8.6.2 Existing Environment

8.6.2.1 Land Use

The area around the proposed construction site is dominated by rail, residential, and commercial uses (Figure 4-23). The site is primarily covered with gravel ballast. Grass-covered lawns, weedy annuals and scattered evergreen and deciduous trees are located adjacent to the right-of-way. The surrounding commercial properties include a BP fuel distribution facility with above-ground fuel storage tanks, Trans Car repair facility, Simms' Junk Yard, a local tavern, and a construction company storage yard with a building. A former Toledo & Ohio Central (T&OC) passenger station occupied by a heating and plumbing business, and T&OC freight house, occupied by a building supply company, are located to the northwest of the project area. Residences are located adjacent to the existing Conrail and NS rights-of-way. Utility poles are located north and west of the proposed construction, along the NS right-of-way. The City of Bucyrus has no zoning.

None of the soils at the site are classified as prime farmland.

The project is not within a designated coastal zone.

According to the Bureau of Indian Affairs, no federally-recognized Indian tribes or Indian reservations exist in Ohio.

8.6.2.2 Water Resources

No surface waters are on the proposed construction site. The Sandusky River is approximately 2,000 feet to the north of the construction site and is crossed by the existing NS rail line. This river is down-gradient from the proposed construction site and flows westward.

National Wetland Inventory (NWI) maps indicate no wetlands within or adjacent to the construction area. No wetlands nor water bodies were observed during a site visit to the proposed construction area.

Federal Emergency Management Agency (FEMA) maps for the area show that the proposed project is not within the 100 year floodplain.

8.6.2.3 Biological Resources

Vegetation

Most of the proposed construction site is covered with gravel. Much of the area around the site is already developed for residential and commercial uses. Vegetated areas, consisting of weedy annuals, lawns, scattered evergreen and deciduous trees, are located within and adjacent to the proposed construction site. This vegetation is not unique or limited in the area.

Wildlife

Wildlife in the proposed construction area is limited due to the residential and commercial development. Only those species adapted to survive in close proximity to humans and urban development would be expected in these areas. Limited habitat for some species of songbirds, small mammals, and reptiles are present.

Threatened or Endangered Species

The U.S. Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (DNR) were contacted regarding threatened and endangered species in the area of the proposed construction. They responded that the Indiana bat, peregrine falcon, Scioto madtom, northern riffleshell, and the mussel, *Pleurobema clava,* are on the federal list and may be found in Franklin County. None of these species or their potential habitats were observed during a site visit.

Parks, Forest Preserves, Refuges and Sanctuaries

No parks, forest preserves, refuges or sanctuaries are within one mile of the proposed construction site.

8.6.2.4 Air Quality

According to 40 CFR 81, Crawford County is in attainment with the National Ambient Air Quality Standards (NAAQS). Current sources of emissions in the project area include locomotives, vehicles, and industries.

8.6.2.5 Noise

Rail, vehicular, and commercial traffic are the primary sources of noise in the proposed rail line construction. A total of 26 trains per day operate over the NS rail line, while 6 trains per day operate over the Conrail rail line.

There would be 144 residences within 500 feet of the proposed construction site. Crawford School is approximately 1,200 feet southeast of the proposed construction. All of these receptors currently experience noise generated by passing trains.

8.6.2.6 Historic and Cultural Resources

Records at the Ohio State Historic Preservation Office (SHPO) were reviewed to determine if previously identified cultural resources are in the project area. One structure listed on the NHRP was identified near the project area. The structure is currently located on land owned by Conrail and is a former T&OC Passenger Station. It is currently being occupied by a local heating and plumbing business. Another structure potentially eligible for NRHP listing was identified near the project area. This structure is a former T&OC Freight House. A building supply company currently occupies the former freight house.

8.6.2.7 Transportation and Safety

The rail transportation network consists of the east/west Conrail rail line, a Conrail siding north of the Conrail mainline and a north/south NS rail line. The existing Conrail siding is currently connected to the NS line on the northeast side of the NS/Conrail intersection. The north/south NS rail line includes existing at-grade crossings at East Warren Street and East Rensselaer Street.

Review of the EDR database report indicated that there were two OH Spills sites and one LUST site within a 1/4-mile of the proposed construction corridor. No other hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), or SWF/LF, were identified in the vicinity of the proposed rail line construction. The database search revealed 10 unmappable sites within the city limits of Bucyrus. These sites could not be located because of poor address or geocoding information provided to the state and/or federal databases. No evidence of any hazardous waste sites was observed within the project area during a site visit.

8.6.3 Potential Environmental Impacts of Proposed Action

8.6.3.1 Land Use

Approximately 5.5 acres of new land would be acquired for the southern portion of the new connection. The eastern portion of the new connection would utilize the existing Conrail roadbed and right-of-way which is sufficiently wide to permit the installation of the additional NS track. Land required for the new connection consists of existing railroad rights-of-way, the eastern portion of land occupied by the former T&OC depot, a building supply company and a construction yard. All existing structures would be demolished, and the land entirely cleared. No prime farmland would be converted to railroad right-of-way. The town of Bucyrus has no zoning, thus the proposed connection would not conflict with any zoning designation.

The proposed site is not within a designated coastal zone.

8.6.3.2 Water Resources

The construction of the proposed rail line would not have adverse impacts on groundwater or surface water resources. No surface waters or wetlands would be crossed by the proposed construction. Impacts from soil erosion resulting from cleared vegetation and open soil would be insignificant with the use of Best Management Practices (BMPs) to control runoff and surface instability. In addition, NS would restore disturbed soil areas outside the roadbed through reseeding. These measures would prevent or minimize any impacts to the Sandusky River. Storm water drainage patterns are not anticipated to be altered by the proposed project.

8.6.3.3 Biological Resources

Vegetation

The proposed action would impact primarily graveled areas. However, patches of weedy annuals and scattered trees would also be affected. Following construction, NS would reseed bare soils outside the subgrade slope. Vegetation lost would be minimal and the proposed connection would have insignificant impact on the vegetation of the local area. This vegetation is not unique or limited in the area.

Wildlife

No adverse impacts to wildlife populations are anticipated. The construction site is small and contains only limited wildlife habitat. The minimal loss of habitat due to this construction would be insignificant compared to the wildlife habitat available in the area.

Threatened or Endangered Species

The USFWS and the Ohio DNR responded that several threatened or endangered species are known to occur in Franklin County. The Indiana bat, peregrine falcon, Scioto madtom, northern riffleshell, and *Pleurobema clava* are on the federal list for Franklin County. No threatened or endangered species or their habitats were observed during the site visit. The area is developed for residential and commercial uses and no threatened or endangered species are expected to be

present due to the lack of habitat. No impacts to threatened and endangered species are anticipated.

Parks, Forest Preserves, Refuges and Sanctuaries

No adverse impact is expected since no known state or federally designated parks, forest preserves, refuges or sanctuaries are within one mile of the proposed construction site.

8.6.3.4 Air Quality

Crawford County is an air quality attainment area. Impacts to air quality would result from construction, operation and maintenance of the proposed project. The operation of heavy equipment would be the primary source of pollutant emissions during construction activities. Such pollutants vary by the source, as described below:

- Particulate matter, volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NOX) resulting from the combustion of diesel fuel
- Fugitive dust emissions along the right-of-way and unimproved roads resulting from the operation of heavy equipment.

Fugitive dust can be controlled by using water sprays or other suitable dust suppressants. The combustion emissions associated with removal operations (VOCs, CO and NOX) generally would be minor and of short duration and would have insignificant impacts on air quality. The amount of overall train traffic on the proposed rail line would exceed STB thresholds for air quality. General impacts to air quality are discussed in Part 4 Appendix A. Air quality impacts for segments expected to experience increased traffic above STB thresholds are discussed in Part 2.

8.6.3.5 Noise

As described under Section 7.1.2.5, 144 residences are within 500 feet of the proposed construction site. Crawford School is approximately 1,200 feet southeast of the proposed construction. All of these receptors currently experience noise generated by passing trains on the NS and Conrail rail lines. Presently, these facilities are exposed to approximately seven trains per day on the Conrail line and 26 trains per day on the NS line. NS estimates eight train movements per day on the proposed rail line connection. This increase exceeds STB thresholds for noise evaluation. Train traffic operating on the proposed connection (eight trains per day) would generate an Ldn 65 noise level at approximately 100 feet and approximately 300 feet at the two new at-grade crossings. Of the 144 residences within 500 feet, 87 of them could experience such a noise level. Of potentially greater significance would be noise generated by wheel squeal. Should wheel squeal occur, eight trains per day could generate an Ldn 65 distance of approximately 700 feet. Two hundred fourteen residences, including all of the 144 residences within 500 feet, could experience an Ldn level of 65 decibels or greater.

Construction operations could cause temporary increases in noise levels. Construction activities would require the use of trucks and heavy equipment. Noise generated by such equipment would be temporary and limited to the short construction period.

8.6.3.6 Historic and Cultural Resources

The proposed connecting track would not impact the former T&OC passenger station. The former T&OC freight house would be demolished to make way for the new NS connection right-of-way. No other documented archaeological sites or historic properties are on or near the proposed construction site. However, the potential for undocumented archaeological sites or historic properties has not been dismissed. Consultations with the Ohio SHPO will continue until the Section 106 process is complete to protect potential, known (the T&OC freight house) and undocumented historic and archaeological resources.

8.6.3.7 Transportation and Safety

The proposed rail line connection would require two new at-grade crossings and associated warning signals. Vehicle delays, disruptions and additional opportunities for train/vehicle accidents would result from construction and operation of the proposed connection. These would be minimized by the installation of appropriate warning signals and the low level of both vehicle and train traffic. Short-term delays and disruptions of local traffic could occur during the construction period. The connection would improve train movement, thereby enhancing the efficiency of NS rail operations in the area.

Review of the EDR database report indicated that there were two OH Spills sites and one LUST site within 0.25 mile of the proposed construction corridor. The two OH Spill sites included a diesel fuel spill at the BP Oil Company located at 720 East Warren and an ammonia spill at the Ridgedon Farms facility located at 323 Wiley Street. The LUST site was identified as the Anchor Swan facility located at 416 East Mansfield Street. None of these sites are expected to be impacted by proposed connection.

No other hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), or SWF/LF, were identified in the vicinity of the proposed rail line construction. The database search revealed 10 unmappable sites within the city limits of Bucyrus. These sites could not be located because of poor address or geocoding information provided to the state and/or federal databases.

Above ground diesel fuel tanks were observed bordering the proposed construction right-of-way on the east. The tanks would be unaffected by the proposed construction. During a site visit no evidence of potential hazardous waste sites was observed in the project area.

Fuels and oils necessary for construction would be present only in small amounts. In the unlikely event that a spill occurs, only a small amount would be released. In the case of a spill, NS will

follow appropriate emergency response procedures outlined in its emergency response plans.

8.6.4 Potential Environmental Impact of Alternatives

8.6.4.1 Build Alternatives

No other build alternatives for the proposed rail line connection were identified. The proposed construction route provides the most direct rail line connection possible while avoiding historical and residential buildings in the area. The proposed project would minimize the acquisition of new right-of-way and associated environmental impacts.

8.6.4.2 No-Action Alternative

If the no-action alternative were implemented, the proposed rail line connection would not be constructed and operated. Land use and other environmental conditions in the region would remain the same. Under this alternative, NS would continue to maintain and/or operate over less efficient rail routes. Customers would not benefit from reduced congestion in Cleveland and improved, more consistent service to Columbus and points south. This alternative would result in longer routes, greater fuel consumption, air emissions, noise and an overall increase in expense to NS and the consumer. The no-action alternative is not considered practical or viable.

8.6.5 Proposed Mitigation

The proposed construction would result in minimal to no impact to land use, water resources, biological resources, air quality, noise, cultural resources, and transportation and safety. In consideration of minimal impacts and general NS practices, NS has proposed the following mitigation measures to minimize environmental impacts:

8.6.5.1 Land Use

- NS will restore any adjacent properties that are disturbed during construction.

8.6.5.2 Water Resources

- NS will use BMPs to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.6.5.3 Biological Resources

- NS will use BMPs to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.6.5.4 Air Quality

- NS will comply with all applicable federal, state and local regulations regarding the control of fugitive dust.

8.6.5.5 Noise

- NS will control temporary noise from construction equipment by ensuring all machinery has properly functioning muffler systems and by work hour controls.

8.6.5.6 Historic and Cultural Resources

- NS will continue the Section 106 consultation process.

8.6.5.7 Transportation and Safety

- NS will observe all applicable federal, state and local regulations regarding handling and disposal of any waste materials encountered or generated during the proposed construction project.
- NS will transport all hazardous materials in compliance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171-174 and 177-179).
- In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.

- NS will restore all roads disturbed during construction to the conditions required by state or local regulations.
- NS will cooperate with the Ohio Department of Transportation for any installation of warning structures at new at-grade crossings.

8.6.6 References

Crawford Soil and Water Conservation District, 1997. Fax of Crawford County, OH, Prime Farmland soils list.

Federal Emergency Management Agency (FEMA), 1986. *FEMA Flood Insurance Rate Map.*

Ohio Department of Transportation (DOT), 1992. *Traffic Survey Report of the State Highway System, Eastern Half.*

U.S. Department of Agriculture, 1979. *Soil Survey of Crawford County, OH.* Soil Conservation Service.

U.S. Fish and Wildlife Service, 1995. National Wetlands Inventory Map. Bucyrus Quadrangle.

U.S. Geological Survey, 1960. 1:24,000-scale topographic maps. Bucyrus, OH Quadrangle.

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Subpart C Section 107, Attainment Status Designations.

8.7 COLUMBUS (NS)

Columbus is located in south-central Ohio in Franklin County. The proposed construction would be located in north-central Columbus, near Weber Road. Existing rail lines in the project area include one north/south Conrail mainline and two north/south oriented NS mainlines. The eastern track is used for northbound traffic and the western track is used for southbound traffic. A median exists between the NS and Conrail tracks. One Conrail siding is located between the Conrail mainline and the western NS line.

The proposed construction site at Columbus encompasses an area approximately 1,400 by 80 feet (2.6 acres), all within the existing NS and Conrail rights-of-way. A 100-foot NS right-of-way abuts a 60-foot Conrail right-of-way. The new connection would occupy an area approximately 25 by 1,400 feet (0.8 acres) between these two tracks. The site is primarily gravel and cinder covered. A small portion of the area between the NS and Conrail lines is grass-covered. Over head electrical power lines and an underground fiber-optic line are located between the NS and Conrail lines. The fiber-optic line crosses under the NS tracks and runs parallel to the tracks on the eastern edge of the right-of-way.

8.7.1 Proposed Action and Alternatives

8.7.1.1 Proposed Action

The proposed action at Columbus would involve the construction and operation of a new connection between the western NS track, used for southbound traffic, and the north/south Conrail track (Figure 4-24). The design also includes a connection between the northbound and southbound NS tracks, which would cross a Conrail siding. The connection would be just south of the Weber Road crossing of the NS and Conrail lines (Figure 4-24). This new construction would permit NS train traffic access to the Conrail line at up to 40 miles per hour. The NS/Conrail connection includes approximately 1,400 feet of new rail line. It would not require acquisition of additional right-of-way.

Construction Requirements

The exact labor force and duration of construction are not available, but are expected to require 10-15 people and three to six months. Borrow material for the project would be obtained from local sources and hauled to the construction site by rail or truck.

Changes in Traffic

The proposed Acquisition would result in the following estimated changes in the traffic on rail lines that would be connected by the proposed construction:

- Traffic on the existing Conrail line would increase from 14 to 18 trains per day.
- Traffic on the existing NS line north of the connection would increase from 26 to 32 trains per day.
- Traffic on the new construction would be 18 trains per day.

8.7.1.2 Alternatives

Build Alternatives

No other build alternatives were identified for the proposed rail construction. The proposed rail line would be the most direct connection between the existing rail lines and would not require the use of new land outside the existing railroad rights-of-way. In addition, the proposed construction would result in insignificant environmental impacts.

No-Action Alternative

Under the no-action alternative, existing and additional post-Acquisition rail traffic would operate over existing NS and Conrail rail lines. Access between the two lines would be limited to existing interchanges and terminals. The no-build alternative would reduce the total economic and operational efficiency and other benefits that would be possible as a result of the proposed Acquisition.

8.7.2 Existing Environment

8.7.2.1 Land Use

The proposed construction site consists entirely of existing railroad right-of-way located between two existing rail lines (Figure 4-24). The area around the proposed construction site is dominated by rail and other transportation and utility uses. Land uses surrounding the proposed site include residential properties along the east side of the Conrail right-of-way and manufacturing and industrial properties along the west side of the NS right-of-way. Electrical power lines and a fiber optic line are located between the NS and Conrail lines.

None of the soils at the site are classified as prime farmland.

The project site is not within a designated coastal zone.

According to the Bureau of Indian Affairs, no federally-recognized Indian tribes or Indian reservations exist in Ohio.

8.7.2.2 Water Resources

No surface waters are within or near the proposed construction site. National Wetland Inventory (NWI) maps indicate a palustrine, shrub/scrub wetland west of the existing north/south-trending Conrail line. The wetland is upgradient from the site. Surface water runoff from the site would not reach the wetland. No hydric soils are mapped at this site.

Federal Emergency Management Agency (FEMA) maps for the area show that the proposed project is not within the 100-year floodplain.

8.7.2.3 Biological Resources

Vegetation

Almost the entire proposed construction site is covered with gravel. Much of the area around the site is already developed for rail activity and residences. A sparsely-vegetated strip of weedy annuals and grasses occurs between the NS and Conrail rights-of-way and along the western side of the combined rail corridor. A single line of deciduous trees is present on the eastern side of the Conrail right-of-way and lawn areas associated with commercial and residential facilities abut both the NS and Conrail rights-of-way. This vegetation is not unique or limited in the area.

Wildlife

The potential for wildlife at the proposed construction site is limited because the site is sparsely-vegetated and is surrounded by rail, residential and commercial development. Wildlife would be limited to a few species of song birds and small mammals that have adapted to developed areas.

Threatened or Endangered Species

USFWS and the Ohio DNR were consulted regarding threatened and endangered species in the area of the proposed rail line construction at Columbus. The USFWS did not have any comment regarding the impact of threatened or endangered species in the area. The Ohio DNR said they are unaware of any rare species or critical habitats in the proposed project area. Due to the lack of habitat, no impacts to threatened or endangered species are expected.

Parks, Forest Preserves, Refuges and Sanctuaries

No parks, forest preserves, refuges or sanctuaries are in or adjacent to the proposed construction site. Two city parks are near the construction site. Glen Echo Park abuts the Conrail right-of-way midway between Weber Road and Hudson Street, at the south end of the proposed construction. Audubon Park is located approximately 1,000 feet east of the NS right-of-way.

8.7.2.4 Air Quality

According to 40 CFR 81, Franklin County is in attainment with the National Ambient Air Quality Standards (NAAQS). Current sources of emissions in the project area include locomotives, vehicles, and industries.

8.7.2.5 Noise

Rail, vehicular and commercial traffic are the primary sources of noise in the area of the proposed rail line construction. A total of 26 trains per day operate on the NS lines. A total of 14 trains per day operate on the Conrail lines.

There are 109 residences within 500 feet of the proposed construction site. One school is 1,200 feet northeast of the proposed construction site. The two nearest churches are 600 and 800 feet from the site. Four other churches are within 1,250 feet of the proposed construction site. All of these receptors currently experience noise generated by passing trains.

8.7.2.6 Historic and Cultural Resources

Records at the Ohio State Historic Preservation Office (SHPO) in Columbus were reviewed to determine if previously identified cultural resources are in the project area. No NRHP sites or archaeological sites were recorded in the vicinity of the proposed construction. Consultation has been initiated with Ohio SHPO regarding the proposed construction project.

8.7.2.7 Transportation and Safety

Major roads near the Columbus site include U.S. Highway 71 and local roads, including Weber Road and Hudson Street. Existing at-grade crossings are at Weber Street (125 feet north of the site) and Hudson Street (1,700 feet south of the proposed construction site).

