

**FINAL PHASE I ARCHAEOLOGICAL SURVEY REPORT
BRIDGE 1-366 CHESAPEAKE CITY ROAD**

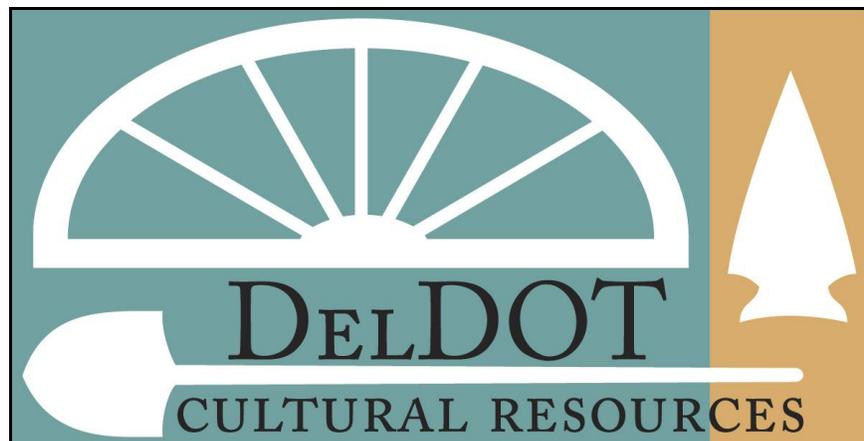
Prepared for:

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Federal Highway Administration
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Prepared by:

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Archaeological Survey Report Form

(For use when NO archaeological sites were identified; see *Guidelines and Instructions*.)

- Report title:** Phase I Archaeological Survey Report Bridge 1-366 Chesapeake City Road
- Date:** 5/1/2011
- Author(s):** David S. Clarke and Kevin Cunningham
- Consulting firm name and address:** NA
- Client agency:** Delaware Department of Transportation

LOCATION

- County (check as many as apply):** New Castle Kent Sussex
- Nearest town(s):** Summit Bridge
- Physiographic and geographic zone(s):** Upper Coastal Plain / Drainage Divide

PROJECT DESCRIPTION

- Dates of fieldwork:** March 28, 2011
- Size of area covered: unit used:** acres hectares
project area: 0.50 **surveyed area:** 0.25
- Project description (describe location and nature of project):** The proposed undertaking consists of replacing Bridge 1-366 with a precast concrete frame or prestressed concrete slabs, reconstruct the roadway approaches, place guardrail as required, and place riprap to protect the structure from scour. The fascia concrete encased steel beams have significant spalling and loss of section. The bridge is structurally deficient and is ranked 57th on the 2008 DelDOT Bridge Deficiency List. The bridge replacement and roadway approach work are the anticipated disturbance for this project. The location and limits of the project are along Chesapeake City Road at the crossing of Guthrie Run. The survey area is wooded

forest adjacent to the Bridge, and grass lawn across the street from the bridge. During the course of the fieldwork, the survey area was found to be heavily disturbed due to spoils from dredging and other large earth moving efforts associated with the C&D canal.

RESEARCH DESIGN

12. **Survey objectives:** To determine the presence or absence of any Archaeological sites within the defined APE.
13. **Survey methods (describe both field and background research methods):** Prior to fieldwork, background research commenced at both DelDOT and DHCA to determine the archaeological potential of the APE. After a pedestrian survey of the APE it was concluded that the area in the southwest quad of the APE was the only area which had any potential to contain an archaeological site. The rest of the APE was disturbed by the road, bridge, a sewer line, and the construction and use of the C&D canal property. The archaeological testing consisted of laying out 6 shovel test pits at 15 meter intervals, 3 were dug and 4 were written off due to disturbance. All DE state standard procedures and protocols for fieldwork were adhered to.
14. **Expected site types for this area (cite earlier surveys & known nearby resources, information from historic maps or research):** The survey area was considered to have a moderate potential for historic archaeological sites due to its distance to other known sites, and historic map research. Within the APE there is one site the bridge itself, built in 1935 (N12634, found not eligible). The survey area was considered to have a moderate potential for prehistoric archaeological sites due to its proximity to water and the lack of modern disturbance and agricultural farming on the C&D Canal property. However, after the survey it has been found that the entire survey area has been severely disturbed by large earthmoving and earthwork for the construction and use of the C&D Canal.

