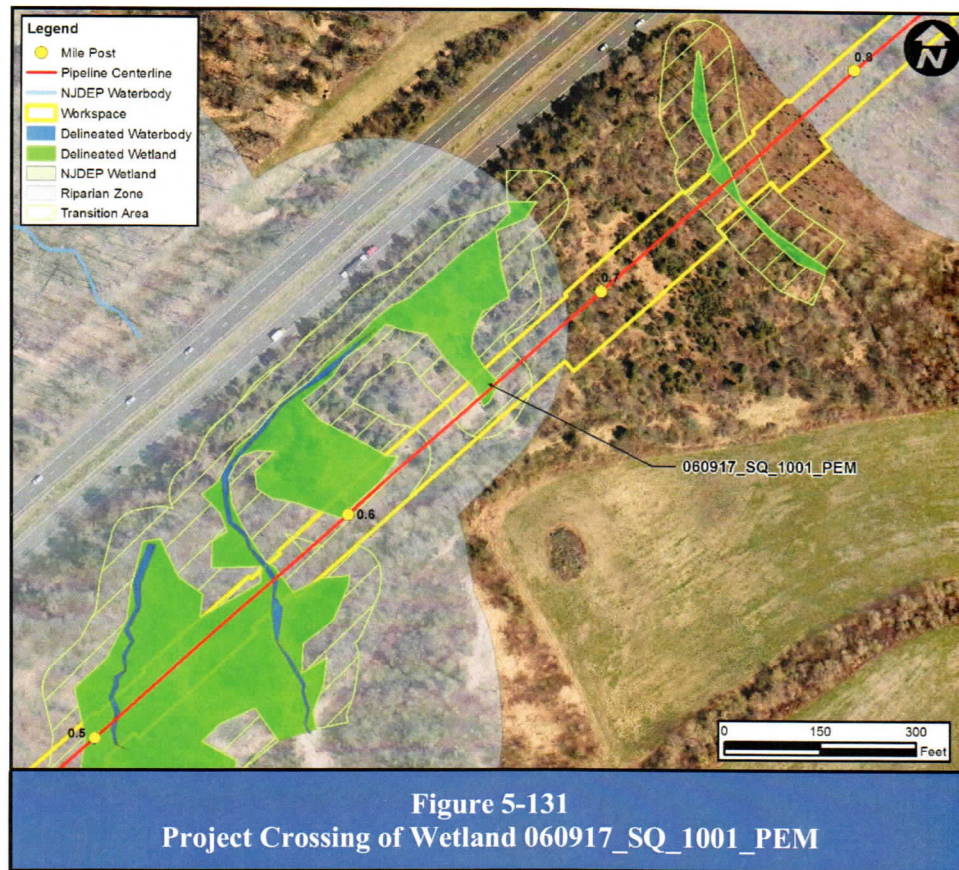


5.153 Regulated Crossing 131



INVENTORY

Wetlands

Wetland 060917_SQ_1001_PEM is a field-delineated palustrine emergent wetland. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 060917_SQ_1001_PEM has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

