



State of New Jersey

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Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
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BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

April 29, 2015

Anthony DePasquale
U.S. Army Corps of Engineers – Philadelphia District
100 Penn Square East
Philadelphia, PA 19107

RE: Site 15G Upland Confined Disposal Facility
Federal Consistency Determination and Water Quality Certificate
File No. 0000-11-0039.2

Dear Mr. DePasquale:

The Office of Dredging and Sediment Technology of the New Jersey Department of Environmental Protection has completed its review of the application for Federal Consistency and a Clean Water Act Section 401 Water Quality Certificate (WQC) for the above-referenced project. This application (dated February 11, 2015) was submitted to the Department, on behalf of the U.S. Army Corps of Engineers-Philadelphia District (USACE) by AKRF, Inc. Acting pursuant to Section 307 of the Federal Coastal Zone Management Act (CZMA) of 1972 (P.L. 92-583) as amended, the Department finds the above-referenced Federal Consistency Determination request to be inconsistent with the enforceable policies of the New Jersey Coastal Management Program.

The Department received the Federal Consistency and WQC application on February 18, 2015. On April 16, 2015, pursuant to 15 CFR 930.41(b), the Department requested a 15-day extension to the original 60-day review period for this application, to May 4, 2015.

Project Description

The proposed project consists of the construction of a dredged material upland Confined Disposal Facility (CDF) on property in Oldmans Township (Salem County) and Logan Township (Gloucester County), with an initial capacity of 4 million cubic yards. Dredged material dewatering effluent would be discharged from the proposed Site 15G Upland CDF directly into Oldmans Creek. The proposed project is further clarified in Section II-CDF Design and Construction of the application (page 5, para. #1) to include "the design, development and construction of an upland CDF adjacent to Oldmans Creek". Therefore, the current application requests authorization to construct the proposed Site 15G Upland CDF, and does not request authorization to operate the proposed facility.

The proposed project site is currently owned (in part) by NDev, LLC, a subsidiary of PSEG. The Department understands that - if construction of the Site 15G is authorized - ownership of the project site

will be transferred to the federal government (i.e. the USACE) for future use as the proposed Site 15G Upland CDF. This land exchange was the subject of the following Environmental Assessment/Finding of No Significant Impact:

Environmental Assessment for U.S. Army Corps of Engineers Land Exchange of Properties at Artificial Island, Salem County, New Jersey for Properties in Oldmans Township, Salem County and Logan Township, Gloucester County, New Jersey; Development of Confined Disposal Facility (January 2015).

Analysis

The following analysis is based on New Jersey's Rules on Coastal Zone Management, N.J.A.C. 7:7E-1.1 et seq., as amended July 15, 2013. Among the documents submitted to the Department in support of the application were the following:

- Discharge to Oldmans Creek Evaluation – Site 15G Confined Disposal Facility, prepared by Duffield Associates, Inc., August 2013 (Attachment C).
- Preliminary Assessment, Site Investigation, and Remedial Investigation Report, prepared by Environ, December 2014 (Attachment E).
- Cultural Resources Report – Confined Disposal Facility – Site 15G, prepared by AKRF, December 2011 (Attachment H).
- Site Investigation – Confined Disposal Facility – Site 15G, prepared by AKRF, December 2011 (Attachment L).
- Permit Plans – PSEG Site 15G Confined Disposal Facility, prepared by Duffield Associates, dated July 26, 2013.

The Office of Dredging and Sediment Technology reviewed the submitted application materials for consistency with New Jersey's Coastal Zone Management Rules (N.J.A.C. 7:7E), and the associated Coastal Permit Program Rules (N.J.A.C. 7:7). This also included evaluation of the proposed project in consideration of the following:

- N.J.A.C. 7:9B – Surface Water Quality Standards
- N.J.A.C. 7:9C – Ground Water Quality Standards
- N.J.A.C. 7:13 – Flood Hazard Area Control Act Rules
- N.J.A.C. 7:14 – Water Pollution Control Act
- N.J.A.C. 7:14A – New Jersey Pollutant Discharge Elimination System
- N.J.A.C. 7:26D – Remediation Standards
- N.J.A.C. 7:26E – Technical Requirements for Site Remediation
- N.J.S.A 12:3 – Tidelands Act
- The Management and Regulation of Dredging Activities and Dredged Material in New Jersey's Tidal Waters (October 1997).

