other than Fort Monmouth.

- **▶ Deficiencies Noted in the USAEHA Study**
 - Throughout the text, the author includes personal opinions and assumptions.
 - Throughout the text, relative terms (e.g. "unusually high", "significant", "good deal of plant and animal life") are used often, resulting in a more qualitative and less-than-scientific explanation of the study's results.
 - The study was conducted in the mid-1970's, with lack of data quality assurance/quality control.

U.S. Army Toxic and Hazardous Materials Agency Installation Assessment of Fort Monmouth, Report 171, May 1980

Report Purpose

A records search was conducted to assess the environmental quality of Fort Monmouth with regard to the use, storage, treatment, and disposal of toxic and hazardous materials and to define any conditions which may adversely affect health and welfare or result in environmental degradation.

U.S. Army Toxic and Hazardous Materials Agency Installation Assessment of Fort Monmouth, Report 171, May 1980

CWA Sanitary Treatment Plant (STP)

- ➤ Both primary and secondary treatments were provided when the plant was active.
- Treatment facilities included grit chamber screen, communitor, primary and secondary settling tanks, biofilters, and chlorinator.
- Metal plating operations took place at various locations of the Main Post, CWA and EA. The operations were generally small, piecework or laboratory scale, discharging their waste to the sanitary sewer.
- ➤ An area on the CWA golf course, located east of Green No. 15, was used to store STP sludge intended for use as a soil conditioner and fertilizer for the golf course.

U.S. Army Toxic and Hazardous Materials Agency Installation Assessment of Fort Monmouth, Report 171, May 1980

Conclusion

- ➤ The sludge drying beds are potentially contaminated with heavy metals and a variety of organic wastes.
- ➤ USAEHA studies concluded that the quality of surface water entering the CWA-Main Post is or poor quality, as determined by the lack of biological activity.

U.S. Army Toxic and Hazardous Materials Agency
Update of the Initial Installation Assessment of Fort Monmouth and
Sub-installations: Charles Wood Area and Evans Area. June 1988

Report Purpose

An onsite assessment was conducted on 7 August 1986 to determine if any environmental/hazardous waste disposal conditions had changed since the Initial Installation Assessment in 1980 and if such changes, coupled with the interim changes in environmental regulations or mission, had altered the contaminant migration/hazard situation and would change the previous recommendation of not conducting a site investigation.

U.S. Army Toxic and Hazardous Materials Agency Update of the Initial Installation Assessment of Fort Monmouth and Sub-installations: Charles Wood Area and Evans Area. June 1988

Concerns Identified

- ➤ In December 1985, the Commander of CECOM was invited by the NJ State Legislature to provide information on Fort Monmouth operations to the Special Committee to Investigate Hazardous Waste Disposal at Military Installations.
- The Committee was concerned that the sludge drying beds on the installation represented potential health risks because they were unfenced and unposted.
- ➤ The Command provided information showing that all sludge was removed in 1981 and that the STP was demolished in 1981, therefore, not requiring fencing.

Recommendation

➤ The report recommend that USATHAMA not conduct an SI.

Roy F. Weston, Inc. Investigation of Suspected Hazardous Waste Site at Fort Monmouth December 1993

Report Purpose

The purpose of this assessment was to investigate the potential for contamination at suspected hazardous waste sites at Fort Monmouth, which were identified in a U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) report dated 1980 (updated in 1988).

Roy F. Weston, Inc. Investigation of Suspected Hazardous Waste Site at Fort Monmouth December 1993

STP Sampling Activies

- Two samples of digester sludge and one sample from the sludge-drying bed were collected in 1981 for TCLP metals analysis.
- None of the eight TCLP metals were detected.

STP Sampling Strategy

- Collect one sediment sample from the outfall area east of Hope Rd.
- Conduct two soil borings in the area of the former sludge drying beds and collect soil samples.

