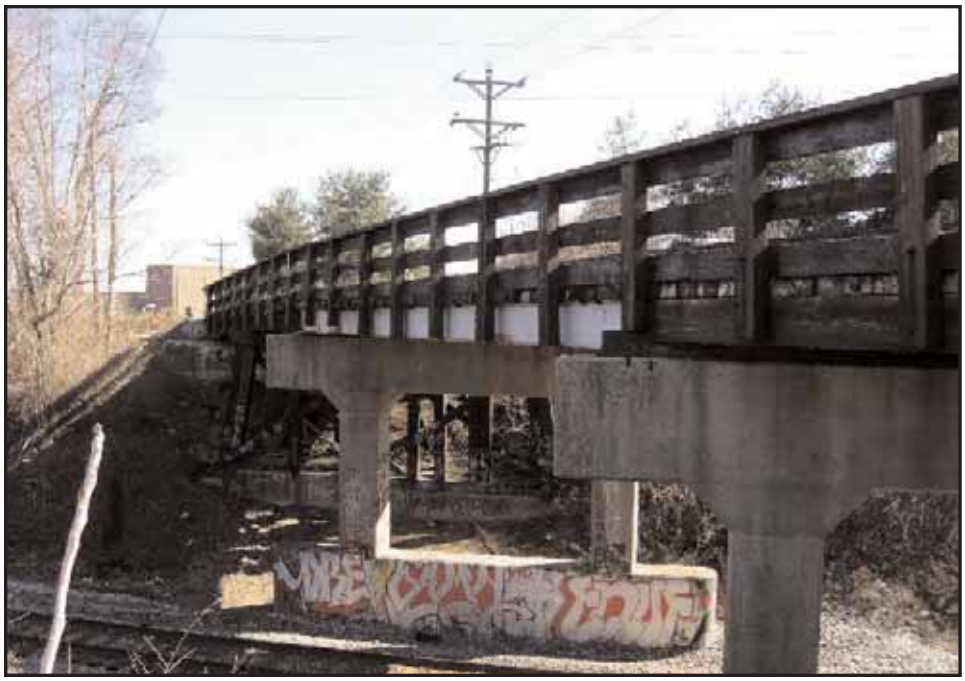


Photograph 1: View facing southeast at the north elevation of Bridge 1-651. Note the poured concrete abutments supporting the steel beams and wooden piers supporting the timber spans. The existing structure does not meet vertical clearance standards of CSX.

Photograph 2: View along Newport Road facing northwest towards Bridge 1-651. The current bridge, which has no shoulders, will be replaced with a wider structure that meets current design guidelines.

The maximum difference in topographic elevations in this zone differs up to 170 feet. The project area is flat; its elevations gradually range from 50 to 60 ft above sea level. The project area is drained by Red Clay Creek to the west and Hershey Run a few hundred feet to the east. Hershey Run flows into White Clay Creek roughly 0.5 miles west of the confluence of White Clay Creek and Christina River, which is a tidal drainage that flows east into the Delaware Bay. The nearest major tributary, the Red Clay Creek, was an important mill waterway; it provided water-power for several early mill seats located west and southwest of the APE (Heite 2000).

The CSX Railroad bisects the project into north and south halves. The project area soils north of the railroad have been defined as the Aldino-Keyport-Mettapex-Urban land complex. This combination of soils is commonly found north of the City of Wilmington and in developed areas of level to gently sloping topographic relief. These soils are commonly used for residential or other community purposes, and they represent a mix of fill soils that has often been imported to a landscape to facilitate commercial and residential development (USDA 1971). The community of Marshallton Heights is included in the northern part of the project area. It was constructed on the amalgam of soils belonging to this complex.

South of the railroad, the project area consists of a moderately well-drained Delanco silt loam soil. This soil is typically found in almost level settings, and as a result it tends to remain wet for extended periods in the winter and early spring. Erosion is considered only a slight hazard for this soil. Together, the relatively dry, flat, and erosion-free nature of this soil likely contributed to the development of the historic-era farmlands at this location in project area. The north half of the project area shares a roughly equivalent topographic elevation. Based on this similarity, it is plausible that prior to residential and community development, the north half of the project area contained the Delanco silt loam. Supporting this hypothesis is that like the southern part of the project area, the northern portion served as agricultural fields in the historic era.