For purposes of CZMA review, the Department must determine whether an activity will affect a coastal

use or resource. The Department's analysis is embodied in Department published guidance.¹ Coastal effects are defined under National Oceanic and Atmospheric Administration (NOAA) regulations as any reasonably foreseeable effect on any coastal use or resource resulting from a Federal agency activity, Federal license, or permit activity. Effects are not just environmental effects, but also include effects on coastal uses. Effects include both direct effects, which result from the activity and occur at the same time and place as the activity, and indirect (cumulative and secondary) effects that result from the activity and are later in time or farther removed in distance, but are still reasonably foreseeable. The Department's foreseeability test applies to activities and uses or resources that occur outside a State's coastal zone, so long as the uses or resources impacted are uses or resources of a State's coastal zone.

In evaluating this project, the Department also looked to other sources to define "foreseeability." Black's Law Dictionary (5th Ed.) defines foreseeability as "the reasonable anticipation that harm or injury is a likely result of acts or omissions." Thus, the test is whether the impact is reasonably related to the activity, not whether an impact is more likely than not to occur.

7:7E-3.27 Wetlands

The application states (page 22) that the proposed project will result in impacts to 0.71 acres of open water and 0.11 acres of emergent freshwater wetlands. However, a review of project site features on NJ-GeoWeb has identified the potential presence of additional wetlands on the site, beyond those identified on Figure 16 of the application, which could be impacted by the proposed Site 15G Upland CDF.

In addition, the Compliance Statement discusses consistency of the potential wetlands impacts with those allowed pursuant to the Freshwater Wetlands Protection Act General Permit 7 (N.J.S.A. 7:7A-5.7). However, the wetlands to be impacted are not located in a headwater (as defined at N.J.A.C. 7:7A-5.7(b)); thus, permit equivalency with this General Permit is not applicable. [Note that Freshwater Wetlands General Permit 6 (N.J.A.C. 7:7A-5.6 – Non-tributary Wetlands) may be applicable to the proposed project.]

7:7E-3.36 Historic and Archaeological Resources

The Department's Historic Preservation Office has identified areas of archaeological sensitivity where additional monitoring is needed. See the attached memorandum from Katherine J. Marcopul to Joel A. Pecchioli (dated March 24, 2015) for additional information and the requirements for this archaeological monitoring.

7:7E-3.41 Special Hazard Areas

Based on a number of studies and on-site investigations (including those listed above), it has been determined that existing soil/dredged material (i.e. historic fill) on the subject property contains contaminants above the New Jersey Residential and Non-Residential Soil Remediation Standards. In particular, arsenic has been found at concentrations of 20-40 mg/kg (greater than the Residential/Non-residential Soil Remediation Standard of 19 mg/kg) throughout the site. An exceedance of the Residential/Non-Residential Soil Remediation Standards for benzo(a)pyrene was also observed. In addition, exceedances of the Residential Soil Remediation Standards for vanadium (frequently observed), PCBs, some PAHs, and pesticides (dieldrin, DDT and metabolites) were observed.

¹ Federal Consistency in New Jersey, dated September 8, 2010. Available at http://www.state.nj.us/dep/cmp/fc_guidance.pdf

In general, the proposed use of existing on-site dredged material to build the berms for the proposed upland CDF – within the boundaries of the existing berms – constitutes a “like-on-like soil reuse” and is acceptable. However, given the presence of contaminants in the existing soil/dredged material at concentrations that exceed the Residential Soil Remediation Standards, and the projected use of this site as an upland CDF that will receive dredged material that may potentially also contain contaminants above the Residential Soil Remediation Standards, a site-wide Deed Notice and corresponding Soil Remediation Permit are required. NDev, LLC should instruct their Licensed Site Remediation Professional (LSRP) for the site to initiate the process to develop the Remedial Action Workplan for the site, and the Deed Notice and Soil Remediation Permit. [Note that the site has previously been assigned NJDEP Case No. 01-04-04-1603-03 (Attachment L, page 3).]