Roy F. Weston, Inc. Site Investigation Fort Monmouth – Main Post and Charles Wood Area December 1995

Report Purpose

The purpose of this report is to perform a site investigation of areas of concern to determine if contamination exists, and if present, to evaluate the extent and degree of contamination.

Sampling Results

- ➤ Two soil samples, one in each borehole, were collected from the 6- to 8-ft bgs sampling intervals.
- ➤ Detected compounds were compared with the impact to groundwater SCC because no monitor wells were installed at this site.

Roy F. Weston, Inc.

Site Investigation Fort Monmouth – Main Post and Charles Wood Area December 1995

Soil Sample Results

VOCs

One VOC (2-butanone) was detected in SB-01. The concentration was detected well below both applicable SCC (residential and impact to groundwater) and background.

SVOCs

One SVOC was detected above the laboratory quantitation limit in site soil in SB-01, but below the NJDEP SCC and background.

SVOCs

One SVOC was detected above the laboratory quantitation in site soil in SB-01, but below the NJDEP SCC and background. All compounds detected below quantitation limits were also detected well below both SCCs.

Pesticides/PCBs

Five pesticides and two PCBs were detected in concentrations above laboratory quantitation limits in SB-01 and SB-02, but were detected well below both of their respective SCCs and background.

Metals

As indicated in Table 4.3-8, all metals detected in site soils were found in concentrations below the NJDEP SCC, where established.

Roy F. Weston, Inc. Site Investigation Fort Monmouth - Main Post and Charles Wood Area, Dec 1995

Table 4.3-8 **Summary of Detected Compounds in** Soil from Site CW-5

COMPOUND	METHOD	DIRECT CONTACT	BACKGROUND	ANALYTICAL RESULTS	
and the second s	LIMIT (mg/kg)	SOIL CLEANUP CRITERIA (mp/kg)	CONCENTRATION	SB01-A02 12/20/94 6-2 8 bgs	\$802-A02 12/20/94 6-8 ft bgp
W-OIC's (mg/kg)				A CONTRACTOR OF THE PARTY OF TH	
2-Bonnone	0,004.1	1,000	NE	0.033	0.013
SVOC's (mp/kg)	of Application Control of the Contro		Control State Control of the State Control of the	and the second second	
indeno(1,2,3-cd)gyrene	0.234	0.9	ND	0.066 F	ND
Berno(a lanthracese	0.162		46 J	014	ND
his 2-Ethylhery (phthainte	0.32			0.21	MD
Benzo(b) Elecranthese	OLRR	0.9	0.078.3	0.22 /	ND
Benzo(k)@goranthene	0.205	0.9	G: 04 h J	0.084 /	SID
termo(a)pyrene	0.162	0.60	02 (M17)	6.116.1	ND
Chrysene	0.145		0.083 J	9.15.	SAID.
Tuorsethene	0.198	2300	0.042 J	0.21 /	ND
*henesthrene	0.165	NLE	Fig.L3	G.085 J	ND
Pyrene .	0.178	1700	0.048 J	0.25.1	ND
FESTIVE HISES (mg/kg)	TATE AND DESCRIPTION OF THE PARTY OF THE PAR	The second secon	Company of the Compan		
Arocior-1254	0.042	0.49	ND	0.17	ND
Arodor-1200	0.042	0.49	ND	G. 1.5	ND
tpha-Chlordane	0.002	NLE	ND	D OORS P	ND
serrena-i Marchan	0,002	NLE	III	0.0092	ND
4-DOE	0.0037	2	0.071	0.21 P	0.0058
L4-DDD	0.0000		ND	0.4087	0.0035 /
1,4'-DOT	0.00311	2	0,053	0.087	ND
MELAL TOTAL (mg/kg)		and the state of t	and the second second second second		
ducumon	3.9	NU	15700	3920	3400
Arsenic	47.373		31.6	36.08.	1.3
larium	0.17	/0	10	36.2	21
Bery Dium	C. I		17.9	0.84	0.32
inicium.	2.2	NLE	653	1000	:85 f
Chromiem		100	128	42.2	38.3
Colbalt	0.7	100.0	4.5		ND
Copper	2.2	50%	7.57	21.5	2
ron	0.58	NULE	43500	B950	5930
end	0	500/	15.1	20.7	3.3
dex	1.6	NLE	1466	527	717
Anganes	8.30	100	120-	197	7.2
dervery	0.49	1.4	NO	0.63	ND
The state of the s	14	250		2.7	1.6
A Commence of the Commence of	(12.3-25.8)	NLF	10600	944	Laso
Silver	0.34	110	.26"	7.4	ME
Sodiem	3.8	E 10	56.8	28.9	13.5
elenium.	03	63	0.85	0.4	0.35
halkum	0.36	2	0.43	ND	6.53
/anadouri	0.53	310		20.7	21.4
	0.41	1500	55.6	40.4	11.4
	0.41	E PLAN	32.0	40.4	4.1.74

