JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future

NWI and Floodplains
Figure 3K

Scale
1" = 500'

Table 1. Soils Mapping Units and Hydric Status

Mapping Unit	Series	Hydric Status
AdA	Aldino silt loam, 0 to 3 % slopes	Non-Hydric
AdB	Aldino silt loam, 3 to 8 % slopes	Non-Hydric
AdC	Aldino silt loam, 8 to 15 % slopes	Non-Hydric
AsB	Aldino very stony silt loam, 0 to 8 % slopes	Non-Hydric
Av	Alluvial land	Hydric
BeA	Beltsville silt loam, 0 to 2 % slopes	Non-Hydric
BeB	Beltsville silt loam, 2 to 5 % slopes	Non-Hydric
BeC	Beltsville silt loam, 5 to 10 % slopes	Non-Hydric
Br	Barclay silt loam	Non-Hydric
BtA	Beltsville silt loam, 0 to 2 % slopes	Non-Hydric
BtB	Beltsville silt loam, 2 to 5 % slopes	Non-Hydric
BtC2	Beltsville silt loam, 5 to 10 % slopes, moderately eroded	Non-Hydric
CcC2	Chester silt loam, 8 to 15 % slopes moderately eroded	Non-Hydric
ChB2	Chillum silt loam, 2 to 5 % slopes, moderately eroded	Non-Hydric
ChC2	Chillum silt loam, 5 to 10 % slopes, moderately eroded	Non-Hydric
ChC3	Chillum silt loam, 5 to 10 % slopes, severely eroded	Non-Hydric
CIB	Chillum-Urban land complex, 0 to 5 % slopes	Non-Hydric
CkC2	Chillum-Neshaminy silt loams, 5 to 10 % slopes, moderately eroded	Non-Hydric
CkD2	Chillum-Neshaminy gravelly silt loams, 10 to 15 % slopes, moderately eroded	Non-Hydric
Cu	Codorus silt loam	Non-Hydric
Cv	Comus silt loam	Non-Hydric
Cx	Cut and fill land	Non-Hydric
DcA	Delanco silt loam, 0 to 3 % slopes	Non-Hydric
DcB	Delanco silt loam, 3 to 8 % slopes	Non-Hydric
En	Elkton silt loam	Hydric
EsA	Elsinboro loam, 0 to 2 % slopes	Non-Hydric
EsB	Elsinboro loam, 3 to 8 % slopes	Non-Hydric
EsB2	Elsinboro loam, 2 to 5 % slopes moderately eroded	Non-Hydric
EsC2	Elsinboro loam, 5 to 10 % slopes, moderately eroded	Non-Hydric
Fs	Fallsington loam	Hydric
GcB2	Glenelg loam, 3 to 8 % slopes, moderately eroded	Non-Hydric
GcC2	Glenelg loam, 8 to 15 % slopes, moderately eroded	Non-Hydric
GcD2	Glenelg loam, 15 to 25 % slopes, moderately eroded	Non-Hydric
GcD3	Glenelg loam, 15 to 25 % slopes, severely eroded	Non-Hydric
GgC2	Glenelg channery loam, 8 to 15 % slopes, moderately eroded	Non-Hydric
Hb	Hatboro silt loam	Hydric
JpB	Joppa gravelly sandy loam, 2 to 5 % slopes	Non-Hydric
JpC	Joppa gravelly sandy loam, 5 to 10 % slopes	Non-Hydric
KpA	Keyport silt loam, 0 to 2 % slopes	Non-Hydric
KpB	Keyport silt loam, 2 to 5 % slopes	Non-Hydric
KrA	Kinkora silt loam, 0 to 3 % slopes	Hydric
KrB	Kinkora silt loam, 3 to 8 % slopes	Hydric
LeB2	Legore silt loam, 3 to 8 % slopes moderately eroded	Non-Hydric
LeD2	Legore silt loam, 15 to 25 % slopes, moderately eroded	Non-Hydric
LeE	Legore silt loam, 25 to 45 % slopes	Non-Hydric
LeE	Legore very stony silt loam, 0 to 15 % slopes	Non-Hydric
LfD	Legore very stony silt loam, 15 to 25 % slopes	Non-Hydric

Table 1. Soils Mapping Units and Hydric Status

Mapping Unit	Series	Hydric Status
LfE	Legore very stony silt loam, 25 to 45 % slopes	Non-Hydric
LgC3	Legore silty clay loam, 8 to 15 % slopes, severely eroded	Non-Hydric
LgD3	Legore silty clay loam 15 to 25 % slopes, severely eroded	Non-Hydric
Lr	Leonardtown silt loam	Hydric
LyB	Loamy and clayey land, 0 to 5 % slopes	Non-Hydric
LyD	Loamy and clayey land, 5 to 15 % slopes	Non-Hydric
LyE	Loamy and clayey land, 15 to 30 % slopes	Non-Hydric
MIA	Mattapex silt loam, 0 to 2 % slopes	Non-Hydric
MIB	Mattapex silt loam, 2 to 5 % slopes	Non-Hydric
MkA	Matapeake silt loam, 0 to 2 % slopes	Non-Hydric
MkB	Matapeake silt loam, 2 to 5 % slopes	Non-Hydric
MsB2	Montalto silt loam, 0 to 3 % slopes	Non-Hydric
MsC2	Montalto silt loam, 8 to 15 % slopes, moderately eroded	Non-Hydric
NeA	Neshaminy silt loam, 0 to 3 % slopes	Non-Hydric
NeB2	Neshaminy silt loam, 3 to 8 % slopes, moderately eroded	Non-Hydric
NeC2	Neshaminy silt loam, 8 to 15 % slopes, moderately eroded	Non-Hydric
NsC	Neshaminy & Montalto very stony silt loams 0 to 15 % slopes	Non-Hydric
NsD	Neshaminy & Montalto very stony silt loams, 15 to 25 % slopes	Non-Hydric
NsE	Neshaminy & Montalto very stony silt loams, 25 to 45 % slopes	Non-Hydric
Sa	Sand and gravel pits	Non-Hydric
ShC2	Sassafras sandy loam, 5 to 10 % slopes, moderately eroded	Non-Hydric
SIB	Sassafras loam, 2 to 5 % slopes	Non-Hydric
SIB2	Sassafras loam, 2 to 5 % slopes, moderately eroded	Non-Hydric
SIC2	Sassafras loam, 5 to 10 % slopes, moderately eroded	Non-Hydric
SsD	Sassafras and Joppa soils, 10 to 15 % slopes	Non-Hydric
SsE	Sassafras and Joppa soils, 15 to 30 % slopes	Non-Hydric
St	Stony land, steep	Non-Hydric
SuB2	Sunnyside fine sandy loam, 0 to 5 % slopes, moderately eroded	Non-Hydric
WaA	Watchung silt loam, 0 to 3 % slopes	Hydric
WaB	Watchung silt loam, 3 to 8 % slopes	Hydric
WcB	Watchung very stony silt loam, 0 to 8 % slopes	Hydric
WoB	Woodstown loam, 0 to 5 % slopes	Non-Hydric

TABLE 2. Soil Series Descriptions

Soil Series	Description
Aldino series (AdA, AdB, AdC, AsB)	The Aldino series consists of deep, moderately well drained soils on uplands. They formed in material weathered from serpentine and are overlain by a silty mantle. Typically, these soils have a brown silt surface layer, 10 inches thick. The subsoil from 10 to 14 inches is yellowish-brown silt loam, and from 14 to 22 inches is light yellowish-brown silty clay loam. A very firm and brittle fragipan from 22 to 36 inches is light yellowish-brown and olive silty clay loam. The substratum from 36 to 60 inches is light brownish-gray and yellowish-brown loam. Slopes range from 0 to 15%.
Alluvial Land (Av)	Alluvial land consists of soil material washed from uplands and recently deposited on flood plains. The materials are sands and sandy loams. Slopes range from 0 to 8 percent.
Beltsville series (BeA, BeB, BeC, BtC2, BtB, BtA)	The Beltsville series consists of deep, moderately well-drained soils on uplands. They formed in coastal plain sediments. Typically, these soils have grayish-brown and light olive brown silt loam surface layers to a depth of 9 inches. The subsoil, from 9 to 25 inches, is yellowish-brown silt loam and silty clay loam from 25 to 50 inches is a very firm and brittle silty clay loam fragipan. The substratum, from 50 to 72 inches, is very pale brown gravelly sandy loam. Slopes range from 0 to 15 percent.
Barclay series (Br)	The Barclay series consists of somewhat poorly drained soils on the lower coastal plain land surfaces generally at elevations less than 25 feet. The surface layer is grayish brown very fine sandy loam over a pale brown very fine sandy loam upper b horizon and light gray very fine sandy loam lower b horizon, light gray fine sandy loam b3 and a mottled horizon of loamy sand. Slopes are 0 to 2 percent.
Chester series (CcC2)	The Chester series consists of very deep, well drained soils on uplands. They formed in material weathered from micaceous schist. Typically these soils have a dark brown silt loam surface layer 8 inches thick. The subsoil layers from 8 to 27 inches are brown silt loam and silty clay loam and from 27 to 42 inches are yellowish red silty clay loam and loam. The substratum from 42 to 62 inches is yellowish red and reddish yellow loam. Slopes range from 0 to 65 percent.
Chillum series (ChB2, CkB2, ChC2)	The Chillum series consists of very deep, well-drained soils on uplands. They formed in coastal plain sediments. Typically, these soils have a brown silt loam surface and subsurface layer, 8 inches thick. The subsoil from 8 to 16 inches is brown heavy silt loam and from 16 to 28 inches is strong brown silty clay loam. The substratum from 28 to 32 inches is pale brown gravelly sandy loam and from 32 to 96 inches is pale brown very gravelly sandy loam. Slopes range from 0 to 60 percent.
Chillum-Urban land complex (CIB)	Urban land is land mostly covered by streets, parking lots, buildings, and other structures of urban areas. Slopes range from 0 to 45 percent. This complex consists of approximately 20 percent undisturbed Chillum soils.
Chillum/ Neshaminy soils (CkC2, CkD2)	The series consists of a mix of Chillum and Neshaminy soils.

TABLE 2. Soil Series Descriptions

Soil Series	Description
Codorus series (Cu)	The Codorus series consist of very deep moderately well drained and somewhat poorly drained soils on flood plains formed in recently deposited micaceous sediments washed from uplands. Typically they have a dark brown silt loam surface layer 9 inches thick. The subsoil from 9 to 54 inches is dark yellowish brown, brown and light yellowish brown silt loam and loam. The substratum to 60 inches is stratified sand, silt and gravel. Slopes range from 0 to 5 percent.
Comus series (Cv)	The Comus series consists of deep, well drained soils on flood plains. They formed in micaceous alluvial material washed from uplands. Typically, comus soils have a dark brown silt loam surface layer, 12 inches thick. The subsoil from 12 to 30 inches is dark yellowish-brown and brown silt loam. The unconforming substratum from 30 to 60 inches is strong brown gravelly sandy loam. Slopes range from 0 to 5 percent.
Cut and Fill Land (Cx)	Cut and fill land consists of areas where the soil has been cut away by grading or land leveling and of areas that have been filled with soil and other materials, commonly to a depth of many feet. The soil material is very variable.
Delanco series (DcB)	The Delanco series consists of very deep, moderately well to somewhat poorly drained soils on stream terraces, foot slopes or drainage heads. They formed in alluvium washed from areas of micaceous crystalline rocks. Typically, these soils have dark brown and dark yellowish brown silt loam surface and subsurface layers, 13 inches thick. The subsoil layers from 13 to 39 inches are brown silty clay loam and strong brown clay loam. The substratum from 39 to 72 inches is yellowish-red clay loam and loam. Slopes range from 0 to 15 percent.
Elkton series (En)	The Elkton series consists of very deep, poorly drained soils formed in loamy (silty)/ clayey deposits of the mid Atlantic coastal plain. They are on lowlands, depressions, and ancient floodplains. Typically the surface layer is dark olive gray silt loam 1 inch thick. The subsruface layer is gray silt loam 9 inches thick. The subsoil from 10 to 14 inches is gray silty clay loam with prominent mottles. The substratum from 40 to 65 inches is gray very fine sandy loam. Slopes range from 0 to 5 percent.
Elsinboro series (EsA, EsB, EsB2, EsC2)	The Elsinboro series consists of deep, well-drained soils on stream terraces. They formed in old alluvium washed from areas of micaceous crystalline rock. Typically, these soils have brown silt loam surface layers, 15 inches thick. The subsoil layers from 15 to 36 inches are strong brown and yellowish-red silty clay loam. The substratum from 36 to 60 inches is red gravelly sandy loam. Slopes range from 0 to 15 percent.
Fallsington series (Fs)	The Fallsington series consists of very deep, poorly drained soils on upland flats and in depressions. They formed in stratified coastal plain sediments of marine or alluvial origin. Typically these soils have a dark gray sandy loam surface layer 10 inches thick. The subsoils, from 10 to 40 inches is mottled gray sandy clay loam to 32 inches and mottled light gray loamy sand to 40 inches. The substratum is stratified light gray sandy clay loam and sand. Slopes range from 0 to 10 percent.

TABLE 2. Soil Series Descriptions

Soil Series	Description
Glenelg series (GcB2, GcC2, GcD2, GcD3, GgC2)	The Glenelg series consists of very deep, well-drained soils on uplands. They formed in micaceous material weathered mainly from schist and gneiss. Typically, these soils have a dark yellowish-brown channery loam surface layer, 6 inches thick. The subsoil, from 6 to 13 inches, is strong brown channery silt loam and, from 13 to 24 inches, is strong brown channery silty clay loam. The substratum, from 24 to 60 inches, is yellowish-red loam. Slopes range from 0 to 50 percent.
Hatboro series (Hb)	The Hatboro series consists of deep poorly drained soils on floodplains formed in recently deposited micaceous sediments washed from uplands. Typically they have a dark grayish brown silt loam surface layer about 9 inches thick. The subsoil to 44 inches is gray and grayish brown silt loam. The substratum to 70 inches is 12 inches of light brownish gray sandy clay loam over stratified sandy to clayey and gravelly materials. Slopes range from 0 to 3 percent.
Joppa series (JpB, JpC)	The Joppa series consists of very deep, somewhat excessively-drained soils on uplands. They formed in coastal plain sediments. Typically, these soils have a dark brown gravelly sandy loam surface layer, 6 inches thick. The subsoil, from 6 to 13 inches, is yellowish-red gravelly sandy loam, and, from 13 to 23 inches, is reddish-brown very gravelly sandy loam. The substratum, from 23 to 72 inches, is yellowish red very gravelly sand. Slopes range from 0 to 60 percent.
Keyport series (KpA, KpB)	The Keyport series consists of very deep, moderately well drained soils on uplands. They formed in northern coastal plain sediments. Typically these soils have a dark brown silt loam surface layer 10 inches thick. The subsoil layers from 10 to 44 inches are yellowish brown and dark yellowish brown silty clay loam. The upper substratum from 44 to 60 inches is dark gray silty clay loam and the lower substratum from 60 to 72 inches is dark gray stratified clay to loamy sand. Slopes range from 0 to 25 percent.
Kinkora series (KrA, KrB)	The Kinkora series consists of deep, poorly drained soils on stream terraces. They formed in alluvial material derived from acid crystalline rocks. Typically, these soils have a dark gray silt loam surface layer, 8 inches thick. A subsurface layer from 8 to 12 inches is mottled gray silt loam. The mottled subsoil from 12 to 30 inches is gray, heavy, silty clay loam. The substratum from 30 to 36 inches is mottled gray silt loam, and from 36 to 60 inches is gray fine sandy loam. Slopes range from 0 to 8 percent.
Legore series (LeB2, LeD2, LeE, LfC, LfD, LfE, LgC3, LgD3)	The Legore series consists of very deep well drained soils on uplands. They formed in material weathered from diabase, diorite and related rocks. Typically these soils have a dark brown, gravelly, silty clay loam surface layer, 4 inches thick. The subsoil from 4 to 10 inches is brown, gravelly, silty clay loam, and from 10 to 24 inches is brown, gravelly clay loam. The substratum from 24 to 66 inches is yellowish-brown gravelly silt loam. Hard bedrock is at 66 inches. slopes range from 0 to 50 percent.
Leonardtown series (Lr)	The Leonardtown series consists of very deep poorly drained soils on uplands. They formed in coastal plain sediments. Typically, these soils have a dark gray and light brownish-gray silt loam surface layer, 5 inches thick. The subsoil from 5 to 12 inches is light brownish-gray silt loam. A mottled grayish-brown and gray, very firm and brittle fragipan is from 12 to 49 inches. It is silty clay loam in the upper part, ranging to loam in the lower part. From 49 to 70 inches the substratum is gray loam. Slopes range from 0 to 8 percent.

TABLE 2. Soil Series Descriptions

Soil Series	Description
Loamy and Clayey Land (LyB, LyD, LyE)	Loamy and clayey land consists of deep, well-drained to somewhat excessively-drained soils on upland. They formed in coastal plain sediments. Typically, these soils have an olive brown and yellowish-brown loamy sand surface layer, 23 inches thick. The subsoil, from 23 to 28 inches, is strong brown loamy sand, from 28 to 36 inches, is red sandy loam, and, from 36 to 60 inches, is red clay. Slope ranges from 0 to 40 percent.
Mattapex series (MIA, MIB)	The Mattapex series consists of very deep, moderately well drained soils formed in silty sediments overlying coarser sediments of marine or alluvial origin. Typically, these soils have a dark grayish-brown loam surface layer, 11 inches thick. The subsoil from 11 to 15 inches is brown loam, from 15 to 26 inches is yellowish-brown silty clay loam, and from 26 to 36 inches is mottled light olive brown silty clay loam. The mottled substratum from 36 to 60 inches is yellowish-brown fine sandy loam. Slopes range from 0 to 30 percent.
Montalto series (MsA, MsB2, MsC2)	The Montalto series consists of very deep well drained soils on uplands. They formed in material weathered from basic igneous rocks. Typically these soils have a brown silt loam surface layer 7 inches thick. The subsoil from 7 to 27 inches is dark red silty clay loam and silty clay and from 27 to 45 inches is dark red clay. The substratum from 45 to 52 inches is red silt loam and from 52 to 62 inches is yellowish red loam. Slopes range from 0 to 25 percent.
Neshaminy series (NeA, NeB2, NeC2, NsC, NsD, NsE)	The Neshaminy series consists of deep and very deep well drained soils on uplands. They formed in material weathered from mixed basic and acidic rocks. Typically these soils have a yellowish brown channery silt loam surface layer 11 inches thick. The subsoil from 11 to 39 inches is mostly strong brown and yellowish red channery clay loam and from 39 to 52 inches is yellowish red channery sandy clay loam the substratum from 52 to 54 inches is yellowish red channery sandy loam. Bedrock is at 54 inches. Slopes range from 0 to 60 percent.
Montalto series (MsA, MsB2, MsC2)	The Montalto series consists of very deep well drained soils on uplands. They formed in material weathered from basic igneous rocks. Typically these soils have a brown silt loam surface layer 7 inches thick. The subsoil from 7 to 27 inches is dark red silty clay loam and silty clay and from 27 to 45 inches is dark red clay. The substratum from 45 to 52 inches is red silt loam and from 52 to 62 inches is yellowish red loam. Slopes range from 0 to 25 percent.
Sand and gravel pits (Sa)	Pits, gravel are open excavations from which soil and gravel have been removed, exposing the gravelly material. Slopes are 0 to 3 percent.
Sassafras series (ShC2, SIB, SIB2, SIC2)	The sassafras series consists of very deep, well-drained soils on uplands. They formed in marine or alluvial coastal plain sediments. Typically, these soils have a brown sandy loam surface layer, 9 inches thick. The subsoil, from 9 to 21 inches, is yellowish-brown loam, from 21 to 32 inches, is brown sandy clay loam, and, from 32 to 40 inches, is strong brown sandy loam. The substratum, from 40 to 52 inches, is strong brown gravelly sandy loam and, from 52 to 70 inches, is brownish-yellow loamy sand. Slopes range from 0 to 60 percent.
Sassafras and Joppa soils (SsD, SsE)	The series unit contains soils of Sassafras, Joppa or both.
Stony land (St)	Stony land consists of areas that are much too stony for normal soil development. Most stones are 1 to 2 feet in diameter, and they are about 1 to 3 feet apart. The stones vary and can be schist, gabbro, diorite, or other related material. Slopes range from 0 to 75 percent.