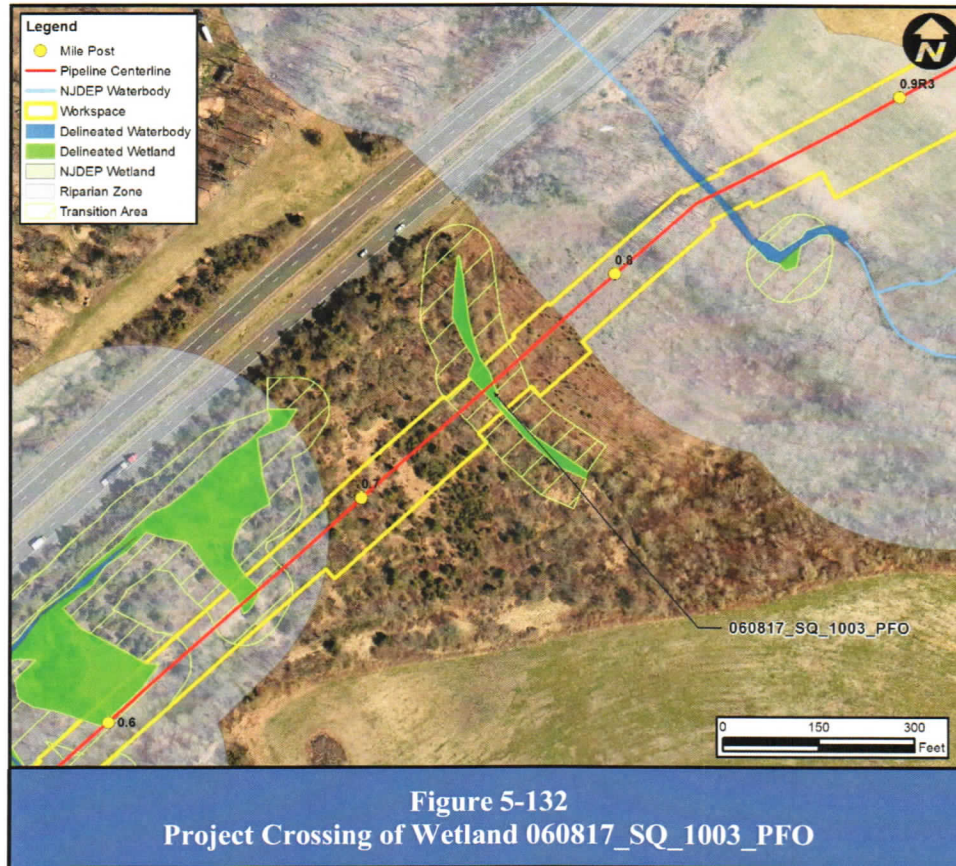
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;

- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

5.154 Regulated Crossing 132



INVENTORY

Wetlands

Wetland 060817_SQ_1003_PFO is a field-delineated palustrine forested wetland. Additional information on this wetland can be found in the WDR provided in Attachment F of the Multi-Permit Application.

Transition Areas

The Transition Area is assumed to be 50 feet due to the lack of exceptional characteristics associated with the wetland feature.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

Wetland 060817_SQ_1003_PFO has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

Riparian Zones

Based upon fieldwork and review of publicly available data, riparian zones are not located at this regulated crossing.

Fishery Resources

Based upon fieldwork and review of publicly available data, fishery resources are not located at this regulated crossing.

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through wetland areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

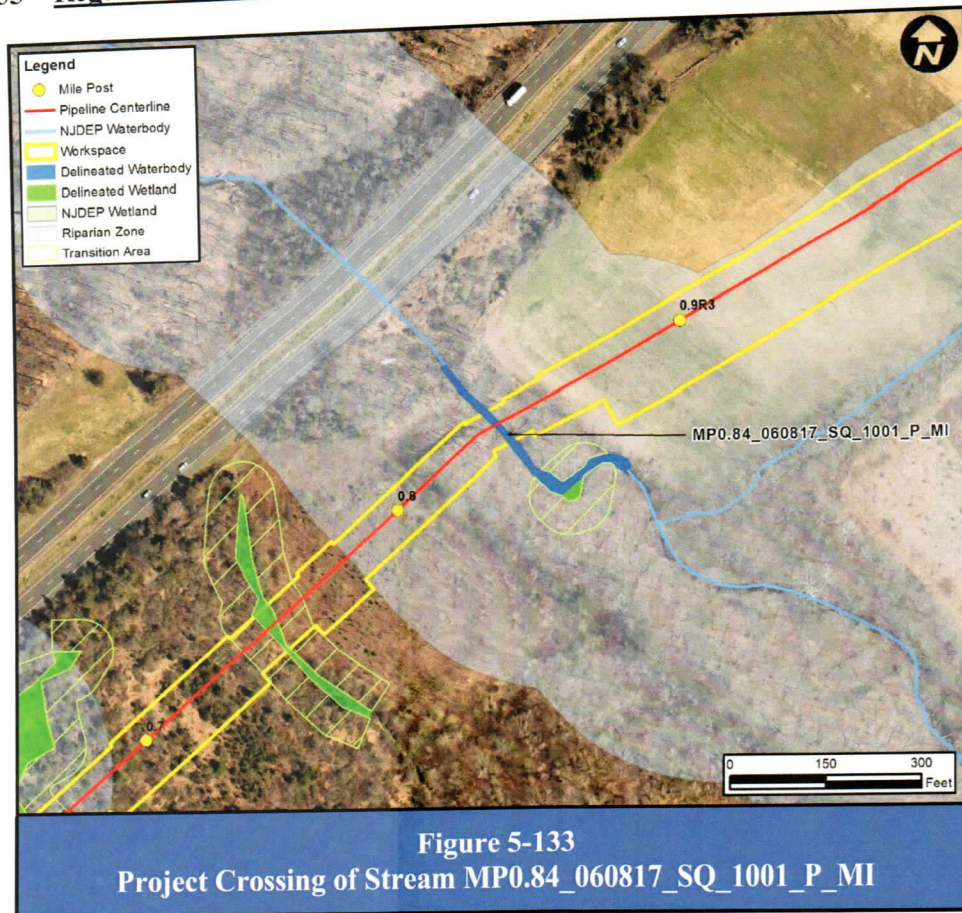
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