Review of the EDR database indicated that two LUST sites are located within a 1/4-mile of the proposed construction area. The LUST sites were identified as Sunoco, located at 711 East Weber Road, and Capital Business Forms, located at 2505 Silver Drive in Columbus, OH. No other hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), OH Spills or SWF/LF, were identified in the vicinity of the proposed construction site. The database search revealed one unmappable site within the Columbus city limits. This site could not be located because of poor address or geocoding information provided to the state and/or federal databases. No evidence of hazardous waste sites was observed within the project area during a site visit

8.7.3 Potential Environmental Impacts of Proposed Action

8.7.3.1 Land Use

The proposed project would not convert additional land to railroad right-of-way. The proposed project would be compatible with surrounding land uses because it is an expansion of existing rail facilities.

The soil at the site is not classified as prime farmland.

No construction activities occur within a designated coastal zone.

8.7.3.2 Water Resources

The construction of the proposed rail line would not have adverse impacts on groundwater or surface water resources. No surface waters or wetlands are on the proposed construction site. Surface water runoff from the site could reach a drainage ditch which empties into the Olentangy River. However, implementation of sedimentation and erosion control measures would prevent or minimize any impacts to this river.

8.7.3.3 Biological Resources

Vegetation

The proposed construction site is between NS and Conrail rail lines. The proposed action would only impact scattered, weedy vegetation that is growing within the graveled right-of-way. The loss of vegetation would be minimal. This vegetation is not unique or limited in the area.

Wildlife

No adverse impacts to wildlife populations are anticipated. The construction site is small and provides marginal habitat for wildlife.

Threatened or Endangered Species

Neither the USFWS or the Ohio DNR identified any threatened or endangered species as occurring at the proposed construction site. No impacts to threatened or endangered species are anticipated.

Parks, Forests, Preserves, Refuges and Sanctuaries

No adverse impact is expected since no known state or federally designated parks, forest preserves, refuges or sanctuaries are within one mile of the proposed construction. The project would not directly impact Glen Echo City Park, which is south of the proposed construction. The only effect would be a slight increase in noise, as described in 8.7.3.5 below.

8.7.3.4 Air Quality

Franklin County is an air quality attainment area. Impacts to air quality would result from construction, operation and maintenance of the proposed project. The operation of heavy equipment would be the primary source of pollutant emissions during construction activities. Such pollutants vary by the source, as described below:

- Particulate matter, volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NOX) resulting from the combustion of diesel fuel
- Fugitive dust emissions along the right-of-way and unimproved roads resulting from the operation of heavy equipment.

Fugitive dust can be controlled by using water sprays or other suitable dust suppressants. The combustion emissions associated with removal operations (VOCs, CO and NOX) generally would be minor and of short duration and would have insignificant impacts on air quality. The amount of overall train traffic on the proposed rail line would exceed STB thresholds for air quality. General impacts are discussed in Part 4 Appendix A. Air quality impacts for segments expected to experience increased traffic above STB thresholds are discussed in Part 2.

8.7.3.5 Noise

As described under Section 8.7.2.5, 109 residences are within 500 feet of the proposed construction site. One school and six churches are within 1,250 feet of the site. All of these receptors currently experience noise generated by trains on the NS and Conrail lines. Presently, these facilities are exposed to approximately 26 trains per day on the NS lines and 14 trains per day on the Conrail line. NS estimates 18 train movements per day on the proposed rail line. This exceeds STB thresholds for noise evaluation. Train traffic operating on the proposed connection (18 trains per day) would generate an Ldn 65 noise level at approximately 150 feet. No at-grade crossings where horns would be sounded would be present to create a greater Ldn 65 distance. Of the 109 residences within 500 feet, 11 of them would be within this distance. Because the connection would have little if any curvature, no wheel squeal is expected.

Construction operations could cause temporary increases in noise levels. Construction activities would require the use of trucks and heavy equipment. Noise generated by such equipment would be temporary and limited to the short construction period.

8.7.3.6 Historic and Cultural Resources

No documented archaeological sites or historic properties are on or near the proposed construction site. However, the potential for undocumented archaeological sites or historic properties, has not been dismissed. Consultation with the Ohio SHPO regarding the proposed site will continue until the Section 106 process is complete.

8.7.3.7 Transportation and Safety

The proposed rail line construction project would improve train movement to destinations, enhancing the efficiency of NS operations. The proposed construction project would not cross any roads. Therefore, no vehicle delays, disruptions or potential train/vehicle accidents would result from train operations on the proposed rail line. Short-term disruptions of local traffic could occur during the construction period during work near existing at-grade crossings.

Review of the EDR database indicated that two LUST sites are located within a 1/4-mile of the proposed construction area. The LUST sites were identified as Sunoco, located at 711 East Weber Road, and Capital Business Forms, located at 2505 Silver Drive in Columbus, OH. No other hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), OH Spills or SWF/LF, were identified in the vicinity of the proposed construction site. The database search revealed one unmappable site within the Columbus city limits. This site could not be located because of poor address or geocoding information provided to the state and/or federal databases.

During a site visit, no evidence of potential hazardous waste sites was observed in the project area. No such sites are expected to be impacted by the proposed construction.

Fuels and oils necessary for construction would be present only in small amounts. In the unlikely event that a spill occurs, only a small amount would be released. In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.

8.7.4 Potential Environmental Impact of Alternatives

8.7.4.1 Build Alternatives

No other build alternatives to the proposed rail line construction project were identified. The proposed construction route provides the most direct rail line connection does not require acquisition of additional right-of-way and minimizes associated potential environmental impacts.

8.7.4.2 No-Action Alternative

If the no-action alternative were implemented, the proposed rail line connection would not be constructed and operated. Land use and other environmental conditions in the region would remain the same. Under this alternative, NS would continue to maintain and/or operate over less efficient rail routes. This alternative would result in longer routes, greater fuel consumption, air emissions, noise and an overall increase in expense to NS and the consumer. The no-action alternative is not considered practical or viable.

8.7.5 Proposed Mitigation

The proposed construction would result in minimal to no impact to land use, water resources, biological resources, air quality, noise, cultural resources, and transportation and safety. In consideration of minimal impacts and general NS practices, NS has proposed the following mitigation measures to minimize environmental impacts:

8.7.5.1 Land Use

- NS will restore any adjacent properties that are disturbed during construction.

8.7.5.2 Water Resources

- NS will use Best Management Practices (BMPs) to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.7.5.3 Biological Resources

- NS will use BMPs to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.7.5.4 Air Quality

- NS will comply with all applicable federal, state and local regulations regarding the control of fugitive dust.

8.7.5.5 Noise

- NS will control temporary noise from construction equipment by ensuring all machinery has properly functioning muffler systems and by work hour controls.

8.7.5.6 Historic and Cultural Resources

- NS will continue the Section 106 consultation process.

8.7.5.7 Transportation and Safety

- NS will observe all applicable federal, state and local regulations regarding handling and disposal of any waste materials encountered or generated during the proposed construction project.

- NS will transport all hazardous materials in compliance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171-174 and 177-179).
- In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.
- NS will restore all roads disturbed during construction to the conditions required by state or local regulations.

8.7.8 References

Ohio Department of Transportation (DOT), 1994. *Traffic Survey Report.*

City of Columbus, OH Development Department, 1997. *Index of Zoning Districts.*

U.S. Department of Agriculture, 1980. Soil Survey of Franklin County, OH. Soil Conservation Service.

U.S. Department of Agriculture, 1983. Soil Conservation Service.

U.S. Fish and Wildlife Service, 1995. *National Wetlands Inventory Map.* Northwest Columbus, OH and Northeast Columbus, OH Quadrangles.

U.S. Geological Survey, 1982. *1:24,000-scale topographic maps.* Northwest Columbus, OH and Northeast Columbus, OH Quadrangles

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Subpart C Section 107, Attainment Status Designations.

8.8 OAK HARBOR (NS)

Oak Harbor, OH is located in Ottawa County, 35 miles southeast of Toledo (Figure 4-25). Existing rail lines in the project area include an east/west oriented Conrail double track and a NS single track generally oriented east/west.

The proposed construction site at Oak Harbor encompasses an area approximately 5,000 feet by 200 feet (22.9 acres). The new connection would occupy an area approximately 100 by 5,000 (11.5 acres). The existing land cover is primarily cropland with small portions of gravel, asphalt and sparse deciduous forest, grass and wetland species of vegetation. The deciduous forest and wetland species are limited to borrow areas adjacent to the NS and Conrail rail lines. The site is bordered to the north and east by the NS single track and to the south and west by the Conrail double track. The proposed connecting track would cross Toussaint Portage Road approximately 1,500 feet south of Salem-Carroll Road (Figure 4-25). A small perennial stream, Lacarpe Creek, is located approximately 400 feet south of the proposed connecting track.

8.8.1 Proposed Action and Alternatives

8.8.1.1 Proposed Action

The proposed action at Oak Harbor would involve the construction and operation of a new connection between existing Conrail and NS tracks (Figure 4-25). This connection would be located outside of Oak Harbor, northwest of the town, and is necessary because Conrail and NS lines have a grade-separated intersection in Oak Harbor. This new construction would allow efficient access and improved service to customers from the Detroit, MI area to NS's Bellevue, OH Hub Yard. It avoids congestion in Toledo. It is needed in connection with the proposed abandonment of the Toledo Pivot bridge. The design includes an at-grade road crossing of Toussaint Portage Road and approximately 5,000 feet of new rail line construction. It would require the acquisition of no more than 11.5 acres of new right-of-way.

Construction Requirements

The exact labor force and duration of construction are not available, but are expected to require 10-15 people and three to six months. Borrow material for the project would be obtained from local sources and hauled to the construction site by rail or truck.

Changes in Traffic

The proposed Acquisition would result in the following estimated changes in traffic on the rail lines that would be connected by the proposed construction:

- Traffic on the Conrail line west of Oak Harbor would increase from 52 to 61 trains per day.
- Traffic on the NS line south of Oak Harbor would increase from 8 to 27 trains per day.
- Traffic on the new construction would be 23 trains per day.

8.8.1.2 Alternatives

Build Alternatives

No other build alternatives were identified for the proposed rail line construction. The proposed rail line would be the most direct connection between the existing rail lines. From an engineering and economic perspective, the proposed rail line is the most feasible because the existing NS line crosses the existing Conrail line above grade and intersects the Conrail rail line at less than a 90 degree angle. The proposed alignment would minimize the acquisition of land outside the existing Conrail and NS rights-of-way, the number of grade crossings, and wetland impacts; and would maximize the distance from existing residences. Based on the following environmental analysis, the proposed construction would result in no significant environmental impacts.

No-Action Alternative

Under the no-action alternative, existing and additional post-Acquisition rail traffic would operate over the existing Conrail and NS rail lines. Access between the two lines would be limited to existing interchanges and terminals. The no-build alternative would reduce the total economic and operational efficiency and other benefits that would be possible as a result of the proposed Acquisition.

8.8.2 Existing Environment

8.8.2.1 Land Use

The proposed construction would occur within an area dominated by agriculture (Figure 4-25). A majority of the land affected by the proposed project is cropland. Other land uses surrounding the proposed site include rail, other transportation and utility uses, along with a few residential properties. The site is located outside the city limits of Oak Harbor and is zoned agricultural. The proposed construction occurs in an area with soils designated as prime farmland according to National Resources Conservation Service (NRCS) soil maps.

The project is not within a designated coastal zone.

According to the Bureau of Indian Affairs, no federally-recognized Indian tribes or Indian reservations exist in Ohio.

8.8.2.2 Water Resources

Lacarpe Creek is a perennial stream running east-west approximately 400 feet south of the proposed connection (Figure 4-25). The stream is downgradient from the site and is crossed by the existing Conrail mainline where it crosses Toussaint Portage Road. Lacarpe Creek drains to the east away from the project site. No wetlands were indicated on NWI maps for the proposed construction site. However, approximately 95 percent of the soils that would be crossed are

classified as hydric, indicating wetlands are potentially present. Federal Emergency

Management Agency (FEMA) maps for the area show that the proposed project is not within the 100-year floodplain.

8.8.2.3 Biological Resources

Vegetation

Most of the land affected by the proposed project is cropland. Various weedy grasses and deciduous forest, including some wetland species, are present in borrow areas adjacent to the rail lines and along Lacarpe Creek. This vegetation is not unique or limited in the area.

Wildlife

The existing plant and wildlife communities in the area of the proposed construction have been affected by continued railroad, agricultural and residential land use, and it is unlikely that the land supports important native plant and animal communities. Almost the entire proposed construction area consists of cropland. The remainder of the project area includes railroad right-of-way and consists of gravel and borrow areas adjacent to existing rail lines. These ones have a vegetated right-of-way edge that may provide some wildlife habitat. Lacarpe Creek may support some semi-aquatic and wetland species.

Threatened or Endangered Species

The USFWS and the Ohio DNR were consulted regarding threatened and endangered species in the area. The USFWS commented that this project may impact endangered species such as the Indiana bat, bald eagle and eastern prairie fringed orchid which are known to occur in Ottawa county. Impacts to the Indiana bat could occur if its potential habitat, mature wood lots, are disturbed. Impacts to the bald eagle could occur if any nests are located within a half-mile of the proposed project. Impacts to the eastern prairie fringed orchid could occur if its potential habitat of wet meadows is disturbed.

Parks, Forest Preserves, Refuges and Sanctuaries

No parks, preserves, refuges or sanctuaries are located within a mile of the proposed construction site. Toussaint Creek Wildlife Area, Marsh Wildlife Area and Crane Creek State Park are all located more than three miles north of the proposed project area.

8.8.2.4 Air Quality

The proposed construction site, Ottawa County, is classified as an attainment area for all NAAQS pollutants. Current sources of emissions include locomotives, farm machinery and vehicles.

8.8.2.5 Noise

Rail, vehicular, and commercial traffic are the primary sources of noise in the area of the proposed rail line construction. There is a total of 60 trains per day on both the Conrail and NS rail lines.

There is only one residence within 500 feet of the proposed construction.

8.8.2.6 Historic and Cultural Resources

A check of the records at the Ohio State Historic Preservation Office in Columbus revealed no existing or eligible NRHP sites or recorded archaeological sites in the vicinity of the proposed construction.

8.8.2.7 Transportation and Safety

The existing ground transportation network consists of Conrail and NS rail lines, which converge on the west side of Oak Harbor, cross at a grade-separated intersection, diverge and proceed

eastward to Cleveland. They are approximately 1,500 feet apart at the proposed connection point along the NS mainline and approximately 2,200 feet apart at the Conrail connection point (Figure 4-25).

Oak Harbor can be reached by S.R. 19 and S.R. 105. Access to the rail construction would be off Salem-Carroll Road and Toussaint Portage Road. The proposed rail line construction would require a crossing of Toussaint Portage Road approximately 1,500 feet south of Salem-Carroll Road (Figure 4-25). No data was available where the Conrail and NS rail lines cross Toussaint Portage Road, but it is a more rural road than S.R. 19 and is expected to have lower traffic volume.

Review of the EDR database indicated that no hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL, LUST or SWF/LF, were identified in the vicinity of the proposed rail line construction. The database search revealed ten unmappable sites. These sites could not be located because of poor address or geocoding information provided to the state and/or federal databases. No evidence of any hazardous waste sites was observed within the project area during a site visit.

8.8.3 Potential Environmental Impacts of Proposed Action

8.8.3.1 Land Use

The proposed project would result in the conversion of a maximum of 11.5 acres to railroad right-of-way (Figure 4-25). All of this land would be prime farmland, most of which is cultivated. Prime farmland is abundant in the county, and the small loss from this construction would not result in a significant impact to the availability of the resource. The proposed construction is compatible with surrounding land uses, complies with applicable zoning ordinances and development regulations, and is consistent with the communities comprehensive land use plan.

The proposed site is not subject to any coastal zone management plans.

8.8.3.2 Water Resources

The construction of the proposed rail line would not have adverse impacts on groundwater resources, given the small size of the project and the limited productivity of groundwater in the area. A majority of the soil at this site is classified as hydric. Wetlands could potentially be impacted by the proposed connection. Any wetland impact would be to areas of less than one acre and confined to the borrow areas adjacent to the Conrail double track. Any necessary wetland permits would be acquired prior to construction. Drainage patterns would also be maintained using culverts, grading or other appropriate measures. Additionally, the project would not encroach upon a floodplain or cross any streams.

8.8.3.3 Biological Resources

Vegetation

The proposed action would have no adverse impacts to native plant communities. The proposed construction site is located along and between existing rail corridors where most of the area is cultivated cropland with narrow strips of sparse grass, deciduous trees and shrubs. This vegetation is not unique or limited in the area. After construction, NS would revegetate disturbed, non-agricultural areas outside the roadbed.

Wildlife

Most of the area that would be impacted is currently cultivated cropland. The existing wildlife habitat along the proposed construction site is minimal, limited to borrow areas adjacent to existing rail lines, and of low-quality. No adverse impacts to wildlife populations are anticipated.

Threatened or Endangered Species

Responses from the Ohio DNR indicated Ohio DNR is unaware of any rare species or critical habitats in the proposed project area. The USFWS responded that endangerd species could occur in the area. Due to the lack of habitat and based on observations during a site visit, no impacts to threatened or endangered species or their habitats are expected.

Parks, Forest Preserves, Refuges and Sanctuaries

Toussaint Creek Wildlife Area, Marsh Wildlife Area and Crane Creek State Park are more than three miles from the proposed construction and would be unaffected by the proposed project.

8.8.3.4 Air Quality

Ottawa County is an air quality attainment area. Only minor impacts to air quality would result during construction, operation and maintenance of the proposed project. The operation of heavy equipment would be the primary source of pollutant emissions during construction activities. Such pollutants vary by the source, as described below:

- Particulate matter, volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NOX) resulting from the combustion of diesel fuel
- Fugitive dust emissions along the right-of-way and unimproved roads resulting from the operation of heavy equipment.

Fugitive dust can be controlled by using water sprays or other suitable dust suppressants. The combustion emissions associated with removal operations (VOCs, CO and NOX) generally would be minor and of short duration and would have insignificant impacts on air quality. The amount of overall train traffic on the proposed rail line (34 trains per day) would exceed STB thresholds for air quality evaluation. General impacts are discussed in Part 4 Appendix A. Air quality impacts for segments expected to experience increased traffic above STB thresholds are discussed in Part 2.

8.8.3.5 Noise

One residence is within 500 feet of the proposed connecting track. This residence is currently within 500 feet of the existing rail facilities and is exposed to noise generated by 60 trains per day. No other sensitive noise receptors are within 1,250 feet of the proposed connection. The 23 trains using the connecting track would exceed STB thresholds for noise evaluation. Train traffic operating on the proposed connection (23 trains per day) would generate an Ldn 65 noise level at approximately 150 feet and approximately 500 feet at the new at-grade crossings. Only one residence would be within the Ldn 65 noise level. Of potentially greater significance would be noise generated by wheel squeal. Should wheel squeal occur, the 23 trains per day could generate an Ldn 65 distance of approximately 1,200 feet and only one residence could experience the Ldn 65 noise level.

Construction operations could cause temporary increases in noise levels. Construction activities would require the use of trucks and heavy equipment. Noise generated by such equipment would be temporary and limited to the short construction period.

8.8.3.6 Historic and Cultural Resources

No documented archaeological sites or historic properties are on or near the proposed right-of-way. However, the potential for undocumented archaeological and historic sites has not been dismissed. Consultation with the Ohio SHPO regarding the proposed site will continue until the Section 106 process is complete.

8.8.3.7 Transportation and Safety

The proposed rail line construction project would improve train movement to destinations, enhancing the efficiency of NS operations. Construction of the proposed rail line would require an at-grade crossing at Toussaint Portage Road. Train operations on the new line would result in

some traffic delays at the crossing. No ADT data was available for Toussaint Portage Road, but the ADT is expected to be low because it is in a sparsely populated location northwest of Oak Harbor. Traffic delays are, therefore, expected to be minor.