TABLE 2. Soil Series Descriptions

Soil Series	Description
Sunnyside series (SuB2)	The Sunnyside series consists of very deep, well-drained soils on uplands. They formed in reddish fine sandy coastal plain sediments. Typically, these soils have very dark grayish-brown to brown surface layers, 8 inches thick. The subsoil is reddish-brown and red fine sandy loam and sandy clay loam to 48 inches. The substratum, from 48 to 60 inches, is reddish brown loamy fine sand. Plastic red clay is commonly encountered between 60 and 72 inches. Slopes range from 0 to 50 percent.
Watchung series (WaA, WaB, WcB)	The Watchung series consists of very deep, poorly drained soils on upland flats and in depressions. They formed in material weathered from basic rocks. Typically, these soils have a dark grayish-brown silt loam surface layer, 7 inches thick. A subsurface layer from 7 to 9 inches is mottled gray silt loam. The mottled subsoil from 9 to 51 inches is mostly gray silty clay, but is yellowish-brown from 33 to 51 inches. The substratum from 51 to 66 inches is mottled strong brown and yellowish-brown silt loam. Slopes range from 0 to 8 percent.
Woodstown series (WoB)	The Woodstown series consists of deep, moderately well-drained soils on uplands and terraces. They formed in marine and alluvial coastal plain sediments. Typically, these soils have a dark grayish-brown sandy loam surface layer, 7 inches thick, and a subsurface layer, from 7 to 11 inches, of light yellowish-brown sandy loam. The light olive brown sandy clay loam subsoil, from 11 to 29 inches, is mottled in the lower part. The substratum layers, from 29 to 70 inches, are sandy loam and loamy sand slopes range from 0 to 30 percent.

Source: *Soil Survey of Baltimore County* (SCS, 1976), *Soil Survey of Harford County* (SCS, 1975)

3.2 Waters of the U.S. and Wetland Identification

Wetlands were identified in the field in accordance with the *U.S. Army Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1* (Environmental Laboratory 1987), as well as supplemental guidance papers issued by the USACE and the United States Fish and Wildlife Service (USFWS). In order to make a determination that an area is a wetland, the 1987 USACE Delineation Manual requires that, under natural (typical) conditions, a minimum of one primary wetland indicator be confirmed for each of the three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. Failure to confirm all three parameters results in the finding that the area under evaluation is a non-wetland under typical conditions. After identification in the field, wetlands were then classified according to the Cowardin System, as described in *A Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). This wetland evaluation was based on the delineation criteria and primary field indicators discussed in Section 3 of the USACE Delineation Manual. Sections 3.2.1, 3.2.2, and 3.2.3 summarize the criteria and field indicators utilized to determine wetlands.

3.2.1 Hydrophytic Vegetation

A finding of the occurrence of hydrophytic vegetation means that more than 50 % of the dominant plant community is of a type adapted to frequent flooding and associated anaerobic soil conditions. The *National List of Plant Species that Occur in Wetlands: Northeast (Region 1)* (Reed, 1988) provides the wetland indicator status for thousands of plant species. The wetland indicator status is based on a species frequency of occurrence in wetlands. The wetland indicator rating and the corresponding frequency of occurrence (under normal conditions) are explained in **Table 3**.

Table 3. Wetland Indicator Ratings

Code	Wetland Indicator Status	Probability of Occurrence in Wetland
OBL	Obligate Wetland species	> 99 percent
FACW	Facultative Wetland species	67 to 99 percent
FAC	Facultative	34 to 66 percent
FACU	Facultative upland	1 to 33 percent
UPL	Obligate upland	< 1 percent

A positive (+) or negative (-) sign may modify the indicator status for some species in order to more specifically define the regional frequency of occurrence in wetlands. A positive sign indicates a frequency toward the higher end of the category (more frequently found in wetlands), and a negative sign indicates a frequency to the lower end of the category (less frequently found in wetlands).

3.2.2 Hydric Soils

Hydric soils are saturated to the surface for sufficiently long periods during the growing season to create oxygen-free conditions in the upper layer of the soil profile. Visual evidence of oxygen-free conditions may be evaluated through the observance of primary field indicators such as color (gleying, chromas of 1 or less in unmottled soils, chromas of 2 or less in mottled soils), odor (hydrogen sulfide), mineral concretions and depletions in upper layers, high organic material content in sandy soils, organic streaking in sandy

soils, and/or the observance of an aquic or peraquic moisture regime. Some soils (e.g., newly formed soils from recent disturbance, rocky landscapes, red parent material and sandy soils) are somewhat more difficult to identify as hydric soil based on color. As such, other indicators of hydric soils are weighed more heavily in the determination.

3.2.3 Wetland Hydrology

Wetland hydrology means that water is present at or above the ground's surface for long periods of time during the growing season, usually greater than 12.5% of the growing season (approximately 25 days near the Chesapeake Bay and its' estuaries in Baltimore County, MD and approximately 23 days near Bel Air, MD in Harford County, MD). Primary indicators of wetland hydrology include direct observation of inundation or saturation at the surface, recorded stream gage data (where available), water marks on objects and vegetation, water-carried debris drift lines, sediment deposits, and wetland drainage patterns. Some vegetative physiological adaptations such as tree buttressing, shallow rooting, and multiple stems may also indicate wetland hydrology.

3.2.4 Waters of the United States

The USACE in Regulatory Guidance Letter 95-1 establishes some basic guidance for determining whether a stream channel will be regulated as WUS. The determination of whether a channel is considered jurisdictional as WUS involves the identification of the hydrologic regime (perennial and intermittent streams are jurisdictional while only certain ephemeral streams are jurisdictional), the presence of an ordinary high water mark (OHWM), and (sometimes) establishing a connection to other WUS. The primary indicator for a channel to be considered jurisdictional is the presence of an OHWM defined in 33 CFR Part 328.3 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as: a clear, natural line impressed in the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter or debris, or other appropriate means that considers the characteristics of the surrounding areas". Other criterion includes designations on official maps, such as soil surveys and USGS or county topographic maps that map the channel as a perennial or intermittent stream.

The 2000 Nationwide Permit (NWP) Regulations (March 9, 2000 Federal Register, 65 CFR 12823) further clarify the definition of WUS to include certain ephemeral streams and drainage channels (streams that receive storm water flows only). The 2000 NWP Guidance considers an ephemeral stream to be jurisdictional if it is a tributary to other WUS and exhibits an OHWM. The upstream limit of WUS is the point where the OHWM is no longer perceptible. A drainage ditch constructed in a stream, wetland, or other WUS remains WUS, provided an OHWM is still present. Furthermore, drainage ditches constructed in uplands that connect two WUS may be considered WUS if those ditches constitute a surface water connection between those two WUS. Perennial, intermittent, ephemeral channel segments and ditches that satisfy the above definitions, but do not satisfy the technical criteria for wetlands, were delineated as WUS.

3.2.5 Sampling

Sampling was conducted within suspect wetland areas and in adjacent upland areas for the collection of data pertinent to the assessment of the three mandatory technical criteria. Information was recorded on wetland data sheets appropriate for application of the 1987 USACE Delineation Manual "routine" method. Field notes and photographs were also recorded for each wetland. Soils were observed for hydric soil characteristics by digging pits at representative locations and periodically along the wetland boundary. Pits were dug up to a maximum depth of 24 inches to confirm hydric soil characteristics. Soil color determinations were defined using Munsell soil color charts. The WUS and wetland boundaries were marked using colored pink “Wetland Boundary” flagging which was tied to live, woody vegetation or pin flags. Each wetland flag was individually lettered and numbered (e.g., WET 1A-1, WET 1A-2, WET 1A-3, etc.) and WUS were identified as WUS 1A-1, WUS 1A-2, WUS 1A-3 and so forth. Each flag was located by a Trimble GeoXT Global Positioning System. Due to the extensive study area, the 16 mile corridor was divided into segments; *Segment A*: New Forge Road to MD 152, approximately 4.5 miles), *Segment B*: MD 152 to MD 24, (approximately 1.6 miles), *Segment C/D*: MD 24 to MD 543, approximately 3.6 miles, *Segment E*: MD 543 to Stephey Rd, approximately 3.1 miles, and *Segment F* Stephey Rd to Maxa Road, approximately 2.2 miles. Major intersections and roads crossing I-95 were used as breakpoints for the segments.

4.0 FINDINGS

The field investigation involved an inspection of the entire study area to identify areas that satisfy the three wetland criteria or meet the definition of WUS. Field investigations were conducted between November 2005 and March 2006 for the purpose of identifying and delineating the extent of jurisdictional waterways and wetlands in the study area. The field study area encompassed 200 linear feet from the edge of pavement from New Forge Road to Maxa Road. The acreage of wetlands calculated is only within the study area boundary. Wetlands and WUS that continued outside of the study area boundary were left open-ended (o.e.). Some of the wetlands delineated during the field investigation when mapped were outside of, or on the line of the study area. These wetlands were still cataloged to keep conformity. The field investigation resulted in the delineation of 121 wetlands and 198 WUS. A detailed description of the findings is provided (**Table 4** through **Table 9A**).

Table 4. Wetlands Delineated Within Segment A (New Forge Road to MD 152)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	MAP #
WET-1A	PEM1/PFO1	Sweet gum, red maple, spicebush, arrow-wood, and greenbrier.	0.20 acre	Soils in the wetland have heavy clay content and receive drainage from a SWM pond. Classified as a PEM surrounded by a PFO wetland, this wetland connects to WUS-1A. Delineated with flags # 1-18.	A-1
WET-2A	PEM1	Red maple, moss spp. and grass spp.	.004 acre	This wetland is fed from a spring house located adjacent to the Gunpowder Falls. Delineated by flags #1-6.	A-2
WET-3A	PFO1	Red maple, sycamore, winterberry, spice bush and skunk cabbage; tulip poplar along wetland fringe.	0.56 acre	Wetland is located in the forested floodplain of WUS-9A. Spring seeps and surface runoff provide hydrology. Delineated by flags #1-20.	A-3
WET-4A	PFO1	Red maple, sycamore, winterberry, spice bush and skunk cabbage.	0.18 acre	This wetland is similar in nature to WET-3A, but separated by a stream channel (WUS-10A). Delineated by flags #1-8.	A-3
WET-5A	PFO1	Red maple, Japanese honeysuckle and sedge spp.	0.02 acre	This forested wetland receives its hydrology from flood flow of WUS-11A and a high ground water table. Water stained leaves indicate long term hydrology. Water impounded by an insufficient drainage culvert under Old Long Calm Rd. Delineated by flags #1-6.	A-3
WET-6A	PFO/PSS	Red maple, silky dogwood, spicebush, arrow-wood, sensitive fern, and greenbrier.	0.34 acre	Old Long Calm Rd. separates this wetland from WET-5A. Wetland has a surface connection with WUS-11A. Delineated by flags #1-14.	A-3
WET-7A	PFO1	Red maple, winterberry, honeysuckle, and greenbrier.	0.17 acre	Wetland has surface connection to watercourse, WUS-11A. It receives additional hydrology from a farm pond outfall pipe. Delineated by flags #1-12.	A-3
WET-8A	PFO1	Red maple, green ash, sycamore, and multiflora rose.	0.39 acre	Located within the Little Gunpowder Falls floodplain, hydrology comes from runoff from I-95 and flood waters. Delineated by flags #1-28.	A-5
WET-9A	PFO1	Red maple.	0.01 acre	A small, isolated wetland located between the housing development and I-95 ROW. Delineated by flags #1-8.	A-6
WET-10A	PFO1	Green ash, sycamore, silky dogwood, Oriental bittersweet, and multiflora rose.	0.05 acre	Wetland located in the floodplain of the Little Gunpowder Falls. Additional hydrology was coming from a storm water retention pond. Wetland waters drain into Little Gunpowder Falls. Delineated by flags #1-32.	A-5
WET-11A	PFO1/PSS	Pin oak, silver maple, red maple, soft rush, and black willow.	0.02 acre	This is an isolated forested wetland along I-95 and Old Joppa Road. Flags #1-9.	A-7
WET-12A	PFO1	Sweetgum, pin oak, river birch, and red maple.	1.0 acre	This forested wetland has surface connection to watercourse, WUS-20A. A leaking underground water line aids hydrology. Delineated with flags #1-20.	A-7

Table 4. Wetlands Delineated Within Segment A (New Forge Road to MD 152)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	MAP #
WET-13A	PFO1/PEM1	Sweetgum, phragmites, pin oak, arrow-wood, sensitive fern, and greenbrier.	0.40 acre	A high ground water table and surface runoff from I-95 keep this area wet. The PEM section is dominated by phragmites. Delineated by flags #1-21 & 36-40.	A-7
WET-14A	PFO1	Pin oak, high bush blueberry, sweetgum, and greenbrier.	0.42 acre	Fed from a groundwater spring seep that has a surface connection to WUS-23A. Wetland continued out of study area and was left open-ended. Shown as flags #1-16.	A-7 & A-8
WET-15A	PFO1	Red maple and spicebush.	0.49 acre	Wetland comes from a spring seep and flows into a channel that connects to WUS-23A. Flags #1-11.	A-8
WET-16A	PEM/PSS	Rice cutgrass, smartweed, and highbush blueberry.	0.07 acre	This wetland is located within a drainage swale along the highway ramp. Delineated by Flags #1-13.	A-8
WET-17A	PFO1	Red maple, arrow-wood, and greenbrier.	0.01 acre	An isolated wetland confined to a swale which is fed by upland drainage. Shown as Flags #1-10.	A-8
WET-18A	PEM1	Broadleaf cattail, phragmites, and seedbox spp.	0.08 acre	A trench/swale which retains waters and exhibited all three wetland parameters. Flows into a channel delineated as WUS-30A which connects to WUS-23A. Wetland delineated with Flags #1-20.	A-7 & A-8
WET-20A	PFO1	Skunk cabbage, spicebush, red maple, and tulip popular.	0.003 acre	Wetland located from a small spring seep which connects to WUS-18A. Flagged by numbers #1-4.	A-6
WET-21A	PFO1	Spicebush, greenbrier, and skunk cabbage.	0.005 acre	Wetland located along the forested floodplain of WUS-18A. Wetland left open-ended outside of study area. Delineated by flags #1-4 o.e.	A-6
WET-22A	PFO1	Arrow-wood, spicebush, poison ivy, and skunk cabbage.	0.18 acre	Located in a forested floodplain of the Little Gunpowder Falls. A spring seep and runoff from Interstate 95 contribute to hydrology. Delineated by flags #1-13.	A-5
WET-23A	PFO1	Arrow-wood, spicebush, red maple, skunk cabbage, poison ivy, and Japanese honeysuckle.	0.14 acre	Wetland is located next to a watercourse WUS-35A. Drainage patterns in wetland indicated frequent flooding and a high water table. A surface connected to WUS-35A. Delineated by flags #1-26.	A-5
WET-24A	PFO1	Red maple and sweetgum.	0.04 acre	A small isolated wetland which collects and holds water from adjacent uplands. Flags #1-7.	A-4
WET-25A	PFO1	Red maple, winterberry, and greenbrier.	0.02 acre	A small isolated wetland which receives runoff from bordering uplands. Wetland is located within I-95 ROW. Flags #1-4.	A-4
WET-27A	PEM1	Broadleaf cattail, soft rush, smartweed, and sedge spp.	0.02 acre	An isolated wetland in the middle of an active agriculture field. Standing water was present at the time of delineation. Wetland flags #1-5.	A-4

Table 4. Wetlands Delineated Within Segment A (New Forge Road to MD 152)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	MAP #
WET-28A	PFO1	Red maple, spicebush, arrow-wood, skunk cabbage, greenbrier, and Japanese honeysuckle.	0.26 acre	This forested wetland originates from a seep zone along the forest/field edge. Drainage channels from this wetland connect into WUS-40A. Delineated by flags #1-30.	A-3
WET-29A	PFO1	Red maple, spicebush, greenbrier, Japanese honeysuckle, and soft rush.	0.10 acre	Ground water and surface runoff from I-95 provide hydrology on this forested slope. Delineated by Flags #1-13.	A-3
WET-30A	PFO1	Silver maple, red maple, tulip poplar, beech, and American Holly.	0.44 acre	This wetland is located in a forested floodplain terrace along WUS-43A. Runoff from an adjacent housing development increases hydrology. Delineated by flags #1-12.	A-1
WET-31A	PEM1	Broadleaf cattail, straw-color sedge, and path rush.	0.01 acre	A PEM wetland located within the MD 152/I-95 interchange ramp. Connects to WUS by a storm drain. Delineated by flags #1-12.	A-8
WET-32A	PEM1	Broadleaf cattail, Pennsylvania smartweed, soft rush, flat sedge, and groundsel tree.	0.05 acre	A roadside channel within MD 152/I-95 interchange which exhibited wetland characteristics. Connects to WUS-44A. Delineated with flags #1-29.	A-8
WET-33A	PSS1	Groundsel tree, sweet gum, red cedar, broadleaf cattail, and poison ivy.	0.02 acre	Wetland located within the MD 152/I-95 interchange. Hydrology from surface runoff from a Park & Ride facility. Delineated by flags #1-10.	A-8
WET-34A	PSS1	Sweet gum, groundsel tree, broadleaf cattail, and poison ivy.	0.03 acre	Wetland located within the MD 152/I-95 interchange. Wetland is fed by surface runoff from I-95 and Park & Ride facility. Delineated as flags #1-12.	A-8
WET-35A	PFO1	Red maple, sweetgum, green ash, elderberry, arrow-wood, and Japanese honeysuckle.	0.09 acre	This wetland appears to be a older storm water retention area in the intersection of I-95/MD 152. Ponded water is laying long enough to cause hydric conditions. Delineated by flags #1-19.	A-8
WET-36A	PFO1	Red maple, pin oak, arrow-wood, sweetgum, poison ivy, greenbrier, and trumpet creeper.	0.02 acre	A drainage swale which gathers and holds water within the MD 152/I-95 interchange. Wetland delineated by flags #1-9.	A-8
WET-37A	PEM1	Barnyard grass, duckweed, poison ivy, and red maple.	0.02 acre	An isolated wetland within the MD 152/I-95 interchange. Signs indicate area remains ponded for long periods of time. Delineated by flags #1-15.	A-8
WET-38A	PEM1	Broadleaf cattail, least spikerush, and barnyard grass.	0.01 acre	Wetland is located within drainage channel along I-95/MD 152 interchange. Poor drainage has aided wetland conditions. Delineated by flags # 1-6.	A-8
WET-40A	PEM1	Broadleaf cattail.	0.02 acre	Surface runoff is retained in a drainage channel. The grade does not allow outflow causing hydric conditions. Delineated by flags # 1-6.	A-2
		TOTAL ACREAGE	**5.89 ac.**		