RESULTS and RECOMMENDATIONS

15. **Fieldwork (describe survey; add maps as needed):** See attachments c and f. Radial shovel tests were not done around positive shovel test due to large earth moving disturbance seen on the surface and that was found in other shovel tests to be deep enough that no archaeological deposits would be below the disturbance. Also radial shovel test around the positive shovel test would be outside the project in 3 of the 4 cardinal directions.
16. **Artifacts (describe any found; identify location; explain why determined not to be a site):** See attachment f for a complete artifact list and i for a photograph. The whiteware sherds are not from the same vessel, but might constitute a single dumping episode. It is the opinion of the authors that the artifacts found during this project consists of isolated finds, and modern and historic roadside debris.

17. **Recommendations:** No Archaeological sites were identified, and thus no additional archaeological work is recommended. It is the opinion of the authors that the artifacts found during this project not be curated.

ATTACHMENTS

18. **Attachments checklist:**

- a. **bibliography**
- b. **location map (USGS or equivalent)**
- c. **detailed map(s) (project plans and/or field survey map)**
- d. **historic map(s) (list)** 1937 Aerial, 1868 Beers, The 1893 Basit Map is identicle to the 1868 Beers map showing the same name J. Cazier and 2 points on either side of Guthrie Run
- e. **photographs of general project/surveyed area**
- f. **table of collection units and/or excavated tests**
- g. **soils map(s)**

- Others (list, if any):** h. Table of cultural resources within 0.5 miles of the APE
i. Artrifact photographs

Attachments

A. Bibliography

- Ames, David L., Mary Helen Callahan, Bernard L. Herman, and Rebecca J. Siders
1989 *Delaware Comprehensive Historic Preservation Plan*. Newark, DE: Center for Historic Architecture and Engineering, University of Delaware.
- Beers, D.G.
1868 *Atlas of the State of Delaware*. Pomeroy & Beers, Philadelphia.
- Custer, Jay F.
1986 *A Management Plan for Delaware's Prehistoric Cultural Resources*. University of Delaware Center for Archaeological Research Monograph No. 2.

1989 *Prehistoric Cultures of the Delmarva Peninsula: An Archaeological Study*. Cranbury, New Jersey: Associated University Presses, Inc.
- DeCunzo, Lu Ann
2004 *A Historical Archaeology of Delaware*. University of Tennessee Press, Knoxville, TN.
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1990 *Management Plan for Delaware's Historical Archaeological Resources*. University of Delaware Center for Archaeological Research, Newark, De.
- Delaware Cultural & Historical Resource Information System (CHRIS)
2007 Aerial Photography with currently available CRS data www.chris.delaware.gov, accessed February - April 2011.
- Delaware Geological Survey (DGS)
2009 Quadrangle Map. www.datamil.delaware.gov, accessed April 2011.
2009 Site Location Map. www.datamil.delaware.gov, accessed April 2011.
- Google Earth
2010 Aerial Photography. www.earth.google.com, accessed May 2011.
- Lichtenstein Consulting Engineers, Inc.
2000 *Delaware's Historic Bridges Survey and Evaluation of Historic Bridges with Historic Context for Highway and Railroads*. Paramus, New Jersey.
- Natural Resources Conservation Service
2009 Web soil survey. <http://websoilsurvey.nrcs.usda.gov/app/>, accessed May 2011.