1.3 Purpose and Need

This project includes the replacement of the existing bridge that carries Newport Road over CSX to conform to CSX railroad requirements. The proposed bridge and roadway approaches will need to be raised four feet to conform to CSX requirements for vertical and horizontal clearance. CSX is requiring additional railroad clearance to meet the 21’-6” minimum height beneath Bridge 1-651. A sidewalk will be installed across the bridge and along Newport Road and Kiamensi Street to provide a pedestrian link between the Marshallton School (historically known as the Marshallton Consolidated School) and Delcastle Technical High School (Photographs 3, 4, 5, and 6). There will be no roadway widening as part of the current project.

1.4 Alternatives Considered

As part of a preliminary design, two alternatives were analyzed that would meet DelDOT design criteria and minimize impacts to local property owners and the surrounding community.

1.4.1 Alternative 1

This alternative was designed to provide the vertical clearance of 21’6” over CSX Railroad and meet DelDOT design criteria. To meet the vertical clearance and roadway grades, a vertical

Photograph 3: View facing southeast along Newport Road from Bridge 1-651. The Delcastle Technical High School, constructed in 1968, is in the background. A sidewalk is planned along the left side of the roadway.

Photograph 4: CRS No. N-13111, 1500 Newport Road, north elevation, view facing southwest. Note concrete retaining wall in the foreground that was added along the south side of Newport Road ca. 1950. A sidewalk is planned along the left side of the roadway.

Photograph 5: View facing southwest along Kiamensi Street towards Newport Road. A sidewalk is planned along the left side of Kiamensi Street.

Photograph 6: View facing southeast along School Lane from James Avenue. A sidewalk is planned along the left side of School Lane.

curve four feet above the existing structure is required. The vertical curve for this alternative was designed to be centered over the existing structure to provide equal impacts to homes on each side of the structure. In addition, the local community requested a sidewalk to extend from Marshallton School to Delcastle Technical High School as part of the project. This alternative includes a five-foot sidewalk along the east side of Newport Road from Delcastle Technical High School to James Avenue and then along the south side of James Avenue to the Marshallton School. This alternative requires extensive retaining walls on all four corners of the bridge. In addition, there would be three property takings on the north side of the project area due to increases in roadway elevations and the addition of a five-foot sidewalk along Newport Road and James Avenue.

1.4.2 Alternative 2

This alternative was designed to provide the required vertical clearance of 21’6” over CSX Railroad and meet DelDOT design criteria. To meet the required vertical clearance and roadway grades, a vertical curve of four feet above the existing structure is required. This alternative shifts the vertical curve 50’ to the south of the proposed bridge to minimize impacts to properties on the north side of the structure. Similar to Alternative 1, a five-foot sidewalk will be designed from Marshallton School to Delcastle Technical High School. The five-foot sidewalk will be along the east side of Newport road from Delcastle Technical High School to Kiamensi Street, then along the south side of Kiamensi Street to School Lane and on the east side of School Lane to the Marshallton School. This alternative requires retaining walls on three corners of the bridge and requires retaining walls along the frontage of the 1419 Newport Road (Photograph 7), 1500 Newport Road, and 1601 Newport Road (Photograph 8). Adjustments to the vertical curve over the bridge and routing the proposed sidewalk to Kiamensi Street are enough to avoid total takings required by Alternative 1. The property at 1500 Newport Road may be acquired as part of this alternative. Alternative 2 is shown in Figure 2 and is the preferred alternative for this project as it has less potential for direct impacts to residential properties.

1.5 Area of Potential Effect

The delineated APE was developed by A.D. Marble & Company under DelDOT guidance for report purposes. The Delaware State Historic Preservation Office (DE SHPO) and DelDOT did determine and discuss an APE for scope purposes during a field overview and in later agency discussions. Beyond the state right-of-way, the APE includes all properties with standing structures 50+ years that will experience direct right-of-way impact and an “effect” as defined under Section 106 guidelines.