Table 4A. Waters of the U.S. Delineated within Segment A (New Forge Road to MD 152)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-1A	Intermittent	Tributary to Gunpowder Falls	WET-1A	A-1
WUS-2A (N.B.) GPJR WUS10 / WUS-43A (S.B.)	Perennial	Tributary to Gunpowder Falls	N/A	A-1
WUS-3A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-1
WUS-4A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-1
WUS-6A (N.B.) WUS-41A (S.B.)	Perennial	Gunpowder Falls	WET-2A	A-2
WUS-7A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-2
WUS-8A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-3
WUS-9A (N.B.) WUS-40A (S.B.)	Perennial	Tributary to Gunpowder Falls	WET-3A,WET-4A, WET-28A,WET-29A	A-3
WUS-10A	Ephemeral	Tributary to Gunpowder Falls	WET-3A, WET-4A	A-3
WUS-11A (N.B.) WUS-39A (S.B.)	Perennial	Tributary to Gunpowder Falls	WET-5A, WET-6A, WET-7A	A-3
WUS-11A-cc	Ephemeral	Drainage channel to tributary of Gunpowder Falls	WET-7A	A-3
WUS-12A (N.B.) WUS-38 A (S.B.)	Perennial	Tributary to Gunpowder Falls	N/A	A-4
WUS-13A	Intermittent	Tributary to Little Gunpowder Falls	N/A	A-4
WUS-13A-a	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	WET-13A	A-7
WUS-14A (N.B. & S.B.)	Perennial	Tributary to Gunpowder Falls	N/A	A-5
WUS-15A	Ephemeral	Drainage channel to tributary of Gunpowder Falls	N/A	A-5
WUS-16A (N.B.) WUS-34A (S.B.)	Perennial	Little Gunpowder Falls	WET-8A, WET-10A	A-5
WUS-17A	Ephemeral	Drainage channel to tributary to Little Gunpowder Falls	N/A	A-5
WUS-18A (N.B. & S.B.)	Intermittent	Tributary to Little Gunpowder Falls	WET-20A, WET-21A	A-6
WUS-18A-c	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	WET-20A	A-6
WUS-19A	Ephemeral	Tributary to Little Gunpowder Falls	WET-8A	A-5
WUS-20A (N.B. & S.B.)	Perennial	Tributary to Little Gunpowder Falls	WET-12A	A-7
WUS-21A	Ephemeral	Tributary to Little Gunpowder Falls	N/A	A-7
WUS-22A	Ephemeral	Tributary to Little Gunpowder Falls	WET-12A	A-7
WUS-23A	Perennial	Tributary to Little Gunpowder Falls	WET-13A, WET-14A, WET-15A, WET-16A,WET-18A	A-7 & A-8

Table 4A. Waters of the U.S. Delineated within Segment A (New Forge Road to MD 152)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-24A	Ephemeral	Tributary to Little Gunpowder Falls	WET-14A	A-7
WUS-25A	Ephemeral	Tributary to Little Gunpowder Falls	WET-14A	A-8
WUS-26A	Intermittent	Tributary to Gunpowder Falls	WET-16A	A-8
WUS-27A	Intermittent	Tributary to Little Gunpowder Falls	N/A	A-8
WUS-29A	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-8
WUS-30A	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	WET-18A	A-8
WUS-31A	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-6
WUS-32A	Ephemeral	Drainage channel flows into Little Gunpowder Falls	N/A	A-6
WUS-33A	Ephemeral	Drainage channel into Little Gunpowder Falls	N/A	A-6
WUS-35A	Perennial	Tributary to Little Gunpowder Falls	WET-23A	A-5
WUS-36A	Ephemeral	Tributary to Little Gunpowder Falls	N/A	A-5
WUS-37A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-4
WUS-38A-cc	Ephemeral	Tributary to Gunpowder Falls	N/A	A-4
WUS-39A	Perennial	Tributary to Little Gunpowder Falls	N/A	A-3
WUS-39A-a	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-3
WUS-39A-c	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-3
WUS-39A-e	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-3
WUS-40A-a	Ephemeral	Drainage channel to tributary of Little Gunpowder Falls	N/A	A-3
WUS-40A-c	Ephemeral	Drainage channel into tributary of Little Gunpowder Falls	WET-29A	A-3
WUS-42A	Intermittent	Tributary to Gunpowder Falls	WET-30A	A-1
WUS-44A	Ephemeral	Tributary to Gunpowder Falls	N/A	A-1
WUS-45A-aa	Ephemeral	Drainage channel into tributary of Little Gunpowder Falls	WET-32A	A-8
WUS-46A-aa	Ephemeral	Drainage channel into tributary of Little Gunpowder Falls	WET-32A	A-8

Table 5. Wetlands Delineated within Segment B (MD 152 to MD 24)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-1B	PEMJh	Broadleaf cattail.	0.04 ac.	An impounded drainage channel forms this emergent wetland. WUS-1B flows into and out of this wetland. Vegetation was dominated by cattails. Flags #1-4 delineated this area.	B-1
WET-2B	PFO1	Red maple, sweet gum, and willow oak.	0.21 ac.	Wetland formed from several spring seeps and runoff from the surrounding upslope development. Wetland connects to WUS-4B. Delineated by flags #1-34.	B-2
WET-3B	PFO1	Red maple, sweet gum	0.00 ac.	This wetland connects to WUS-6B. A high ground water table and runoff provide hydrology. Located in an early successional red maple/sweet gum forest. Delineated with flags #1-13. Wetland delineated was outside of study area.	B-2
WET-4B	PFO1	Red maple and sweet gum.	0.00 ac.	Wetland connects into WUS-6B. Delineated with flags #1-6. Wetland was outside of study boundary.	B-2
WET-5B	PEM1	Broadleaf cattail and soft rush.	0.005 ac.	Leaching water coming from underneath I-95 forms this wet area. Water connects to WUS-5B. Vegetation within the ROW mowed. Delineated with flags #1-5.	B-2
WET-6B	PFO1/PEM1	Phragmites, soft rush, multiflora rose, red maple, and sweet gum.	0.04 ac.	Located inside of ROW. Wetland contained some emergent and part forested vegetation. Delineated with flags #1-23.	B-2
WET-7B	PFO1	Sweet gum, red maple, and loblolly pine.	0.01 ac.	This wetland is isolated and soils were heavy clay. Located in a red maple/loblolly pine woods. Flagged as #1-7.	B-2
WET-8B	PEM1	Broadleaf cattail and phragmites.	0.03 ac.	Located behind an industrial park development. Wetland line extended outside of study area and left open-ended. Wetland delineated as flags #1-6 and A-H.	B-4
WET-WPO-24	PFO1	Red maple, green ash, and poison ivy.	0.07 ac.	Previously delineated by another firm for interchange work, labeled as WPO-24. Wetland buffers a WUS which connects directly into Winters Run.	B-4
WET-10B	PFO1	Silky dogwood, red maple, sensitive fern, and poison ivy.	0.03 ac.	Located at the base of a fill slope at the interchange ramp of MD 24 / I-95. Wetland connects into WUS-16B. Delineated with flags #1-8.	B-6

Table 5. Wetlands Delineated within Segment B (MD 152 to MD 24)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-11B	PEM1/PSS	Broadleaf cattail, black willow, green ash, and soft rush.	0.02 ac.	This wetland is isolated but receives surface flow runoff from a self-storage facility. Left opened ended as it continued out of the study area. Delineated by flags #1-8 and #1-6.	B-4
WET-12B	PEM1/PSS1	Black willow, phragmites, and broadleaf cattail.	0.06 ac.	This wetlands hydrology is from a storm water management pond. Wetland drains directly into Winters Run. Delineated by flags #1-20.	B-4
WET-13B	PFO1	Sycamore, red maple, and green ash.	0.06 ac.	Located in the floodplain between Winters Run and Fashion Way Rd. Wetlands drains into Winters Run. Delineated by flags #1-12.	B-4
WET-14B	PFO1	Sweet gum, Virginia pine, and soft rush.	0.06 ac.	Wetland retains surface runoff from uplands because of heavy clay soils. Connects into WUS-20B. Flags #1-14.	B-2
WET-15B	PEM1	Red maple, spicebush, and skunk cabbage.	0.00 ac.	Wetland is formed within an old stream channel. Wetland drains into WUS-19B. Delineated by flags 1-15 but is outside of study boundary.	B-3
WET-16B	PFO1	Red maple spice bush, and skunk cabbage.	0.00 ac.	Wetland drains into WUS-19 as it captures runoff from farm and spring seeps. Delineated by flags #1-11. Outside of study area.	B-3
WET-17B	PFO1	Red maple, sweetgum, and silky dogwood.	0.07 ac.	Located in the Clayton Rd. Conservation Area. Wetland retains upland runoff. Wetland delineated by flags #1-37.	B-2
WET-18B	PFO1	Pin oak, sweet gum, green briar, and red maple.	0.09 ac.	Wetland retains highway runoff. Connected to WUS-23B. Delineated by flags #1-15.	B-2
WET-19B	PFO1	Skunk cabbage, spicebush, and red maple.	0.00 ac.	Receives floodwaters from WUS-27B. Wetland drains to WUS-23B. Delineated flags #1-19. Outside of study area.	B-1
WET-20B	PFO1	Skunk cabbage, red maple, and spice bush.	0.07 ac.	This wetland is fed by a seep which then connects into WUS-23B and WUS-27B. Delineated with flags #1-21.	B-1
WET-21B	PEM2	Spicebush, Mountain laurel and moss.	0.01 ac.	Wetland consisted of small open pools of water surrounded by forest. It was noted for potential amphibian vernal pools. Delineated by flags #1-11.	B-1
WET-22B	PEM2	Arrow-wood, spicebush, skunk cabbage, and Mountain laurel on fringe.	0.004 ac.	Wetland is a small, open pool of water. Potential vernal pool habitat and surrounded by forest. Shown as flags #1-6.	B-1

Table 5. Wetlands Delineated within Segment B (MD 152 to MD 24)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-23B	PFO1	Spicebush, red maple, and sweet gum.	0.01 ac.	Drainage patterns from wetland connect to WUS-24B. Left opened-ended outside of study area. Delineated by flags #1-5 and flags A-E.	B-1
WET-24B	PFO1	Red maple and sweetgum.	0.02 ac.	This wetland is formed from a forested hillside seep. Drainage flows into WUS-23B by flags A-F and flags #1-6.	B-1
WET-25B	PFO1	Red maple, American holly, and black gum.	0.06 ac.	An isolated wetland inside of the interchange MD 24/I-95. Potential vernal breeding pool. Flags #1-4.	B-6
WET-26B	PEM1	Broadleaf cattail, soft rush, smartweed, and sedge spp.	0.01 ac.	An emergent wetland formed from poor drainage in channel. Receives runoff from MD 152 ramp. Delineated as flags #1-6.	B-1
WET-27B	PEM1	Broadleaf cattail and and narrow leaf cattail.	0.01 ac.	A fringe wetland which borders WUS-24B. Inside of interchange ramp of I-95 and MD 152. Flags #1-6.	B-1
		TOTAL ACREAGE	**0.989 ac.**		

Table 5A. Waters of the U.S. Delineated within Segment B (MD 152 to MD 24)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-1B	Ephemeral	Tributary to Winters Run	WET-1B	B-1
WUS-2B	Ephemeral	Tributary to Winters Run	N/A	B-1
WUS- 3B (N.B.) WUS-26B (S.B.)	Ephemeral	Tributary to Winters Run	N/A	B-1
WUS-4B	Ephemeral	Tributary to Winters Run	WET-2B	B-2
WUS-5B (N.B.) WUS-23B (S.B.)	Perennial	Tributary to Winters Run	WET-1-4B, WET-18 through 24B	B-1/B-2
WUS 5B-f (N.B.) WUS-22B (S.B.) WUS-22B-b (S.B.)	Perennial	Tributary to Winters Run	WET-5B	B-2
WUS-5B-aa, WUS-5B-bb	Ephemeral	Drainage channel to tributary of Winters Run	N/A	B-2
WUS-5B-cc	Ephemeral	Drainage channel to tributary of Winters Run	WET-5B	B-2
WUS-6B	Intermittent	Tributary to Winters Run	WET-3B, WET-4B	B-2
WUS-7B	Intermittent	Tributary to Winters Run	N/A	B-2
WUS-8B	Ephemeral	Drainage channel to tributary of Winters Run	N/A	B-2
WUS-9B	Intermittent	Tributary to Winters Run	N/A	B-2
WUS-10B (N.B.) WUS-19B (S.B.)	Perennial	Tributary to Winters Run	WET-15B, WET-16B	B-3
WUS-11B	Ephemeral	Drainage channel to tributary to Winters Run	N/A	B-3
WUS-12B (N.B.) WUS-21B (S.B.)	Perennial	Tributary to Winters Run	N/A	B-3
WUS-12B-s	Intermittent	Tributary to Winters Run	N/A	B-3
WL 004/ WUS-15B	Intermittent	Tributary to Winters Run	WPO-24	B-4
WUS-16B	Ephemeral	Highway drainage channel into Tributary of Winters Run	WET-10B	B-6
WL 001A, WL 001, WL 008	Perennial	Tributary to Winters Run	WP-001, WP-002, WP-003, WP-004, WP-004A, WP-004B	B-5
WUS-18B/ WL-005	Perennial	Tributary to Winters Run	N/A	B-4

Table 5A. Waters of the U.S. Delineated within Segment B (MD 152 to MD 24)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-19B-a	Ephemeral	Drainage channel into tributary of Winters Run	WET-16B	B-3
WUS-20B	Ephemeral	Drainage channel into tributary of Winters Run	WET-14B	B-2/B-3
WUS-22B-a, WUS-22B-c, WUS-22B-d, WUS-22B-e	Ephemeral	Drainage channels into tributary of Winters Run	N/A	B-2
WUS-23B-b	Ephemeral	Drainage channel into tributary of Winters Run	N/A	B-1
WUs-23B-cc	Ephemeral	Drainage channel into tributary of Winters Run	N/A	B-1
WUS-24B	Perennial	Tributary to Winters Run	WET-23B & WET-24B	B-1
WUS-25B	Intermittent	Tributary to Winters Run	N/A	B-1
WUS-27B	Ephemeral	Drainage channel to tributary of Winters Run	WET-19B, WET-20 B	B-1
WUS-28B-aa	Ephemeral	Drainage channel to tributary of Winters Run	WET-27B	B-1
WL 030	Perennial	Winters Run	WET-12B, WET-13B, WPO-24	B-4
WL 030A	Ephemeral	Tributary to Winters Run	WET-13B	B-4
WL 031	Intermittent	Tributary to Winters Run	N/A	B-4

Table 6. Wetlands Delineated within Segment C (MD 24 to Abington Rd)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-1C/ WP 015	PFO1	Japanese stilt grass, sweet gum, and red maple, snags.	0.21 ac.	Wetland continued from a previous delineation by "others" as (WP-015). Severe sloughing of soils was noted in this area. Drainage patterns flow to WUS-2C. Delineated by flags #1-6. & A-E.	C/D-2
WET-2C	PFO1/PSS	Red maple and sweet gum.	0.02 ac.	Wetland is fed from a spring seep emerging from nearby fill slope. Soil was very mucky with orange color stains in water. Wetland drains into WUS-8C. Delineated by flags #1-13.	C/D-4
WET-3C	PFO1	Sweet gum and red maple.	0.00 ac.	The water of WUS-11C loses its defined channel and forms this small forested wetland before becoming defined again as WUS-11C. Delineated with flags #1-6. Wetland was delineated but when mapped was outside of study area.	C/D-4
WET-4C	PFO1	Highbush blueberry, red maple, and sweet gum.	0.001 ac.	Surface runoff and a high ground water table provide hydrology to this wetland. Delineated with flags #1-7.	C/D-4
WET-5C	PFO1	Sweet gum, red maple, Japanese stilt grass, and greenbrier.	0.00 ac.	Wetland hydrology comes from ground water seepage and is retained by clay soils. Wetland near border of study area. Wetland when mapped was outside of study area and open-ended with flags #1-14 o.e.	C/D-4
WET-6C	PFO1/PEM	Phragmites, cattails, red maple, and sweet gum.	0.19 ac	This wetland is a deep swale with poor drainage between the I-95 fill slope and uplands border. It receives drainage from several intermittent waters before flowing into WUS-14C. Flags #1-14.	C/D-4
WET-7C	PFO1	Pin oak, sweet gum, and red maple.	0.18 ac.	Wetland receives highway road drainage. Water seeps through wetland area before entering the channel of WUS-16C. Flags #1-29.	C/D-3
WET-8C	PFO1	Red maple, pin oak.	0.00 ac.	Wetland receives runoff from WUS-16C before entering WUS-17C. Flags #1-5. Wetland was delineated but when mapped was outside study area.	C/D-3
WET-9C	PEM1	Sensitive fern, cattails, and eastern false willow.	0.04 ac.	Wetland fed from spring seeps emerging out of a hillside slope. Waters flows into a drainage pipe. Flags #1-9.	C/D-2
		TOTAL ACREAGE	**0.64 ac.**		

Table 6A. Waters of the U.S. Delineated within Segment C (MD 24 to Abington Rd)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WL-010	Intermittent	Tributary to Winters Run	N/A	C/D-2
WUS-1C/ WL 009	Perennial	Tributary to Winters Run	WP-015/WET-1C	C/D-2
WUS-2C	Ephemeral	Tributary to Winters Run	WET-1C	C/D-2
WUS 18C (S.B.) / WL 012 (N.B. & S.B.)	Perennial	Haha Branch	N/A	C/D-3
WUS-3C	Ephemeral	Tributary to Winters Run	N/A	C/D-3
WUS-4C	Ephemeral	Drainage channel to tributary to Winters Run	N/A	C/D-3
WUS-5C	Intermittent	Drainage channel to tributary to Winters Run	N/A	C/D-3
WUS-5C-A/O	Ephemeral	Tributary to Winters Run	N/A	C/D-3
WUS-6C	Ephemeral	Tributary to Winters Run	N/A	C/D-3
WUS-7C	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-4
WUS -7C-a	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-4
WUS -7C-c	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-4
WUS-8C	Intermittent	Tributary to Winters Run	WET-2C	C/D-4
WUS-9C	Ephemeral	Tributary to Winters Run	N/A	C/D-4
WUS-10C	Perennial	Tributary to Winters Run	N/A	C/D-4