In addition, numerous monitoring wells that have been installed during the various on-site investigations have consistently found arsenic in groundwater at concentrations above the Groundwater Quality Standard (GWQS; 3 ug/L). Additional contaminants found at concentrations greater than the GWQS include aluminum, cadmium, iron, manganese, and nickel. Therefore, a groundwater Categorical Exclusion Area will be required for this site. NDev, LLC should instruct their Licensed Site Remediation Professional (LSRP) for the site to initiate the process to obtain this CEA; for additional information, please contact Joel Fradel, Section Chief, Groundwater Pollution Abatement (609-777-0125).

7:7E-6.2 Basic Location Rule and 7:7E-8.13 Buffers and Compatibility of Uses

The project site is currently zoned Agricultural Residential (see Figure 18), and a number of residential and commercial properties are located along the roads adjacent to the site (see PA/SI/RIR Attachment D, Figure 1). These site characteristics appear to be inconsistent with the use of the site as an upland CDF. In addition, the Department has received a number of objections to use of the site as an upland CDF, and objections were also raised during the National Environmental Policy review of the proposed project (see previously referenced Environmental Assessment/Finding of No Significant Impact).

7:7E-7.12 Dredged Material Placement on Land

The proposed Site 15G Upland CDF must have adequate capacity to manage the volume of dredged material to be placed in it. Attachment C – Section VII (page 18, Bullet #2) states that the proposed Site 15G design is based on an influent slurry volume of 1.83 million cubic yards (MCY) from an *in situ* sediment volume of 1 million cubic yards. Given the fine grained nature of the sediment, this “bulking factor” (1.83) appears to significantly underestimate the influent slurry volume. The bulking factor used should consider the grain size distribution of the *in situ* sediment, consistent with the following guidance:

$$\text{Bulking Factor } BF = V_{od}/V_{id} = 1 + [(e_o - e_i)/(1 + e_i)]$$

where: V_{od} = volume of dredged material at placement site
 V_{id} = *in situ* (channel) volume of dredged material
 e_o = void ratio of dredged material at placement site
 e_i = *in situ* (channel) void ratio of dredged material

Approximate Bulking Factors for Hydraulically Dredged Sediment		
Percent Passing #200 Sieve	Bulking Factor (MD regs ¹)	Bulking Factor (Herbich, 2000 ²)
100	3.0	3.197
80	2.8	2.937
60	2.51	2.677
40	2.32	2.417
20	2.2	2.157
0	2.0	1.91

¹State of Maryland – Guidelines for Upland Disposal of Dredged Material (www.dsd.state.md.us/comar/comarhtml/26/26.24.03.04.htm)

²Herbich, J.B. 2000. Handbook of Dredging Engineering, 2nd Edition. McGraw-Hill, New York.

As a result, it has not been demonstrated that the proposed CDF design (a) has adequate capacity to manage the initial 4 million cubic yards of dredged material, and (b) will be able to meet the dredged material dewatering effluent discharge to surface water requirements (see 7:7E-8.4 Water Quality).

7:7E-8.4 Water Quality

N.J.A.C. 7:7E-8.4(b) states that coastal development that would violate Federal and State laws and regulations that address water quality is prohibited.

The design basis for the proposed upland CDF – 80% influent suspended solids removal – is based on a recommendation from the USACE Engineers Manual “Confined Disposal of Dredged Material”. However, the Department has determined that discharges from the proposed upland CDF to Oldmans Creek must meet the more stringent of the applicable New Jersey and Delaware River Basin Commission (DRBC) Surface Water Quality Standards at the point of discharge, with no mixing zone. The proposed upland CDF must be designed (and operated) accordingly.

Attachment C – Section V (page 9) used flow measurements collected on one day to calculate that the flow in Oldmans Creek during the incoming tide was approximately 2,700 cfs. Instead, the estimated MA7CD10 low flow rate (7 cfs) and flow exceeded 75% of the time (21 cfs – see Section III, 7:7E-3.41 Special Hazard Areas, page 46) should be used when evaluating potential impacts to surface water quality. Using these latter values and the estimated Site 15G Upland CDF dewatering effluent discharge rates of 31 to 74 cfs, it can be seen the discharges from the facility will be greater than the natural stream flow in Oldmans Creek during low flow periods. Thus, use of a mixing zone is not appropriate when evaluating potential impacts to surface water quality.