Roy F. Weston, Inc.

Site Investigation Fort Monmouth – Main Post and Charles Wood Area December 1995

Sediment Sample Results

VOCs

VOCs were analyzed for but not detected in site sediment samples.

SVOCs

One SVOC [bis(2-ethylhexyl) phthalate] was detected above the laboratory quantitation limit from location C6SD1. NJDEP sediment guidance values are not established for this compound.

Pesticides/PCBs

➤ Three pesticide compounds (4,4'-DDD, 4,4'-DDT, and DDE) were detected in concentrations exceeding the NJDEP sediment guidance criteria. However, the concentrations were found in levels below their respective background concentrations. PCBs were not detected in the site sediment.

Metals

➤ As indicated in Table 4.3-9, no metals were detected in concentrations greater than the NJDEP sediment guidance criteria.

Roy F. Weston, Inc. Site Investigation Fort Monmouth – Main Post and Charles Wood Area, Dec 1995

Table 4.3-9 Summary of Detected Compounds in Sediment Site CW-5

COMPOUND	I METHOD	NJDEP	MAXIMUM	ANALYTICAL RESULTS GIVEN	
	DETECTION	SEDIMENT	DETECTED	BY WESTON SAMPLE LOCATION COSD-1 12/1/94	
	LIMET	GUIDANCE •	BACKGROUND CONCENTRATION		
1. 111	(eng/lcg)		CONTRACTOR		
SVOCs (mg/kg)				0.43	
bis-(2-Ethylhoxy)phthalate	0.32	NLE	0.23	0.40 J	
Dimethylphthalate	0.145	NLE	ND	0.463 0.081 J	
Di-n-butylphthalate	0.215	NLE	0.12 ND	0.11 J	
Di-a-octyl phthalate	0.185	NILE		wenevones amoralisado, assaulto adultadadas	
PAHs (mg/kg)		A COUNTY OF THE PARTY OF THE PA	0.09	0.079 J	
Benzo (a)anthracene	0.162	0.23 NLE	0.16	0.1 J	
Benzo (b)fluoranthene	0.188		0.14	0.087	
Chrysene	0.145	0.4			
Fluorantherse	0.198	0.6	0.12	0.16 J	
Phonesthrone **	0.165	0.225, 0.326	0.079	0.698 3	
Гугово	0.172	0.35	0.41	0.19 J	
PASSESSO AND AND AND		CARLO - CREORIGIES SE MINICIPALITA	TAGE PARTY OF PERSONS BERNSHALD STORY	era computation are a contraction de la contraction de la contraction de la contraction de la contraction de l	
4,4'-DDD	0.0042	0.002	0.015	0.005 P	
4,4'-DDE	0.0042	0.002	0.096	0.0067	
4,4'-DDT **	0.0042	O.003, O.00183	0.11	0.0029 JP	
Heptachlor epostida	0.0021	NLE	ND	0.0042 P	
METALESETENSASCH	A PROPERTY OF THE PROPERTY OF	April 19 19 19 19 April 19 19 19 19 19 19 19 19 19 19 19 19 19		esistenta angua bititi ng Sajida. Pangabiti ng Singi	
Alucainma	6.1	NLE	6660	866	
Arrenic	0.35	33	5.8	0.74	
Bariyan	9.48	NLR	45.7	9.6	
Calcium	2.7	NLE	2960	509	
Chromium.	1.5	80	36.9	7.8	
Cobalt	0.64	NLE	4.2	1.3	
Соррег	0.53	70	24.5	7.4	
Iron	1.1	MLE	19600	6910	
Lead	1.8	3.5	142	9.3	
Magnesium	8.7	NLE	Z36U	320	
Manganese	0.45	NLE	65.1	25,8	
Potassium	186	NLE	1700	256	
Sodium	3.5	NLE	271	34	
Vanadium	0.66	NLE	39,5	5,4	
Zinc	0.64	120	126	22.5	