5.155 Regulated Crossing 133



INVENTORY

Wetlands

Not present.

Transition Areas

Not present.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

Stream MP0.84_060817_SQ_1001_P_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Stream MP0.84_060817_SQ_1001_P_MI is a minor, perennial tributary of Alexauken Creek flowing west through forest habitat. The feature crosses an existing gas line and drains to a culvert beneath Route 202. The bank width is approximately 10 feet and the substrate is made up of cobble and gravel. The banks are stable.

Riparian Zones

RZ of MP0.84_060817_SQ_1001_P_MI is the 300-foot riparian area associated with this Alexauken Creek unnamed tributary. This riparian area is vegetated.

Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Alexauken Creek is classified as a freshwater trout maintenance waterbody (FW2-TM(C1)).

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through riparian areas and dry crossing of streams is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

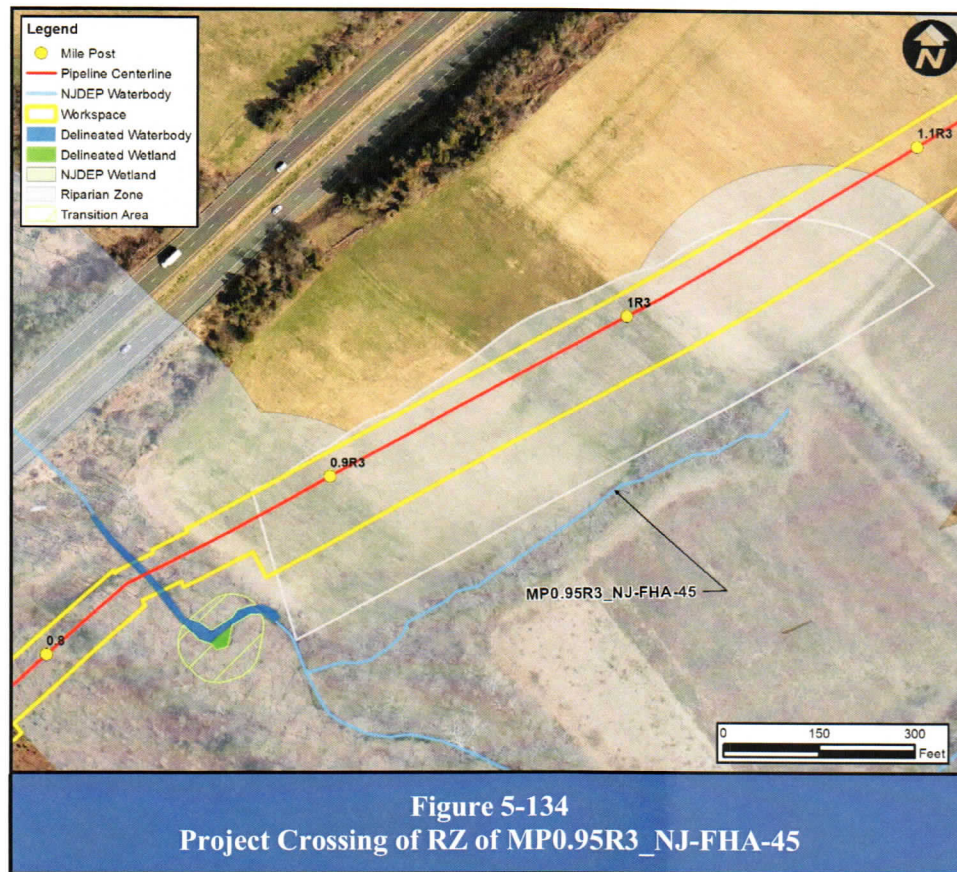
The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