The new at-grade crossing would introduce the potential for vehicle-train accidents. However, the potential for accidents would be low because of the low volume of vehicle traffic and because NS would coordinate with the Ohio Department of Transportation to have appropriate warning structures installed. Additionally, the area of the grade crossing is relatively open and level, and visibility would be good. Short-term disruptions of local vehicular traffic could occur during construction activities.

EDR's database search did not identify any hazardous waste sites or other sites of environmental concern in the vicinity of the proposed rail line construction. The database search revealed ten unmappable sites. Based on observations made during the site visit, these sites are not expected to be in or adjacent to the proposed right-of-way. No hazardous waste sites are expected to be impacted by the proposed construction.

Fuels and oils necessary for construction would be present in only small amounts. In the unlikely event that a spill occurs, only a small amount would be released. In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.

8.8.4 Potential Environmental Impact of Alternative Actions

8.8.4.1 Build Alternatives

No other build alternatives to the proposed rail line construction project were identified. The proposed construction route provides the most direct and feasible rail line connection and would minimize land use outside the Conrail rights-of-way and associated environmental impacts.

8.8.4.2 No-Action Alternative

If the no-action alternative were implemented, the proposed rail line connection would not be constructed and operated. Land use and other environmental conditions in the region would remain the same. Under this alternative, NS would continue to maintain and/or operate over less efficient rail routes. Customers would not benefit from this improved route between Detroit/Toledo and Bellevue, which avoids congestion in Toledo. This alternative would result in longer routes, greater fuel consumption, air emissions, noise and an overall increase in expense to NS and the consumer. The no-action alternative is not considered practical or viable.

8.8.5 Proposed Mitigation

The proposed construction would result in minimal to no impact to land use, water resources, biological resources, air quality, noise, cultural resources, and transportation and safety. In consideration of minimal impacts and general NS practices, NS has proposed the following mitigation measures to minimize environmental impacts:

8.8.5.1 Land Use

- NS will restore any adjacent properties that are disturbed during construction.

8.8.5.2 Water Resources

- NS will use Best Management Practices (BMPs) to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.8.5.3 Biological Resources

- NS will use BMPs to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.8.5.4 Air Quality

- NS will comply with all applicable federal, state and local regulations regarding the control of fugitive dust.

8.8.5.5 Noise

- NS will control temporary noise from construction equipment by ensuring all machinery has properly functioning muffler systems and by work hour controls.

8.8.5.6 Historic and Cultural Resources

- NS will continue the Section 106 consultation process.

8.8.5.7 Transportation and Safety

- NS will observe all applicable federal, state and local regulations regarding handling and disposal of any waste materials encountered or generated during the proposed construction project.
- NS will transport all hazardous materials in compliance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171-174 and 177-179).
- In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.
- NS will restore all roads disturbed during construction to the conditions required by state or local regulations.
- NS will coordinate with the Ohio Department of Transportation for the installation of warning structures at the new at-grade crossing.

8.8.6 References

Federal Emergency Management Agency (FEMA), 1992. *FEMA Flood Insurance Rate Map.*

Ohio Department of Transportation (DOT), 1994. *Traffic Survey Report.*

Ohio Development Department, 1997. *Index of Zoning Districts.*

U.S. Department of Agriculture, 1983. Soil Conservation Service.

U.S. Fish and Wildlife Service, 4/1977. *National Wetlands Inventory Map*. Oak Harbor, OH Quadrangle. (Date based on last aerial photograph).

U.S. Geological Survey, 1967. *1:24,000-scale topographic maps*. Oak Harbor, OH.

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Subpart C Section 107, Attainment Status Designations.

8.9 VERMILION (NS)

Vermilion, OH is located in Erie County, 40 miles west of Cleveland, (Figure 4-26). Existing rail lines in the project area include a Conrail double track running east-west and a NS single track also running east-west, south of the Conrail double track. The NS rail line provides a route from Toledo to Cleveland and Ft. Wayne to Cleveland. The Conrail rail lines provide rail services from Toledo to Cleveland over a shorter, more direct route than the NS rail line.

The proposed Vermilion connection would extend eastward from the Conrail line to the NS line. The construction area for the proposed connection would encompass an area approximately 5,400 by 200 feet (24.8 acres). The connection would occupy an area approximately 100 by 5,400 feet (12.4 acres). The existing land cover is primarily cropland with small portions of gravel, weedy annuals and grasses, low-growing shrubs, wetlands, and woodlots. The site is primarily rural with agricultural fields predominating.

8.9.1 Proposed Action and Alternatives

8.9.1.1 Proposed Action

The proposed action at Vermilion would involve the construction and operation of a new connection between the existing Conrail and NS tracks (Figure 4-26). The new connection would be located southwest of Vermilion. The Vermilion eastward connection from Conrail to NS would allow trains traveling east on the Conrail rail line from Toledo, OH to be routed onto the NS line and eastward to Cleveland, OH, as well as allow trains to travel in the opposite direction.

Construction at this location is necessary since the Conrail and NS lines do not intersect at any other point feasible for a connection. Additionally, the proximity of the two lines at this location minimizes the new land to be acquired and other potential environmental impacts associated with rail line constructions. This new construction would create efficient new routes from Conrail's

Cleveland to Buffalo mainline to and from eastern destinations and origins including New York and northern New Jersey via Buffalo. The Vermilion eastward connection from Conrail to NS includes approximately 5,300 feet of new rail line construction and a new at-grade crossing on Coen Road. The connection would require the acquisition of a maximum of 12.4 acres of new right-of-way.

Construction Requirements

The exact labor force and duration of construction are not available, but are expected to require 10-15 people and three to six months. Borrow material for the project would be obtained from local sources and hauled to the construction site by rail or truck.

Changes in Traffic

The proposed Acquisition would result in the following estimated rail traffic changes on the existing rail lines that would be connected by the proposed construction:

- Traffic on the existing NS line south of Vermilion would increase from 16 to 32 trains per day.
- Traffic on the existing Conrail line west of Vermilion would decrease from 52 to 40 trains per day.
- Traffic on the new Vermilion eastward connection from NS to Conrail construction would be 12 trains per day.

8.9.1.2 Alternatives

Build Alternatives

No other build alternatives were identified for the proposed rail line constructions. The proposed new connection would be the most direct connection between the existing rail lines and would minimize the use of new land outside the existing Conrail and NS rights-of-way. In addition, no significant environmental impacts are anticipated from the proposed construction.

No-Action Alternative

Under the no-action alternative, existing and additional post-Acquisition rail traffic would operate over existing Conrail and NS lines with no connection. Access between the two lines would be limited to existing interchanges and terminals. The no-build alternative would reduce the total economic and operational efficiency and other benefits that would result from the proposed Acquisition.

8.9.2 Existing Environment

8.9.2.1 Land Use

The proposed project area for the Vermilion eastward connection from Conrail to NS is bordered to the north by the east/west Conrail double track and to the east by the City of Vermilion, OH. The site is bordered to the south by the east/west NS single track and to the west by Risden Road. The proposed construction area is primarily agricultural. Land uses surrounding the proposed site includes rail and other transportation uses, utility rights-of-way and residences. The project location is currently zoned light industrial.

None of the soils at the sites are classified as prime farmland.

The project is not within a designated coastal zone. A coastal zone is located adjacent to the site on the north side of the Conrail rail lines (Figure 4-26). This coastal zone extends north to Lake Erie.

8.9.2.2 Water Resources

According to NRCS soil maps, the following two soil types are classified as hydric, the Lenawee silty clay loam and Sloan silt loam. These two soil types account for approximately thirty percent of the soils crossed by the proposed connecting tracks. There is one drainage, Darby Creek, that flows northward and away from both sites (Figure 4-26). Darby Creek is located

approximately 1,000 feet west of the two proposed construction connections. Darby Creek begins on the southern side of the NS single track and flows north, through a culvert, under Conrail's double track and off the site. Darby Creek has a riparian zone approximately 10-15 feet wide which contains low-growing shrubs, deciduous trees and wetland plant species. A small intermittent stream, containing wetland vegetation, is located on the north side of the NS single track and drains toward Darby Creek. Portions of the area adjacent to the intermittent stream are within the 100-year floodplain. This area is approximately 1,000 feet west of the Vermilion eastward connection from Conrail to NS.

NWI maps indicate a palustrine scrub-shrub wetland is located along Darby Creek (Figure 4-26).

8.9.2.3 Biological Resources

Vegetation

The construction site is located near an industrialized section of Vermilion. Much of the area has been disturbed by rail activity and agriculture. The primary vegetation at the project location is cultivated cropland. The herbaceous vegetation at the two sites consists of weedy annuals and various grasses. Woody vegetation, consisting of low-growing shrubs and deciduous forest species, is limited to narrow strips between agricultural fields, a riparian area associated with Darby Creek, and sporadic areas adjacent to the Conrail double track and NS single track right-of-way. A woodland area of approximately 5-10 acres is located approximately 300 feet west of the existing Coen Road at-grade crossing of the NS line. This woodland area consists of shrubs and deciduous trees, and abuts the existing NS rail lines on the north side. This vegetation is not unique or limited in the area.

Wildlife

The existing plant and wildlife communities in the area of the proposed construction has been affected by continued railroad and agricultural activities. A riparian corridor is present along Darby Creek and may contain habitat for various species of fish, amphibians, reptiles, birds and small mammals. Additional wildlife habitat is present in the woodland area west of the existing

Coen Road and NS line at-grade crossing. These forested areas may provide food and shelter for birds and small mammals as previously mentioned, along with food and shelter for larger species such as deer, wild turkey, raccoon, opossum and coyote.

Threatened or Endangered Species

The USFWS and the Ohio DNR were contacted regarding threatened and endangered species in the area of the proposed rail line constructions at Vermilion. The USFWS commented that these projects may impact endangered species such as the Indiana bat and the bald eagle, which are known to occur in Erie County. Impacts to the Indiana bat could occur if these two projects disturb its potential habitat of woodland. Impacts to the bald eagle could occur if any nests are located within a half-mile of the two proposed projects. Ohio DNR responded that it is unaware of any rare species or critical habitats in the two proposed project areas.

Parks, Forest Preserves, Refuges and Sanctuaries

Sherod Park, a scenic picnic area with access to Lake Erie's beach, is located within one mile of the proposed construction. No other parks, forest preserves, refuges or sanctuaries are located within one mile of the vicinity of the proposed construction site.

8.9.2.4 Air Quality

Erie County is classified as an attainment area under the National Ambient Air Quality Standards (NAAQS). Current sources of emissions include locomotives, farm machinery and vehicles.

8.9.2.5 Noise

Rail, vehicular, and commercial traffic are the primary sources of noise in the area of the proposed rail line construction. There is a total of 68 trains per day on both the Conrail and NS lines.

There are five residences within 500 feet of the proposed construction. One church is located 1,100 from the construction sites. The Vermilion Country Club's golf course is adjacent and northwest of the Conrail double track and the Barnes Road at-grade crossing. However, the proposed connection track is farther from the residences, church, and golf course than the existing NS and Conrail lines.

8.9.2.6 Historic and Cultural Resources

A check of the records at the Ohio SHPO in Columbus revealed no existing or eligible NRHP sites or recorded archaeological sites in the vicinity of the proposed construction.

8.9.2.7 Transportation and Safety

The existing ground transportation network consists of the Conrail double track and NS single track rail lines that parallel one another. Vermilion can be reached by U.S. Highway 6, S.R. 2, or several local roads. Access to the rail construction would be via Risden or Coen roads. Existing at-grade crossings occur where the NS line and Conrail lines cross Coen Road and Risden Road (Figure 4-26).

ADT for U.S. Highway 6 averaged 5,205 vehicles per day. ADT for S.R. 2 averaged 15,730 vehicles per day. ADT for this section of road was the closest in proximity to the proposed construction project. No data were available for the at-grade crossings of Risden Road and Coen Road. However, these crossings are rural and traffic is expected to be light, limited to local traffic.

Review of the EDR database indicated that no hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), OH Spills, LUST or SWF/LF, were identified in the vicinity of the proposed rail line construction. The database search revealed one unmappable site within the Vermilion city limits. This site could not be

located because of poor address or geocoding information provided to the state and/or federal databases. No evidence of any hazardous waste sites was observed within the project area during a site visit.

8.9.3 Potential Environmental Impacts of Proposed Action

8.9.3.1 Land Use

The proposed Vermilion eastward from Conrail to NS connection would result in the conversion of 12.2 acres of cropland to rail right-of-way and the construction of an at-grade crossing of Coen Road (Figure 4-26). No other land use impacts are expected from the proposed constructions. They are compatible with surrounding land uses and comply with the light industrial zoning ordinances and development regulations of the area. None of the cropland is considered prime.

The proposed site is not within or subject to any coastal zone management plans.

8.9.3.2 Water Resources

The construction of the proposed rail connection would not have adverse impacts on groundwater resources, given the small size of the projects and the limited productivity of groundwater in the area. Darby Creek would not be impacted because it is approximately 1,000 feet west of the Vermilion eastward from Conrail to NS connection, and flows north, away from the construction site.

Wetlands potentially impacted by the proposed connections are small (less that 1.0 acre), and confined to the borrow areas adjacent to the two existing rail lines. All necessary permits for work affecting wetlands would be acquired prior to construction. Drainage patterns would also be maintained using culverts, grading or other appropriate measures. None of the proposed project would be within the 100 year floodplain.

8.9.3.3 Biological Resources

Vegetation

The proposed construction site is located along and between existing rail corridors where most of the area is cultivated cropland with sparse vegetation in the borrow areas and woodland areas adjacent to farm fields and rail rights-of-way. No adverse impacts to native plant communities are expected. After construction, NS would revegetate disturbed, nonagricultural areas outside the roadbed. Agricultural areas are expected to be returned to crop production. This vegetation is not unique or limited in the area.

Wildlife

Most of the area that would be impacted is currently cultivated cropland. The existing wildlife habitat on the proposed construction site is limited to Darby Creek, the woodland west of the Coen Road at-grade crossing and borrow areas adjacent to existing rail lines. No adverse impacts to wildlife populations are anticipated.

Threatened or Endangered Species

The Ohio DNR indicated it is unaware of any rare species or critical habitats in the proposed project area. The USFWS commented that this project may impact the Indiana bat and bald eagle, which are known to occur in Erie county. The woodland area west of the Coen Road at-grade crossing, although not directly affected by construction of the proposed connection, may need to be surveyed prior to construction in coordination with the USFWS and Ohio DNR to determine if the area contains habitat for the Indiana bat or bald eagle. Further discussion with the USFWS and Ohio DNR will determine if any survey is necessary.

Parks, Forest Preserves, Refuges and Sanctuaries

No impacts to Sherod Park are expected due to its distance (approximately 1.0 mile) from the proposed construction. No other parks, forest preserves, refuges or sanctuaries are in the vicinity of the proposed construction.

8.9.3.4 Air Quality

Erie County is an air quality attainment area. Minor impacts to air quality would result during construction, operation and maintenance of the proposed project. The operation of heavy equipment would be the primary source of pollutant emissions during construction activities. Such pollutants vary by the source, as described below:

- Particulate matter, volatile organic compounds (VOCs), carbon monoxide (CO) and nitrogen oxides (NOX) resulting from the combustion of diesel fuel
- Fugitive dust emissions along the right-of-way and unimproved roads resulting from the operation of heavy equipment.

Fugitive dust can be controlled by using water sprays or other suitable dust suppressants. The combustion emissions associated with removal operations (VOCs, CO and NOX) generally would be minor and of short duration and would have insignificant impacts on air quality. The amount of overall train traffic on the two proposed rail line (34 trains per day) would exceed STB thresholds for air quality evaluation. General impacts are discussed in Part 4 Appendix A. Air quality impacts for segments expected to experience increased traffic above STB thresholds are discussed in Part 2.

8.9.3.5 Noise

NS estimates 12 train movements per day on the proposed Vermilion eastward rail line connection from Conrail to NS. This levels of rail traffic exceed STB thresholds. No residences are located within 500 feet of the proposed connecting tracks. One church is located 1,100 feet from the construction site. The Vermilion Country Club's golf course is located approximately 1,000 feet west of the Vermilion eastward from Conrail to NS connection. These receptors currently experience noise generated by trains on the NS and Conrail rail lines.

This level of train traffic (12 trains per day) exceeds STB thresholds for noise evaluation. Train traffic operating on the proposed connection (12 trains per day) would generate an Ldn 65 noise level at approximately 100 feet and approximately 350 feet at the new at-grade crossing of Coen Road. No sensitive noise receptors are located within these distances from the track. Wheel squeal is not expected or would be minimal due to the openness of the curves in the connection and at most, could affect only one residence.

Construction operations could cause temporary increases in noise levels. Construction activities would require the use of trucks and heavy equipment. Noise generated by such equipment would be temporary and limited to the short construction period.

8.9.3.6 Historic and Cultural Resources

No documented archaeological sites or historic properties are on or near the proposed construction sites. However, the potential for undocumented archaeological and historic sites has not been dismissed. Consultation with the Ohio SHPO will continue until the Section 106 process is complete.

8.9.3.7 Transportation and Safety

The proposed Vermilion eastward from Conrail to NS connection would require a new at-grade crossing where the proposed construction crosses Coen Road. Vehicle delays, disruptions and additional opportunities for train/vehicle accidents would result from construction and operation of the two proposed connections. These would be minimized by the installation of appropriate warning signals and the low level of vehicle traffic. Short-term delays and disruptions of local traffic could occur during the construction period. The connection would improve train movement, thereby enhancing the efficiency of the NS system rail operations in the area.

Review of the EDR database indicated that no hazardous waste sites or known environmental conditions, e.g., NPL, CERCLIS, RCRIS-TSD, ERNS, SPL (SHWS), OH Spills, LUST or SWF/LF, were identified in the vicinity of the proposed rail line construction. The database search revealed one unmappable site within the Vermilion city limits. This site could not be located because of poor address or geocoding information provided to the state and/or federal databases. No hazardous waste sites are expected to be impacted by the proposed project.

Fuels and oils necessary for construction would be present in only small amounts. In the unlikely event that a spill occurs, only a small amount would be released. In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.

8.9.4 Potential Environmental Impact of Alternatives

8.9.4.1 Build Alternatives

No other build alternatives to the proposed rail line construction project were identified. The proposed construction route provides the most direct rail line connection possible and would minimize land use outside the existing railroad rights-of-way. The proposed construction would also minimize associated environmental impacts.

8.9.4.2 No-Action Alternative

If the no-action alternative were implemented, the proposed rail line connection would not be constructed and operated. Land use and other environmental conditions in the region would remain the same. Under this alternative, NS would continue to maintain and/or operate over less efficient rail routes. Customers would not benefit from this alternative route which avoids congestion and improves service between Toledo and Cleveland and Cleveland and Kansas City. This alternative would result in longer routes, greater fuel consumption, air emissions, noise and an overall increase in expense to NS and the consumer. The no-action alternative is not considered practical or viable.

8.9.5 Proposed Mitigation

The proposed construction would result in minimal to no impact to land use, water resources, biological resources, air quality, noise, cultural resources, and transportation and safety. In consideration of minimal impacts and general NS practices, NS has proposed the following mitigation measures to minimize environmental impacts:

8.9.5.1 Land Use

- NS will restore any adjacent properties that are disturbed during construction.

8.9.5.2 Water Resources

- NS will use Best Management Practices (BMPs) to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.9.5.3 Biological Resources

- NS will use BMPs to control erosion, runoff and surface instability during construction. After the new rail line is constructed, NS will reseed outside the subgrade slope to provide permanent cover and prevent potential erosion.

8.9.5.4 Air Quality

- NS will comply with all applicable federal, state and local regulations regarding the control of fugitive dust.

8.9.5.5 Noise

- NS will control temporary noise from construction equipment by ensuring all machinery has properly functioning muffler systems and by work hour controls.