Table 6A. Waters of the U.S. Delineated in Segment C (MD 24 to Abington Rd)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-10C-b	Ephemeral	Tributary to Winters Run	N/A	C/D-4
WUS-11C	Intermittent	Tributary to Winters Run	WET-3C, WET-4C	C/D-4
WUS-11C-a	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-4
WUS-12C	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-4
WUS-13C	Intermittent	Tributary to Winters Run	N/A	C/D-4
WUS-14C	Perennial	Tributary to Winters Run	WET-6C	C/D-4
WUS-14C-a	Ephemeral	Tributary to Winters Run	N/A	C/D-4
WUS-15C	Intermittent	Drainage channel to tributary of Winters Run	WET-6C	C/D-4
WUS-16C	Ephemeral	Drainage channel to tributary to Winters Run	WET-7C	C/D-3
WUS-17C	Perennial	Tributary of Haha Branch to Winters Run	N/A	C/D-3
WUS-19C	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-1
WUS-20C/ WL 011	Ephemeral	Drainage channel to tributary to Winters Run	N/A	C/D-1
WUS-21C	Ephemeral	Drainage channel to tributary of Winters Run	N/A	C/D-1
WL 001	Perennial	Tributary to Winters Run	WP 005	C/D-1
WL 002	Intermittent	Drainage channel to tributary to Winters Run	N/A	C/D-1
WL 003	Intermittent	Tributary to Winters Run	N/A	C/D-1
WL 006	Intermittent	Tributary to Winters Run	WP006, WP 007	C/D-1

Table 7. Wetlands Delineated within Segment D (Abington Rd to MD 543)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-1D	PFO/PEM	Sweet gum, red maple, American hornbeam, and Japanese stilt grass.	0.14 ac.	A PEM surrounded by a PFO wetland within the floodplain of Bynum Run. No surface connection to Bynum Run was found. Delineated with flags #1-13.	C/D-6
WET-2D	PFO1	Sweet gum, red maple, silver maple, and American hornbeam.	0.10 ac.	Wetland was inundated with pocket pools and drainage patterns. Delineated by flags #1- 20.	C/D-5
WET-3D	PFO1	Sycamore, sweet gum, and green ash.	0.02 ac.	A forested wetland which is fed from spring seeps along the surrounding upslope. Wetland drains into WUS-13D. Delineated by flags #1-6.	C/D-6
WET-4D	PFO1	Red maple and sweet gum.	0.04 ac.	This wetland has similar features as WET-3D and drains into WUS-13D as well. Delineated with flags #1-7.	C/D-6
WET-5D	PEM1	Broadleaf cattail and soft rush.	0.01 ac.	Wetland is fed from water seeping from a cut/fill slope adjacent to the MD-543 ramp. Wetland appears to be isolated and vegetation within wetland gets mowed. Defined by flags #1-6.	C/D-8
WET-6D	PEM1	Japanese stilt grass, poison ivy, soft rush, and swamp milkweed.	0.07 ac.	Wetland is old retention pond which has developed wetland characteristic. Wetland drains into WUS-16D. Delineated with flags #1-12 o.e. and left open-ended.	C/D-7
WET-7D	PEM1	Black willow, deer tongue grass, and broadleaf cattail.	0.02 ac.	Wetland is formed from a man-made storm water retention area which has taken on wetland characteristics. Wood duck boxes placed in wetland were noted. Delineated by flags # 1-12.	C/D-8
WET-9D	PEM1/PFO	Sweet gum, red maple, soft rush, grass spp. and sedge spp.	0.12 ac	This wetland extended beyond the study area and was left open-ended. Wetland contained some ponded open water areas. Mallard ducks were present on water. Delineated by flags #1-17.	C/D-7
WET-10D	PFO1	Sweet gum, red maple, soft rush, swamp milkweed, and American sycamore.	0.06 ac.	Wetland is formed from a man made catch basin. Wetland drains into WUS-19D and flows to WUS-14D (Bynum Run).	C/D-7
WET-18D	PEM1	Broadleaf cattail and phragmites.	0.02 ac.	A small, emergent wetland formed from roadway drainage. Wetland drains into WUS-18D. Delineated by flags #1-4.	C/D-8
		TOTAL ACREAGE	**0.60 ac.**		

Table 7A. Waters of the U.S. Delineated within Segment D (Abington Rd to MD 543)

WUS ID	Hydrologic Regime	Stream name / Tributary to	Associated Wetlands	Map #
WUS-1D	Intermittent	Tributary to Bynum Run	N/A	C/D-5
WUS-1D-b	Ephemeral	Tributary to Bynum Run	N/A	C/D-5
WUS-1D-c	Intermittent	Tributary to Bynum Run	N/A	C/D-5
WUS –1D-d	Ephemeral	Tributary to Bynum Run	N/A	C/D-5
WUS-2D	Ephemeral	Tributary to Bynum Run	N/A	C/D-5
WUS-2D-a	Intermittent	Tributary to Bynum Run	N/A	C/D-5
WUS-2D-b	Ephemeral	Tributary to Bynum Run	N/A	C/D-5
WUS-3D (N.B. & S.B.)	Perennial	Bynum Run	WET-1D	C/D-6
WUS-4D	Perennial	Tributary to Bynum Run	WET-2D, WET-1D	C/D-5 & C/D-6
WUS-4D-c	Ephemeral	Tributary to Bynum Run	WET-2D	C/D-5
WUS-4D-d	Ephemeral	Tributary to Bynum Run	WET-2D	C/D-5
WUS-5D	Ephemeral	Drainage channel to tributary of Bynum Run	N/A	C/D-6
WUS-6D	Ephemeral	Drainage channel into tributary of Bynum Run	N/A	C/D-5
WUS-7D	Ephemeral	Tributary to Bynum Run	N/A	C/D-5
WUS-8D	Perennial	Tributary to Bynum Run	N/A	C/D-4 & C/D-5
WUS-8D-a	Ephemeral	Drainage channel to tributary of Bynum Run	N/A	C/D-4

Table 7A. Waters of the U.S. Delineated within Segment D (Abington Rd to MD 543)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-9D	Intermittent	Tributary to Bynum Run	N/A	C/D-4
WUS-10D	Intermittent	Tributary to Bynum Run	N/A	C/D-4
WUS-11D/ WUS-8D	Perennial	Tributary to Bynum Run	N/A	C/D-5
WUS-12D	Ephemeral	Drainage channel to tributary of Bynum Run	N/A	C/D-6
WUS-13D	Intermittent	Drainage channel to tributary of Bynum Run	N/A	C/D-6
WUS-13D-b	Ephemeral	Drainage channel to tributary of Bynum Run	WET-3D & WET-4D	C/D-6
WUS-14D (N.B. & S.B.)	Perennial	James Run	N/A	C/D-7
WUS-15D	Intermittent	Tributary to James Run	N/A	C/D-7
WUS-16D	Intermittent	Tributary to James Run	WET-6D	C/D-7
WUS-17D	Intermittent	Tributary to Bush River	WET-7D	C/D-8
WUS-18D	Intermittent	Tributary to Bush River	WET-9D	C/D-7
WUS-19D	Intermittent	Tributary to James Run	WET-10D	C/D-7
WUS-20 D	Ephemeral	Tributary to James Run	WET-10D	C/D-7
WUS-21D	Intermittent	Tributary to Bush River	N/A	C/D-8
WUS-21D-b	Ephemeral	Drainage channel to tributary of Bush River	N/A	C/D-8
WUS-22D	Intermittent	Tributary to Bush River	N/A	C/D-8
WUS-23D	Intermittent	Tributary to Bush River	WET-1E	C/D-8

Table 8. Wetlands Delineated within Segment E (MD 543 to Stepney Rd.)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-1E	PEM1	Phragmites	0.001 ac.	Wetland vegetation dominated by phragmites. Storm water runoff from WUS-1E flows into this wetland. Wetland left opened-ended as it extended outside of study area. Flags #1-4 o.e. & A-C o.e.)	E-1
WET-2E	PEM1	Phragmites, sweet gum and groundsel tree	0.41 ac.	Wetland is fed by small spring seeps and dominated by phragmites. Wetland drains into WUS 4E/WUS-3E. One line of wetland left opened-ended outside of study area. Delineated #1a-7a o.e. & 1-18.	E-2
WET-3E	PEM1	Broadleaf cattail and phragmites	0.04 ac.	This wetland is a storm water channel that has developed wetland characteristics. Waters drain into WUS-4E. Delineated with flags #1-6 and A-F.	E-2
WET-4E	PEM1	Broadleaf cattail, phragmites, and silky dogwood	0.06 ac.	This wetland is located within a storm water drainage channel into WUS-4E. Flags #1-11.	E-2
WET-5E	PSS1	Sweet gum, red maple, and soft rush	0.01 ac.	This isolated wetland is along a gas line. Heavy clay soils help retains surface water. Flushed an Am. woodcock from area.	E-2
WET-6E	PFO/PEM	Sweet gum, red maple, green ash, green briar, and multi flora rose.	0.05 ac.	Wetland in the floodplain forest of WUS-7E. Delineated with flags #1-6.	E-2
WET-7E	PFO1	Sweet gum, red maple, and elm spp.	0.06 ac.	Wetland located in a floodplain forest and helps buffers WUS-10E. Flows into WUS-10E. Delineated by flags #1-11.	E-3
WET-8E	PFO1	Pin oak, sweet gum, green briar, and Japanese honeysuckle	0.07 ac.	This floodplain wetland fed from a spring seep and helps buffers other side of WUS-10E. Wetland drains into WUS-10E and WUS-11E. Flags #1-6.	E-3
WET-9E	PFO1	Red maple, sweet gum, ironwood, and green ash.	0.15 ac.	The wetland drains into WUS-14E. Hydrology is fed from spring seeps and upland runoff. ATV vehicle disturbance in wetland was noted. Flags #1-11.	E-4
WET-10E	PFO1	Skunk cabbage, sweet gum, and ironwood.	0.06 ac.	Wetland is in a low swale next to WUS-14E. Standing water in areas of wetland which act as amphibian breeding pools. Flags #1-19.	E-4
WET-11E	PFO1	Red maple, sweet gum, black gum, spice bush, skunk cabbage, and cinnamon fern.	0.37 ac.	A forested wetland which buffers WUS-14E. Spring seeps and a high ground water table feed this wetland. The channel of WUS-14 adjacent to this wetland is concrete lined. Flags #1-44.	E-5
WET-11E-a	PEM1	Phragmites, broadleaf cattail, and stilt grass.	0.00 ac.	Wetland located at the edge of a large pond created by a beaver dam. Area located outside of study area and left open-ended. Flags #1a-7a o.e.	E-5
WET-12E	PFO1	Sweet gum, red maple, and deer tongue grass	0.03 ac.	Wetland within a natural drainage swale which connects to WUS-14E. Some ATV trail disturbance was noted. Flags #1-9.	E-5
WET-13E	PFO1	Red maple, poison ivy, soft rush, and Japanese honeysuckle	0.05 ac.	Wetland within a drainage swale. Spring peepers (herps) were noted using the wetland for breeding. Flags #1-10.	E-6

Table 8. Wetlands Delineated within Segment E (MD 543 to Stepney Rd.)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-14E	PFO1/PEM	Soft rush, sedge, grass spp, and red maple.	0.04 ac.	A PEM wetland surrounded by deciduous forest. American toads observed laying eggs in wetland. Ties into WUS-18E. Flags #1- 9.	E-5
WET-15E	PFO1	Ironwood, skunk cabbage, red maple, spice bush, and black gum.	0.26 ac.	A hillside spring seep which flows into WUS-18E. Very stony land. Skunk cabbage thick in herb layer. Flags #1-10 & A-Q.	E-5
WET-16E	PFO1	Green ash, American beech, red maple, skunk cabbage, and ironwood.	0.03 ac.	Hillside seep, natural drainage valley. Connected to WUS-18E. Flags #1- 12.	E-5
WET-17E	PFO1	Green ash, red maple, soft rush, grasses and sedges.	0.02 ac.	Stony land. Hillside seeps into ridge and valley. Poorly drained soil. Flags #1-15.	E-4
WET-18E	PFO1	Skunk cabbage, s. arrow-wood, red maple and ironwood	0.10 ac.	Wetland is in a natural drainage valley. Amphibian egg masses in pocket pools were found. Water connects to WUS-14E. Flags #1-17.	E-4
WET-19E	PFO1	Red maple, hornbeam, s. arrow-wood, sweet gum, and skunk cabbage	0.18 ac.	Wetland is in a natural drainage valley with spring seeps. Water drains into WUS-14E. Flags #1-28.	E-4
WET-20E	PFO1	Red maple, skunk cabbage, sweet gum, spice bush, and high bush blueberry.	0.15 ac.	Wetland is located in a natural drainage ridge and valley with spring seeps with stony ground. Waters flows into WUS-15E. Flags #1-25.	E-4
WET-21E	PFO1	Spice bush, red maple, sweet gum. Skunk cabbage and Jap. stilt grass	0.26 ac.	Wetland is fed from upland drainage and spring seeps. Forested landscape with herbaceous layer. Waters connect to WUS-16E. Flags #1-39.	E-4
WET- 22E	PFO1	Red maple, sweetgum, skunk cabbage, spice bush, arrow wood, ironwood.	0.26 ac.	Valley drainage plus spring seeps feed this forested wetland. Wetland was left open-ended as it extends outside of study area. Connects to WUS-17E. Flags #1-30 o.e., A-l o.e., #a-13a.	E-3
WET-23E	PFO1	Southern arrow wood, spice bush, red maple, and sweet gum.	0.03 ac.	Forested area in a valley and ridge landscape. Waters of wetland flow into WUS-18E. Flags #1-13.	E-3
WET-24E	PEM1/POW	Broadleaf cattail, soft rush, red maple and sedge spp.	0.11 ac.	An emergent open-water wetland formed from a water impoundment. Amphibian breeding pond. Drains into WUS-19E. Flags #1-12.	E-3
WET-25E	PEM1	Broadleaf cattail, watercress spp. groundsel tree	0.10 ac.	A linear narrow strip of emergent wetland/drainage swale which receives runoff from impervious surfaces. Connects to WUS-5E on north bound side. Flags #1-25.	E-2
WET-26E	PEM1	Broadleaf cattail and marshmallow	0.04 ac	A linear emergent wetland located in a swale. Connects to WUS-22E and drains into WUS-23E. Flags #1-16.	E-1

Table 8. Wetlands Delineated Within Segment E (MD 543 to Stepney Rd.)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
MH WET-1	PEM1	Broadleaf cattail and narrowleaf cattail	.05 ac	Emergent wetland influenced by roadway drainage. Flags # 1a-4a & 1-4.	E-3
MH WET-2	PFO1	Sweetgum, green ash, arrowwood, and sensitive fern	.02 ac	Forested wetland connects to concrete drainage swale and may receive floodflow from MH WUS-2. Flags # 1-5.	E-3
MH WET-3	PFO1	Green ash, sensitive fern, and arrowwood	.04 ac	Isolated wetland, no surface water connection. Flags # 1-17.	E-3
MH WET-4	PSS1	Broadleaf cattail, sweetgum, and red maple	.03 ac	Wetland influenced by roadway drainage. Disturbed soils with sulfuric odor. Drains into MH WUS-8. Flags # 1a-5a & 1-5.	E-4
		TOTAL ACREAGE	**3.08 ac.**		

Table 8A. Waters of the U.S. Delineated within Segment E (MD 543 to Stepney Rd.)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-1E	Ephemeral	Tributary to Bush River	WET-1E	E-1
WUS-3E	Intermittent	Tributary to Bush River	WET-2E	E-2
WUS-4E	Intermittent	Tributary to Bush River	WET-2E, WET-3E, WET-4E	E-2
WUS–5E	Intermittent	Tributary to Bush River	N/A	E-2
WUS-6E	Intermittent	Tributary to Bush River	WET-6E	E-2
WUS-7E N.B. WUS-20E S.B.	Perennial	Tributary to Bush River	WET-6E	E-2
WUS-8E	Intermittent	Tributary to Bush River	N/A	E-2
WUS-9E	Intermittent	Tributary to Bush River	N/A	E-2
WUS-10E	Perennial	Tributary to Bush River	WET-7E, WET-8E	E-3
WUS-10E-A	Intermittent	Tributary to Bush River	WET-7E	E-3
WUS-11E	Ephemeral	Drainage channel to tributary of Bush River	WET-8E	E-3
WUS-12E	Perennial	Tributary to Grays Run to Bush River	N/A	E-4
WUS-13E	Perennial	Tributary to Grays Run to Bush River	N/A	E-4
WUS-13E-a	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-13E-s	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-14E	Perennial	Tributary to Bush River	WET-9E, WET-10E, WET-11E, WET 12E	E-4
WUS-14E-a	Ephemeral	Tributary to Bush River	N/A	E-4

Table 8A. Waters of the U.S. Delineated within Segment E (MD 543 to Stepney Rd.)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-14E-c	Ephemeral	Tributary to Bush River	WET-9E	E-4
WUS-14E-d	Intermittent	Tributary to Bush River	N/A	E-5
WUS-14E-e	Ephemeral	Tributary to Bush River	N/A	E-5
WUS-14E-f	Ephemeral	Tributary to Bush River	N/A	E-5
WUS-14E-aa	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-14E-cc	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-14E-dd	Intermittent	Tributary to Bush River	WET-17E &WET-18E	E-4
WUS-15E (N.B.) WUS-17E (S.B.)	Perennial	Grays Run	N/A	E-5
WUS-15E-a	Ephemeral	Tributary to Bush River	N/A	E-5
WUS-15E-c	Ephemeral	Tributary to Bush River	N/A	E-5
WUS-15E-aa	Intermittent	Tributary to Bush River	WET-19E	E-4
WUS-15E-bb	Intermittent	Tributary to Bush River	WET-19E & WET-20E	E-4
WUS-16E	Ephemeral	Tributary to Bush River	N/A	E-6
WUS-16E-a	Ephemeral	Tributary to Bush River	N/A	E-6
WUS-16E-c	Intermittent	Tributary to Bush River	WET-21A	E-4
WUS-16E-d	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-16E-aa	Ephemeral	Tributary to Bush River	N/A	E-4
WUS-16E-bb	Intermittent	Tributary to Bush River	N/A	E-6
WUS-16E-ee/ MH WUS 8	Perennial	Tributary to Bush River	WET-21E	E-4
WUS-17E-a	Intermittent	Tributary to Bush River	N/A	E-5
WUS-17E-c	Intermittent	Tributary to Bush River	N/A	E-5