5.156 Regulated Crossing 134



INVENTORY

Wetlands

Not present.

Transition Areas

Not present.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

RZ of MP0.95R3_NJ-FHA-45 has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Based upon fieldwork and review of publicly available data, stream channels are not located at this regulated crossing.

Riparian Zones

RZ of MP0.95R3_NJ-FHA-45 is the 300-foot riparian area associated with an off-site unnamed tributary to Alexauken Creek. This riparian area is actively disturbed.

Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, Alexauken Creek is classified as a trout maintenance waterbody (FW2-TM(C1)).

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Open-cut through riparian areas is the pipeline construction method proposed at this regulated crossing. This crossing method is proposed at locations where the use of trenchless technology is not feasible. The Alternatives Analysis, Attachment K, documents this finding. Unavoidable temporary impacts include disturbance to vegetation for temporary construction access and workspace for the Project. Temporary disturbance of wetlands and stream channels during construction is necessary for pipeline installation. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline in compliance with FERC requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. As a result of these considerations, proposed construction at this crossing is not anticipated to result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Where impacts could not be avoided with trenchless technology construction, PennEast sought to minimize the impacts to wetlands, State Open Waters and riparian zones with workspace modifications. A discussion of workspace modification efforts is provided in the Alternatives Analysis (Attachment K). PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4) to further minimize or avoid adverse environmental impacts. Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

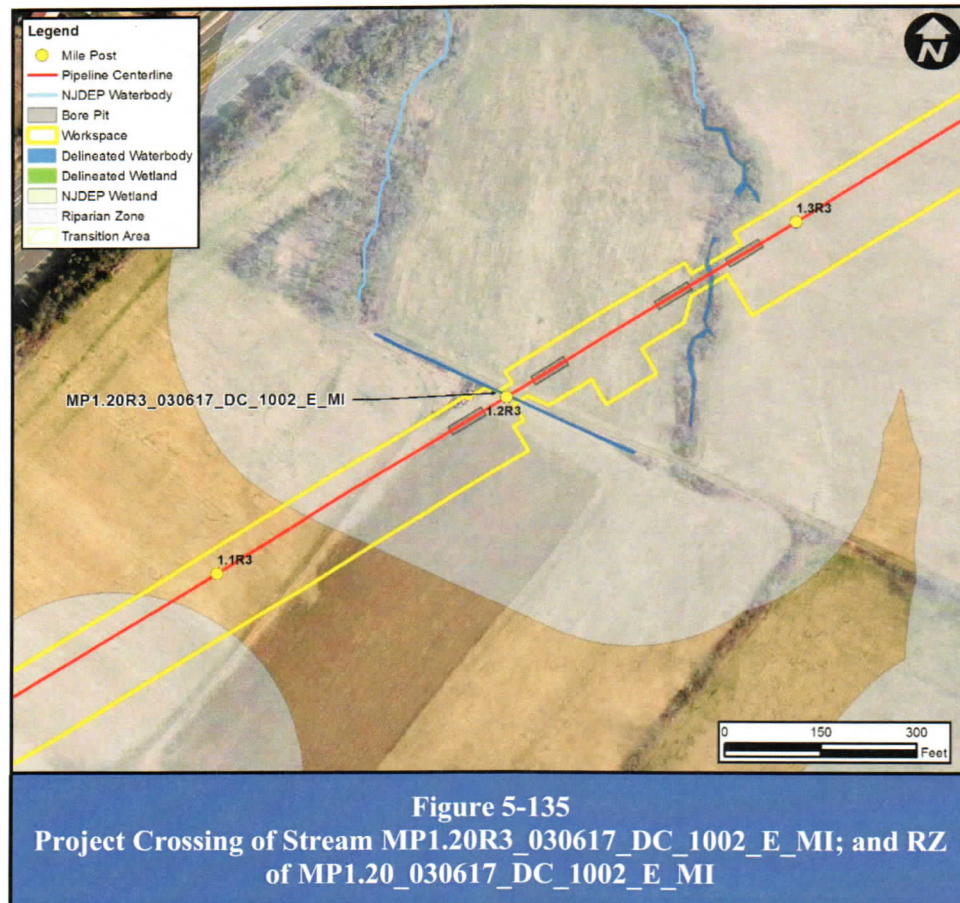
The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