8.9.5.6 Historic and Cultural Resources

- NS will continue the Section 106 consultation process.

8.9.5.7 Transportation and Safety

- NS will observe all applicable federal, state and local regulations regarding handling and disposal of any waste materials encountered or generated during the proposed construction project.
- NS will transport all hazardous materials in compliance with the U.S. Department of Transportation Hazardous Materials Regulations (49 CFR parts 171-174 and 177-179).
- In the case of a spill, NS will follow appropriate emergency response procedures outlined in its emergency response plans.
- NS will restore all roads disturbed during construction to the conditions required by state or local regulations.
- NS will cooperate with the Ohio Department of Transportation for the installation of warning structures at the new at-grade crossing.

8.9.6 References

Ohio Department of Transportation (DOT), 1992. Traffic Survey Report of the State Highway System in the Eastern Half of the State Including Districts 3, 4, 5, 10, 11 & 12..

U.S. Department of Agriculture, 1971. Soil Survey of Erie County, OH.

U.S. Department of Agriculture, 1997. Fax prime farmland list for Erie County, OH.

U.S. Department of Agriculture, 1997. Fax Hydric Soils of Erie County, OH.

U.S. Geological Survey, 1968. *1:24,000-scale topographic maps.* Vermilion West, OH Quadrangle.

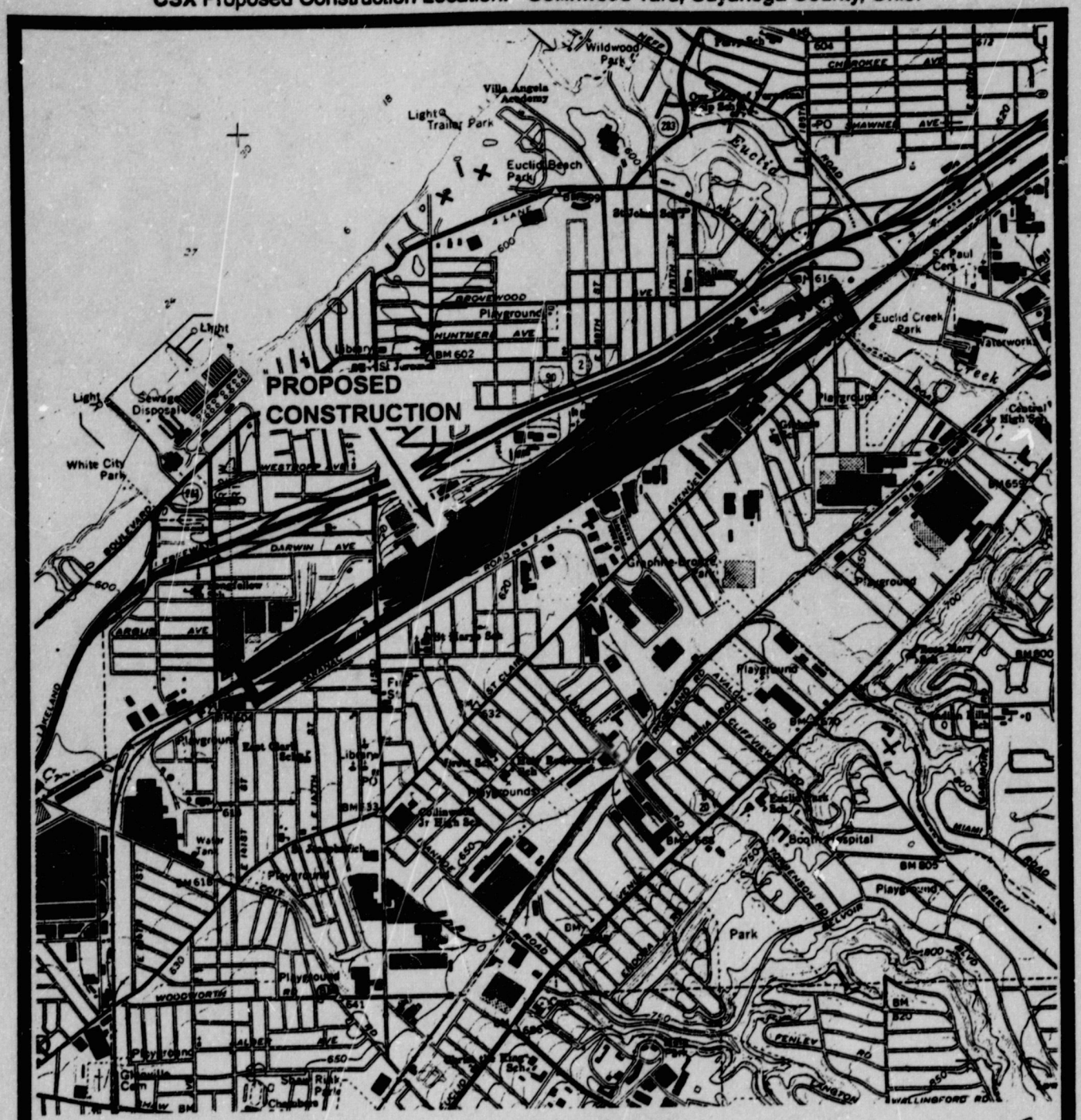
Vermilion Township, Zoning Inspector's Office, 1997. *Vermilion Township Zoning Map.*

40 CFR Part 81 - Designation of Areas for Air Quality Planning Purposes, Subpart C Section 107, Attainment Status Designations.

FIGURES

Figure 4-18

CSX Proposed Construction Location: Collinwood Yard, Cuyahoga County, Ohio.



SITE IS NOT IN A DESIGNATED FLOOD ZONE.
NO WETLANDS ARE LOCATED WITHIN 500 FEET OF THE PROPOSED PROJECT.
THERE ARE NO KNOWN HISTORIC SITES IMPACTED BY THE PROPOSED CONSTRUCTION

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

QUADRANGLE LOCATION

SCALE 1:24,000

0 1/2 0 1 MILE

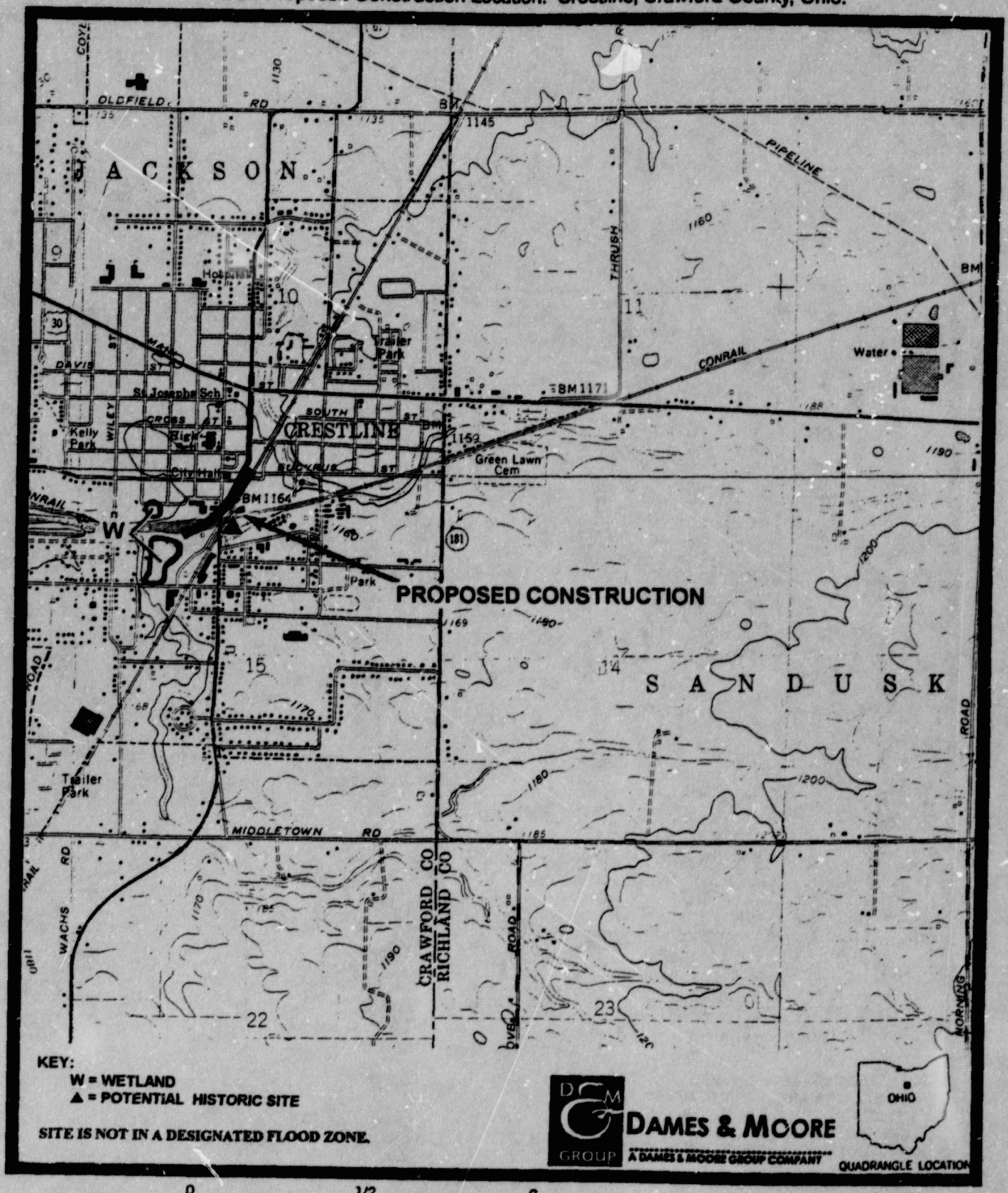
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: East Cleveland, Ohio 1979 (Photorevised 1979)*

Figure 4-19

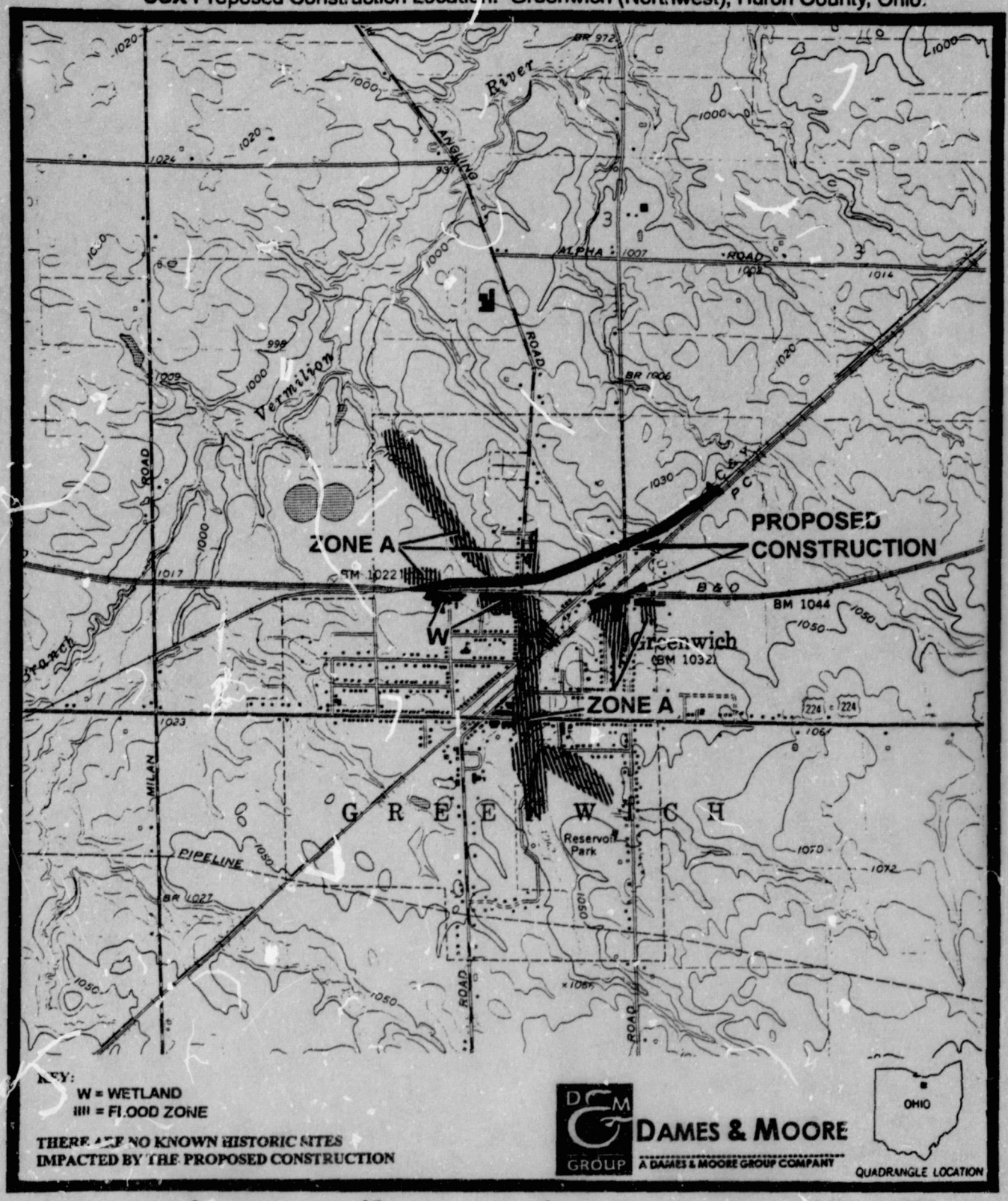
CSX Proposed Construction Location: Crestline, Crawford County, Ohio.



Base Map: *USGS 7.5' Topographic Quadrangle: Crestline, Ohio 1960 (Photorevised 1982)*

Figure 4-20

CSX Proposed Construction Location: Greenwich (Northwest), Huron County, Ohio.



SCALE 1:24,000

0 1/2 0 1 MILE

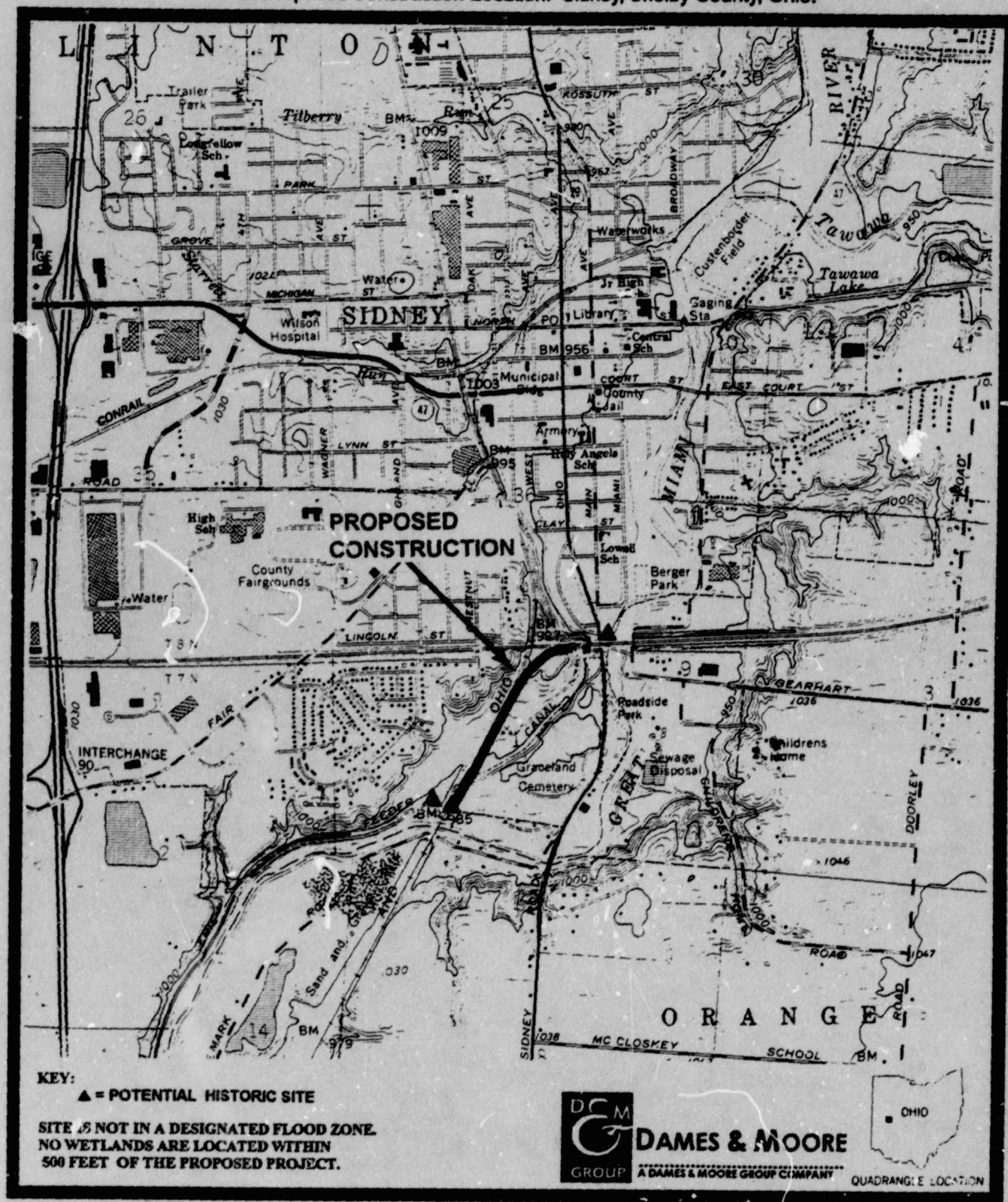
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

N

Base Map: *USGS 7.5' Topographic Quadrangle: Greenwich, Ohio 1960 (Photorevised 1972, Photoinspected 1977); New London, Ohio (Photorevised 1972, Photoinspected 1977)*

Figure 4-21

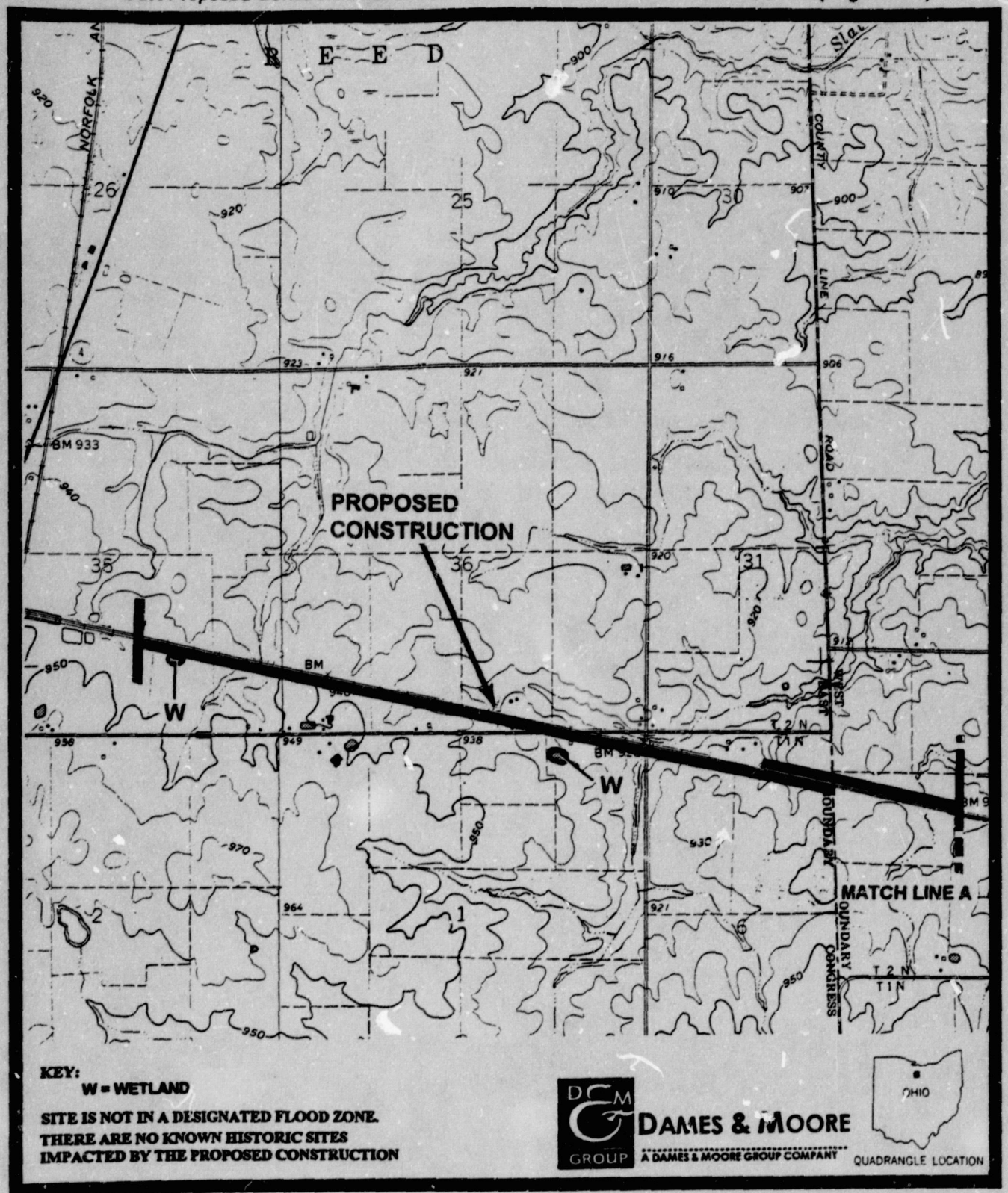
CSX Proposed Construction Location: Sidney, Shelby County, Ohio.