7:7E-8.11 Public Access

In order to comply with this rule (as well as 7:7E-3.23 Filled Waters Edge) by concluding that providing public access to the site of the proposed upland CDF will create a significant homeland security vulnerability, this must be determined by consultations with the N.J. Office of Homeland Security and Preparedness or the U.S. Department of Homeland Security. Evidence of such a determination has not been provided to the Department.

In addition, although public access to the berms and interior of the proposed upland CDF could be a risk to the public when the facility is in an active operational mode, the potential to provide public access outside of the facility, but on the subject property (for example, between the existing berms and the

waterfront), should be investigated – in particular, see N.J.A.C. 7:7E-8.11(b)3-5 and N.J.A.C. 7:7E-8.11(c).

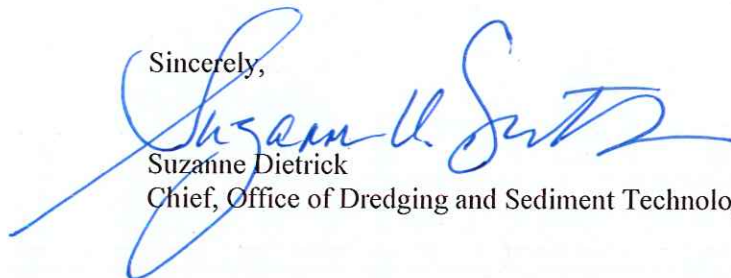
Conclusion

As discussed herein, the Department finds the project inconsistent with N.J.A.C. 7:7E-3.27 Wetlands, N.J.A.C. 7:7E-3.36 Historic and Archaeological Resources, N.J.A.C. 7:7E-3.41 Special Hazard Areas, N.J.A.C. 7:7E-6.2 Basic Location Rule and N.J.A.C. 7:7E-8.13 Buffers and Compatibility of Uses, N.J.A.C. 7:7E-7.12 Dredged Material Placement on Land, N.J.A.C. 7:7E-8.4 Water Quality, and N.J.A.C. 7:7E-8.11 Public Access, due to anticipated, foreseeable adverse impacts to New Jersey's coastal resources. In conclusion, the Department has determined that the project is inconsistent with the Rules on Coastal Zone Management.

In addition, based on the submitted documentation, the Department cannot conclude that the design of the proposed Site 15G Upland CDF will result in a facility that can meet the applicable surface water quality standards when it is operated. Therefore, the Department cannot issue a Water Quality Certificate for the construction of the proposed facility.

Additional technical comments on the application and supporting documentation are included as Attachment #1.

If you have any questions regarding the WQC and Coastal Zone Management Program consistency determination discussed herein, I may be contacted at (609) 633-6801.

Sincerely,

Suzanne Dietrick
Chief, Office of Dredging and Sediment Technology

- c. Virginia Kopkash, Assistant Commissioner, Land Use Management
- Joel Fradel, SRP-GPA
- Greg Neumann, SRP-BEERA
- Kelly Davis, Division of Fish and Wildlife
- Katherine Marcupol, Historic Preservation Office
- Ruth Foster, Office of Permit Coordination and Environmental Review
- Patrick Sheppard, Land Use Management

Attachment #1 – Technical Comments

Attachment – SHPO Memorandum

**Proposed Site 15G Upland Confined Disposal Facility
Federal Consistency Determination and Water Quality Certificate
Technical Review Comments**

Based on its review of the submitted documents, the Department has the following technical comments on the construction and operation of the proposed Site 15G Upland CDF:

(1) The proposed project site includes Block 3105, Lot 1 in Logan Township, Gloucester County, a 19 acre parcel that “includes a historically filled meander of Oldmans Creek” (Section II-Site Description, page 3, para. #1). As discussed in Section II – 7:7E-3.50 (page 51), approximately 14.75 acres of Block 3105, Lot 1 (see Figure 17) is subject to a Tidelands claim. NDev, LLC must apply for a Tidelands Grant for the subject property.

DLUR Application Form

(2) Section B – Property Owner’s Certification: the certification box “No” was checked for the question “Whether any part of the entire project ... will be located within property belonging to the State of New Jersey?” As noted above in Technical Comment #1, NDEV, LLC must obtain a Tidelands Grant for a portion of the proposed project site.