5.157 Regulated Crossing 135



INVENTORY

Wetlands

Not present.

Transition Areas

Not present.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

Stream MP1.20R3_030617_DC_1002_E_MI been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Stream MP1.20R3_030617_DC_1002_E_MI is an ephemeral agricultural drainage ditch with distinct bed and banks. The feature appears to convey runoff from the surrounding fields in a northwest flow. The banks are somewhat eroded, and densely vegetated. The bank width is between two and four feet. The streambed substrate is mostly silt, with some gravel, cobble, and boulders. The ditch fans out at a dirt access road, but water flow continues beyond the project area, into an adjacent stream channel.

Riparian Zones

RZ of MP1.20_030617_DC_1002_E_MI is the 300-foot riparian area associated with this stream. This riparian area is actively disturbed.

Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, this tributary of the Alexauken Creek is classified as a trout maintenance waterbody (FW2-TM(C1)).

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

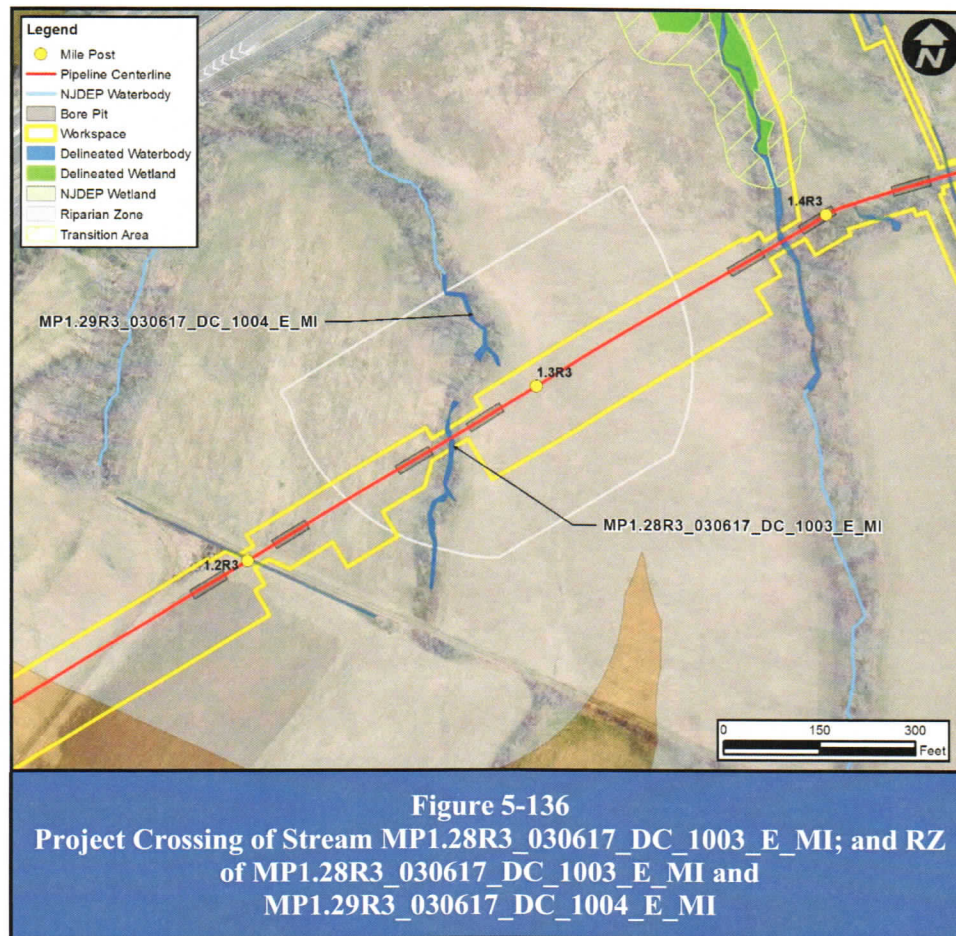
- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;
- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and

- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.

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INVENTORY

Wetlands

Not present.

Transition Areas

Not present.

Special Aquatic Sites

Based upon fieldwork and review of publicly available data, special aquatic sites as defined at N.J.A.C. 7:7A-1.4 are not located at this regulated crossing.

Public Lands

None of the regulated resources in this crossing are on public lands.

Critical Habitat and Threatened or Endangered Species and their Habitat

Stream MP1.28_030617_DC_1003_E_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

MP1.29_030617_DC_1004_E_MI has not been identified as potentially suitable habitat for any threatened or endangered species.

Species accounts describing the natural history and habitat requirements; habitat assessment and/or targeted species survey results; study corridor documentation; potential habitat impacts; and recommended measures to avoid, minimize, and mitigate potential impacts to New Jersey State-listed species potentially occurring within regulated areas of the study corridor are provided in the HPP.

State Open Waters and Channels

Stream MP1.28_030617_DC_1003_E_MI is a field-delineated minor, ephemeral tributary of Alexauken Creek with a north flow, which receives runoff from surrounding agricultural fields. Some portions of the banks are undercut, and both banks are heavily vegetated with shrubs. The bank width is approximately seven feet. The streambed substrate is made up of sand and silt, with some gravel. The feature terminates at an existing Texas Eastern pipeline, where the bed has been filled with rocks and soil. Flow continues towards 030617_DC_1004_E_MI, but with no discernible bed or banks.

Riparian Zones

RZ of MP1.28_030617_DC_1003_E_MI and MP1.29_030617_DC_1004_E_MI is the 300-foot riparian area associated with this stream and an off-site Alexauken Creek unnamed tributary. This riparian area is actively disturbed.

Fishery Resources

According to the Surface Water Quality Standards N.J.A.C.7:9, this tributary of the Alexauken Creek is classified as a trout maintenance waterbody (FW2-TM(C1)).

ASSESSMENT

Analysis Potential Temporary and Permanent Adverse Environmental Impacts of the Proposed Regulated Activity

Conventional bore is the pipeline construction method proposed at this regulated crossing. Adverse environmental impacts have been reduced or eliminated by the use of trenchless technology. As demonstrated in the Alternatives Analysis, Attachment K, to the extent that temporary construction access and workspace for the Project includes disturbance of vegetation, those impacts are unavoidable. Permanent impacts include the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline as required for compliance with FERC and Pipeline and Hazardous Materials Safety Administration requirements. In-place restoration is proposed to minimize environmental impacts at this crossing; mitigation, as required by NJDEP rules, is proposed to compensate for adverse wetland and riparian zone impacts. Based on the foregoing, it is not anticipated that the proposed conventional bore at this crossing will result in significant permanent adverse environmental impacts.