Base Map: *USGS 7.5' Topographic Quadrangle: Sidney, Ohio 1961 (photorevised 1982)*

Figure 4-22

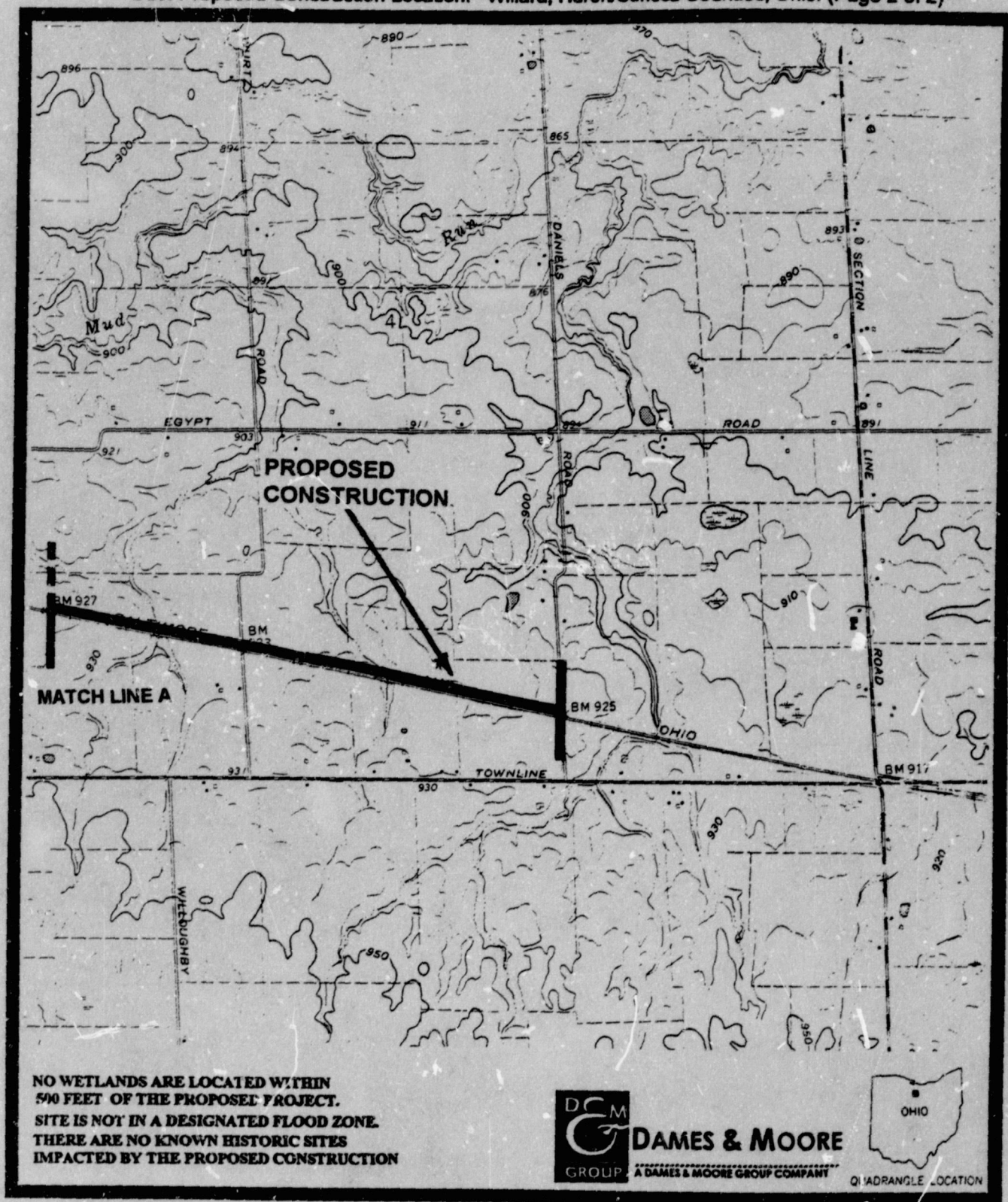
CSX Proposed Construction Location: Willard, Huron/Seneca Counties, Ohio. (Page 1 of 2)



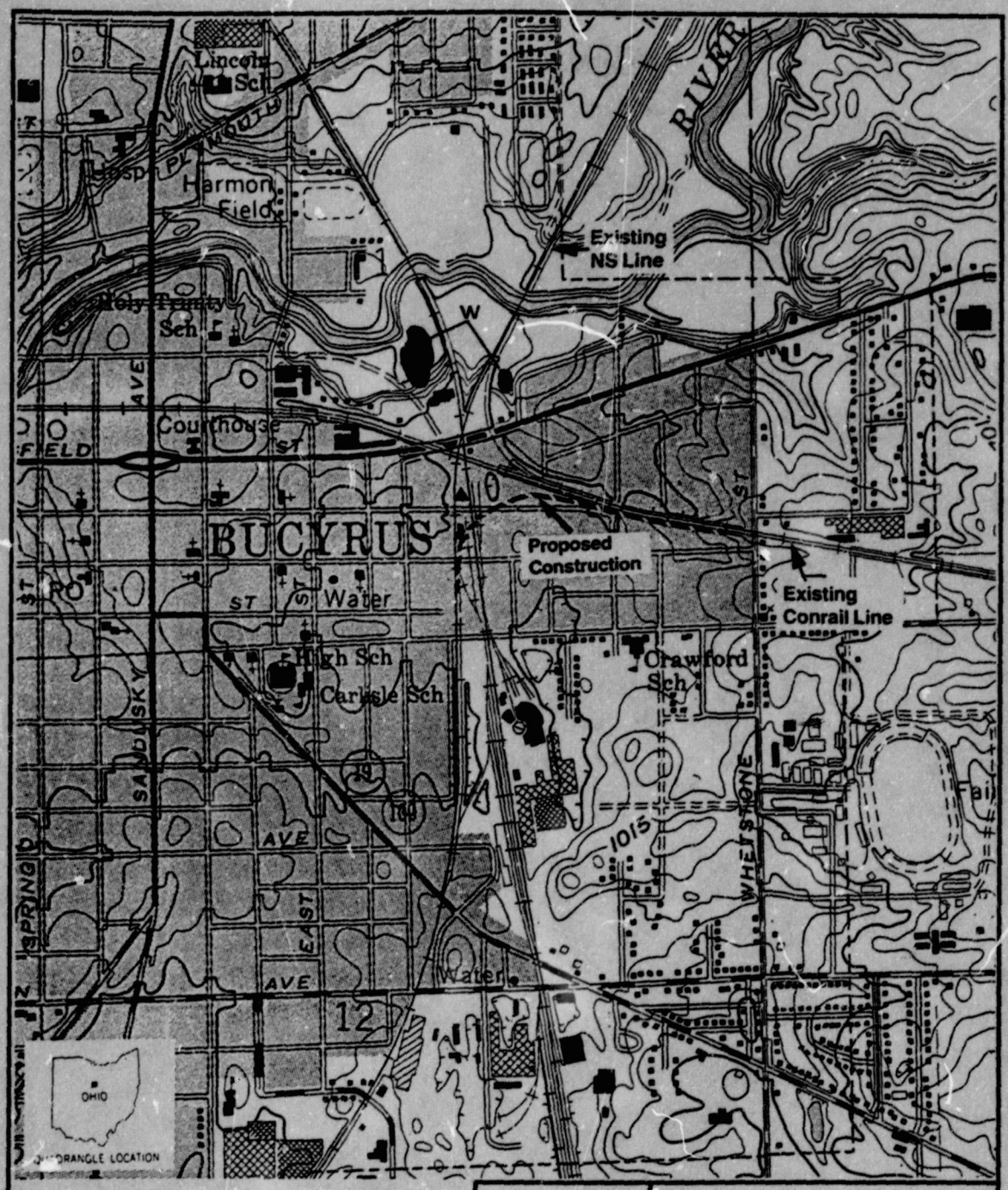
Base Map: *USGS 7.5' Topographic Quadrangle: Centerton, Ohio 1960 (Photorevised 1972)*

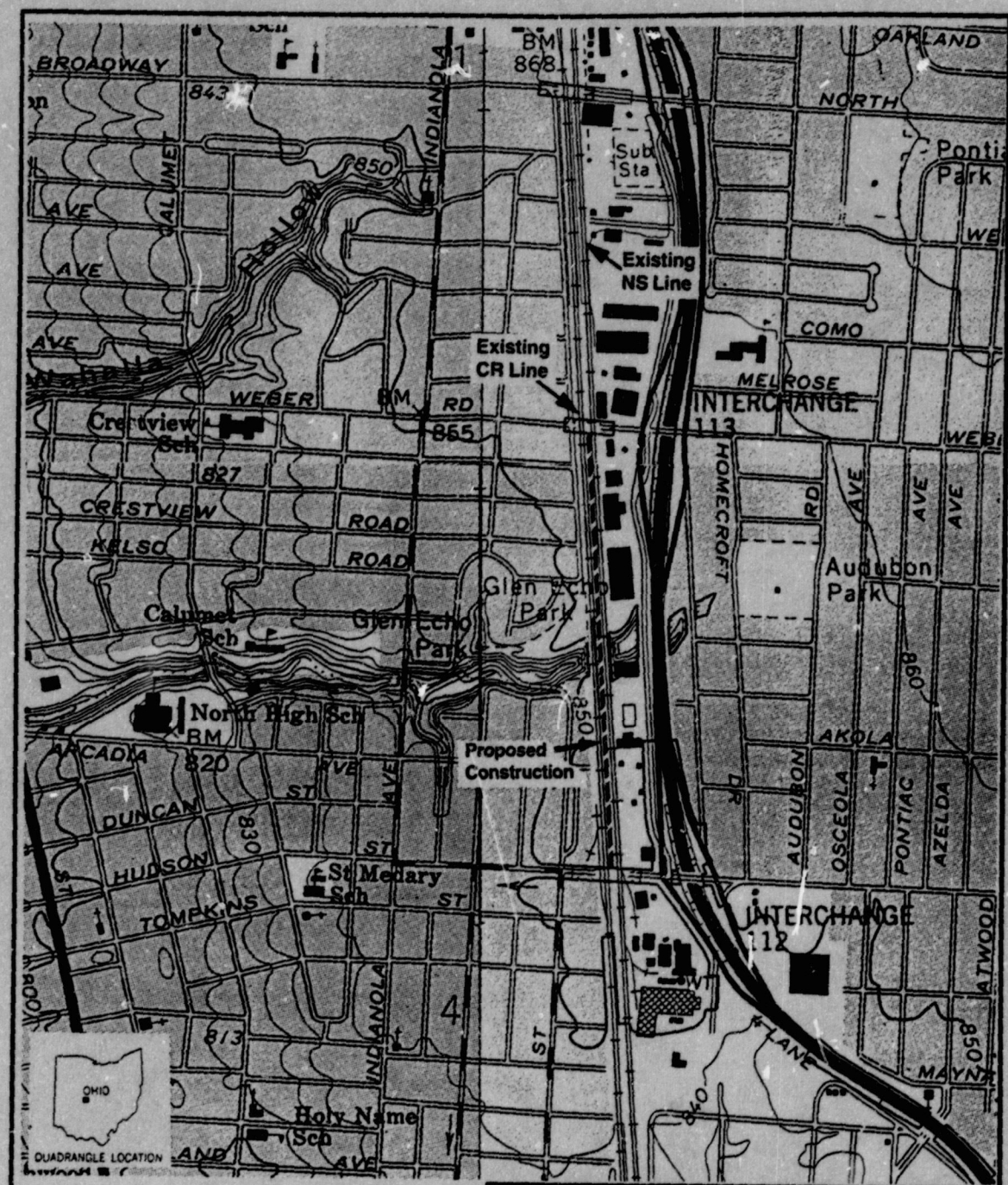
Figure 4-22

CSX Proposed Construction Location: Willard, Huron/Seneca Counties, Ohio. (Page 2 of 2)



Base Map: *USGS 7.5' Topographic Quadrangle: Centerton, Ohio 1960 (Photorevised 1972)*


Lincoln Sch
Harmon Field
Existing NS Line
Holy Trinity Sch
Courthouse
BUCYRUS
Proposed Construction
Existing Conrail Line
Water
High Sch
Carlisle Sch
Crawford Sch
1015
WHETSTONE
SANDUSKY
SPRING
EAST
AVE
ST
RIVER
OHIO
QUADRANGLE LOCATION
Legend:
W = Wetland Areas
Proposed Historical Resource Sites
MP = Milepost
N
Approximate Scale 1" = 1,100'
Burns & McDonnell
Figure 4-23
NS PROPOSED CONSTRUCTION
BUCYRUS, CRAWFORD COUNTY, OHIO



Legend:

W = Wetland Areas

▲ Proposed Historical Resource Sites
MP = Milepost

N

Approximate Scale 1" = 1,100'