(3) Section D: the Federal Consistency/WQC application includes signed and sealed Permit Plans for the proposed Site 15G Upland CDF, prepared by Duffield Associates (dated July 26, 2013). However, this section of the Application Form was not signed by the appropriate party.

Section II – Project Description

(4) Page 3, para. #1: states that the proposed upland CDF will have “the capacity of accommodating up to approximately 20 million cubic yards of dredged material.” However, the pending Federal Consistency and WQC request – and the construction plans submitted with this request – are for a facility with an initial dredged material disposal capacity of only approximately 4 million cubic yards. Expansion of this initial 4 million cubic yard facility in the future would require an additional Federal Consistency Determination; the WQC for the operation of an expanded facility would be addressed as part of the WQC review process for the maintenance dredging of the Philadelphia-to-the-Sea Main Navigation Channel. [Also see Section II – CDF Design and Construction, page 5, para. #1; Section II – Proposed Construction and Operation – page 7, para. #2]

(5) The “service area” for the proposed upland CDF should be more definitively stated; for example –

- Page 3, para. #3: states “The Delaware River ranges *are generally [emphasis added]* Cherry Island, Bellevue, Marcus Hook and Chester (Figure 2).”
- Page 5 – CDF Design and Construction – para. #1: states the upland CDF “will be constructed independent of any specific dredging project(s), but is instead intended as a repository for unspecified future maintenance dredging projects, as needed”.

- Page 5 – CDF Design and Construction – para. #2: states “The CDF is designed to contain hydraulically dredged material from the Delaware River *and associated tributaries [emphasis added]*, removed during the Philadelphia to the Sea maintenance dredging operations. It will be primarily used for ... the Cherry Island, Bellevue, Marcus Hook, and Chester ranges.”
- Page 7 – Proposed Operation and Maintenance – para. #3: states “The proposed CDF will be used to contain hydraulic dredged material from dredging activities in the adjoining ranges of the Delaware River.”

(6) Page 6 – CDF Design and Construction – para. #1: approval to run the influent pipe to the proposed upland CDF under U.S. Route 130 may be required from the NJ Department of Transportation.

(7) Best Management Practices – Erosion Control: while the Federal Consistency and WQC request documentation provide a general discussion of “soil erosion and sediment control best management practices” (for example, see CDF Design and Construction, page 5, para. #5), the NJ Standards for Soil Erosion and Sediment Control (N.J.A.C. 2:90) must be applied to the design and construction of the proposed Site 15G Upland CDF. This may require obtaining a Certified Soil Erosion and Sediment Control Plan from the Natural Resources Conservation Service.

- Of particular concern is the erosion and off-site transport of the arsenic-contaminated soil/dredged material during construction of the new berms and before this material can be stabilized by vegetation. Specific and detailed plans to minimize the off-site transport of arsenic-contaminated soil/dredged material must be developed.

Section III – Statement of Compliance with Applicable Coastal Policies

(8) Page 19 – 7:7E-3.25 Flood Hazard Areas: although the site is mapped as being in the 100-year flood zone, historical dredged material disposal operations have apparently raised the site topography to elevation above the flood elevation of 9 feet (NAVD 88). In addition, the project site is surrounded by berms constructed when the site was historically used as an upland CDF. It was stated that a Floodplain Analysis had been conducted in associated with Waterfront Development Permit Application No. 0000-11-0039.2/WFD 1001 December 27, 201; please provide documentation of this review.

(9) Page 27 – 7:7E-3.38 Endangered or Threatened Wildlife or Plant Species Habitats: the Department is currently completing its review of the proposed Site 15G Upland CDF and its compliance with this section of the Rules. Additional comments may be forthcoming.

(10) Sediment sample results from the eastern cut-off ditch, collected during Environ’s PA/SI/RIR (December 2014), revealed a number of contaminants (primarily metals, chlordane and dieldrin) at concentrations greater than their ecologically based sediment criteria (Freshwater LEL/SEL and Saline ER-L/ER-M; see Attachment L, Sediment Sample Results, page 15). In addition, surface water in this ditch had concentrations of a variety of compounds greater than their Ecological Screening Criteria (benzo(a)pyrene and benzo(a)anthracene, DDT and metabolites, dieldrin, PCBs, arsenic, a number of metals; Ecological Evaluation – Section 7). While these contaminants are presently located in “poor habitat,” the eastern cut-off ditch currently connects to a tributary of Oldman’s Creek. If any construction activities have the potential to mobilize this sediment and transport it off-site and into the adjacent surface waters and wetlands, management practices should be developed and implemented to prevent/minimize such transport. For example, the sediment in this ditch could be removed during the early stages of construction, and segregated to prevent it from being discharged off-site.