Table 8A. Waters of the U.S. Delineated within Segment E (MD 543 to Stepney Rd.)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-17E-aa	Intermittent	Tributary to Bush River	WET-22E	E-3
WUS-17E-dd	Perennial	Tributary to Bush River	WET-22E	E-4
WUS–18E	Intermittent	Tributary to Bush River	WET-14E, WET-15E, WET-16E	E-5
WUS-18E-a	Ephemeral	Tributary to Bush River	N/A	E-5
WUS–18E-b	Intermittent	Tributary to Bush River	N/A	E-5
WUS-18E-aa	Intermittent	Tributary to Bush River	N/A	E-3
WUS-18E-bb	Perennial	Tributary to Bush River	N/A	E-3
WUS-18E-cc	Intermittent	Tributary to Bush River	N/A	E-3
WUS-18E-dd	Ephemeral	Tributary to Bush River	N/A	E-3
WUS-18E-ee	Ephemeral	Tributary to Bush River	N/A	E-3
WUS-18E-ff	Perennial	Tributary to Bush River	WET-23E	E-3
WUS-18E-gg	Perennial	Tributary to Bush River	N/A	E-3
WUS-19E	Intermittent	Tributary to Bush River	WET-24E	E-3
WUS-20E-a	Ephemeral	Drainage channel to tributary of Bush River	N/A	E-2
WUS-21E	Ephemeral	Tributary to Bush River	N/A	E-1
WUS-22E	Ephemeral	Tributary to Bush River	WET-26E	E-1
WUS-23E	Ephemeral	Tributary to Bush River	WET-27E	E-1

Table 8A. Waters of the U.S. Delineated within Segment E (MD 543 to Stepney Rd.)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
MH WUS-1	Ephemeral	Tributary to Bush River	N/A	E-3
MH WUS-2	Intermittent	Tributary to Bush River	MH-WET-2	E-3
MH-WUS-3	Ephemeral	Tributary to Bush River	N/A	E-3
MH WUS-4	Perennial	Tributary to Bush River	N/A	E-3
MH WUS-4-a	Ephemeral	Tributary to Bush River	N/A	E-3
MH WUS-5	Perennial	Tributary to Bush River	N/A	E-3
MH WUS-6	Perennial	Tributary to Bush River	N/A	E-3
MH WUS-6a	Ephemeral	Tributary to Bush River	N/A	E-3

Table 9. Wetlands Delineated Within Segment F (Stepney Road to Maxa Road)

Wetland ID	Cowardin Classification	Dominant Vegetation	Acreage Within Study Area	Comments	Map #
WET-1F	PFO1	Sweet gum, red maple, skunk cabbage and greenbrier	0.03 ac.	This wetland is fed from a spring seep. Left opened ended outside of study area. Wetland drains into WUS-5F. Flags #1-18 o.e.	F-2
WET-2F	PEM1	Phragmites, sweet gum, and red maple.	0.06 ac.	The soil profile was disturbed. Vegetation is dominated by phragmites. Wetland line left open outside the study area. Flags #1- 12, o.e. @ flags 7 & 8.	F-4
WET-3F	PEM1	Phragmites, sweet gum, and red maple.	0.08 ac.	Wetland dominated by phragmites. Left open-ended outside of study area. Flags 1-14, o.e. @ flags 1& 14.	F-4
WET-4F	PFO1	Phragmites, sweet gum, red maple, and soft rush	0.08 ac.	Wetland connection to WUS-7F and extends outside of study area. Flags a-f, & #1-9.	F-4
WET-5F	PSS/PEM	Skunk cabbage, red maple, sweet gum, and ironwood,	0.01 ac.	Wetland is a swale holding water between forested uplands and WUS-5E. This wetland extends outside of study area where it connects to WUS-5E. Flags #1-11 o.e.	F-5
WET-6F	PFO1	Swamp white oak, pin oak, spicebush, arrow-wood, sensitive fern, and skunk cabbage	0.25 ac.	This wetland was shown on NWI mapping and confirmed. A large PFO wetland with a diversity of plant species. Flags #1-29 and left open-ended as it extended outside of study area.	F-5
WET-7F	PEM	Black willow, touch me not, and Stilt grass.	0.09 ac.	WUS-7F flows into and out of this wetland. Wetland extends outside of study area. Flags #1-16.	F-4
WET-8F	PEM1	Red maple, black willow, soft rush, broad leaved cattail, and sensitive fern.	0.12 ac.	Wetland located downstream from a retention pond. Wetland drains into WUS-8F and extends outside of study area, Delineated by Flags #1-15.	F-3
WET-9F	PEM1	Broad leaved cattail, sweet gum, soft rush, Stilt grass.	0.03 ac.	Wetland is located above a sewer line. The soil profile was disturbed. Wetland connects into WUS-9F. Delineated by Flags #1-11.	F-2
WET-10F	PEM1	Skunk cabbage, touch me not, and spice bush,	0.01 ac.	Drainage seeping into a swale forms this wetland, and then it flows into WUS -9F. Extends outside of study area, Delineated by Flags #1-12.	F-2
WET-11F	PFO,	Open water, skunk cabbage, and red maple	0.01 ac.	Small ponded wetland along side WUS-9F. Delineated by Flags #1-6.	F-2
WET-12F	PFO	Red maple, and skunk cabbage.	0.01 ac.	Wetland lies in a old stream tributary next to WUS-10 F. Extends outside of study area, Delineated by Flags #1-8.	F-1
		TOTAL ACREAGE	**0.78 ac.**		

Table 9A. Waters of the U.S. delineated within Segment F (Stepney Road to Maxa Road)

WUS ID	Hydrologic Regime	Description	Associated Wetlands	Map #
WUS-1F	Ephemeral	Tributary to Bush River	N/A	F-1
WUS-2F (N.B.) WUS 11F (S.B.)	Intermittent	Tributary to Bush River	N/A	F-1
WUS-3F (N.B.) WUS-10F (S.B.)	Perennial	Cranberry Run	N/A	F-1
WUS–4F (N.B.) WUS-9F (S.B.)	Perennial	Tributary to Cranberry Run	WET-9F, WET-10F, WET-11F	F-2
WUS-5F	Perennial	Tributary to Cranberry Run	WET-1F	F-2
WUS-6F (N.B.) WUS-7F-ff (S.B.)	Perennial	Carsins Run	WET-2F, WET-3F, WET-7F	F-4
WUS-7F	Intermittent	Tributary to Bush River	WET-4F	F-4
WUS-7F-b	Ephemeral	Tributary to Bush River	N/A	F-4
WUS-5F-F	Perennial	Carsins Run to Bush River	WET-5F	F-5
WUS-5F-cc	Ephemeral	Tributary to Bush River	N/A	F-5
WUS -5F-aa	Ephemeral	Tributary to Bush River	N/A	F-5
WUS-6F-cc	Intermittent	Tributary to Bush River	N/A	F-5
WUS-8F	Perennial	Unnamed tributary flows into Cranberry Run	WET-8F	F-3

5.0 SUMMARY

There were 121 wetlands totaling 11.80 acres and 198 WUS identified within the study area. The wetlands' hydrology was fed from a variety of sources including spring seeps, seasonally high ground water tables, highway drainage, and surface water runoff. All of the WUS delineated in the study area are connected to either the Gunpowder River or the Bush River watersheds. Appendix A contains the wetland data forms. Appendix B contains representative photographs of the wetlands and WUS. Appendix C contains the WUS and wetland delineation maps.

6.0 JURISDICTIONAL DETERMINATION

The Jurisdictional Determination (JD) process establishes boundaries that identifies and separates the USACE regulated wetland areas or MDE regulated areas from non-wetland (upland) areas that are not regulated. Wetland and WUS delineations were conducted for the purpose of jurisdictional review by the USACE. Wetland investigations of this type reflect the current state of variable conditions and require a level of professional judgment. Verification of the jurisdictional boundaries by the USACE and/or MDE is recommended. Authorization from the USACE and MDE is required prior to conducting activities that may directly or indirectly affect waters of the U.S., including all wetlands. A JD is tentatively scheduled for September 2006. Any impacts to the delineated areas may require a permit from the U.S. Army Corps of Engineers (USACE) and/or the Maryland Department of the Environment (MDE) prior to the initiation of any construction activities.

7.0 REFERENCES

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APPENDIX A:

DATA FORMS

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	1/ 16/ 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	J. Reed, C. Brudin		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 1A
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland Plot
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styraciflua	S	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3. Lonicera japonica	V	FAC-	11.		
4. Allium vineale	H	FACU-	12.		
5. Smilax rotundifolia	S	FAC	13.		
6. Lindera benzoin	S	FACW-	14.		
7. Viburnum dentatum	S	FAC	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/7=71%

Remarks: A small portion of wetland 1 is PEM dominated by woolgrass, soft rush, and seedbox.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Wetland seems to receive a large amount of water from surface flow which infiltrates slowly beyond the A horizon. A SWM outlets into wetland. Heavy clay content in the B horizon.

SOILS

Map Unit Name (Series and Phase): Alluvial land

Drainage Class: SWP - VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-6	A	10YR 3/2	5 YR 4/6	common	Sand/clay loam
6-8	AB	10 YR 4/2	5 YR 4/6	many	Sandy/clay loam
8-16	B	2.5 Y 5/4	10 YR 5/8	many	Sandy/clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

B layer is restricting infiltration, water fills the pit from side seep above B layer

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Classified as a PFO/PEM wetland

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 16, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 3A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				(Flags 1-20) DP @ 3A-1	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liriodendron tulipifera	T	FACU	10.		
3. Platanus occidentalis	T	FACW-	11.		
4. Ilex verticillata	S	FACW+	12.		
5. Lindera benzoin	S	FACW	13.		
6. Symplocarpus foetidus	H	OBL	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/6= 83 %

Remarks:
Located along the floodplain of WUS-9A

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 8" (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Watchung silt loam, 3-8% slopes

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraqualfs

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-8		10YR 5/2	10 YR 5/6	Many, distinct	Silt loam
8-12		10 YR 6/1	10YR 6/8	Many, med, dist.	Silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: A PFO wetland at base of slope along the floodplain of WUS 9A.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 16, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 4A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				DP same as @ Wet 3A	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liriodendron tulipifera	T	FACU	10.		
3. Platanus occidentalis	T	FACW-	11.		
4. Ilex verticillata	S	FACW+	12.		
5. Lindera benzoin	S	FACW	13.		
6. Symplocarpus foetidus	H	OBL	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/6= 83 %

Remarks:

Same species as Wetland 3A - just separated by WUS 10A
Located along the floodplain of WUS-9A

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 8" (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Watchung silt loam, 3-8% slopes

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraqualfs

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-8		10YR 5/2	10 YR 5/6	Many, distinct	Silt loam
8-12		10 YR 6/1	10YR 6/8	Many, med, dist.	Silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Same as Wet 3A, continuation of Wet 3A, separated by small trib of WUS 10A. Groundwater seep zone out of side hill.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: A PFO wetland at base of slope along the floodplain of WUS 9A.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 16, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 5A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					Dp @ 5A-2

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3. Lonicera japonica	WV	FAC-	11.		
4. Carex spp.	H		12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/3=66 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: 8” (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10YR 5/3	10YR 6/8	Many, med, distinct	silt loam
4-8		10YR 6/4			sand
8-12		10 YR 4/2	10 YR 6/8	medium, distinct	

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Inunuated at driveway to depth of 6 inches . Drainage from overland and highway, culvert along Old Calm Road is not draining properly.

WETLAND DETERMINATION

			(Check)
Hydrophytic Vegetation Present?	☒Yes	☐No	(Check)
Wetland Hydrology Present?	☒Yes	☐No	
Hydric Soils Present?	☒Yes	☐No	

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

PFO, water stained leaves, evidence of Hydrology

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200	Date:	January 16, 2006
Applicant/Owner:	MD Transportation Authority	County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed	State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes ☐No	Community ID:	Wetland 6A
Is the site significantly disturbed (Atypical Situation)?	☐Yes ☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes ☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Cornus amomum	S	FACW	10.		
3. Lindera benzoin	S	FACW-	11.		
4. Viburnum dentatum	S	FAC	12.		
5. Symplocarpus foetidus	H	OBL	13.		
6. Smilax rotundifolia	V	FAC	14.		
7. Lonicera japonica	H/V	FAC-	15.		
8. Onoclea sensibilis	H	FACW	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 7/8 = 87 %

Remarks:
Starts along Old Long Calm Road and connects to WUS 11A @ 11A-10 with small upland inclusions

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 8" (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Av Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10YR 5/2			silty loam
3-12		10YR 6/1	10YR 5/6	few, large, distinct	sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: PSS and PFO wetland associated with seeps, stream overflow and upland drainage.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 16, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 7A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				DP @ 7A-9 (flags- 1-13)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Ilex verticillata	S	FACW+	10.		
3. Acer rubrum	S	FAC	11.		
4. Lonicera tatarica	S	FACU	12.		
5. Lonicera japonica	WV/H	FAC-	13.		
6. Ulmus americana	S	FACW-	14.		
7. Smilax rotundifolia	H/V	FAC	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/6=67 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 8” (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 2/1			Silt loam
2-9		10 YR 2/1	10 YR 6/6	Many, medium, distinct	Silt loam
9-12		10 YR 5/1	10 YR 6/8	Many, medium, distinct	Silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 20, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 8A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)					(Flags 1-28)

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Fraxinus pennsylvanica	T	FACW	10.		
3. Platanus occidentalis	T	FACW-	11.		
4. Nepal microstegium	H	FAC	12.		
5. Lonicera japonia	V	FAC-	13.		
6. Fraxinus pennsylvanica	S	FACW	14.		
7. Rosa multiflora	S	FACU	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/7 =71 %

Remarks:
Located in the floodplain of and connects to the waters of Little Gunpowder (WUS-16A)

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 14" (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Increased hydrology inputs from roadway drainage seem to be altering this area more wet.
Some trees have been dying off due to increased hydrology.

SOILS

Map Unit Name (Series and Phase): Av Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		2.5 Y 3/1	7.5 YR 4/6	Many, distinct	Silt loam
3-16		7.5 YR 4/6		.	Silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Some mixing of the soil in B layer

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: A PFO wetland within the floodplain of the Little Gunpowder River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	January 20, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 9A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)					9 flags

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/1= 100 %

Remarks:

Mostly devoid of vegetation. Located behind Logan's Run housing development and I-95 right of way. Standing water

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1 (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

Recent heavy rains likely caused ponding of water, combined with time of year.

SOILS

Map Unit Name (Series and Phase): Delanco silt loam, 3-8% slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		2.5 YR 4/2	5 YR 3/4	common	Silt loam
3-7		2.5 Y 5/2	2.5 YR 3/6	common	Clay loam
7-10		2.5 Y 5/2			Gravel mix
10-13		2.5Y 4/1			Clay loam
13-16		10 YR 5/8			Dry clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soil shows some evidence of mixing likely from grading due to highway construction.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-20-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	Jason Reed, Carl Brudin			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	PFO
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area? http://www.mde.state.md.us/Permits/comar.asp (If needed, explain on reverse.)		☐Yes	☒No	Plot ID:	Wetland 10 A

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	T	FACW	9.		
2. Platanus occidentalis	T	FACW-	10.		
3. Cornus amomum	S	FACW	11.		
4. Celastrus orbiculatus	WV	UPL	12.		
5. Rosa multiflora	S	FACU	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/5= 60%

Remarks:
Floodplain of Little Gunpowder River

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 4 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
surface hydrology from adjacent sediment pond; this parameter questionable;

time of year gives possible false hydrology indication (non-growing season)

SOILS

Map Unit Name (Series and Phase): Codorus

Drainage Class: MWD - PD

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2	A	10 YR 3/3			Sandy loam
2-8	B_1	10YR 4/1	10 YR 5/8	Few distinct	Silt loam
8-12	B_2	10 YR 3/1			Silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Floodplain, well drained sandy soils in some areas, low lying areas retaining water from a SWM pond, highway, and high river flows. Bridge spanning I-95 allows wildlife corridor passage or greenway under I-95.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-26-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	Jason Reed, Carl Brudin			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 11A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)				Wetland 11A (Flags 1-9)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus palustris	T	FACW	9.		
2. Acer saccharinum	T	FACW	10.		
3. Acer rubrum	T	FAC	11.		
4. Juncus effusus	H	FACW+	12.		
5. Sedge spp.	H		13.		
6. Salix nigra	S	FACW+	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/5 = 100%

Remarks:
Trees have been cut and have re-grown as stump shoots.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 3 (in.)

Depth to Free Water in Pit: -0 (in.)

Depth to Saturated Soil: 0 - (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Water ponding for long periods due to poorly drained clay soils.

SOILS

Map Unit Name (Series and Phase): Neshaminy silt loam, 0-3% slopes

Drainage Class: WD

Taxonomy (Subgroup): Ultic Hapludalfs

Field Observations

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-12		10YR 5/8 & 10 YR 4/2	indiscernible		Mixed clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☒ Other (Explain in Remarks)

Remarks:
Disturbed ground, soil disturbed. Receives runoff from I-95 and Old Joppa Road. Clay loam holding water for long periods.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: Sweet gum, red cedar, mulitflora rose and japanese honeysuckle form upland boundary. Upland boundary abrupt. Isolated PFO Wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-25-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J .Reed, H. Canfield			State:	MD
Do Normal Circumstances exist on the site?		☐Yes	☒No	Community ID:	Wetland 12A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☒Yes	☐No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				Wetland 12A flags 1- 20 (incl. 16 A-Q) ties into WUS 21A	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styraciflua	T	FAC	9.		
2. Quercus palustris	T	FACW	10.		
3. Betula nigra	T	FACW	11.		
4. Acer rubrum	T	FAC	12.		
5. Smilax rotundifolia	H	FAC	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/5= 100%

Remarks:
Drains into WUS -20A.
This is a low area which retains water. A majority of this wetland is saturated/inundated by a seemingly continuous water discharge from a water main pipe leakage plus upslope drainage.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-2 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: This is a low area which retains water. Also the majority of this wetland is saturated/indicated by a seemingly continuous source of water discharge from underground. This discharge is located in the path of a marked water line.

SOILS

Map Unit Name (Series and Phase): Leonardtown silt loam

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Fragiaquults

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contraste	Texture, Concretions, Structure, etc,
0-3		2.5 Y 3/3	7.5 YR 4/6	common	silt loam
3-11		10 YR 4/1	10 YR 5/8	many	clay loam
11-16		2.5 Y 5/6			clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Leaking/broken water pipe contributing to the hydrology.