Burns & McDonnell

Figure 4-24
NS PROPOSED CONSTRUCTION
COLUMBUS, FRANKLIN COUNTY, OHIO

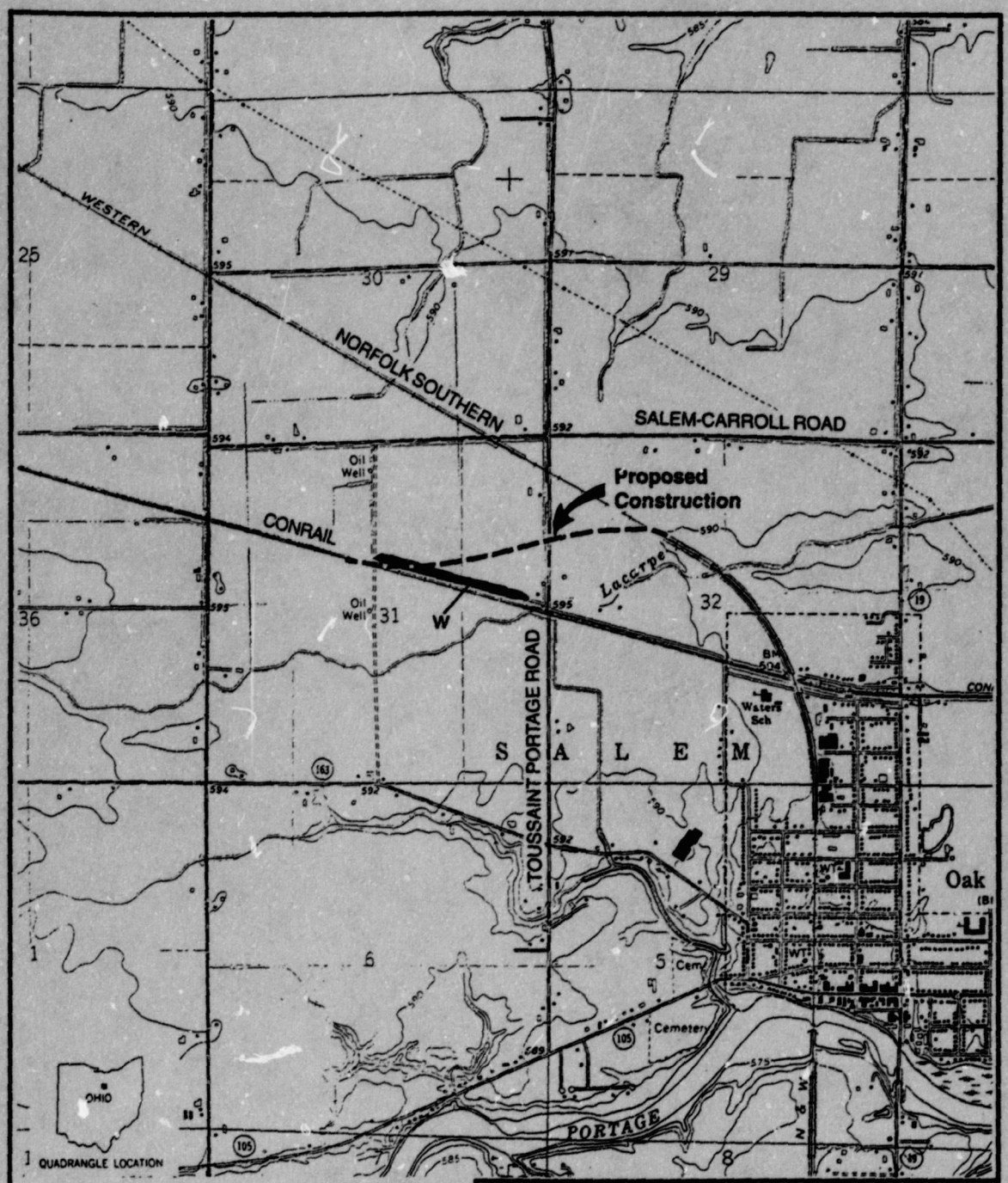


Figure 4-25
NS PROPOSED CONSTRUCTION
OAK HARBOR, OTTAWA COUNTY, OHIO

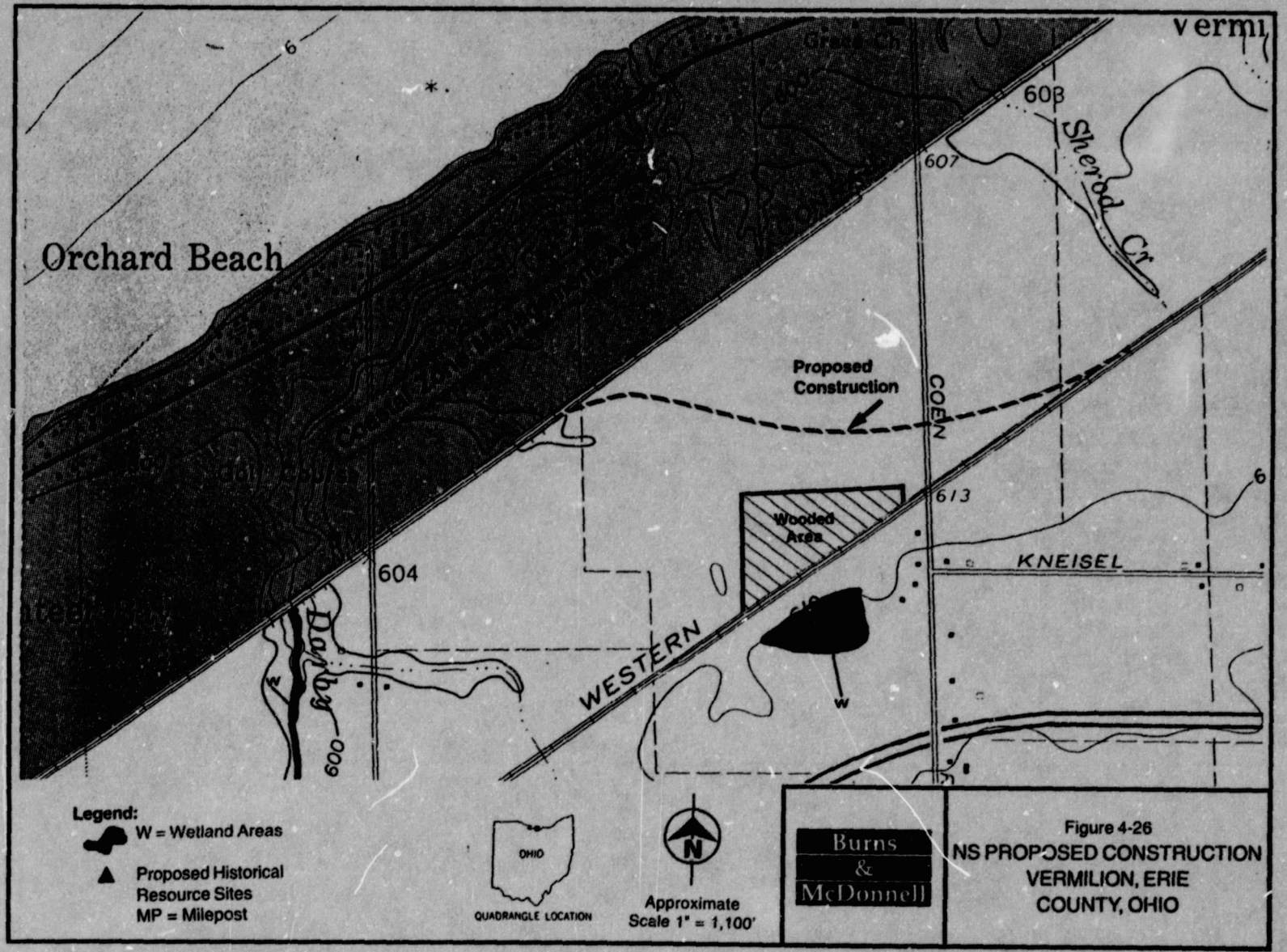


Figure 4-26
NS PROPOSED CONSTRUCTION
VERMILION, ERIE
COUNTY, OHIO

APPENDIX A

POTENTIAL IMPACT AREAS AND METHODOLOGIES FOR CONSTRUCTION AND ABANDONMENT PROJECTS

APPENDIX A
POTENTIAL IMPACT AREAS
AND METHODOLOGIES FOR
CONSTRUCTION AND ABANDONMENT PROJECTS

Several environmental impact areas were evaluated for each proposed abandonment and construction project requiring analysis. These include land use, water resources and wetlands, biological resources, air quality, noise, historic and cultural resources, transportation, safety and energy. The methods utilized in the assessment of impacts for each of these categories, with an explanation of the significance criteria, are provided below.

Each of the proposed projects was visited by environmental scientists to assess land use, vegetation (in general terms), presence of potentially historic structures and other characteristics of the areas. During the site reconnaissance visits, information was noted on topographic maps, and photographs of the areas adjacent to the rail lines were taken. Information was also obtained from published reference materials and from federal, state and local agencies.

LAND USE

Land use information was obtained from site investigations and from U.S. Geological Survey (USGS) topographic maps. Land use information from site visits was noted on USGS 7.5-minute topographic maps for each project. Land use within 500 feet of the proposed construction areas and along lines proposed for abandonment was determined. Buildings (such as residential and commercial buildings, schools and churches) near the proposed construction sites were also noted due to possible sensitivity to noise disturbance or incompatibility with construction. Contacts were made with county planning agencies in each state to obtain information on local planning and zoning requirements to determine if rights-of-way would be consistent with any such requirements. Contacts were made with the U.S. Bureau of Indian Affairs to determine the presence of any officially recognized Native American tribes or reservations near the site.

USGS Topographic Maps

USGS topographic maps were utilized during the site visits for notation of land use, and for preparation of the figures presented. When possible, information depicted on the topographic maps was verified in the field. The maps were also utilized to determine approximate distances not practically measured during the site visits. Proper place names of roads, creeks, and water bodies not readily evident during the site visits were developed from information on these maps.

NRCS Maps

The United States Department of Agricultural Natural Resources Conservation Service (NRCS, formerly known as the Soil Conservation Service) has created a national database of prime farmland. Local NRCS offices were contacted and requested to provide soil surveys, maps or drawings indicating the location of prime farmland at or in the vicinity of the projects. These maps or drawings were reviewed, and the areas of prime farmland adjacent to or within 500 feet of the center line of the railway were inventoried to determine approximate areas or lengths of prime farmland in the area.

Flood Zone Maps

The Federal Emergency Management Agency (FEMA) publishes maps showing areas subject to flooding. These maps were previously published and distributed by the U.S. Department of Housing and Urban Development (USDHUD) and are periodically updated and revised. Maps that cover each proposed project area were obtained and reviewed to determine which portions of the line would be located within the 100-year and 500-year flood plains.

Coastal Zone Management Plans

Any proposed project that may affect land or water uses within a coastal zone designated pursuant to the Coastal Zone Management Act (16 U.S.C. 1451 et seq.) must be found to be consistent with the state's Coastal Zone Management Plan. Contacts were made with state coastal zone agencies to determine if the proposed project was within coastal zone management jursidictional boundaries.

Significance Criteria

The following criteria were used to assess the significance of land use impacts:

Land Use Consistency and Compatibility

- The severity of visual, air quality and noise impacts on sensitive land uses.
- Interference with the normal functioning of adjacent land uses.
- Consistency and/or compatibility with local land use plans and policies.

Prime Agricultural Land

- Permanent loss of NRCS-designated prime farmland.

Coastal Zone Resources

- Consistency with the State Coastal Zone Management Plan.

WATER RESOURCES AND WETLANDS

Identification of the types and extent of surface water features occurring within 500 feet of the center line along proposed construction and abandonment sites was completed using a variety of information sources.

Water resources were primarily identified from site inspection and interpretation of hydrologic features delineated on USGS topos and NWI maps. The other information sources described below were used to confirm and/or refine the locations of these features.

USGS Topographic Maps

USGS topographic maps indicate, among other items, the types and extent of water features on the landscape. These features include permanent and intermittent streams, water bodies, wetlands, tidal channels, mudflats, sewage-treatment ponds, channels, culverts, and ditches. Water resources located within 500 feet of the railroad right-of-way were assessed for each project. Each crossing of a water resource was counted as required by 33 CFR Section 330.2 (I).

National Wetlands Inventory Maps

NWI maps show various water features with a focus on wetland resources. The inventory was completed by USFWS through a stereoscopic analysis of high altitude aerial photography and delineation of wetland types on USGS topos. Wetlands are classified by USFWS in accordance with *Classification of Wetlands and Deepwater Habitats of the United States*. A particular wetland is located and classified in detail on NWI maps by a sequence of alphabetical and numerical symbols based on the attributes of the wetland. A comprehensive explanation of the classification system is provided in the map legend. This classification system includes a broad range of the types and extent of wetland resources, as well as other water features. However, for this evaluation, wetlands were identified as rivers, lacustrine (reservoirs, lakes) or palustrine (any

vegetated wetland). Palustrine wetlands were further identified as forested, shrub/scrub, or emergent (containing herbaceous vegetation) wetlands. There are often differences between the USFWS definition of a "wetlands" and the definitions of various federal, state, and local regulatory agencies. All NWI wetlands that occur within 500 feet of the construction sites are depicted on figures.

Soil Survey Maps

Soil surveys have been completed by NRCS for a large number of counties in the United States. Maps have been prepared for each survey that show the types and extent of soil types. A subset of the soils mapped by NRCS is classified as "hydric;" that is, soils subjected to prolonged periods of flooding, ponding or saturation. The occurrence of a hydric soil provides an indication that an area may be a wetland. Information from the soil survey maps was used to cross-reference other sources of information to better understand the soils and hydrologic conditions at select locations.

Site Visits

Sites of all proposed projects were inspected and reviewed in the field by environmental scientists, as well as by representatives of CSX, NS, or Conrail. Information about water resources and other areas of interest was collected during the inspections. Field notes and photographs taken during the inspections were retained for later review and utilized to amend and refine information derived from other sources.

Significance Criteria

The following criteria were used to assess the potential impacts to water resources and wetlands that could result from the proposed construction projects:

- Alteration of creek embankments with rip-rap, concrete, and other bank stabilization measures.
- Temporary or permanent loss of surface water area associated with the incidental deposition of fill.
- Downstream sediment deposition or water turbidity due to fill activities, dredging, and/or soil erosion from upland construction site areas.
- Direct or indirect destruction and/or degradation of aquatic, wetland, and riparian vegetation/habitat.
- Degradation of water quality through sediment loading or chemical/petroleum spills.
- Alteration of water flow that could increase bank erosion or flooding, uproot or destroy vegetation, or affect fish and wildlife habitats.

The extent and duration of impacts to water resources and wetlands resulting from a specific project would depend primarily on the type of work to be completed and the size of the project. The overall effect could be lessened by avoiding important resources and minimizing impacts to the extent practicable, and by implementing the proposed mitigation measures. Prior to initiating any construction or abandonment, regulatory agencies would be consulted regarding the need to obtain permits, such as U.S. Army Corps of Engineers' (COE) Section 404 permits, National Pollution Discharge Elimination System (NPDES) permits, and state-required permits or agreements, as appropriate.

BIOLOGICAL RESOURCES

Information regarding biological resources potentially occurring at or in the immediate vicinity of each proposed project (within 500 feet of the center line) was collected from a variety of sources, including USGS topographic maps, NRCS soil survey maps, lists of threatened and endangered species, reference books on regional flora and fauna, and information databases. In addition, federal and state agencies such as the U.S. Fish and Wildlife Service and Departments

of Natural Resources were consulted, and specific information concerning the potential occurrence of sensitive plants and animals in the vicinity of the proposed project sites was solicited.

Site visits were conducted at all of the project sites to evaluate biological resources (in general terms). These evaluations included general determinations as to the occurrence or potential occurrence of sensitive species and habitat for sensitive species, overall value to wildlife, and use of the area as a migration corridor for animals.

Significance Criteria

The following significance criteria were utilized to assess the potential impacts to biological resources resulting from the proposed projects:

- Loss or degradation of unique or important vegetative communities.
- Disturbance of nesting, breeding or foraging areas of threatened or endangered wildlife.
- Loss or degradation of areas designated as critical habitat.
- Loss or degradation of wildlife sanctuaries, refuges or national, state or local parks/forests.
- Alteration of movement or migration corridors for animals.
- Loss of large numbers of local wildlife or their habitats.

Sensitive animal species with potential to occur in the vicinity of a project may be impacted by abandonment or construction activities. A determination as to the level of impact will depend on many factors including the availability of suitable habitat, previous surveys, and comments from agencies.

Parks, forest preserves, refuges and sanctuaries were identified within one mile of the proposed construction. These areas were visited or local officials contacted to obtain information on what recreational opportunities and facilities were present. Impacts to these areas were determined based on their distance from the proposed constructions and the degree to which rail construction, operation and maintenance would disturb or disrupt activities at these areas.

HISTORIC AND CULTURAL RESOURCES

In order to evaluate the potential impacts to historic and cultural resources, the State Historic Preservation Officer (SHPO), in each state where a rail line abandonment or construction is proposed, was sent a letter requesting information on known historic properties or archaeological sites potentially affected by the project, or the offices were visited by a qualified archaeologist to review records and files. The SHPOs were asked to indicate whether further actions are needed to identify historic properties. Each letter was followed by telephone or personal contact with each SHPO. Documentation of historic and cultural resources in the project area was requested, evaluations of structures (primarily bridges) as potentially eligible for the NRHP was sought, and a determination of the potential impacts of the project on any NRHP eligible structures was requested.

In addition to information provided by the SHPOs, information maintained by CSX, NS, and Conrail, was reviewed to determine what structures, if any, associated with a proposed abandonment project might be eligible for the NRHP. Bridges in particular were reviewed to determine their type, age, length or size, any other distinguishing characteristics, and potential eligibility for the NRHP.

In accordance with 49 CFR 1105.8, each of the proposed rail line abandonments and constructions is shown on USGS topographic maps, as well as the location, if available, of documented historic properties. Known archaeological sites, if within the construction areas,

were not depicted on these figures due to the sensitive nature of these resources. These resources are, however, discussed in the evaluation of each proposed project.

Impacts to historic and archaeological resources would be considered adverse (as defined in 36 CFR 800.9) if any site listed or eligible for listing on the NRHP would experience destruction of the site; alteration of site characteristics or setting; neglect resulting in deterioration or destruction; or transfer, lease, or sale of the property on which the site occurs if adequate restrictions or conditions are not included to ensure preservation of the property's significant historic features.

TRANSPORTATION AND SAFETY

Potential impacts on local transportation systems are discussed for each proposed project. Railroad safety precautions during construction and abandonment work are also discussed. Safety on the associated rail line segments was evaluated as discussed in the methodologies for Safety and Transportation, included in an Appendix in Part 1 of the ER.

Hazardous waste sites are also discussed under the Transportation and Safety section. Railroad records or information databases were examined to determine if there are known hazardous waste sites or sites where there have been hazardous materials spills at construction or abandonment locations. The information searches of federal and state environmental databases were used to identify known sites of environmental concern within 500 feet of the proposed construction and abandonment sites. EDR searched the following databases:

- National Priority List (NPL)
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- Resource Conservation and Recovery Information System - Treatment, Storage, or Disposal (RCRA-TSD) sites

- Emergency Response Notification System (ERNS) spill sites
- State Priority List (SPL)
- State Licensed Solid Waste Facilities (SWF/LF)
- State Inventory of Leaking Underground Storage Tanks (LUST)
- State Inventory of reported spills (SPILLS)
- Orphan or unmappable sites list

The reports were reviewed to determine if any of these sites would be impacted by the proposed constructions and abandonments. Site visits noted any obvious indications of potential hazardous waste sites within the project areas.

AIR QUALITY

Emissions from trains have the potential to impact air quality. STB regulations contain thresholds for air quality impacts related to rail traffic increases. If STB thresholds would be met, the impact to air quality must be analyzed. Methods for analyzing air quality impacts for projects that would meet STB thresholds are included in an Appendix in Part 1 of the ER. General impacts to air quality are discussed below.

Abandonment/Construction

During abandonment and construction, the air quality in the vicinity of the proposed construction could be impacted by fugitive dust and vehicle emissions. Increases in fugitive dust could occur due to grading and other earthwork necessary for rail bed preparation or removal activities. Emissions from heavy equipment and construction vehicles would also occur. These impacts to air quality would be temporary and limited to the period of construction or abandonment. Additionally, the emissions from the small number of vehicles and equipment would be insignificant compared to the overall train and vehicle emissions in the project areas. Any

impacts would be minimized by CSX's and NS's Best Management Practices that would include dust control and vehicle maintenance measures.

Operation

Following abandonment, trains would no longer operate on the particular rail line. As no operations would occur, there would be no operational impacts to air quality. Current rail traffic on most of the lines that are proposed for abandonment is very low, and will be diverted to other existing lines. Even if some of the traffic would be diverted to trucks, which are less fuel efficient and have greater emissions per ton-mile than locomotives, the total or net impact to ambient air quality is expected to be minimal. Therefore, air impacts from traffic are not addressed on a site by site basis.

For proposed construction projects, the amount of train traffic operating over the proposed project may meet STB thresholds for air quality. For those projects where STB thresholds are anticipated to be met, air impacts were evaluated. The methodology for determining the potential impacts is included in an Appendix in Part 1 of the ER. For those construction where STB thresholds would not be exceeded, the operation of trains over the proposed line is not expected to significantly impact air quality. Further, the proposed Acquistion would result in a significant number of truck-to-rail diversions, potentially improving the ambient air quality in the region of the proposed construction.

Maintenance

No maintenance activities would occur along abandoned lines. Therefore, no impacts to air quality would result.

Right-of-way maintenance activities along new connections would temporarily impact air quality as a result of emissions from vehicles and equipment used to perform maintenance activities. Maintenance activities would be confined to the rail line and occur sporadically for short periods throughout the year. Emissions during maintenance activities would be insignificant compared to the existing emissions in the area and would not significantly impact air quality.

NOISE

Abandonment/Construction

Most of the proposed projects would consist of abandonment or construction activities that last for, at most, a few months at any one location. Temporary increases in noise level would occur during these operations, but the noise level would be similar to that of normal track maintenance procedures. Thus, the abandonment and construction activities are not expected to result in significant adverse noise impacts.

Operation

The proposed abandonment projects are not expected to result in significant long-term adverse noise impacts. Following abandonment and salvage, all adjacent land uses would experience a reduction in noise impact. The only potential long-term adverse noise impacts would result from moving traffic from the abandoned lines to other lines or facilities. Any impacts related to the rerouting of rail traffic resulting in increases on those rail lines that meet STB thresholds are discussed in Part 2.

The noise sources for the operation of new connections would be the same as on line segments with the addition of potential wheel squeal on the connection curves. The noise of through trains on the connections has been modeled using the same approach used to evaluate noise impacts on

the line segments, as assessed in Part 2 of the ER and discussed in the Noise methodology in an Appendix to Part 1 of this ER. Measurements were performed at representative, existing connections to characterize the levels of wheel squeal level. It is commonly accepted that wheel squeal is likely to occur on curves with a radius that is less than 100 times the wheelbase. This means that wheel squeal results on any curve with a radius less than about 1000 feet or when the curvature of the track is greater than approximately 5°. (Rail curvature is usually specified in terms of "degrees of curvature." The relationship between radius and degree of curvature is: Radius = 5370 ÷ Degree.)

The sound exposure level (SEL) of one train on a curve was approximated using the following relationship:

$$SEL = 95 + 10log(\text{Train length in ft} \div \text{Train speed in mph}) + 15\log(35 \div \text{Dist}) - 1.6$$

Noise from rail line construction and operation has the potential to impact noise receptors along the rail line. Sensitive noise receptors include residences, schools, churches, libraries and hospitals. Sensitive noise receptors within 500 feet of proposed projects were identified since these would be the most likely affected by noise from construction or abandonment activities and any subsequent rail operations. For construction projects expected to meet STB noise thresholds, the number of noise receptors experiencing average daily noise levels (Ldn) of 65 decibels or greater was determined.

ENERGY

The proposed projects would allow CSX and NS to use shorter rail routes between destinations, increasing the efficiency of their systems. Shorter, more direct routes would reduce the overall fuel consumption of locomotives. None of the proposed abandonments would result in the diversion of rail traffic to truck traffic meeting STB thresholds for detailed evaluation. Thus, the

proposed projects would have an overall positive impact on energy use and encourage diversion of truck traffic to more fuel efficient rail transport.