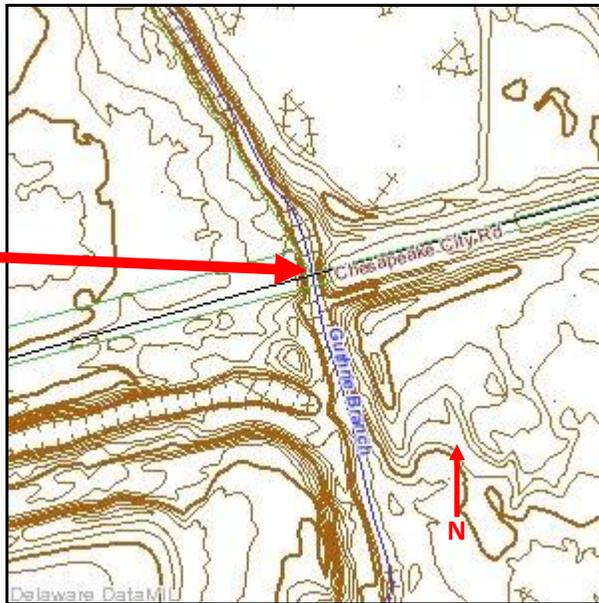
B. Location Maps

**Bridge 1-366,
New Castle County**

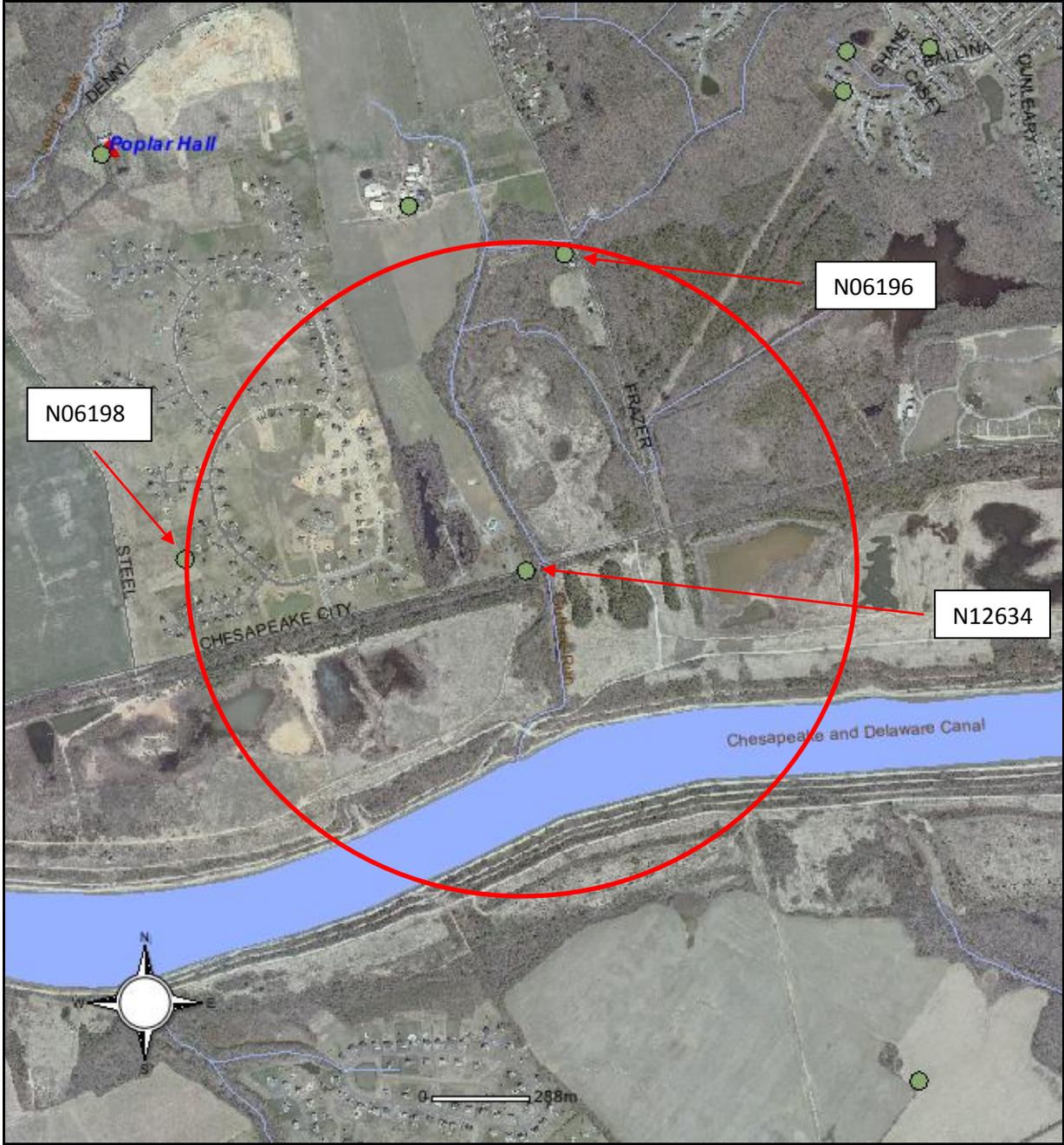


Site Location within the state, Delaware Datamil

**Bridge 1-366,
New Castle County**

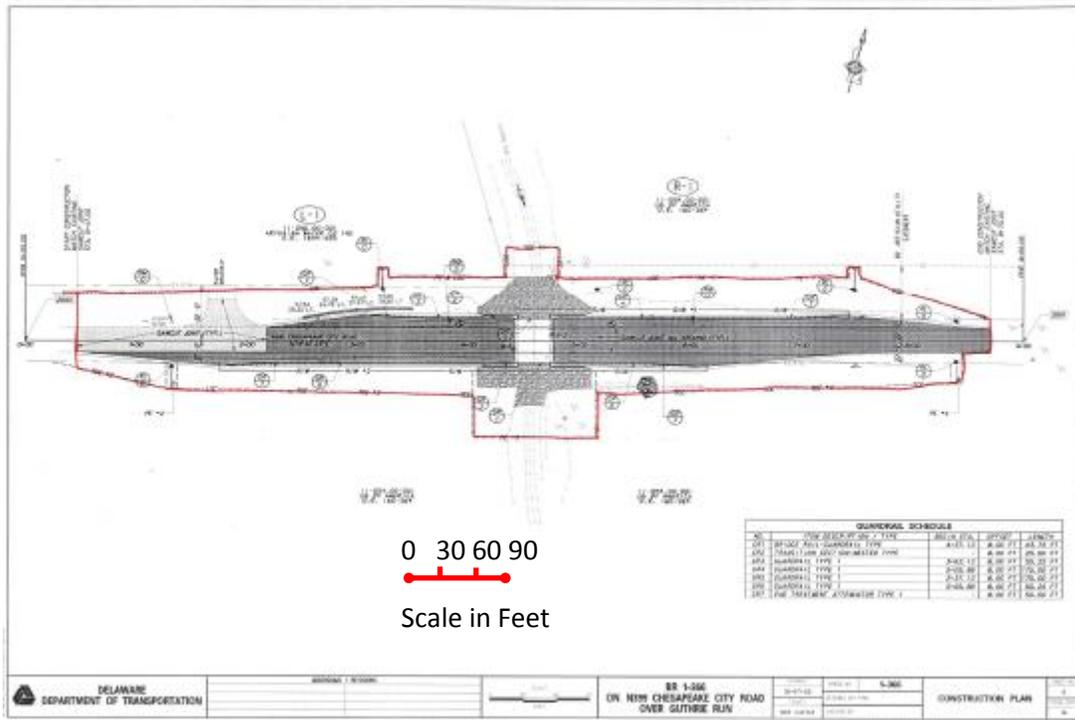


2010 Quadrangle Map, Delaware Datamil

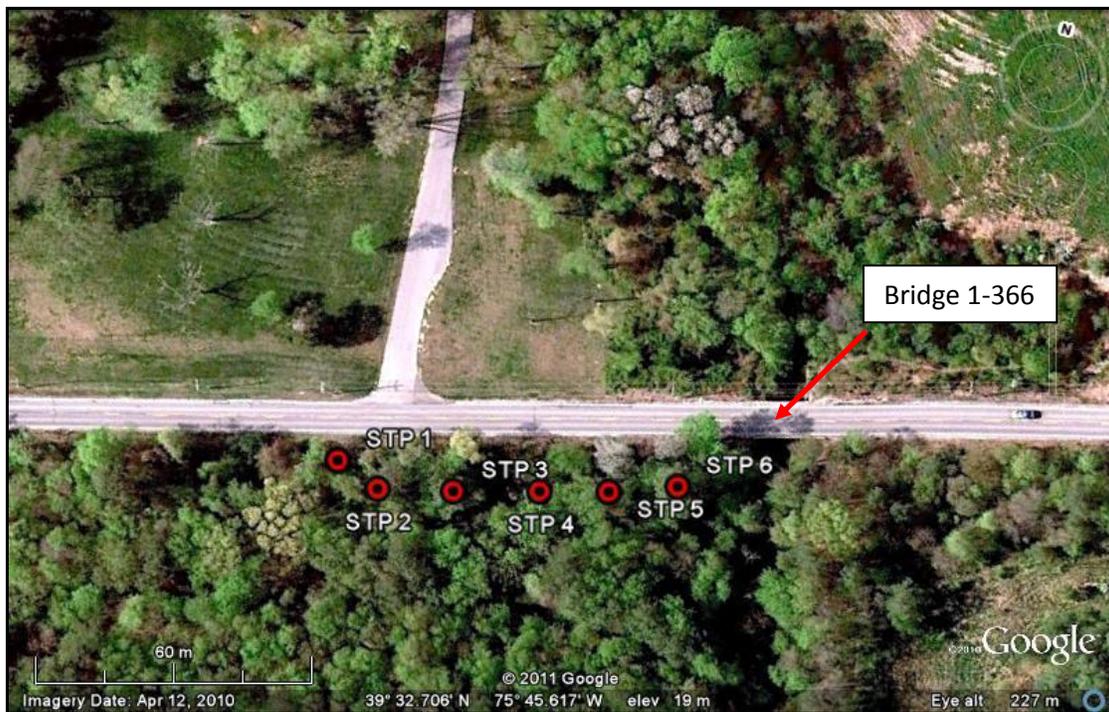


CRS points within a 1/2 mile of APE, Delaware CHRIS

C. Detailed Maps

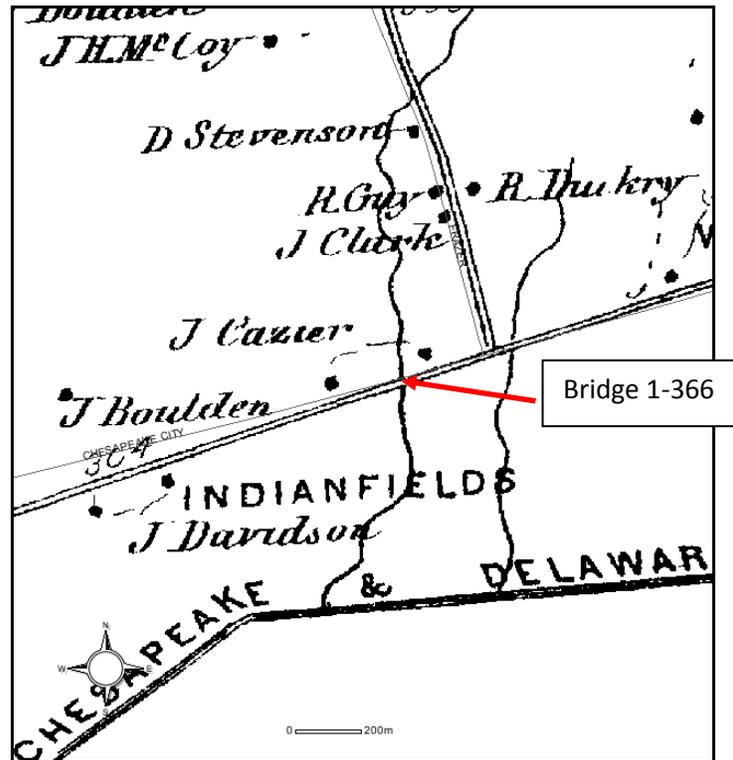


Archaeological APE, which is the project's LOC, as shown on final plans.



Shovel Test Pits 1-6, Google Earth, base layer 2010 Aerial Photograph.

D. Historic Maps



1868 J.G. Beers, *Atlas of Delaware*



1937 Aerial Photograph, Delaware CHRIS



