

# Harding Place @ Hillsboro Pike Culvert Replacement

## Existing Conditions

### Description:

The culvert is located adjacent to the Hillsboro Pike and Harding Place intersection. The culvert consists of two sections of pipe. From the concrete inlet headwall there is approximately 60' long 24" CMP, connected to a cast-in-place junction box, connected to approximately 68' long 24" RCP connected to a manhole. The CMP section of the culvert has failed and displays full signs of collapse. The RCP sections appear intact and in fine condition, and the inlet headwall appears intact but there is heavy sedimentation at the inlet. There is a concrete swale leading to the culvert inlet and the embankment shows signs of heavy erosion and mass failure including erosion below the concrete swale. Additionally, there is a section of roadway failure directly above the concrete junction box. The roadway failure has been temporarily mitigated with the installation of a steel road plate.

**Spans:** 1

**Length:** 60'

**Width:** 24"

**Rise:** 24"

### Reasons for replacement:

- ✓ Embankment Erosion
- ✓ Roadway Failure
- ✓ Pipe Collapse



**Embankment Erosion**



**Collapsed CMP @ Junction Box**



**Steel Road Plate**

# Harding Place @ Hillsboro Pike Culvert Replacement

## Proposed Conditions

### Description:

The proposed culvert construction will include a 60' long 24" RCP, reinforced concrete headwall, roadway reconstruction, and site restoration to ensure proper functionality. Due to the depth and width of excavation, the road will need to be closed to through traffic for a weekend in order to lay the pipe across the roadway. The remainder of the project will be completed under a lane closure. The project has been scheduled while school is out for summer in order to have the least impact on the community.

**Spans:** 1

**Length:** 60'

**Width:** 24"

**Rise:** 24"

**Opinion of Probable Cost:** \$320,000

**Anticipated Construction Duration:** 12 Days

**Anticipated Schedule for Construction:**

July 9<sup>th</sup> through July 20<sup>th</sup>

**Anticipated Road Closure:**

July 9<sup>th</sup> through July 11<sup>th</sup>

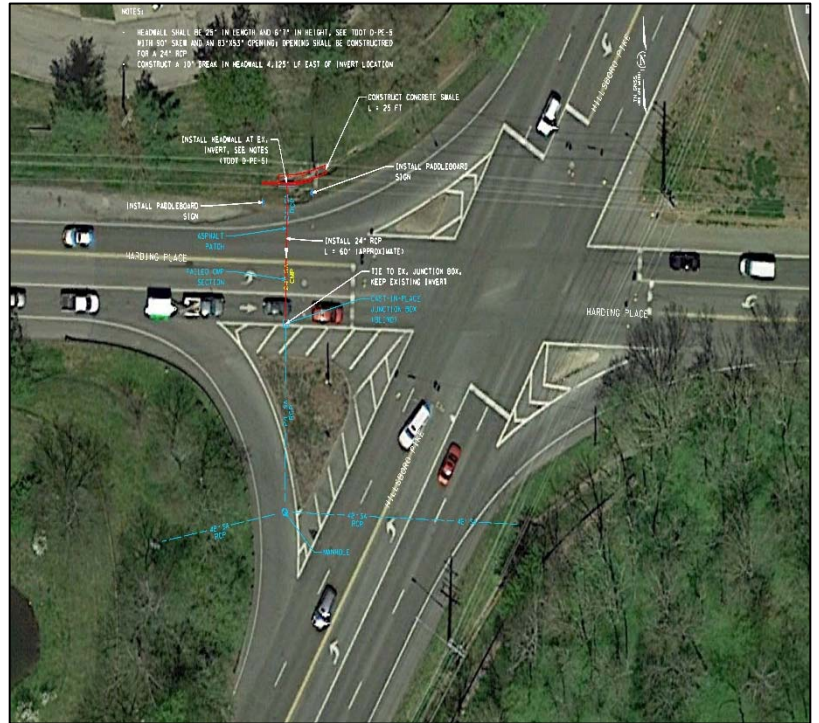
**Anticipated Lane Closure:**

July 11<sup>th</sup> through July 20<sup>th</sup>

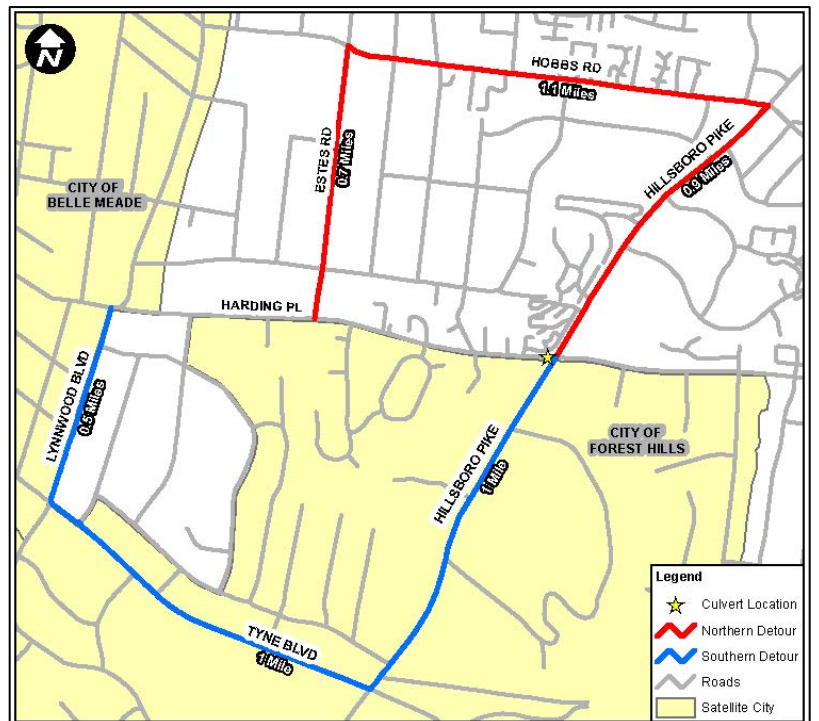
**Project Status:** Ready for construction

**Construction Challenges:**

- ✓ Traffic Volume
- ✓ Depth of Excavation
- ✓ Coordination Between Utilities and the NDOT Annual Contractor



Project Plan View



Vicinity Map