(11) Excavation Depth: the Federal Consistency and WQC request documentation state that it is planned to excavate on-site soil/dredged material to a depth of approximately four (4) feet – on average – across the project site. The excavation depth will vary with site topography and depth to groundwater (to avoid impacting saturated soils). In order to minimize potential impacts resulting from the reuse of arsenic-contaminated soil (for example, see Section III, page 40 – 7:7E-3.41 Special Hazard Areas – Changes in pH/oxidation) and additional contamination of groundwater, if the Site 15G Upland CDF is constructed the following pre-excavation procedure should be implemented:

- Depth to groundwater/saturated soils should be accurately determined across the site;
- A minimum “buffer depth” of 1 foot above the depth to groundwater/saturated soils should be identified and not excavated; see Section III, page 64 – 7:7E-7.12 Dredged Material Placement on Land – para. #4).

Also, while the Federal Consistency and WQC request documentation frequently state that the depth to groundwater is usually greater than 6.5 feet below ground level and will not be impacted by the excavation of soil/dredged material (for example, see Section II, pages 5-6 – CDF Design and Construction, and Section III, page 64 – 7:7E-7.12 Dredged Material Placement on Land), monitoring at the site has found the groundwater table to be much shallower at a number of locations. For example, the depth to groundwater at monitoring wells MW-6 and MW-7 is about 3.1 feet (see Section III, page 44 – 7:7E-3.41 Special Hazard Areas).

(14) Construction Plans: the Permit Plans (P3 of P9; Duffield Associates, dated 26 July 2013) do not show the forebay area discussed in the Federal Consistency and WQC request documentation (for example, see Section III, page 64 – 7:7E-7.12 Dredged Material Placement on Land – para. #3, and Attachment C – Section VII, Bullet #6, page 19). In addition, Permit Plans P6 of P9 needs to better show the extent of rip-rap placement associated with the upland CDF weir structures.

(15) Section II – page 10 – Recent Site History: discusses the drainage ditch and associated tide gate structure, and two “minor drainage points”, on the existing site. If the proposed Site 15G Upland CDF is constructed, these drainage points should be eliminated.

(16) Attachment C, pages 10 and 11 – Environmental Data: *in situ* bulk sediment chemistry, and some modified elutriate, data from past maintenance dredging operations in the Philadelphia-to-the-Sea Main Navigation Channel may be available and should be used. Where contaminant concentrations in this data were not detected, one-half (1/2) the detection limit should be used. Minimum, mean, median, and maximum contaminant concentrations should be used when predicting contaminant concentrations in the dredged material dewatering effluent.

(17) Attachment C, page 16 – Comparison with Surface Water Quality Standards: this analysis must use the most stringent of the applicable NJ and DRBC Surface Water Quality Standards (freshwater and saline, acute and chronic). The mean, median, and range of predicted contaminant concentrations in the dredged material dewatering effluent from the proposed Site 15G Upland CDF must be compared to these standards.



State of New Jersey

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CHRIS CHRISTIE
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TO: Joel A Pecchioli, Project Review Officer
Office of Dredging and Sediment Technology

FROM: Katherine J. Marcopul, Supervisor
Historic Preservation Office

DATE: March 24, 2015

PROJECT: Salem County, Oldmans Township (Block 3, Lots 2,5, and 6)
Gloucester County, Logan Township (Block 3105, Lot 1)
PSEG Salem and Hope Creek Generating Station
Upland Confined Disposal Facility (CDF) Site

The comments below are in response to the following self-described due diligence assessment report received at the HPO March 12, 2015:

No Author.

February 11, 2015 *Cultural Resource Report, Confined Disposal Facility, Site 15G.* Prepared for: United States Army Corps of Engineers, Philadelphia District. Prepared by AKRF, Inc. Mt. Laurel, New Jersey.