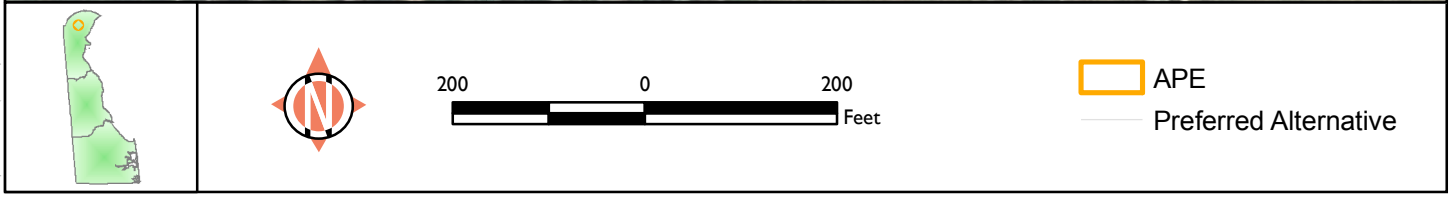
Since the bridge replacement project is minor in scale and lies on the footprint of existing transportation facilities, the APE is influenced by the scale, magnitude, and nature of the undertaking. Several properties adjacent to the approach bridge areas were not evaluated since the undertaking would not experience an effect upon them. Under FHWA and Section 106 guidance, efforts to fully identify every single property in the project area was not commensurate with the project undertaking. The APE and the number of potential historic properties that could experience an effect will be confirmed by DelDOT, FHWA, and DE SHPO during continuing Section 106 consultation.

Photograph 7: 1419 Newport Road, west and south elevations, view facing east. This dwelling, constructed ca. 1965, is located between Bridge 1-651 and Delcastle Technical High School. A sidewalk will be constructed along the roadway.

Photograph 8: 1601 Newport Road, south and east elevations, view facing northeast. A retaining wall will be constructed along Newport Road and Kiamensi Street as part of the bridge replacement project.

Figure 2
Area of Potential Effect and Preferred Alternative Map

Bridge 1-651 on Newport Road over CSX
Christiana Hundred, New Castle County, Delaware



Map Document: (X:\Projects\P1059\Mapping\02_ape.mxd)

Land use in the APE can be characterized as largely residential in nature (Photographs 9 and 10). The dwellings are located along Newport Road or in the residential subdivision known as Marshallton Heights. Institutional resources within the APE include two schools, the Marshallton Consolidated School (Photograph 11) and Delcastle Technical High School. One transportation corridor, the CSX Railroad (associated with Bridge 1-651), bisects the APE. Two public works facilities (electric substations) owned by Delmarva Power are located at the northeast and southwest quadrants of the Bridge 1-651 crossing (Photograph 12). A number of vacant lots are also found throughout the APE (Photographs 13 and 14).

1.6 Identified Property Types

The majority of buildings within the APE are examples of common early to mid-twentieth-century vernacular dwellings with little stylistic detailing. Most have also undergone significant alterations, including but not limited to the following: the application of aluminum, vinyl, or asbestos siding; the replacement of doors and windows; the construction of additions; and the modification of porches and garages. There are several post-1958 dwellings located in the project area, including 1419 Newport Road at the northeast quadrant of the bridge and Newport Road which occupies the location of a former historic dwelling.

Most of the dwellings in the project area occupy parcels that were originally laid out as part of the planned Marshallton Heights subdivision. Marshallton Heights was plotted in 1923 and was slowly built up over the next 40 years, but never developed as originally planned due to the construction of the Marshallton Consolidated School in the early 1930s.

In addition to the residential dwellings and school, there is a roadway bridge that carries Newport Road over a rail line now operated by CSX. The bridge was erected in 1951 by the B&O Railroad. Subsequent deterioration forced DelDOT to temporarily close the bridge in 2002. Following repairs made by CSX, the bridge reopened in 2003 and is currently scheduled for replacement.

Photograph 9: View facing northwest towards the west side of Kiamensi Street north of Newport Road from Bridge 1-651. Note the residential nature of the APE.

Photograph 10: View facing northeast along Newport Road from the front yard of 1500 Newport Road. CRS No. N-14467, 1605 Newport Road, is visible on the right side of the photograph. Limited tie-in work is planned in this location.

Photograph 11: CRS No. N-13114, Marshallton Consolidated School, west elevation, view facing northeast. Note large modern addition to right side of photograph.

Photograph 12: View facing north from Bridge 1-651 towards the Delmarva West Substation property.

Photograph 13: View facing southwest at vacant lands associated with dwelling at 3716 Kiamensi Avenue, CRS No. 13118. The fencing and a small frame shed on the parcel (not shown) indicate that this land served as pasture in the twentieth century.

Photograph 14: View facing southwest to vacant lot that has been associated with St. Barnabas Church, CRS No. N13115, and the adjacent cemetery for over 100 years.