Spring seep + leaking water pipe+ upland drainage are sources of hydrology.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-25-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, H. Canfield			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 13A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)				Wetland 13A (18 flags)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styraciflua	T	FAC	9.		
2. Quercus palustris	T	FACW	10.		
3. Viburnum dentatum	T	FAC	11.		
4. Juncus effusus	T	FACW	12.		
5. Onoclea sensibilis	H	FACW	13.		
6. Smilax rotundifolia	H	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Adjacent to WUS-27A

SOILS

Map Unit Name (Series and Phase): Keyport silt loam, 0-2% slopes

Drainage Class: MWD

Taxonomy (Subgroup): Aquic Hapludults

Field Observations
Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		2.5 Y 4/2	7.5 YR 4/6	common	Clay loam
5-14		2.5 Y 5/2	10 YR 5/8	many	Clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Profile resembles Keyport soils in area of added hydrology and reduced infiltration, creating hydric conditions.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)
Wetland Hydrology Present? ☒Yes ☐No
Hydric Soils Present? ☒Yes ☐No

(Check)
Is this Sampling Point Within a Wetland? ☒Yes ☐No

Area hydrology is affected by inputs from a roadway drainage pipe. Areas of Hydric soil seem confirmed to an area which drains towards a small stream. This wetland (13A) connects to a WUS 13A-22 to WUS 13 A-35. Wetlands goes from to 13A – 40.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-25-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, C. Brudin			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 14A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland Plot
(If needed, explain on reverse.)					

Connects to WUS 24A. Flags 1-21

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus palustris	T	FACW	9.		
2. Smilax rotundifolia	S	FAC	10.		
3. Vaccinum corybosum	S	FACW-	13.		
4. Liquidambar styraciflua	T	FAC	14.		
5.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4= 100 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: <.5" (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Elkton silt loam

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraquults

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10YR 2/2	10 YR 4/6		loam
3-5		2.5 Y 5/2	2.5 Y 5/6	Common	silt loam
5-16		2.5 6/3	10 YR 5/8	many	clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes ☐ No (Check)	(Check)
Wetland Hydrology Present?	☒ Yes ☐ No	
Hydric Soils Present?	☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Wetland 14 A is similar in nature to wetland 15 A

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-25-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, C. Brudin. H. Canfield			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 15A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

Connects to WUS 23A Flags 1-12

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3. Lindera benzoin	S	FACW	13.		
4.			14.		
5.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Elkton silt loam

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraquults

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10YR 2/1			loam
2-12		10 YR 6/1	10 YR 6/6	many, distinct	silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Drainage patterns through wetland connect to WUS 23A

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-25-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, H Canfield. C. Brudin			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 16A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					flags 1-13

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Vaccinium corymbosum	S	FACW-	9.		
2. Leersia oryzoides	H	OBL	10.		
3. Polygonum pensylvanicum	H	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: <0.5 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Adjacent to WUS 26 A

SOILS

Map Unit Name (Series and Phase): Elkton silt loam

Drainage Class: PD

Taxonomy (Subgroup): Typic Ochraquults

Field Observations
Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-16		10YR 5/2	7.5 YR 4/6	few	silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☒ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized roots heavy throughout the upper part of profile.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Flagged as wetland due to the presence of the OBL and FACW species and wetland hydrology. Soils were not strongly hydric.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-26-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, C. Brudin, H Canfield			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 17A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)				Wetland 17A Flags (1-10)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Viburnum dentatum	S	FAC	9.		
2. Smilax rotundifolia	S	FAC	10.		
3. Acer rubrum	T	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3 = 100%

Remarks: Plants all located at the edge of the wetland.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1.0" (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: - (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Wetland fed by runoff from upslope, ponded area.

SOILS

Map Unit Name (Series and Phase): Elkton silt loam

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraquults

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10YR 3/3	7.5 Y/R 4/6	common	Loam
4-7		2.5 Y 4/2	7.5 YR 4/6	common	Silt clay loam
7-13		10Y/R 6/6	2.5 Y 7/6	common	Mixed disturbed clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

There is a clay layer at 7 inches restricting infiltration.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

This wetland is in a channel form, however it does not have a surface connection to WUS23. This area acts as a ditch pulling hydrology from the surrounding upslope area.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	1-26-06
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, C. Brudin, H Canfield			State:	MD
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 18 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)				Wetland 18 A Flags (1-20)	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Phragmites communis	H	OBL	10.		
3. Ludwigia alternifolia	H	FACW+	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100%

Remarks:
Plants all located along in a highway swale turned into wetland by lack of proper drainage

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1.0" (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: - (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Highway runoff, backed up highway drainage.

SOILS

Map Unit Name (Series and Phase): Keyport silt loam, 2-5% slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10YR 2/1	7.5 Y/R 4/6	common	loam
4-12		10 YR 5/2			

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H Canfield, C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 21A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liriodendron tulipifera	T	FACU	9.		
2. Lindera benzoin	S	FACW-	10.		
3. Smilax rotundifolia	H/V	FAC	11.		
4. Symplocarpus foetidus	H	OBL	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/4 = 75%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: -- (in.)

Depth to Free Water in Pit: -- (in.)

Depth to Saturated Soil: 6 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Alluvial land

Drainage Class: SWP - VP

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10YR 2/1			silt loam, organic
2-6		10YR 4/2	10YR 5/6	few, med., distinct	silt loam
6-12		10YR 6/1	10YR 5/8	med., distinct	sand loam, wet

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 22 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					13 flags

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Symplocarpus foetidus	H	OBL	9.		
2. Viburnum dentatum	S	FAC	10.		
3. Lindera benzoin	S	FACW	11.		
4. Toxicodendron radicans	WV	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4 = 100 %

Remarks:
Located at the toe of slope of right of way and floodplain of Little Gunpowder WUS 34 A

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Codorus silt loam

Drainage Class: MWD / SWP

Field Observations

Taxonomy (Subgroup): Fluvaquentic Dystrochrepts

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10YR 2/1			Silty loam
3-6		10YR 5/2			Sandy loam
6-12		10 YR 5/3	10 YR 6/5	Med, distinct	Sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Standing water in floodplain of Little Gunpowder River.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 23A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					27 flags

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Symplocarpus foetidus	H	OBL	9.		
2. Viburnum dentatum	S	FAC	10.		
3. Lindera benzoin	S	FACW	11.		
4. Acer rubrum	T	FAC	12.		
5. Lonicera japonica	H	FAC-	13.		
6. Toxicodendron radicans	V	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/6 = 83 %

Remarks: Located along drainage to WUS 35A

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 1 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Codorus silt loam

Drainage Class: MWD / SWP

Field Observations

Taxonomy (Subgroup): Fluvaquentic Dystrochrepts

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10YR 2/2			silt loam
3-6		10YR 4/3			silt loam
6-12		10 YR 5/1	10 YR 6/4	Med, distinct	silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes	☐ No	(Check)
Wetland Hydrology Present?	☒ Yes	☐ No	
Hydric Soils Present?	☒ Yes	☐ No	

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Wetland drains into WUS 35A Palustrine Forested wetland. Trails run through wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 24A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	S	FAC	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks: No other vegetation observed

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2-3 (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Inundated in low depressions, saturated throughout wetland area

SOILS

Map Unit Name (Series and Phase): Beltsville silt loam, 2-5% slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Typic Fragiudults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10YR 2/1			organic
2-8		10YR 4/1	10YR 5/6	sev, fine, distinct	silt loam
8-12		10YR 3/1			silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Isolated PFO wetland

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 25 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland Plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Ilex verticillata	S	FACW+	10.		
3. Smilax rotundifolia	H/V	FAC	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2-3 (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Beltsville silt loam, 2-5% slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Typic Fragiudults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10YR 2/1			organic
2-8		10YR 4/1	10YR 5/6	sev, fine, distinct	silt loam
8-12		10YR 3/1			silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Isolated PFO wetland

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 1, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 27A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Juncus effusus	H	FACW+	10.		
3. Polygonum spp.	H		11.		
4. Carex spp.	H		12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks: Isolated PEM in Ag. field. Recently mowed.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 4 (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Inundated to 4" in tire ruts.

SOILS

Map Unit Name (Series and Phase): Beltsville silt loam, 2-5% slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Typic Fragiudults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10YR 2/1			organic silt loam
4-8		10YR 5/1	10YR 5/8	many, med., distinct	silt loam
8-12		10 YR 7/2	10YR 5/8	many, med., distinct	clayey silt loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Ag field. Area mowed. Crops planted around wetland area; infrequently tilled.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Isolated PEM wetland in Ag field.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 2, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 28A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Fagus grandifolia	T	FACU	10.		
3. Lindera benzoin	S	FACW-	11.		
4. Viburnum dentatum	S	FAC	12.		
5. Symplocarpus foetidus	H	OBL	13.		
6. Smilax rotundifolia	V	FAC	14.		
7. Lonicera japonica	H/V	FAC-	15.		
8. Carex spp.	H		16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/7 = 72%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 5 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: spring seeps along lower one-third of slope

SOILS

Map Unit Name (Series and Phase): Watchung silt loam, 3-8% slopes

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraqualfs

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		10YR 3/1			silt loam
5-12		10YR 6/2	10YR 5/6	few, large, distinct	sand and gravel loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

		(Check)
Hydrophytic Vegetation Present?	☒ Yes ☐ No	
Wetland Hydrology Present?	☒ Yes ☐ No	
Hydric Soils Present?	☒ Yes ☐ No	
Is this Sampling Point Within a Wetland?	☒ Yes ☐ No	

Remarks: PFO wetland associated with spring seeps.

Approved by HQUSACE 3/92

Forms version 1/02

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 2, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 29
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3. Lindera benzoin	S	FACW-	11.		
4. Smilax rotundifolia	V	FAC	12.		
5. Lonicera japonica	H/V	FAC-	13.		
6. Juncus effusus	H	FACW+	14.		
7. Symplocarpus foetidus	H	OBL	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/6 = 83%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: na (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Watchung silt loam, 3-8% slopes

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Ochraqualfs

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		5YR 4/2	5YR 4/6	many, fine, distinct	sandy silt loam
2-5		10YR 4/2	7.5YR 5/8	many, fine, distinct	sandy silt loam
5-12		10YR 6/1	7.5YR 5/8	many, fine, distinct	clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: Distinct wetland area at toe of road slope. Seep wetlands.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 2, 2006
Applicant/Owner:	MD Transportation Authority			County:	Baltimore
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 30A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer saccharinum	T	FACW	9.		
2. Acer rubrum	T	FAC	10.		
3. Liriodendron tulipifera	T	FACU	11.		
4. Acer rubrum	S	FAC	12.		
5. Fagus grandifolia	S	FACU	13.		
6. Ilex opaca	S	FACU+	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/6 = 50%

Remarks: No herbaceous plant species

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: saturated to surface in shallow depressions; water marks on trees indicate 4-6 inches of inundation

SOILS

Map Unit Name (Series and Phase): Leonardtown silt loam

Drainage Class: PD

Field Observations

Taxonomy (Subgroup): Typic Fragiaquults

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10YR 5/2	10YR 5/6	few, fine, faint	silt loam
4-7		10YR 5/2			silt loam
7-12		10YR 7/1	10YR 7/4		mixed clay, wet at 6"

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: mixed wetland/upland matrix in floodplain.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-07-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed, C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 31A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland Plot
(If needed, explain on reverse.)					(Flags # 1-12)

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Pluchea purpurascens	H	OBL	9.		
2. Typha latifolia	H	OBL	10.		
3. Cyperus striqosus	H	FACW	11.		
4. Juncus tenuis	H	FAC-	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). ¾= 75%

Remarks:
A PEM forming from a seep area adjacent from the 152/ I-95 interchange ramp
Land surrounding wetland maintained. This wetland does flow into a drain pipe and then connects to WUS

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1” (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Taxonomy (Subgroup): NA

Field Observations Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2.5		5YR 4/6			loam
2.5-12		GY 2.5/N			clay loam
12-refusal		rock			

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soils profile mixed. Along road embankment, Clayey

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Land area around wetland mowed, Since this area is very wet, this area is not mowed. Water flows into a drain downhill into other waters of U.S

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	11-09-05
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	J. Reed , C. Brudin		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 32 A
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Typha angustifolia	H	OBL	10.		
3. Polygnum pennsylvanicum	H	FACW	11.		
4. Juncus effusus	H	FACW+	12.		
5. Cypercus esculentes	H	FACW+	13.		
6. Baccharis halimifolia	S	FACW	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6=100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: n/a (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Mostly runoff from highway drainage, backed up, mostly comprised of cattails

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☐Yes ☐No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10 YR 3/2			loam
4-6		2.5 Y 3/1	5 YR 4/6	common	loam
6-7		2.5 Y 4/1			sand
7-15		5Y 4/1			sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized roots at 4-6 inches. Water in test pit @ 6 inches.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-07-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 33 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					(Flags # 1-10)

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Baccharis halimifolia	S	FACW	9.		
2. Toxicodendron radicans	H	FAC	10.		
3. Typha latifolia	H	OBL	11.		
4. Liquidambar styraciflua	T	FAC	12.		
5. Juniperus virginianus	T	FACU	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/5 = 80%

Remarks:
Wetland vegetation species surrounded by upland

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 6 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Hydrology from upland drainage only. Impervious surfaces run off into this swale

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Taxonomy (Subgroup): NA

Field Observations Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		10 YR 3/1	none		Clay disturbed
5-9		5 YR 5/4	none		

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soils disturbed. Close to road cut/fill, close to the park and ride facility.

WETLAND DETERMINATION

		(Check)
Hydrophytic Vegetation Present?	☒Yes ☐No	
Wetland Hydrology Present?	☒Yes ☐No	
Hydric Soils Present?	☒Yes ☐No	
Is this Sampling Point Within a Wetland?	☒Yes ☐No	

Remarks:

A PSS wetland receiving drainage from surrounding bridge and parking lot runoff. Clayey soil holding water.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-07-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 34 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Baccharis halimifolia	S	FACW	9.		
2. Toxicodendron radicans	H	FAC	10.		
3. Typha latifolia	H	OBL	11.		
4. Liquidambar styarciflua	T	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4= 100%

Remarks:
Wetland adjacent to roadway. Vegetation has been mowed

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 6 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Field Observations

Taxonomy (Subgroup):

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		10 YR 3/1			clay disturbed
5-9		5 YR 5/4			clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soils disturbed. Close to road cut/fill

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-09-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 35A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styarciflua	T	FAC	9.		
2. Acer rubrum	T	FAC	10.		
3. Viburnum dentatum	S	FAC	11.		
4. Fraxninus pennsylvanica	T	FACW	12.		
5. Lonicera japonica	H	FAC-	13.		
6. Sambucus canadensis	T	FACW-	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/6 = 83%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - - (in.)

Depth to Free Water in Pit: - - (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Old drainage swale not properly flowing out, staying wet. Clayey soils are restricting the rate of the filtration. Topography does not allow for proper drainage

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contraste	Texture, Concretions, Structure, etc,
0-3		2.5 Y 3/2	10 YR 4/6	Few	Silt loam
3-10		2.5 Y 4/2	10 YR 5/8	Many	Clay Loam
10-16		10 YR 5/1	2.5 YR 4/8	Many	Clay Loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

High Clay content in soil

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-09-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 36 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					(Flags 1-9)

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styarciflua	H	FAC	9.		
2. Acer rubrum	T	FAC	10.		
3. Viburnum dentatum	S	FAC	11.		
4. Toxicodendron radicans	H	FAC	12.		
5. Quercus palustris	T	FACW	13.		
6. Smillax rotundifolia	H	FAC	14.		
7. Campsis radicans	H	FAC	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 7/7 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Field Observations

Taxonomy (Subgroup): NA

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 4/3	10 YR 5/8	common	loam
2-7		2.5 Y 5/2	7.5 YR 5/8	many	Clay loam
7-14		2.5 Y 5/1	7.5 5/8	many	Clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Depressed area, close to stream channel but isolated

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-09-05
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 37 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Echinochloa muricata	H	FACW+	9.		
2. Panicum virgatum	H	FAC	10.		
3. Lemna minor	H	OBL	11.		
4. Toxicodendron radicans	H	FAC	12.		
5. Lonicera japonica	H	FAC-	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/5 = 80%

Remarks:
It appears a clogged drainage pipe has helped retain this swale into wetlands and open water

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2.5 (in.)

Depth to Free Water in Pit: -- (in.)

Depth to Saturated Soil: -- (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KpB Keyport silt loam

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2.5		10 YR 3/2			loam
2.5-3.5		10 YR 3/2	5 YR 4/6	common	loam
3.5-5.0		Gravel layer			clay loam
5.0-7.0		10 YR 5/3			clay
7.0		mixed			mixed

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Soils seemed disturbed. Oxidized roots in upper layers

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Mottles and oxidized roots have formed.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-9-05
Applicant/Owner:	MD Transportation Authority			County:	Harford County
Investigator:	J. Reed, C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 38 A
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Eleocharis acicularis	H	OBL	10.		
3. Echinochloa muricata	H	FACW+	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1 (in.)

Depth to Free Water in Pit: -- (in.)

Depth to Saturated Soil: -- (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Hydrology is perched by a heavy clay layer located below 5”

SOILS

Map Unit Name (Series and Phase): KpB Keyport silt loam

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0- 2		10 YR 3/2			silt loam
2-5		2.5YR 5/2	7.5YR	many	clay loam
5-14		Gley 1 G/N	2.5Y 5/6	many	clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Hydrology is perched above 5 inches

Soils are disturbed

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Wetland within man made drainage ditch, poor grade combined with restricted infiltration has allowed hydric anaerobic conditions. Mowing is present on all sides of this ditch, connecting upslope and downslope ditch does not have OHWM

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 2, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 1B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC
(excluding FAC 1/1= 100%

Remarks:
Wetland hydrology formed directly from storm water retention area for highway and drainage of WUS 1-B.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2-3 ft. (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: WUS 1B and highway drainage swale flow into this area.

