

PPL Bell Bend, LLC
Cultural Resources Avoidance/Mitigation Plan
Archaeological Site 36LU288

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SHPO-MIT-001

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Background

In an August 23, 2011 letter, PHMC-BHP made a determination that the northern half of site 36LU288 is eligible for inclusion in the National Register of Historic Places. The letter strongly recommended avoidance of the site by construction activities "...either by fencing off the area as a restricted location or by use of a geotextile and fill as a protective measure." Impacts in the southern portion of the site were not considered an adverse effect and no avoidance measures or mitigation was determined to be necessary in this portion.

This Cultural Resources Avoidance/Mitigation Plan for site 36LU288 was prepared in response to this determination. It is PPL Bell Bend's intent to implement temporary avoidance and mitigation actions for Site 36LU288 that consists of placement of geo-textile fabric and fill on the northern portion of the site prior to use of the site as a temporary laydown area.

PHMC does not provide specifications for geo-textile fabric and the type and depth of fill as they consider this to be an engineering issue. PHMC/BHP recommended that avoidance for this site follow guidance used by PennDOT and the National Park Service, Archaeological Technical Brief #5.

Most archaeological preservation by site burial is designed to provide long-term protection of subsurface artifacts against natural and mechanical loss. This avoidance/mitigation plan for 36LU288 has been designed to provide short-term site protection in order to utilize the site for construction laydown and parking area for a period of 7-10 years. Therefore many of the long-term changes in the physical, chemical or biological environment of a site buried for preservation as recommended in the suggested guidance documents are not pertinent to this short-term action.

Proposed Avoidance/Mitigation Plan

PPL is proposing preservation of the site in place via the installation of geo-textile fabric and fill. Installation and removal will be in strict accordance with the following procedures as specified in PennDOT Publication 689 Cultural Resources Handbook, November 2010. These procedures will be communicated to site contractors and included as special provisions in contract documents.

- 1) If removal of vegetation (including trees) is required, only hand held tools will be permitted. Vegetation (including trees) will be cut at ground level. No grubbing will take place. Stump grinding can take place but must be done in a way which will not disturb the surrounding ground surface.
- 2) Excavation, grading, or removal of topsoil will not be permitted.
- 3) A layer of Class 4, Type C geo-textile fabric will be placed by hand over the area to be protected. This will act as a barrier between the existing ground surface and the fill material. The geo-textile fabric will be overlapped at the joints by 6" to 8". It will be secured in place using 18 inch steel pins with 1 ½ inch washers or as directed by the manufacturer.
- 4) Fill material consisting of coarse sand or aggregate will be placed over the geo-textile fabric to a depth of 12" or more. It shall be placed in a manner that does not subject the area to be protected to compression. The equipment placing the fill material will be "front-loaded", that is, the equipment placing the material will run on the surface of the placed material and not on the original ground surface. Tracked equipment will be used for the placement of the fill. To avoid damage to the original ground surface, the sand or aggregate material will not be compacted with vibration equipment. The pressure at the ground surface interface will not be permitted to exceed 7.88 pounds per square inch (lb/psi). Preconstruction compaction analysis will be undertaken as necessary to ensure that this construction equipment and fill material load limit will not be exceeded.
- 5) At the completion of the project the fill material will be removed in a manner similar to which it was placed. The equipment removing the fill will not run on the original ground surface during the removal process.
- 6) The geo-textile will be removed by hand.
- 7) The designated area will be re-seeded as appropriate.

Site Monitoring

Regular inspections (monthly or quarterly depending on erosion potential) of the site will be performed to ensure the integrity of the fabric and fill throughout the period of construction. In addition, inspections of the fabric and fill will be performed after each major rainfall event. The stability of the site will be observed and documented during each inspection. Any needed corrective actions will be undertaken in strict accordance with the above procedures.

Signatures

Prepared by:

Bradley A. Wise
Signature

Bradley A. Wise
Environmental Permitting Supervisor
PPL Bell Bend, LLC

4/18/12
Date

Concurrence

[Signature]
Signature

Douglas McLearn, Chief
Division of Archaeology and Protection
Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation

5/04/12
Date

References

- 1) PennDOT Publication 689 Cultural Resources Handbook, November 2010
- 2) National Park Service. Archaeological Technical Brief #5, Intentional Site Burial: A Technique to Protect Against Natural or Mechanical Loss, 1991.
- 3) GAI Associates, inc., "Technical Report Phase I Cultural Resources Investigation and Phase II National Register Site Evaluations, Bell Bend Nuclear Power Plant, Luzerne County, Pennsylvania", October 11, 2010.

Figures

- 1) Figure 19-1 Site 36LU288 Location
- 2) Figure 19-2 Site 36LU288 Showing Phase Ib Testing Locations
- 3) Figure 19-4 Site 36LU288 Phase II Testing Locations
- 4) Figure 19-5 Site 36LU288 Phase II Testing Locations Showing Distribution of Ab Horizons and Features.

Figures 19-1, 19-2, 19-4, and 19-5 are withheld per section 34 of the National Historic Preservation Act and Title 36 of the Code of Federal Regulations Part 800.11(c)