1937 Aerial Photograph, Delaware CHRIS

E. Photographs



General Site photograph (STP #2) facing northwest, Kevin Cunningham, March 28, 2011.



Shovel Test Pit 1, David Clarke, March 28, 2011.



General Site photograph showing roadside debris, Kevin Cunningham, March 28, 2011.



General Site photograph Kevin Cunningham March 28, 2011.

F. Table of Results

STP NUMBER 1

DEPTH	CM	SOIL Natural Strata	MUNSELL	CULTURAL
BEGIN	END	CLASSIFICATION	COLOR	MATERIAL
0	7	Loam	7.5 YR 3/2	7 whiteware 1 rose colored bottle glass 6 clear bottle glass
7	18	Clay Loam	7.5 YR 6/8	NCM

STP NUMBER 2

DEPTH	CM	SOIL Natural Strata	MUNSELL	CULTURAL
BEGIN	END	CLASSIFICATION	COLOR	MATERIAL
0	9	Loam	7.5 YR 3/2	NCM
9	20	Clay Loam	7.5 YR 6/8	NCM

STP NUMBER 3 – Disturbed soils STP not dug, large scale earth moving, see project photos.

STP NUMBER 4

DEPTH	CM	SOIL Natural Strata	MUNSELL	CULTURAL
BEGIN	END	CLASSIFICATION	COLOR	MATERIAL
0	7	Loam	7.5 YR 3/2	NCM
7	14	Clay Loam	7.5 YR 6/8	NCM

STP NUMBER 5 - Disturbed soils STP not dug, large scale earth moving, see project photos.

STP NUMBER 6 - Disturbed soils STP not dug, large scale earth moving, see project photos.

G. **Soil Survey Map**

New Castle County, Delaware (DE003)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FgA	Fallsington loam, 0 to 2 percent slopes	13.4	7.2%
GrA	Greenwich loam, 0 to 2 percent slopes	14.1	7.6%
GrB	Greenwich loam, 2 to 5 percent slopes	12.3	6.6%
MkA	Matapeake silt loam, 0 to 2 percent slopes	6.7	3.6%
MkB	Matapeake silt loam, 2 to 5 percent slopes	0.5	0.3%
SaB	Sassafras sandy loam, 2 to 5 percent slopes	5.6	3.0%
UzC	Udorthents, 0 to 10 percent slopes	125.5	67.3%
UzF	Udorthents, 10 to 30 percent slopes	3.6	1.9%
W	Water	4.8	2.6%
Totals for Area of Interest		186.5	100.0%



Web soil survey, U.S. Department of Agriculture

H. Cultural resources within a ½ mile of the project APE

CRS # New Castle	Description
N12643	Bridge 1-366
N13587	Bridge 1-368
N06198	J. Boulden House (1870)

I. Artifact Photograph



All artifacts from STP #1: 7 whiteware, 1 rose colored bottle glass, 6 clear bottle glass.
David Clarke May 12, 2011.