APPENDIX B
AGENCY CORRESPONDENCE

NO OBJECTION
U.S. Fish & Wildlife Service
Rock Island, Illinois
J J Miller 5/29/97
Supervisor Date

WORLDWIDE SERVICES
Burns & McDonnell
ENGINEERS • ARCHITECTS • CONSULTANTS

May 28, 1997

Re: Sydney Connection
Tolono Connection

Mr. Wayne A. Fischer
Fish and Wildlife Service
Rock Island Field Office
4469 - 48th Avenue Court
Rock Island, Illinois 61201

Norfolk Southern Corporation
Proposed Norfolk Southern Construction Project
Project No. 96-678-4-100

Dear Mr. Fischer:

This letter is to notify you of a proposed construction by Norfolk Southern Railway Company (NS) of a connection between two rail lines in Sidney, Illinois and to request your agency's input regarding environmental issues related to the proposed construction. The Sidney connection would be 3,200 feet long and occupy 7.3 acres. Six trains per day are expected to be operated over the proposed track. A map of the proposed construction project in Sidney is enclosed. We request your comments or concerns on this project. Any information you can provide relating to the following issues would be helpful:

- local land use
- ambient noise levels
- energy use
- public health and safety
- water resources
- wetlands
- existing transportation system
- air emissions and ambient air quality
- historic or archaeological sites
- socioeconomics (population, employment and development)
- biological resources (wildlife, fisheries, T & E species, critical habitat, parks and refuges)
- coastal areas

CSX Corporation (CSX), NS, and Conrail, Inc. (Conrail) have notified the Surface Transportation Board (STB) that they intend to file in June 1997 a joint application seeking authorization for CSX and NS to acquire control of Conrail and for the subsequent division of Conrail's assets between CSX and NS (the Conrail Acquisition). This joint application supercedes the earlier separate proposals of CSX and NS to merge with Conrail. (Earlier this year you may have received requests for your comments on the separate CSX and NS merger proposals.)

9400 Ward Parkway
Kansas City, Missouri 64114
Tel: 816 333-9400
Fax: 816 333-3690

Burns & McDonnell

Mr. Fischer
May 28, 1997
Page 2

NS has asked the STB to review its application for construction of this connection on an expedited basis so that, if approval to construct is granted, NS will be ready immediately to operate over the connection in the event that the STB grants authorization for the Conrail acquisition.

Again, please let us know of any specific issues your agency thinks should be addressed in our report.

Your comments are needed by June 5, 1997 to ensure inclusion in NS's submittal to the Surface Transportation Board. Your assistance is greatly appreciated. Due to the restricted schedule, we will contact you to make sure you have received this letter and to obtain any initial information you may have. If a visit to your office would help facilitate your response, we will make an appointment and come in to meet with you.

If you have any questions about this project, please call me at (816) 822-3840. Thank you for your assistance.

Sincerely,

Truman E Louderback

Truman E. Louderback
Associate

Enclosure

ILLINOIS
DEPARTMENT OF
NATURAL RESOURCES

524 South Second Street, Springfield 62701-1787

Jim Edgar, Governor ● Brent Manning, Director

May 6, 1997

Re: Sydney Connection
Tolono Connection

Kyle Blanz
Burns & McDonnell
Post Office Box 419173
Kansas City, Missouri 64141-6173

RE: Natural Heritage Database Review, #41592
Railroad Construction in Sidney and Telono, Champaign Co.

Dear Mr. Blanz:

Thank you for sending the above project to this office for review of the presence of endangered and threatened species, Illinois Natural Area Inventory (INAI) sites, and dedicated Illinois Nature Preserves. According to the Natural Heritage Database, there are no known occurrences of listed species, or INAI sites and Nature Preserves within the vicinity of either project area. No further information will therefore be needed.

If you need additional information or have any questions, please do not hesitate to contact me at 217-785-5500.

Sincerely,

Kim M. Roman

Kim M. Roman
Project Manager
Endangered Species Consultation Program

INDIANA DEPARTMENT OF NATURAL RESOURCES

LARRY D. MACKLIN, DIRECTOR

Executive Office
402 W. Washington St., Rm. W-256
Indianapolis, IN 46204-2748

May 12, 1997

Ms. Gabe Hernandez
Agency Coordinator
Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114

Re: Tolleston Connection

Re: DNR #6363 - Proposed new rail line construction; Norfolk Southern/CSX acquisition of Conrail; Lake County

Dear Ms. Hernandez:

Per your request and in accordance with the National Environmental Policy Act of 1969, the Indiana Department of Natural Resources has reviewed the above referenced project. Our agency offers the following comments for your information.

This proposal will not require the formal approval of our agency pursuant to either the Flood Control Act (IC 14-28-1) or the Lake Preservation Act (IC 14-26-2).

The Natural Heritage Program's data have been checked and, to date, no plant or animal species listed as state or federally threatened, endangered, or rare have been reported to occur in the project vicinity.

We appreciate this opportunity to be of service. If we can be of further assistance, please do not hesitate to contact Steve Jose at (317) 232-4080.

Sincerely,

David T. Herbst, Deputy
for Larry D. Macklin
Department of Natural Resources

LDM:SHJ:rhb

Gabe Hernandez	From: Lori Byrne
Burns McDonnell	Co: MD DNR-Forests
	Phone #: 410-974-3815
816-822-3296	Fax #

Parris N. Glendening
Governor

Maryland Department of Natural Resources
Forest, Wildlife and Heritage Service
Tawes State Office Building
Annapolis, Maryland 21401

John R. Griffin
Secretary

Carolyn D. Davis
Deputy Secretary

June 5, 1997

Burns & McDonnell
ATTN.: Mr. Gabe Hernandez
9400 Ward Parkway
Kansas City, MO

Re: Hagerstown Connection

RE: Norfolk Southern Corporation, Construction Projects for Norfolk Southern/CSX Acquisition of Conrail (Finance Docket 33286), Project No. 96-678-4, Washington County, Maryland.

Dear Mr. Hernandez:

The Wildlife and Heritage Division has no records for Federal or State rare, threatened or endangered plants or animals within this project site. This statement should not be interpreted as meaning that no rare, threatened or endangered species are present. Such species could be present but have not been documented because an adequate survey has not been conducted or because survey results have not been reported to us.

Sincerely,

Michael E. Slattery
MEBR

Michael E. Slattery
Associate Director, Wildlife
& Heritage Division

ER# 97.1289.wa

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528

K. L. COOL, Director

REPLY TO:
WILDLIFE DIVISION
PO BOX 30444
LANSING MI 48909-7944

May 14, 1997

Mr. Gabe Hernandez
Agency Coordinator
Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114

Re: Ecorse Junction Connection

Dear Mr. Hernandez:

Thank you for your letter of April 30, 1997, regarding Construction Project No. 96-678-4.

Your request for information was checked against known localities for special natural features recorded in the Michigan Natural Features Inventory (MNFI) database, which is part of the Natural Heritage Program, Wildlife Division. The MNFI is an ongoing, continuously updated information base, which is the only statewide, comprehensive source of existing data on Michigan's endangered, threatened, or otherwise significant plant and animal species, natural plant communities, and other natural features.

Records in the MNFI database indicate that a qualified observer has documented the presence of special natural features at a site. The absence of records in the database for a particular site may mean that the site has not been surveyed. Records are not always up-to-date and may require verification. In some cases, the only way to obtain a definitive statement on the status of natural features is to have a competent biologist perform a complete field survey.

The presence of listed species does not necessarily preclude development but may require alterations in the development plan. An endangered species permit will be required from the Department of Natural Resources, Wildlife Division, if any listed species would be taken or harmed.

The following is a summary of the results of the MNFI review of the site in question:

There are no known occurrences of federal- or state-listed endangered, threatened, or otherwise significant species, natural plant communities, or natural features at the location specified: Wayne County, T2S R11E.

MAY 2? 19??

R 1026e
REV. 04/97

If the project is located on or adjacent to wetlands, inland lakes, or streams, additional permits may be required. Contact the Michigan Department of Environmental Quality, Land and Water Management Division, P.O. Box 30473, Lansing, MI 48909 (517-373-1170).

Sincerely,

George E. Burgoyne, Jr., Chief
Wildlife Division
517-373-1263

GEB:mb

United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, New York 13045

Re: Blasdell Connection
Gardenville Connection

May 1, 1997

OPTIONAL FORM 99 (7-90) 6-6-97

FAX TRANSMITTAL # of pages ▸ 2

To Gabe Hernandez — From Michael F. Stelzig

Dept./Agency — Phone # 607-753-9334

Fax # — Fax # 607-753-9699

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

Mr. Gabe Hernandez
Agency Coordinator
Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114

Dear Mr. Hernandez:

This responds to your FAX of April 30, 1997, requesting information on the presence of Federally listed or proposed endangered or threatened species in the vicinity of the proposed new rail line construction by Norfolk Southern/CSX in the Town of Lackawanna, Erie County, New York.

Except for occasional transient individuals, no Federally listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. Therefore, no Biological Assessment or further Section 7 consultation under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) is required with the U.S. Fish and Wildlife Service (Service). Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

The above comments pertaining to endangered species under our jurisdiction are provided pursuant to the Endangered Species Act. This response does not preclude additional Service comments under the Fish and Wildlife Coordination Act or other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact:

New York State Department of
Environmental Conservation
Region 9
128 South Street
Olean, NY 14760
(716) 851-7000

New York State Department of
Environmental Conservation
Wildlife Resources Center - Information Serv.
New York Natural Heritage Program
700 Troy-Schenectady Road
Latham, NY 12110-2400
(518) 783-3932

The National Wetlands Inventory (NWI) map of the Buffalo Southeast Quadrangle is available and may show wetlands in the project vicinity. However, while the NWI maps are reasonably accurate, they should not be used in lieu of field surveys for determining the presence of wetlands or delineating wetland boundaries for Federal regulatory purposes.

Work in certain waters and wetlands of the United States may require a permit from the U.S. Army Corps of Engineers (Corps). If a permit is required, in reviewing the application pursuant to the Fish and Wildlife Coordination Act, the Service may concur, with or without stipulations, or recommend denial of the permit depending upon the potential adverse impacts on fish and wildlife resources associated with project implementation. The need for a Corps permit may be determined by contacting Mr. Paul Leuchner, Chief, Regulatory Branch, U.S. Army Corps of Engineers, 1776 Niagara Street, Buffalo, NY 14207 (telephone: [716] 879-4321).

If you require additional information please contact Michael Stoll at (607) 753-9334.

Sincerely,

Mark W. Clough

ACTING FOR

Sherry W. Morgan
Field Supervisor

cc: NYSDEC, Olean, NY (Compliance Services)
NYSDEC, Latham, NY
COE, Buffalo, NY
NYFO, Project & BR Files
Stoll File
ES:NYFO:MStoll:mfs:mvd

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

IN REPLY REFER TO:

(614) 469-6923/FAX (614) 469-6919

May 19, 1997

Re: Bucyrus Connection
Columbus Connection

Mr. Gabe Hernandez
Burns and McDonnell
9400 ward Parkway
Kansas City, Missouri 64114

RE: Norfolk Southern Corporation, Construction Projects in Crawford and Franklin Counties, Ohio, for Norfolk Southern/CSX Acquisition of Conrail, Finance Docket 33286
Project No. 96-678-4

Dear Mr. Hernandez:

This responds to your April 30, 1997 letter requesting our comments on your proposal referenced above.

These comments are provided under the authority of the Endangered Species Act of 1973, as amended.

ENDANGERED SPECIES COMMENTS: To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action. Therefore, we are providing you the following list of endangered (E), threatened (T), or proposed (PT or PE) species which may be present in the area of concern.

FEDERALLY ENDANGERED, THREATENED & PROPOSED SPECIES; OHIO
July 29, 1996

NAME/STATUS	COUNTIES OF CURRENT, RECENT (c. 25 years) AND POSSIBLE DISTRIBUTION
Indiana bat (E) Myotis sodalis	Adams, Allen, Ashland, Ashtabula, Auglaize, Brown, Butler, Champaign, Clark, Clermont(M), Clinton, Columbiana, Crawford, Cuyahoga, Darke Defiance, Delaware, Erie, Fairfield, Fayette, Franklin, Fulton, Geauga, Greene, Hamilton(M), Hancock, Hardin, Henry, Highland, Hocking, Holmes, Huron, Knox, Lake, Licking, Logan, Lorain, Lucas, Madison, Mahoning, Marion, Medina, Mercer, Miami, Montgomery, Morrow, Ottawa, Paulding, Perry, Pickaway, Pike, Portage, Preble(H), Putnam, Richland, Ross, Sandusky, Scioto, Seneca, Shelby, Stark, Summit, Trumbull, Union, Van Wert, Warren(M), Wayne, Williams, Wood, Wyandot

Peregrine falcon (E) Falco peregrinus	Cuyahoga(N), Franklin(N), Hamilton(N), Lorain(N), Lucas(N), Montgomery(N), Summit(H)
Scioto madtom (E) Noturus trautmani	Franklin, Madison, Pickaway, Union
Northern rifflesheil (E) Epioblasma torulosa rangiana	Franklin, Madison, Pickaway, Williams
Pleurobema clava	Fairfield, Franklin, Greene, Hancock, Madison, Pickaway, Trumbull, Tuscarawas, Union, Williams

STATUS CODES:

E = Endangered
N = Nest site (eagles/peregrine falcons)
H = Hack site (peregrine falcons)
W = Winter use site (eagles)

* = Summer maternity colony located in the county (Indiana bat)
H = Winter hibernacula located in the county (Indiana bat)

ADDITIONAL COMMENTS

Two divisions of the Ohio Department of Natural Resources, the Division of Wildlife (614-265-6300) and the Division of Natural Areas and Preserves (614-265-6472), maintain lists of plants and animals of concern to the State of Ohio. If you have not already done so, please contact each of the above two agencies to obtain project comments or site-specific information on State listed species. In addition, the Ohio Environmental Protection Agency (OEPA; 614-728-3393; 614-644-2001) will sometimes make available lists of fish and invertebrate species found in many of Ohio's rivers and streams.

We can provide more specific comments when your construction plans are complete and submitted for our review.

Sincerely,

Ken Multener
fo. Kent E. Kroonemeyer
Supervisor

cc: DOW, Wildlife Environmental Section, Columbus, OH
ODNR, Division of Real Estate and Land Management, Columbus, OH
Ohio EPA, Water Quality Monitoring, Attn: C. Crook, Columbus, OH
US EPA, Office of Environmental Review, Chicago, IL

Received from the Illinois Department of Natural Resources.

APPENDIX IV - County Listing

Scleria muhlenbergii
Stylisma pickeringii
Thelypteris phegopteris

Champaign

Cypripedium candidum
Microseris cuspidata
Phlox pilosa subsp. *sangamonensis*
Plantago cordata
Platanthera leucophaea
Tomanthera auriculata

Christian

Trifolium reflexum
Plantago cordata

Clark

Silene regia
Veratrum woodii
Viburnum molle

Clay

Lactuca ludoviciana
Utricularia minor

Clinton

Hydrocotyle ranunculoides
Styrax americana

Coles

Spiranthes romanzoffiana
Veratrum woodii

Cook

Agropyron subsecundum
Alnus rugosa
Amelanchier sanguinea
Ammophila breviligulata
Arctostaphylos uva-ursi
Arenaria patula
Asclepias lanuginosa
Asclepias meadii
Asclepias ovalifolia
Beckmannia syzigachne
Bidens beckii
Botrychium simplex
Cakile edentula
Calopogon tuberosus
Carex alata
Carex atherodes
Carex aurea
Carex crawei
Carex garberi
Carex intumescens
Carex tuckermanii
Carex viridula
Carex woodii
Ceanothus ovatus
Chamaedaphne calyculata
Chamaesyce polygonifolia
Chimaphila maculata
Cimicifuga racemosa
Circaea alpina
Cirsium pitcheri
Comptonia peregrina
Conioselinum chinense
Corallorhiza maculata
Cornus canadensis
Corydalis aurea
Corydalis sempervirens
Cypripedium acaule
Cypripedium calceolus var. *parviflorum*
Cypripedium candidum
Cypripedium reginae
Drosera intermedia
Drosera rotundifolia
Eleocharis olivacea
Eleocharis pauciflora
Eleocharis rostellata
Filipendula rubra
Gaultheria procumbens
Geranium bicknellii
Glyceria borealis
Helianthus giganteus
Hypericum kalmianum
Juncus alpinus
Juncus vaseyi
Juniperus communis
Juniperus horizontalis
Lactuca ludoviciana
Larix laricina
Lathyrus maritimus
Lathyrus ochroleucus
Lechea intermedia
Lespedeza leptostachya
Liatris scariosa var. *nieuwlandii*
Lycopodium dendroideum
Lycopodium inundatum
Medeola virginiana
Melampyrum lineare
Milium effusum
Oenothera perennis
Orobanche fasciculata
Oryzopsis racemosa
Panicum boreale
Pinus banksiana
Plantago cordata
Platanthera flava var. *herbiola*
Platanthera ciliaris
Platanthera clavellata
Platanthera leucophaea
Platanthera psycodes
Poa languida
Poa wolfii
Pogonia ophioglossoides
Polygala incarnata
Polygonatum pubescens
Polygonum careyi
Populus balsamifera
Potamogeton gramineus
Potamogeton praelongus
Potamogeton robbinsii
Potamogeton strictifolius
Ranunculus cymbalaria
Ranunculus rhomboideus
Rhynchospora alba
Rhynchospora globularis
Rhynchospora glomerata
Ribes hirtellum
Rorippa islandica subsp. *hispida*
Rubus odoratus
Rubus pubescens
Salix syrticola
Sambucus pubens
Sarracenia purpurea
Scirpus paludosus
Scirpus polyphyllus
Shepherdia canadensis
Silene regia
Sisyrinchium montanum
Sorbus americana
Sparganium americanum
Sparganium chlorocarpum
Spiranthes lucida
Spiranthes romanzoffiana
Stellaria pubera

Thismia americana
Thuja occidentalis
Tofieldia glutinosa
Tomanthera auriculata
Trientalis borealis
Trifolium reflexum
Triglochin maritima
Triglochin palustris
Trillium cernuum
Ulmus thomasii
Utricularia cornuta
Utricularia intermedia
Utricularia minor
Vaccinium corymbosum
Vaccinium macrocarpon
Veronica scutellata
Viola conspersa
Viola incognita

Crawford

Iresine rhizomatosa
Veratrum woodii

Cumberland

Carex communis
Castanea dentata
Veratrum woodii

De Kalb

Asclepias lanuginosa
Cypripedium candidum
Lactuca ludoviciana
Platanthera leucophaea
Ranunculus rhomboideus
Ribes hirtellum
Sambucus pubens
Sullivantia renifolia
Viola conspersa

Du Page

Agropyron subsecundum
Amelanchier interior
Arenaria patula
Asclepias lanuginosa
Betula alleghaniensis
Calopogon tuberosus
Carex atherodes
Carex crawei
Carex laxiculmis
Carex rostrata
Carex tuckermanii
Carex viridula
Castilleja sessiliflora
Corallorhiza maculata
Cypripedium candidum
Geranium bicknellii
Juncus alpinus
Lathyrus ochroleucus
Lespedeza leptostachya
Lycopodium clavatum
Plantago cordata
Platanthera leucophaea
Polygonatum pubescens
Ranunculus cymbalaria
Rorippa islandica subsp. *hispida*
Rubus pubescens
Sabatia campestris
Sisyrinchium atlanticum
Sisyrinchium montanum
Sparganium americanum
Tomanthera auriculata
Veronica scutellata
Viola conspersa

Edgar

Veratrum woodii

Effingham

Carex communis
Sabatia campestris
Spiranthes vernalis
Veratrum woodii

Fayette

Carex communis
Platanthera leucophaea
Sabatia campestris
Stenanthium gramineum
Tomanthera auriculata
Veratrum woodii

Ford

Asclepias meadii
Platanthera leucophaea

Franklin

Trillium viride

Fulton

Asclepias meadii
Aster furcatus
Boltonia decurrens
Carex laxiculmis
Carex pallescens
Platanthera leucophaea
Poa wolfii
Polygala incarnata
Scheuchzeria palustris
Trifolium reflexum
Veronica scutellata

Gallatin

Aster undulatus
Carex communis
Carex decomposita
Carex willdenowii
Cirsium carolinianum
Cladrastis lutea
Lactuca hirsuta
Trifolium reflexum

Greene

Polygala incarnata
Tradescantia bracteata

Grundy

Arenaria patula
Aster furcatus
Astragalus tennesseensis
Calopogon tuberosus
Carex atherodes
Carex crawei
Drosera intermedia
Filipendula rubra
Oryzopsis racemosa
Plantago cordata
Platanthera leucophaea
Polygonum careyi
Sphaeralcea angusta
Tomanthera auriculata
Viola primulifolia

Hancock

Asclepias meadii
Aster furcatus
Calopogon tuberosus
Carex pallescens
Castanea dentata
Cypripedium candidum
Cypripedium reginae
Lactuca ludoviciana

APPENDIX III - Cross Reference of Species to County - - County Listing

Species with an asterisk (*) after them represent species with recent (>1980) records. Species without an asterisk represent historic (<1980) records.