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly Drained

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-1		10 YR 4/2	10 YR 5/1	Many, common	silt loam
1-12		10 YR 5/1			Clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soil sample saturated. Water held back as part of SWM for drainage of highway runoff and WUS 1B.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

Is this Sampling Point Within a Wetland? (Check) ☒Yes ☐No

Remarks:

Cattail dominated water retention area. Some riprap present, then continues into WUS 1-B.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 9, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 2 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					DP inside 2b-1

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Quercus phellos	T	FAC+	10.		
3. Juncus effusus	H	FACW	11.		
4. Smilax rotundifolia	H	FAC	12.		
5. Liquidambar styraciflua	T	FAC	13.		
6. Sphagnum andersonianum	H	Obl	14.		
7. Fern spp.	H	--	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6=100%

Remarks:
Seeps and lower lying area. Commercial development upslope with a SWM pond which drains into the swale

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KpB Keyport Silt Loam 2-5 %

Drainage Class: Mod. Well Drained

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10 YR 4/3	10 YR 4/1	few	Clay loam
3-8		10 YR 5/1	10 YR 6/6	Few, distinct	Clay
8-12		10 YR 4/1			

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized root channels, Low chroma soils, saturated and water level at ground surface

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 9, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, D. Phillips			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 3 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					DP inside flag 3b-10

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Quercus phellos	T	FAC+	10.		
3. Juncus effusus	H	FACW	11.		
4. Smilax rotundifolia	H	FAC	12.		
5. Liquidambar styraciflua	T	FAC	13.		
6. Sphagnum andersonianum	H	Obl	14.		
7. Fern spp.	H	---	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6=100%

Remarks:
Water seeps emerging from hillside and water holding in this low lying area.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 3 (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KpB Keyport Silt Loam

Drainage Class: Mod. Well Drained

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10 YR 4/3	10 YR 4/1	few	Clay loam
3-8		10 YR 5/1	10 YR 6/6	Few, distinct	Clay
8-12		10 YR 4/1			

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized root channels, Low chroma soils, saturated and water at ground surface

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☒Yes ☐No	
Hydric Soils Present?	☒Yes ☐No	Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200	Date:	February 9, 2006
Applicant/Owner:	MD Transportation Authority	County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed	State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes ☐No	Community ID:	Wetland 4B
Is the site significantly disturbed (Atypical Situation)?	☐Yes ☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes ☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)			DP @ flag 4b-4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Salix nigra	T	FACW	10.		
3. Juncus effusus	H	FACW	11.		
4. Smilax rotundifolia	H	FAC	12.		
5. Liquidambar styraciflua	T	FAC	13.		
6. Quercus phellos	T	FACW	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6=100%

Remarks:
Low depression where water sits and is also fed by uplands seeps. Waters drain into channel @ WUS-6B

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KpB Keyport silt loam

Drainage Class: Mod. Well drained

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10 YR 4/3	10 YR 4/1	few	Sandy loam
3-8		10 YR 5/1	10 YR 6/6	Few, distinct	Sandy clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized root channels, Low chroma soils, saturated

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes	☐No	(Check)
Wetland Hydrology Present?	☒Yes	☐No	
Hydric Soils Present?	☒Yes	☐No	

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

No emergent plants present this time of year, Mostly FAC tree and shrub species, Obvious drainage patterns and channels in wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 7, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 5 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Ludwigia alternifolia	H	FACW+	10.		
3. Juncus effusus	H	FACW+	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-1 (in.)

Depth to Free Water in Pit: N/A (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Apparent seepage area from roadway runoff and underneath. Hydrology is being maintained in the upper 12" due below to heavy clay layer.

SOILS

Map Unit Name (Series and Phase): Av Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☐ Yes ☒ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-12		10YR4/1, 10YR 4/3	5YR 5/8	common	clay loam
12-16		mixed			clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Soil is somewhat disturbed. Located right off of Interstate. Grey soils observed with mottling and oxidized roots within mowed ROW.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Tire ruts observed. deep 3 ft. sink hole in wet area. Water seeping out of fill material.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 7, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 6B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites communis	H	FACW	9.		
2. Juncus effusus	H	FACW+	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Av Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-7		2.5Y 4/3			clay loam
7-15		10YR 4/1	7.5YR 5/8	common	clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Disturbed soils in upper 7 inches of profile.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Sec. 200			Date:	January 7, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 7B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					(7 flags) PFO

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Pinus taeda	T	FAC-	11.		
4. Carex spp.	H	---	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100%

Remarks:
,Abruptly bordered by red oak, loblolly pine and American holly

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: .5" (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KpB Keyport Silt Loam

Drainage Class: Mod. well drained.

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-12		2.5 Y 4/2	5 YR 4/6	Many	Clay loam
12+		2.5 Y 4/2	10 YR 7/8	Few distinct	Clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Soil somewhat disturbed

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Low lying depression wetland, (isolated) surrounded by loblolly pine and Virginian Pine and N. red oak. Coastal plain sandy soils

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 3, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 8 B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Phragmites australis	H	FACW	10.		
3. Salix nigra	T	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC 3/3= 100%

Remarks: Located outside of a large industrial parking lot.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2 ft. (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Phragmities and cattails dominate with black willow on edges. In floodplain of Winters Run.

SOILS

Map Unit Name (Series and Phase): Cv/Cu Codorus Silt loam/ Comus silt loam

Drainage Class: Mod. Well Drained

Field Observations

Taxonomy (Subgroup): Fluvaquentic Dystrochrepts

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-1		10 YR 2/2			Clay loam
1-12		10 YR 5/1			Clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Sulfur smell, inundated with water, Close to sewer line.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Cattail and phragmities dominated wet area. Ponded water. Left open-ended outside of 200 feet.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 8, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 9 B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	T	FACW	9.		
2. Juncus effusus	H	FACW+	10.		
3. Allium vineale	H	FACU-	11.		
4. Polygonum spp.	H	--	12.		
5. Acer rubrum	T	FAC	13.		
6. Toxicodendron radicans	H/V	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/5 = 80%

Remarks:
Low lying area where a WUS losses its defined channel and forms this wet area.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: 10 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KrA Kinkora silt loam 0-3 % slopes

Drainage Class: Deep Poorly Drained

Field Observations

Taxonomy (Subgroup): Typic Ochraquults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		2.5Y 4/3	7.5YR 5/8	many	silty clay
3-5		10YR 5/1	5YR 5/8	many	silty clay
5-16		2.5Y 4/4 & 2.5Y 4/2	5YR 5/8	many	silty clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Oxidized roots observed, mottling

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Previously delineated and surveyed from Coastal Resources Inc. as WP 024. Fed from WL 004, Upslope drainage and highway runoff . We agreed with their delineation but took our own DP

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 7, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 10B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus amomum	S	FACW	9.		
2. Acer rubrum	T	FAC	10.		
3. Juncus effusus	H	FACW+	11.		
4. Rhus toxicodendron	WV	FAC	12.		
5. Polygonum spp.	H	--	13.		
6. Smilax rotundifolia	H	FAC	14.		
7. Onoclea sensibilis	H	FACW	15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6= 100%

Remarks:
At base of toe of slope of interchange Rt 24. Low lying area. Adjacent to and connects to WUS 16B which flows Into underground drainage pipe underneath an industrial warehouse area.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1" (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Standing water- Adjacent to WUS 16 B, Hydro from highway runoff and ground water

SOILS

Map Unit Name (Series and Phase): EsC2 Elsinboro loam 5-10 % slopes

Drainage Class: Deep well drained

Field Observations

Taxonomy (Subgroup): Typic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-6		10YR 6/2	10 YR 5/6	Few distinct	Silt loam
6-12		10 YR 6/1	10 YR 5/6	Many distinct	Silt clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Odor and many roots oxidized, Mottles present.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Shrubs/scrub wetland which connects to WUS 16

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 8, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 11 B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Carex spp.	H	--	9.		
2. Typha latifolia	H	OBL	10.		
3. Ludwigia alternifolia	H	FACW+	11.		
4. Scirpus cyperinus	H	FACW+	12.		
5. Asclepias incarnata	H	OBL	13.		
6. Salix nigra	S	FACW+	14.		
7. Fraxinus pennsylvanica	S	FACW	15.		
8. Juncus effusus	H	FACW+	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 7/7 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1-2 (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Observed conditions indicated that the area is inundated for sufficient duration to satisfy wetland criteria.

SOILS

Map Unit Name (Series and Phase): GcC3 Glenelg loam 8-15 % slopes

Drainage Class: Well drained

Field Observations

Taxonomy (Subgroup): Typic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-7		2.5Y 5/3			clay loam
7-refusal					hard packed ground

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Oxidized roots throughout profile. Soils are wet but have not yet developed low chroma colors due to recently becoming wet. Wetland soils are assumed based on long term hydrology and FACW/OBL plant community.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Isolated small catch basin for adjacent self storage facility. PEM/PSS wetland.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 8, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 12 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Salix nigra	T	FACW+	9.		
2. Phragmites australis	H	FACW	10.		
3. Typha latifolia	H	OBL	11.		
4. Polygonum sagittatum	H	OBL	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2" (in.)

Depth to Free Water in Pit: na (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): KrA Kinkora Silt loam 0-3 % slopes

Drainage Class: Deep, poorly drained

Field Observations

Taxonomy (Subgroup): Typic Ochraquults

Confirm Mapped Type? ☒ Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-3		10YR 4/1	7.5YR 4/6	common	silt loam
3-10		10YR 4/3	7.5YR 4/6	common	clay loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Oxidized roots throughout profile plus mottles.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks: Man-made outfall from storm water management pond (B'J 's warehouse store) that has developed wetland characteristics. Broad, deep swale has a rip-rap check dam that has silted in and now holds water. Wetland drains directly into Winters Run.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 8, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 13 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Fraxinus pennsylvanica	T	FACW	9.		
2. Acer rubrum	T	FAC	10.		
3. Salix nigra	T	FACW+	11.		
4. Platanus occidentalis	T	FACW-	12.		
5. Toxicodendron radicans	H/V	FAC	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 5/5 = 100%

Remarks:
Low lying swale, floodplain and adjacent to Winters Run.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-1 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Cu Codorus Silt Loam

Drainage Class: MWD to SWP

Field Observations

Taxonomy (Subgroup): Fluvaquentic Dystrochrepts

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-6		7.5YR 3/1	5YR 3/6		silt loam, oxidized roots
6-12		2.5Y 4/2	5YR 4/6		silt loam
12-16		2.5Y 4/2			sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: PFO wetland connects to Winters Run.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 2, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	J. Reed. H. Canfield, C. Brudin		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 14-B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Liquidambar styraciflua	S	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Pinus virginiana	T	FACU	11.		
4. Rhus radicans	WV	FAC	12.		
5. Unknown grass	H	--	13.		
6. Lonicera japonica	WV	FAC-	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/5= 40 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):	En Elkon Silt Loam	Drainage Class:	MWD
		Field Observations	
Taxonomy (Subgroup):	Aquic Hapludults	Confirm Mapped Type?	☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		10 YR 3/1	5 YR 4/6	Common	Silt loam
5-10		2.5 Y 5/4	7.5 YR 5/8	Many	clay loam
10-16		2.5 Y 5/4	10 YR 5/8	Many	clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

10-16 " layer much drier than upper layers, Restricted infiltration. Runoff from adjacent lawn.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	
Wetland Hydrology Present?	☒Yes ☐No	
Hydric Soils Present?	☒Yes ☐No	(Check)
		Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 9, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 15 B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus amomum	T	FACW-	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Carex spp.	H	--	11.		
4. Unknown grass spp	H	---	12.		
5. Lindera benzoin	S	FACW-	13.		
6. Club Moss spp.	H	----	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2" (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Permanently inundated. Flowing from spring seeps and undersurface stream flows.

SOILS

Map Unit Name (Series and Phase): Av Alluvial Land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Wetland soil assumed due to permanent inundated area from water supplied by WUS 19 B and surrounding steep banks of uplands.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Soils mucky, standing water surrounded by much higher upland, potential Bog turtle type of habitat.
Wetlands located in a forested buffer between two large Agriculture/horse farms area.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Sec 200			Date:	February 9, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 16-B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Cornus amomum	T	FACW-	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Carex spp.	H	--	11.		
4. Unknown grass spp	H	---	12.		
5. Lindera benzoin	S	FACW-	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3= 100%

Remarks:
Area very similar too and adjacent to WET 15 B. WUS 19B separates the two.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 2-4" (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Permanently inundated, Flowing from spring/seeps and adjacent stream. Connects to WUS 19B directly. Area was used as a dumping ground from adjacent farmland.

SOILS

Map Unit Name (Series and Phase): Av Alluvial Land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-12		10 YR 1/1			Mucky

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Wetland soil assumed due to permanent shallow inundated from water supplied by WUS 19 B and flowing seeps from. Uplands.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Soils very mucky and standing water surrounded by much higher upland,

Wetlands located in a forested buffer between two large Agriculture/horse farms.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200	Date:	February 10, 2006
Applicant/Owner:	MD Transportation Authority	County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed	State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes ☐No	Community ID:	Wetland 17 B
Is the site significantly disturbed (Atypical Situation)?	☐Yes ☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes ☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)			

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Moss spp.	--	---	11.		
4. Cornus amomum	S	FACW	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks:
Wetland bordered by white pine and Va. pine, red cedar. Red maple and sweet gum dominate throughout the young forest. Just south of Clayton Rd. Area in a conservation easement

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: 8 (in.)

Depth to Saturated Soil: surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks: Drainage patterns. Standing water, water stained leaves,

SOILS

Map Unit Name (Series and Phase): KpB Keyport silt loam 2-5 % slopes

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 4/1			sandy loam
2-12		10 YR 5/2	7.5 YR 5/6	Many distinct	sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Surface drainage runoff from surrounding uplands and water trapped from road bed, Mostly all plants FAC species of red maple and sweet gum . Wetland line followed drainage patterns and hydric soils.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☒Yes ☐No	
Hydric Soils Present?	☒Yes ☐No	Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Water drains into a swale that dissipates from surface flow but most likely flows sub surface into WUS

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 10, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 18 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					15 flags- PFO

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus palustris	T	FACW	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Acer rubrum	T	FAC	11.		
4. Smilax rotundifolia	H	FAC	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4= 100%

Remarks:
Low swale depression receiving highway runoff and waters from surrounding uplands.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - (in.)

Depth to Free Water in Pit: 8" (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Av Alluvial Land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 5/2			
2-6		10YR 5/1	5YR 5/6	few	Clay loam
6-12		10 YR 5/1	5YR 5/8	few	silty clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: 7+ days from last rain event, water still standing in wet area, Hydrology from surrounding uplands and runoff from highway. Water seeps into WUS 23B either from ground or surface.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 21, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 19B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					DP @ inside flag 19

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Acer rubrum	S	FAC	10.		
3. Liquidambar styraciflua	T	FAC	11.		
4. Lindera benzoin	S	FACW-	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/3=100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 3.0 (in.)

Depth to Free Water in Pit: n/a (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

,

SOILS

Map Unit Name (Series and Phase): Av Alluvial land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-6		10 YR 4/3	10 YR 5/6	few	Sandy loam
6-15		2.5 Y 4/1	7.5 YR 5/6	many	Sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Saturated conditions. Soil sample saturated.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

Is this Sampling Point Within a Wetland? (Check) ☒Yes ☐No

Remarks:

Palustrine Forested (PFO). Connects hydraulically to WUS 23B. Receives some waters from WUS 27B drainage before entering WUS 23B.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 21, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 20 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	wetland plot
(If needed, explain on reverse.)					DP @ inside flag 20

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Magnolia virginiana	S	FACW+	9.		
2. Symplocarpus foetidus	H	OBL	10.		
3. Acer rubrum	T	FAC	11.		
4. Lindera benzoin	S	FACW-	12.		
5. Liquidambar styraciflua	T	FAC	13.		
6. Nyssa sylvatica	T	FAC	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6= 100%

Remarks:
Water seeps from hillside. Drainage patterns throughout wet area.
Connects into WUS 23B though WUS 27B

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0.5 (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Av Alluvial Land

Drainage Class: SWP to VP

Field Observations

Taxonomy (Subgroup): N/A

Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 3/2			Sandy loam
2-8		10 YR 5/1	10 YR 4/6	Few, distinct	sandy
8-16		10 YR 2/2			Sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Saturated conditions, soil sandy in some areas with an underneath layer of thick clay.

WETLAND DETERMINATION

		(Check)
Hydrophytic Vegetation Present?	☒ Yes ☐ No	(Check)
Wetland Hydrology Present?	☒ Yes ☐ No	
Hydric Soils Present?	☒ Yes ☐ No	
Is this Sampling Point Within a Wetland?	☒ Yes ☐ No	

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 21, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 21-B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					DP @ inside flag 10

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Magnolia virginiana	S	FACW+	9.		
2. Ilex opaca	S	FACU+	10.		
3. Fagus grandifolia	T	FACU	11.		
4. Vaccinium corymbosum	S	FACU	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/ 4

Remarks:
No vegetation in wetland, inundated with 3 feet of water, Vegetation surrounding this small deep pond depression
Typical costal plain sandy well drained soils.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 3 feet (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☒ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
See photos of area, clear and defined boundaries between wet and upland. Connects with WUS 23B, @ flags 108/109 B

SOILS

Map Unit Name (Series and Phase): KpB Keyport Silt Loam 0-2 % slope

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-6		10 YR 2/2			Sandy
6-18		10 YR 2/3			Sandy Loam
refusal		rock			

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Saturated conditions. Soil sample saturated. Flags 1-11

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Not positive on source of hydrology. Deep impounded pool of water (pothole) surrounding by uplands. Potential vernal pool for amphibian life.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 21, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, J. Reed		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 22-B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Smilax rotundifolia	H	FAC	9.		
2. Liquidambar styraciflua	S	FAC	10.		
3. Ilex opaea	T	FACU+	11.		
4. Vaccinium corymbosum	S	FACW-	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/ 4 = 75%

Remarks:
This pothole is void of vegetation. Plants listed here were found along the edge.
Similar to WET 21B. Located inside R-O-W.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 3 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
This area seems to be a seep subsidence area. Classified as a PSS.

SOILS

Map Unit Name (Series and Phase): KpB Keyport silt loam

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-5		7.5 YR 3/4			Sandy loam
5-14		2.5 Y 5/3	Black streaking in sand		Sand

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Streaking in sand layer. The Top A layer has a moderate amount of organic material.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks: This is a depression pothole with approx. 3 feet of pounded water. No upland point recorded due to abrupt change in Elevation and plant species composition.

Isolated wetland, Potential amphibian breeding pond.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200		Date:	February 22, 2006
Applicant/Owner:	MD Transportation Authority		County:	Harford
Investigator:	H. Canfield, C. Brudin, D. Phillips		State:	Maryland
Do Normal Circumstances exist on the site?	☒Yes	☐No	Community ID:	Wetland 23-B
Is the site significantly disturbed (Atypical Situation)?	☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?	☐Yes	☒No	Plot ID:	Wetland plot
(If needed, explain on reverse.)				

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus phellos	T	FAC+	9.		
2. Acer rubrum	T	FAC	10.		
3. Smilax rotundifolia	H	FAC	11.		
4. Liquidambar styraciflua	T	FAC	12.		
5. Magnolia virginiana	S	FACW	13.		
6. Vaccinium corymbosum	S	FACW	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6= 100%

Remarks:
Plants FAC, PFO wetland from upslope drainage which seeps into WUS 24B.

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: N/A (in.)

Depth to Free Water in Pit: 6” (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Soils saturated water in test pit.

SOILS

Map Unit Name (Series and Phase): En Elkton Silt Loam

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10 YR 2/2			Sandy clay
4-8		10 YR 3/1			Sandy clay
8-16		10 YR 6/1	10 YR 6/6		Sandy clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	February 22, 2006
Applicant/Owner:	MD Transportation Authority			County:	Harford
Investigator:	C. Brudin, D. Phillips			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 24-B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Quercus phellos	T	FAC+	9.		
2. Acer rubrum	T	FAC	10.		
3. Smilax rotundifolia	H	FAC	11.		
4. Liquidambar styraciflua	T	FAC	12.		
5. Magnolia virginiana	S	FACW	13.		
6. Vaccinium corymbosum	S	FACW	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 6/6= 100%

Remarks:
Plants FAC, PFO wetland forms from upslope drainage then into WUS

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: --- (in.)