Compounds detected above NJDEP Sediment Quidance are bolded.

*- NOAA (1990) ER-L coldance, Values for DDE and DDD are not presented in NUCEP Sediment Quality Evaluations (1991).

ND - Comprand was not detected at or above the quantification limit

NLE - No Level Established

^{** -} Standards developed using equilibrium particular approach in accordance with NIDEP Guidance for Sediment Quality Evaluation (1991). Total arrange earliest consentrations of 1% commed based on expanic carbon content detected in adjacent comple.

^{) -} Communication was estimated due to detection at or below the quantification limit

P - The margin difference between the results from the two GC enhance is greater than 21%, the lower of the two values is reported

Roy F. Weston, Inc. Site Investigation Fort Monmouth – Main Post and Charles Wood Area December 1995

Recommendations

- ➤ Three pesticide compounds were detected in the sediment at levels that were above the NJDEP sediment guidance criteria but below background.
- Soil results were below the NJDEP SCC and established maximum background.
- No further action will be taken.

Shaw Environmental, Inc U.S. Army BRAC 2005 Environmental Condition of Property (ECP), Fort Monmouth, NJ Final 29 January 2007

Report Purpose

- ➤ The purpose of the ECP was to collect reliable information to determine the property's suitability for out grant or transfer and to meet the requirements under Title 40, Code of Federal Regulations (CFR), Part 373, § 373.1, and U.S. Army Regulation (AR) 200-1, Environmental Protection and Enhancement.
- The information gathered with the objective of assisting the U.S. Army, the General Services Administration, and the purchaser in making informed business decisions about the transfer of the property by reducing uncertainty regarding its environmental condition.

Shaw Environmental, Inc U.S. Army BRAC 2005 Environmental Condition of Property (ECP), Fort Monmouth, NJ Final 29 January 2007

FTMM-27: CW5 Former CWA STP Summary

- Sludge was treated in two anaerobic digesters and discharged to underdrained sand beds for final drying.
- Supernatant liquid from digester sludge and drainage from the sand beds were recycled through the STP for additional treatment.
- The chlorinated effluent was discharged to a tributary of Wampum Brook on the east side of Hope Road.
- The STP was closed on October 29, 1975, when the CWA sewer system was connected to the NEMCRSA system.
- In 1981, all sludges and supernatant liquids were removed from the STP and the facility was cleaned and disinfected.

Shaw Environmental, Inc U.S. Army BRAC 2005 Environmental Condition of Property (ECP), Fort Monmouth, NJ Final 29 January 2007

FTMM-27: CW5 Former CWA STP Summary

- Mercury used in the distributor seal on the biofilter was removed and disposed of by the Directorate of Logistics.
- The physical facility was demolished in 1983.
- In 1993, a youth center was constructed on the site.
- Under the SI phase, two soil samples were collected in the former area of the sludge drying beds. In addition, one sediment sample was collected from the former wastewater discharge point. All three samples were analyzed for TCL +30 parameters, TAL metals, and cyanide.
- No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria or Sediment Criteria.
- An NFA determination was approved by the NJDEP in 1996.