Measures Taken to Reduce Potential Adverse Environmental Impacts

Utilizing a conventional bore avoids in-stream impacts. However, impact to environmental features above the bore cannot be avoided as compliance with FERC requirements necessitates the removal of trees and shrubs located within 15 feet of the pipeline that could compromise the integrity of the pipeline. In an effort to minimize or avoid adverse environmental impacts, PennEast

will implement Project specific BMPs as detailed on the Project Soil Erosion and Sedimentation Control Plans (Attachment E-4). Section 4 of this report details the range of proposed BMPs and mitigation measures taken to reduce potential adverse environmental impacts. These BMPs comply with the Standards for Soil Erosion and Sediment Control in New Jersey.

The following key measures will be implemented to avoid, minimize and mitigate potential adverse environmental impacts:

- Delineation of all wetlands in the Project area;
- Avoidance, and minimization of impacts to wetlands to the greatest extent practicable as described in the Alternatives Analysis provided in Attachment K of the Multi-Permit Application;
- Mitigation of unavoidable impacts as described in the Mitigation Proposal provided Attachment N of the Multi-Permit Application;
- Minimization of the operational easement width in wetlands;
- Implementation of trenchless technology construction techniques;
- Follow the site-specific *Inadvertent Returns and Contingency Plan* to avoid and minimize potential impacts from inadvertent return;
- Collocation with existing ROW areas where possible and permitted to minimize forest losses;
- Minimization of forest and vegetation clearing to the greatest extent practicable;
- Allowed post-construction succession of temporarily cleared forest areas and restoration of forested wetlands to a function or value greater than or equal to existing conditions where practicable;
- Restoration of grassland areas to a function or value greater than or equal to existing conditions;
- Mitigation/compensation provided offsite to potentially result in net-neutral or improved regional habitat conditions for potentially affected species populations;
- Adherence to applicable timing restrictions;
- Potential incorporation of NJDEP-reviewed and approved wildlife enhancement design features on mitigation sites and restoration areas;
- Regular (daily) clearing of work areas by agency-approved and qualified environmental monitors. Safe and appropriate wildlife relocation as needed;
- Regular inspection of protective measures such as fences by environmental monitors;
- Post-construction maintenance standards following NJDEP Integrated Vegetation Management guidance set forth in the *Strategies to Minimize Adverse Impacts to Wildlife from Management Activities on Powerline Rights-of-Way in NJ* (NJDEP ENSP 2011) (*Strategies*);
- Incorporate FERC Invasive Species Management Plan;
- Development and utilization of equipment cleaning/sterilization, and other protocols to avoid the spread of invasive species in sensitive terrestrial, wetland and aquatic habitats;
- Project-specific (SESC) standards including temporary erosion control measures such as silt fence, turbidity barriers, sediment filter bags, and erosion mats;
- Commitment not to use herbicides during post-construction maintenance activities;
- Specific seasonal restrictions and buffers will be followed for species and species groups in accordance with *Strategies*;
- Project-specific protocols on appropriate fueling station locations and prohibited areas such as streams and wetlands and transition areas; project-specific cleanup protocols and notification for any unintended spills during construction;
- Vegetation within temporary workspace areas including wetlands and transition areas will be cut flush to the ground and matted where practicable: no grubbing is proposed in these areas;

- Regular inspection of construction equipment to ensure proper functioning with appropriate filters and air quality controls;
- Adherence to agency-approved blasting plan;
- Avoidance of work personnel outside of the workspace in adjacent naturalized areas (sensitive habitat areas will be posted); and
- Post-construction restoration of stream banks and beds and downstream water quality monitoring as required (sensitive habitat areas) before, during and after construction.

FINDINGS

The implementation of appropriate avoidance, minimization, and mitigating measures identified for wetlands, transition areas, species, or species group will avoid and minimize impacts to these environmental resources, State-listed wildlife and plant species. By following the key measures as listed above and in the HPP, it is anticipated that existing populations of State-listed species will not be jeopardized.