Depth to Free Water in Pit: 6” (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:
Soils saturated in test pit.

SOILS

Map Unit Name (Series and Phase): En Elkton Silt Loam

Drainage Class: MWD

Field Observations

Taxonomy (Subgroup): Aquic Hapludults

Confirm Mapped Type? ☒ Yes ☐ No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10 YR 2/2			Sandy clay
4-8		10 YR 3/1			Sandy clay
8-16		10 YR 6/1	10 YR 6/6		Sandy clay

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒ Yes ☐ No (Check)

Wetland Hydrology Present? ☒ Yes ☐ No

Hydric Soils Present? ☒ Yes ☐ No

(Check)

Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-9-05
Applicant/Owner:	Maryland Transportation Authority			County:	Harford
Investigator:	Jason D Reed , Carl Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 25 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland
(If needed, explain on reverse.)					Flags 1-14

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Nyssa sylvatica	T	FAC	9.		
2. Nyssa sylvatica	S	FAC	10.		
3. Acer rubrum	T	FAC	11.		
4. Ilex verticillata	S	FACW+	12.		
5. Ilex opaca	S	FACU+	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 3/4=75 %

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: 4 (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): EsB2 Elsinboro loam

Drainage Class: Deep well drained

Field Observations:

Taxonomy (Subgroup): Fine-loamy, mixed, mesic Typic Hapludults

Confirm Mapped Type? ☐ Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-2		10 YR 3/1			Loam
2-7		2.5 YR 5/1			Clay Loam
7-12		2.5 Y 6/1	7.5 YR 4/6	many	Clay Loam

Hydric Soil Indicators:

Ponded water, water stained leaves, sulfur smell

- ☐ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Isolated ponded forested wetland, Potential vernal pool.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes ☐ No (Check)	(Check)
Wetland Hydrology Present?	☒ Yes ☐ No	
Hydric Soils Present?	☒ Yes ☐ No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 Section 200			Date:	11-09-05
Applicant/Owner:	Maryland Transportation Authority (MdTA)			County:	Harford
Investigator:	J. Reed, C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 26 B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					Flags 1-6

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Typha angustifolia	H	OBL	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2 = 100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☐ No Recorded Data Available

Field Observations:

Depth of Surface Water: 1.0 (in.)

Depth to Free Water in Pit: - (in.)

Depth to Saturated Soil: - (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☐ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Field Observations

Taxonomy (Subgroup): Clayey, kaolinitic, mesic Arenic Paleudults

Confirm Mapped Type? ☐Yes ☐No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Hydric soils assumed due to inundation and dominance of OBL species

WETLAND DETERMINATION

Hydrophytic Vegetation Present? ☒Yes ☐No (Check)

Wetland Hydrology Present? ☒Yes ☐No

Hydric Soils Present? ☒Yes ☐No

(Check)

Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Cattails present within a man made drainage channel adjacent to a culvert pipe outlet, wetland is drained by a rip rap lined channel which connects to an intermittent stream

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site:	I-95 (Section 200)			Date:	11-09-05
Applicant/Owner:	Maryland Transportation Authority			County:	Harford
Investigator:	J. Reed , C. Brudin			State:	Maryland
Do Normal Circumstances exist on the site?		☒Yes	☐No	Community ID:	Wetland 27B
Is the site significantly disturbed (Atypical Situation)?		☐Yes	☒No	Transect ID:	
Is the area a potential Problem Area?		☐Yes	☒No	Plot ID:	Wetland DP
(If needed, explain on reverse.)					

Adjacent to WUS 5

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha latifolia	H	OBL	9.		
2. Polygonum sagittatum	H	OBL	10.		
3. Mikania scandens	H	FACW+	11.		
4. Typha angustifolia	H	OBL	12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 4/4=100%

Remarks:

HYDROLOGY

☐ Recorded Data (Describe in Remarks):
- ☐ Stream, Lake, or Tide Gauge
- ☐ Aerial Photographs
- ☐ Other

☒ No Recorded Data Available

Field Observations:

Depth of Surface Water: - - (in.)

Depth to Free Water in Pit: 6 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☒ Saturated in Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): LyD Loamy and Clayey Land

Drainage Class: Poorly drained

Taxonomy (Subgroup): Clayey, kaolinitic, mesic Arenic Paleudults

Field Observations Confirm Mapped Type? ☐Yes ☒ No

Profile Descriptions:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc,
0-4		10 YR 3/2			loam
4-6		2.5 Y 3/1	5 YR 4/6	common	loam
6-7		2.5 Y 4/1			sand
7-15		5Y 4/1			sandy loam

Hydric Soil Indicators:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Oxidized roots in second layer. Water in test pit @ 6 inches

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒Yes ☐No (Check)	(Check)
Wetland Hydrology Present?	☒Yes ☐No	
Hydric Soils Present?	☒Yes ☐No	Is this Sampling Point Within a Wetland? ☒Yes ☐No

Remarks:

Approved by HQUSACE 3/92

Forms version 1/02

APPENDIX B:

SITE PHOTOGRAPHS

WUS-1B

Looking North

WUS-2B

Looking Southeast

WUS-3B

Looking West

WUS-4B

Looking Northwest

WUS-5B (N.B.)

Looking North

WUS-5B-f

Looking west

WUS-8B

Looking East

WUS-9B

Looking West

WUS-10B

Looking East

WUS-11B

Looking North

WUS-12B

Looking East

WUS-WL-030
Winters Run
Looking East

WUS-WL 004/WUS-15B

Looking South

WUS-16B

Looking Southeast

WUS-18B/WL-005

Looking Southeast

WUS-19B

Looking East

WUS-20B

Looking South

WUS-21B

Looking West

WUS-22B (S.B.)

Looking East

WUS-23B

Looking West

WUS-24B

Looking North

WUS-25B

Looking West

WUS-27B

Looking North

WUS-1A

Looking Southeast

WUS-2A

Looking Northeast

WUS-3A

Looking Northwest

WUS -4A
Looking North

WUS-6A (N.B.)

Gunpowder River
Looking East at Rt. 7

WUS-41A (S.B.)

Gunpowder River
Looking West Upstream

WUS-7A

Looking West

WUS-8A

Looking South
From WUS-9A

WUS-9A N.B.
WUS-40/S.B.

Looking East from I-95

WUS-10A

Looking South from
WUS-9A

WUS-11A

Looking West @ I-95 N.B.

WUS-12A

Looking East

WUS-13A

Looking East

WUS-14A

Looking East from N.B.
I-95

WUS-14A
Looking West from S.B.
I-95

WUS-15A

WUS-16A
Little Gunpowder Falls
Looking West upstream at
I-95

WUS-17A

Looking North

WUS-18A

Looking North

WUS-19A

Looking South

WUS-20A

Looking Northeast

WUS-21A

Looking East

WUS-22A

Looking North

WUS-23A

Looking Northeast

WUS-24A

Looking East

WUS-25A

Looking Northeast

WUS-26A

Looking North

WUS-27A

Looking North

WUS-29A

Looking North

WUS-30A

Looking South along
I-95 S.B.

WUS-31A

Looking South

WUS-32A

Looking West from
I-95 S.B.

WUS-33A

Looking West from
S.B. I-95

WUS-34A
Little Gunpowder River
Looking West upstream
from I-95 S.B.

WUS-35A

Looking North

WUS-36A

Looking North

WUS-37A

Looking Northwest

WUS-38A

Looking East towards I-95

WUS-39A

Looking east

WUS-42A

Looking North

WUS-44A

Looking West

WUS-46A

Looking North

WET-1B

Looking North

WET-2B

Looking Northeast

WET-3B

Looking Northeast

WET-4B

Looking West

WET-5B

Looking North

WET-6B

Looking West

WET-7B

Looking Northwest

WET-8B

Looking North

WET-WPO-24

Looking Southeast

WET-10B

Looking Northeast

WET-11B

Looking Northeast

WET-12B

Looking Southeast

WET-13B

Looking Northeast

WET-14B

Looking West

WET-15B

Looking West

WET-16B

Looking West

WET-17B

Looking South

WET-18B

Looking East

WET-19B

Looking Southeast

WET-20B

Looking East

WET-21B

Looking East

WET-22B

Looking South

WET-23B

Looking Northwest

WET-24B

Looking East

WET-25B

Looking North

WET-26B

Looking South

WET-27B

Looking Southwest

WET-1A
Looking North

WET-2A
Looking South

WET-3A

Looking West

WET-4A

Looking Southwest

WET-5A

Looking West

WET-6A

Looking Northeast

WET-7A

Looking North

WET-8A
Looking Southwest

WET-9A
Looking West through residential lots

WET-10A
Looking North along East side of S.W.M.P.

WET-11A

Looking South from Old Joppa Rd.

WET-12A

Looking South

WET-13A

Looking West from R/O/W/ fence

WET-14A

Looking West

WET-15A

Looking West

WET-16A

Looking Northwest

WET-17A

Looking Northwest

WET-18A

Looking South

WET-20A

Looking North

WET 21A

Looking North

WET-22A
Looking South

WET-23A

Looking West

WET-24A

Looking South

WET-25A

Looking Northeast

WET-27A

Looking South

WET-28A

Looking North

WET-29A

Looking South

WET-30A

Looking North West

WET-31A

Looking west

WET-32A

Looking South

WET-33A

Looking West

WET-34A

Looking North

WET-35A

Looking North

WET-36A

Looking West

WET-37A

Looking West

WET-38A

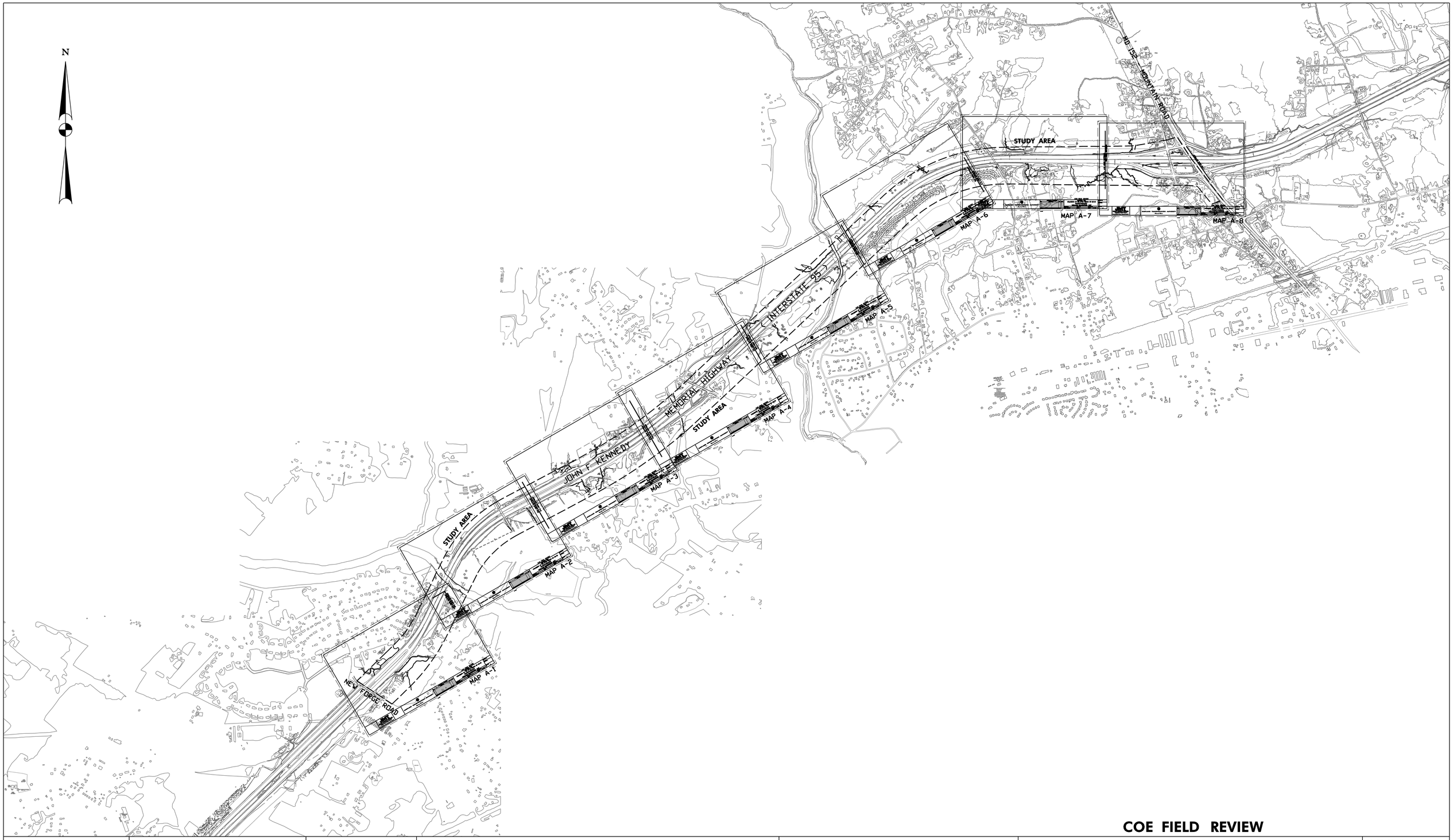
Looking East

WET-40A

Looking West

APPENDIX C:

MAPPING



COE FIELD REVIEW

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future®
72 Loveton Circle Baltimore, Maryland 21152-0949

MARYLAND TRANSPORTATION AUTHORITY
Engineering Division

ADDENDUMS & REVISIONS

NO.	DESCRIPTION	BY	DATE

O:\SMD\303447_03195Sec200ENV_PL\CADD\section A\JD_map_key.dgn

SECTION 200:
I-95, NORTH OF MD 43 TO NORTH OF MD 22

JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____
CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 1000'

CONTRACT NO.

DRAWING NO.
KEY MAP A

SHEET NO.
OF

N

AREA OF C

GPJR-WUS10
(DELINEATED BY OTHERS)

WET 30A

WUS 42A

WUS 43A

WUS 44A

WUS 3A

WUS 2A

WUS 4A

WUS 1A

WET 1A

NEW FORGE ROAD

STUDY AREA

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

STUDY AREA

MATCHLINE SHEET A-2

31" Liriodendron tulipifera

31" Quercus falcata

LEGEND

- FLAG ID / WETLAND FLAG
- WETLAND
- WUS — WATERS OF U.S.
- 1A-WET — WETLAND DATA POINT
- 1A-UPL — UPLAND DATA POINT
- SPECIMEN TREE

COE FIELD REVIEW

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I-95, NORTH OF MD 43 TO NORTH OF MD 22

JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____

CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 100'

CONTRACT NO.

DRAWING NO. **A-1**

SHEET NO. OF

N

STUDY AREA

GUNPOWDER FALLS

RAPHAEL ROAD

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

WUS 41A

WUS 7A

WET 40A

WUS 6A

WET 2A

MATCHLINE SHEET A-1

MATCHLINE SHEET A-3

LEGEND

- FLAG ID / WETLAND FLAG
- WETLAND
- WUS — WATERS OF U.S.
- WETLAND DATA POINT
- UPLAND DATA POINT
- SPECIMEN TREE

COE FIELD REVIEW

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JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY	DRAWN BY	CHECKED BY
CONST. REVIEW BY	DATE AUGUST, 2006	SCALE 1" = 100'

CONTRACT NO.

DRAWING NO. A-2

SHEET NO. OF

LEGEND

- FLAG ID / WETLAND FLAG
- WETLAND
- WUS — WATERS OF U.S.
- 1A-WET — WETLAND DATA POINT
- 1A-UPL — UPLAND DATA POINT
- SPECIMEN TREE — 31" Quercus falcata

WET 28A

WUS 40A

WUS 39A

WUS 39A-c

STUDY AREA

WUS 40A-c

WUS 40A-a

WUS 39A-e

WET 29A

WUS 39A-a

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

WUS 8A

WET 5A

WET 7A

WET 3A

WUS 9A

WUS 11A-cc

WET 6A

WUS 10A

WUS 11A

STUDY AREA

WET 4A

JUNKYARD

MATCHLINE SHEET A-2

MATCHLINE SHEET A-4

COE FIELD REVIEW

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SECTION 200:
I-95, NORTH OF MD 43 TO NORTH OF MD 22

JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____

CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 100'

CONTRACT NO.

DRAWING NO. **A-3**

SHEET NO. OF

MATCHLINE SHEET A-3

MATCHLINE SHEET A-5

STUDY AREA

STUDY AREA

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

BRADSHAW ROAD

WET 27A

WUS 38A

WUS 38A-cc

WUS 37A

WET 24A

WET 25A

WUS 13A

WUS 12A

LEGEND

- FLAG ID / WETLAND FLAG
- WETLAND
- WUS — WATERS OF U.S.
- 1A-WET — WETLAND DATA POINT
- 1A-UPL — UPLAND DATA POINT
- SPECIMEN TREE (31" Quercus falcata)

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SECTION 200:
I-95, NORTH OF MD 43 TO NORTH OF MD 22
JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____
CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 100'

CONTRACT NO.

DRAWING NO. **A-4**

SHEET NO. _____ OF

COE FIELD REVIEW

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DESIGNED BY	DRAWN BY	CHECKED BY
CONST. REVIEW BY	DATE AUGUST, 2006	SCALE 1" = 100'

CONTRACT NO.

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SECTION 200:
I-95, NORTH OF MD 43 TO NORTH OF MD 22
JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____
CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 100'

CONTRACT NO.
DRAWING NO. **A-6**
SHEET NO. OF

N

OLD JOPPA ROAD

WUS 20A

STUDY AREA

WET 18A

31" Liriodendron tulipifera

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

JOHN F KENNEDY MEMORIAL HIGHWAY (INTERSTATE 95)

WUS 21A

WET 11A

WUS 20A

WET 12A

WUS 22A

WET 13A

31.5" Quercus phellos

WET 14A

WUS 24A

STUDY AREA

WUS 13A-a

WUS 23A

MATCHLINE SHEET A-6

MATCHLINE SHEET A-8

LEGEND

- FLAG ID
- WETLAND FLAG
- WETLAND
- WUS — WATERS OF U.S.
- 1A-WET — WETLAND DATA POINT
- 1A-UPL — UPLAND DATA POINT
- 31" Quercus falcata — SPECIMEN TREE

COE FIELD REVIEW

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SECTION 200:
I-95, NORTH OF MD 43 TO NORTH OF MD 22

JOHN F. KENNEDY MEMORIAL HIGHWAY
BALTIMORE & HARFORD COUNTIES

WETLAND DELINEATION MAP

DESIGNED BY _____ DRAWN BY _____ CHECKED BY _____

CONST. REVIEW BY _____ DATE AUGUST, 2006 SCALE 1" = 100'

CONTRACT NO.

DRAWING NO. A-7

SHEET NO. OF