The above referenced report identifies the project site as a former tidal wetland complex and adjoining uplands converted circa 1951 into a dredge spoil confined disposal facility (CDF) enclosed by a 12 to 15 foot high containment berms. The project plan calls for the creation of a new 15- to 20- foot high containment berms to increase the volume of dredged deposition soils within the CDF. While the above referenced report identifies two known Native American archaeological sites (28-Sa-49 and 28-Sa-52) exist within the CDF, the report states that the project site (15G) will have no adverse effect on these cultural resources as the project calls for four (4) feet or less of excavation to create the containment berms. The submission states that the Native American archaeological sites exist in strata beginning six and a half (6.5) feet below grade, thus below the footprint of disturbance for the project.

After Historic Preservation Office analysis of the provided soil boring and test pit logs, areas of archaeological sensitivity appear to exist at depths of five (5) feet below the ground surface. Due to the close interface of CDF grading with old uplands and the potential for proposed activities to impact archaeological deposits, archaeological monitoring will be necessary for areas around Test Pits 11 through 17 as well as Test Pit 21.

An archaeological monitoring plan should be submitted to the Historic Preservation Office for review and comment. At a minimum, an archaeological monitoring plan should include the following:

- Project summary
- The monitoring plan shall include a discussion of the location(s) requiring archaeological monitoring, a description of the archaeological methods and techniques to be employed, and project conditions requiring the presence of the archaeological monitor.
- The monitoring plan shall include an outline of the responsibilities of all parties with respect to the archaeological monitoring including.
 - Full contact information for the archaeologist.
 - Specification of the number of days prior to project implementation that the archaeologist will be notified that the project is about to proceed.
 - A chain of command identifying the individual(s), such as the project site officials and archaeological consultant, with the authority to require work cessations in areas where archaeological deposits are encountered.
 - The duration of work cessations.
 - This section should specifically address how the applicant and the cultural resources consultant will interact, as well as who is responsible for what aspect of monitoring.
- A discussion of the report format, report outline, types of graphics, photographs and appendices to be submitted to the Historic Preservation Office (HPO) for review and comment. Please be aware survey and reporting for a project submitted pursuant to the New Jersey Register Review Act must comply with the rules at N.J.A.C. 7:4-8.4 through 8.5 (http://www.nj.gov/dep/hpo/2protection/register_historic_places09_29_08.pdf). The monitoring plan shall specify the time frame in which the monitoring report will be submitted to the HPO for review and comment after the completion of the monitoring program.
- A provision for the individual(s) conducting the work to meet the Secretary of the Interior's Professional Qualifications Standards for archaeology (48 FR 44738-9).
- The archaeological monitoring plan shall be in keeping with the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*, September 29, 1983.
- The applicant shall ensure that the archaeological monitoring plan is referenced in all project plans, documents, and specifications.

All phases of the archaeological survey and reporting will need to be in keeping with the Secretary of the Interior's *Standards and Guidelines for Archaeology and Historic Preservation* and comply with N.J.A.C. 7:4-8.4 through 8.5

(http://www.nj.gov/dep/hpo/2protection/register_historic_places09_29_08.pdf). Evaluations to determine the National Register eligibility of archaeological sites must be in keeping with the National Park Service's 2000 National Register Bulletin, *Guidelines for Evaluating and Registering Archeological Properties*. The individual(s) conducting the work will need to meet the Secretary of the Interior's Professional Qualifications Standards for archaeology (48 FR 44738-9).

If potential human burials or human skeletal remains are encountered, all ground disturbing activities in the vicinity shall cease immediately and the Historic Preservation Office should be contacted, as well as any appropriate legal officials. The potential burials shall be left in place unless imminently threatened by human or natural displacement.

Additional Comments

Thank you for providing this opportunity to comment on this proposed project. The HPO looks forward to receiving the monitoring report for review and comment. If additional consultation with the HPO is needed for this undertaking, please reference the HPO project number 15-1741 in any future calls, emails, or written correspondence to help expedite your review and response. If you have any questions, please feel free to contact Vincent Maresca (609-633-2395) of my staff with questions regarding archaeology.

K. J. M.

KJM/VM/ac