Adams
- *Cirsium hillii*
- *Clonophis kirtlandi**
- *Crotalus horridus*
- *Ellipsaria lineolata*
- *Elliptio dilatata*
- *Fusconaia ebena*
- *Macroclemys temmincki*
- *Melanthium virginicum*
- *Sistrurus catenatus*

Alexander
- *Crotalus horridus**
- *Fusconaia ebena*
- *Nyctanassa violacea**
- *Pleurobema cordatum*

Bond
- *Crotalus horridus*

Boone
- *Elliptio dilatata*

Brown
- *Melanthium virginicum**

Bureau
- *Cirsium hillii**
- *Nyctanassa violacea*

Calhoun
- *Crotalus horridus**
- *Elliptio dilatata*
- *Macroclemys temmincki*
- *Sistrurus catenatus*

Carroll
- *Crotalus horridus**

Cass
- *Agalinis skinneriana**
- *Cirsium hillii**
- *Rallus elegans**

Champaign
- *Cirsium hillii*
- *Clonophis kirtlandi*
- *Elliptio dilatata**
- *Nyctanassa violacea*
- *Sistrurus catenatus*

Christian
- *Cirsium hillii*
- *Clonophis kirtlandi**
- *Elliptio dilatata*

Clark
- *Acalypha deamii*
- *Crotalus horridus*
- *Ellipsaria lineolata*
- *Elliptio dilatata*
- *Fusconaia ebena*
- *Nocomis micropogon*
- *Pleurobema cordatum*
- *Pleurobema rubrum*
- *Sistrurus catenatus*

Clay
- *Elliptio dilatata*

Clinton
- *Clonophis kirtlandi*
- *Elliptio dilatata*
- *Sistrurus catenatus**

Coles
- *Acalypha deamii*
- *Cirsium hillii*
- *Clonophis kirtlandi**
- *Crotalus horridus*
- *Elliptio dilatata*
- *Sistrurus catenatus*

Cook
- *Agalinis skinneriana*
- *Calephelis muticum*
- *Carex cryptolepis*
- *Cirsium hillii*
- *Clonophis kirtlandi**
- *Elliptio dilatata*
- *Hemidactylium scutatum*
- *Nannothemis bella**
- *Nyctanassa violacea**
- *Rallus elegans**
- *Sistrurus catenatus**

Crawford
- *Acalypha deamii*
- *Elliptio dilatata*
- *Fusconaia ebena*
- *Pleurobema cordatum*
- *Pleurobema rubrum*
- *Sistrurus catenatus*

Cumberland
- *Crotalus horridus*
- *Sistrurus catenatus*

De Kalb
- *Cirsium hillii**
- *Sistrurus catenatus*

De Witt
- *Clonophis kirtlandi*
- *Elliptio dilatata**
- *Sistrurus catenatus*

Douglas
- *Clonophis kirtlandi**

Du Page
- *Cirsium hillii**
- *Clonophis kirtlandi**
- *Elliptio dilatata*
- *Sistrurus catenatus*

Edgar
- *Elliptio dilatata*
- *Sistrurus catenatus*

Edwards
- *Elliptio dilatata*

Effingham
- *Clonophis kirtlandi**
- *Crotalus horridus**

Fayette
- *Clonophis kirtlandi*
- *Nyctanassa violacea**

APPENDIX IV - County Listing

Notropis amnis
Notropis heterolepis
Nycticorax nycticorax
Obovaria subrotunda
*Podilymbus podiceps**
Quadrula cylindrica
Simpsonaias ambigua
Thryomanes bewickii
Toxolasma lividus
Tympanuchus cupido
Tyto alba
Uniomerus tetralasmus
Villosa fabalis
Villosa iris
Villosa lienosa

Christian

Bartramia longicauda
*Lanius ludovicianus**
Lasmigona compressa
Myotis sodalis
Uniomerus tetralasmus
Villosa iris

Clark

Cyprogenia stegaria
*Elliptio crassidens**
Epioblasma flexuosa
Epioblasma propinqua
Epioblasma sampsoni
Epioblasma torulosa torulosa
*Lutra canadensis**
Lynx rufus
Notropis amblops
Obovaria retusa
Obovaria subrotunda
Plethobasus cicatricosus
Plethobasus cyphyus
Pleurobema clava
Pleurobema plenum
Ptychobranchus fasciolaris
Quadrula cylindrica
Uniomerus tetralasmus

Clay

*Buteo lineatus**
*Lanius ludovicianus**
Notropis amblops
Notropis amnis
*Tympanuchus cupido**
*Uniomerus tetralasmus**
Villosa lienosa

Clinton

Asio otus
*Lanius ludovicianus**
Plethobasus cyphyus
Uniomerus tetralasmus

Coles

Ammocrypta pellucida
*Bartramia longicauda**
*Certhia americana**
*Epioblasma triquetra**
*Etheostoma histrio**
*Ixobrychus exilis**
*Lanius ludovicianus**
*Lynx rufus**
Notropis amblops
Notropis boops
Notropis heterolepis
Obovaria subrotunda
*Ptychobranchus fasciolaris**
Simpsonaias ambigua
Uniomerus tetralasmus
Villosa fabalis
*Villosa iris**
Villosa lienosa

Cook

*Accipiter cooperii**
Accipiter striatus
Acipenser fulvescens
Aimophila aestivalis
Alasmidonta viridis
*Ambystoma platineum**
*Ammodramus henslowii**
Asio flammeus
Asio otus
*Bartramia longicauda**
Botaurus lentiginosus
*Buteo lineatus**
*Casmerodius albus**
*Catharus fuscescens**
*Catostomus catostomus**
Charadrius melodus
*Chlidonias niger**
Clemmys guttata
Coturnicops noveboracensis
Elliptio crassidens
Etheostoma exile
*Euphagus cyanocephalus**
*Falco peregrinus**
Fundulus diaphanus
*Gallinula chloropus**
*Ixobrychus exilis**
Lanius ludovicianus
Lasmigona compressa
Laterallus jamaicensis
Lynx rufus
Myotis sodalis
Notropis amnis
Notropis chalybaeus
Notropis heterodon
Notropis heterolepis
*Nycticorax nycticorax**
*Phalacrocorax auritus**
*Phalaropus tricolor**
*Podilymbus podiceps**
*Somatochlora hineana**
Sterna antillarum
Sterna forsteri
Tyto alba
Villosa iris
*Xanthocephalus xanthocephalus**

Crawford

Ammocrypta pellucida
Cyprogenia stegaria
Elliptio crassidens
Epioblasma propinqua
Epioblasma torulosa torulosa
Ixobrychus exilis
Obovaria retusa
Obovaria subrotunda
Plethobasus cyphyus
Pleurobema clava
Pleurobema plenum
Ptychobranchus fasciolaris
Quadrula cylindrica

Cumberland

*Ammocrypta pellucida**
Etheostoma histrio
Notropis amblops
Obovaria subrotunda
Villosa lienosa

De Kalb

Accipiter cooperii
Bartramia longicauda
Botaurus lentiginosus
Etheostoma exile
*Lanius ludovicianus**
Lynx rufus
Notropis heterolepis
*Podilymbus podiceps**
*Tyto alba**

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APPENDIX IV - County Listing

Gammarus bousfieldi
*Hybognathus hayi**
*Ictinia mississippiensis**
*Lanius ludovicianus**
*Lepomis punctatus**
*Lutra canadensis**
*Lynx rufus**
*Myotis austroriparius**
*Myotis grisescens**
*Myotis sodalis**
Obovaria retusa
Orconectes placidus
*Oryzomys palustris**
*Plethobasus cooperianus**
Plethobasus cyphyus
Quadrula cylindrica
*Thamnophis sauritus**
*Tyto alba**

Putnam

Casmerodius albus
Chlidonias niger
Heterodon nasicus
Ixobrychus exilis
Nycticorax nycticorax
*Phalacrocorax auritus**

Randolph

Accipiter cooperii
*Ammocrypta clara**
Bartramia longicauda
*Circus cyaneus**
Egretta caerulea
*Elaphe guttata emoryi**
Falco peregrinus
*Gallinula chloropus**
*Ictinia mississippiensis**
*Lanius ludovicianus**
Lepisosteus spatula
*Lutra canadensis**
Lynx rufus
Notropis boops
*Orconectes placidus**
Pseudemys concinna
*Tyto alba**

Richland

Ammodramus henslowii
Buteo swainsoni
*Lanius ludovicianus**
Thamnophis sauritus

Rock Island

*Acipenser fulvescens**
Alasmidonta viridis
*Ammocrypta clara**
*Casmerodius albus**
Elliptio crassidens
Epioblasma triquetra
Etheostoma exile
*Heterodon nasicus**
Ixobrychus exilis
*Lampsilis higginsi**
Lanius ludovicianus
Leptodea leptodon
*Lutra canadensis**
Lynx rufus
*Notropis amnis**
Notropis heterolepis
Nycticorax nycticorax
*Plethobasus cyphyus**
Potamilus capax
Simpsonaias ambigua
Thryomanes bewickii

St Clair

Botaurus lentiginosus
*Casmerodius albus**
*Egretta caerulea**
*Egretta thula**
Elaphe guttata emoryi
*Gallinula chloropus**
Gammarus acherondytes
*Lanius ludovicianus**
*Nycticorax nycticorax**
*Podilymbus podiceps**
*Uniomerus tetralasmus**

Saline

*Circus cyaneus**
Crangonyx packardi
*Lanius ludovicianus**
*Lutra canadensis**
*Myotis sodalis**
Notropis amnis
Orconectes indianensis
*Oryzomys palustris**

Sangamon

Bartramia longicauda
*Certhia americana**
Epioblasma triquetra
*Ixobrychus exilis**
*Lanius ludovicianus**
Lynx rufus
Nycticorax nycticorax
Plethobasus cyphyus
*Podilymbus podiceps**
*Uniomerus tetralasmus**
Villosa iris

Schuyler

*Lanius ludovicianus**
*Myotis sodalis**
Uniomerus tetralasmus

Scott

Elliptio crassidens
*Hesperia metea**
*Hesperia ottoe**
*Myotis sodalis**
Nycticorax nycticorax
Potamilus capax
*Pseudacris streckeri**

Shelby

Alasmidonta viridis
*Ammocrypta clara**
Bartramia longicauda
*Lanius ludovicianus**
Notropis amblops
Notropis amnis
Notropis boops
Plethobasus cyphyus
Uniomerus tetralasmus

Stark

Alasmidonta viridis
*Lanius ludovicianus**
Lasmigona compressa
Uniomerus tetralasmus

Stephenson

Etheostoma exile
Notropis heterolepis

Tazewell

*Casmerodius albus**
*Catharus fuscescens**
Heterodon nasicus
Ixobrychus exilis
*Kinosternon flavescens**
Lampsilis higginsi
*Lanius ludovicianus**
Lepomis punctatus
Lepomis symmetricus

APPENDIX IV - County Listing

Berchemia scandens
Botrychium biternatum
Carex alata
Carex communis
Carex laxiculmis
Carex nigromarginata
Carex striatula
Carex tonsa
Carex willdenowii
Chimaphila maculata
Cirsium carolinianum
Corydalis halei
Cyperus lancastriensis
Dennstaedtia punctilobula
Eryngium prostratum
Gymnopogon ambiguus
Helianthus angustifolius
Heteranthera reniformis
Hexalectris spicata
Isotria verticillata
Lactuca hirsuta
Lilium superbum
Lonicera flava
Lysimachia fraseri
Malus angustifolia
Matelea obliqua
Melothria pendula
Oxalis illinoensis
Panicum yadkinense
Penstemon brevisepalus
Planera aquatica
Plantago cordata
Platanthera clavellata
Poa alsodes
Poa autumnalis
Polygala incarnata
Pycnanthemum torrei
Rhynchospora glomerata
Rubus enslenii
Sagittaria longirostra
Salvia azurea subsp. *pitcheri*
Scirpus polyphyllus
Scirpus purshianus
Sisyrinchium atlanticum
Spiranthes vernalis
Stellaria pubera
Stenanthium gramineum
Styrax americana
Thelypteris noveboracensis
Tilia heterophylla
Vaccinium stamineum
Waldsteinia fragarioides

Pulaski

Aristolochia serpentaria
Carex decomposita
Castanea dentata
Clematis crispa
Cyperus lancastriensis
Euonymus americanus
Eupatorium incarnatum
Halesia carolina
Helianthus angustifolius
Hydrolea uniflora
Iresine rhizomatosa
Iris fulva
Justicia ovata
Lysimachia radicans
Melanthera nivea
Paspalum dissectum
Planera aquatica
Ptilimnium costatum
Ptilimnium nuttallii
Quercus nuttallii
Quercus phellos
Sagittaria longirostra
Stenanthium gramineum
Styrax americana
Tilia heterophylla

Putnam

Boltonia decurrens
Cypripedium reginae
Filipendula rubra
Microseris cuspidata
Mimulus glabratus

Randolph

Asplenium bradleyi
Carex physorhyncha
Heliotropium tenellum
Hexalectris spicata
Isotria medeoloides
Pinus echinata
Ptilimnium nuttallii
Rubus enslenii
Rudbeckia missouriensis
Talinum calycinum

Richland

Clematis viorna
Stenanthium gramineum
Trifolium reflexum

Rock Island

Aster schreberi
Astragalus tennesseensis
Besseya bullii
Castilleja sessiliflora
Eriophorum viridi-carinatum
Lycopodium clavatum
Platanthera leucophaea
Sphaeralcea angusta

St. Clair

Arenaria patula
Astragalus crassicarpus var. *trichocalyx*
Boltonia decurrens
Castanea dentata
Clematis crispa
Cypripedium candidum
Echinodorus tenellus var. *parvulus*
Gymnocarpium dryopteris
Heteranthera reniformis
Paspalum dissectum
Plantago cordata
Platanthera flava var. *herbiola*
Poa alsodes
Potentilla millegrana
Ptilimnium nuttallii
Rumex hastatulus
Sabatia campestris
Scirpus torreyi
Silene regia
Sphaeralcea angusta
Spiranthes vernalis
Trifolium reflexum

Saline

Aristolochia serpentaria
Asclepias meadii
Asplenium bradleyi
Aster undulatus
Botrychium biternatum
Cirsium carolinianum
Matelea obliqua
Plantago cordata

Nyctanassa violacea

Macoupin
Cirsium hillii
*Melanthium virginicum**

Madison
Cirsium hillii
*Crotalus horridus**
*Ellipsaria lineolata**
Fusconaia ebena
Macrhybopsis gelida
*Rallus elegans**
*Sistrurus catenatus**

Mason
*Agalinis skinneriana**
*Cirsium hillii**
Ellipsaria lineolata
Elliptio dilatata
Fusconaia ebena
Macroclemys temmincki
*Rallus elegans**

Massac
Acalypha deamii
Cimicifuga rubifolia
Cryptobranchus alleganiensis
*Ellipsaria lineolata**
Elliptio dilatata
*Fusconaia ebena**
Macroclemys temmincki
*Melica mutica**
*Notropis maculatus**
*Phaeophyscia leana**
Pleurobema cordatum

McDonough
Cirsium hillii
Clonophis kirtlandi
Crotalus horridus
Hemidactylium scutatum
*Melanthium virginicum**
Sistrurus catenatus

McHenry
*Cirsium hillii**
Elliptio dilatata
*Nannothemis bella**

McLean
Clonophis kirtlandi
Melanthium virginicum
Sistrurus catenatus

Menard
Elliptio dilatata
Melanthium virginicum

Mercer
Ellipsaria lineolata
Fusconaia ebena
Nyctanassa violacea
Sistrurus catenatus

Monroe
*Crotalus horridus**
Nyctanassa violacea

Montgomery
Acalypha deamii
Cirsium hillii

Morgan
*Agalinis skinneriana**
*Cirsium hillii**
Ellipsaria lineolata
*Melanthium virginicum**

Moultrie
Elliptio dilatata
*Nyctanassa violacea**

Ogle
*Cirsium hillii**
Hemidactylium scutatum

Peoria
Cirsium hillii
Crotalus horridus
Ellipsaria lineolata
Elliptio dilatata
Macroclemys temmincki
Melanthium virginicum
*Rallus elegans**
Sistrurus catenatus

Perry
Crotalus horridus

Platt
*Clonophis kirtlandi**
Elliptio dilatata
Nyctanassa violacea
*Sistrurus catenatus**

Pike
*Agalinis skinneriana**
*Crotalus horridus**
*Ellipsaria lineolata**
Sistrurus catenatus

Pope
*Andropogon ternarius**
*Calamagrostis insperata**
*Carex lucorum**
*Cimicifuga rubifolia**
*Crotalus horridus**
*Trichomanes boschianum**

Pulaski
*Crotalus horridus**
Cryptobranchus alleganiensis
*Ellipsaria lineolata**
Elliptio dilatata
*Fusconaia ebena**
Macroclemys temmincki
*Pleurobema cordatum**

Putnam
Cirsium hillii
Nyctanassa violacea

Randolph
*Crotalus horridus**
Macroclemys temmincki

Richland
Nyctanassa violacea

Rock Island
*Cirsium hillii**
Crotalus horridus
*Ellipsaria lineolata**
Elliptio dilatata
Fusconaia ebena
Hemidactylium scutatum
Macroclemys temmincki
Nyctanassa violacea

St. Clair
Agalinis skinneriana
Caecidotea spatulata
*Crotalus horridus**

Melanthium virginicum
*Nyctanassa violacea**
*Rallus elegans**

Saline
Andropogon ternarius
*Carex arkansana**
*Crotalus horridus**

Sangamon
Cirsium hillii
*Clonophis kirtlandi**
Elliptio dilatata
Melanthium virginicum

Schuyler
Cirsium hillii
*Clonophis kirtlandi**

Scott
Cirsium hillii

Shelby
*Sistrurus catenatus**

Stark
Cirsium hillii
Elliptio dilatata
Sistrurus catenatus

Stephenson
Elliptio dilatata

Tazewell
Clonophis kirtlandi
Elliptio dilatata
Sistrurus catenatus

Union
Andropogon ternarius
*Crotalus horridus**
Macrhybopsis gelida
*Macroclemys temmincki**

Vermilion
Acalypha deamii
*Calephelis muticum**
Clonophis kirtlandi
Elliptio dilatata
*Hemidactylium scutatum**
*Nocomis micropogon**

Wabash
Crotalus horridus
Ellipsaria lineolata
Elliptio dilatata
Fusconaia ebena
Macroclemys temmincki
Nyctanassa violacea
Pleurobema cordatum
Pleurobema rubrum

Warren
*Melanthium virginicum**
Sistrurus catenatus

Washington
Elliptio dilatata

Wayne
Elliptio dilatata
Fusconaia ebena
*Pleurobema rubrum**

White
*Cryptobranchus alleganiensis**
Ellipsaria lineolata
*Elliptio dilatata**
*Fusconaia ebena**
Macroclemys temmincki
Pleurobema cordatum
Pleurobema rubrum

Whiteside
*Cirsium hillii**
Ellipsaria lineolata
Elliptio dilatata
Fusconaia ebena

Will
Agalinis skinneriana
Cirsium hillii
*Clonophis kirtlandi**
*Elliptio dilatata**
*Isoetes butleri**
*Nyctanassa violacea**
*Rallus elegans**
*Sistrurus catenatus**

Williamson
Nyctanassa violacea

Winnebago
*Cirsium hillii**
Elliptio dilatata

Woodford
*Clonophis kirtlandi**