

CHAPTER 4 ENVIRONMENTAL IMPACTS

This chapter analyzes the environmental impacts of the Proposed Action and its alternatives. More specifically, this chapter evaluates the natural, cultural, and socioeconomic implications associated with the construction, operation, and reactivation of RJCP's proposed rail line in direct comparison to both the Local Road System Upgrade alternative and the No-Action Alternative. The Proposed Action and the Modified Proposed Action are evaluated for purposes of identifying the least environmentally damaging route.

SEA has summarized the environmental impacts of the Proposed Action and its alternatives for comparison within Table 4-1. This Environmental Impact Summary Table outlines the environmental impacts of the Proposed Action and its alternatives by individual resource category. The basis for the assessment of these environmental impacts lies in the existing project area conditions, as outlined in Chapter 3, Affected Environment, and mapped in the Environmental Features Mapping in Volume 2.

SEA's environmental impact assessment process for this project is based on an equivalent level of preliminary engineering information developed for each of the respective alternatives/routes. This preliminary engineering information represents the best available data at this point in time. Should the Board approve RJCP's proposed rail line, more detailed engineering would be completed for construction/environmental permitting (i.e., USACE Section 404 and PA DEP Chapter 105). SEA recognizes that minor changes in the environmental impacts (specifically to wetlands and watercourses) of the selected alternative may occur. However, SEA anticipates these changes to be nominal and not of material concern to the findings of this NEPA review.

The CEQ's guidelines for implementing NEPA require agencies to assess three types of impacts: 1) direct, 2) indirect, and 3) cumulative [40 C.F.R. § 1508.25(c)]. Direct and indirect impacts are both caused by the action. Direct impacts occur at the same time and place while indirect impacts are later in time or farther removed in distance but are still reasonably foreseeable (40 C.F.R. § 1508.8). One example of a direct impact would be the placement of fill material into a wetland resulting from the physical construction of a proposed action. That placement of fill material, and the resulting loss of wetland habitat, would constitute a direct impact to that particular wetland. An example of an indirect impact would be the resulting change in downstream wetland hydrology caused by the elimination or alteration of an upstream drainage feature. For purposes of this EIS, both direct and indirect impacts of the Proposed Action and its alternatives are discussed in this chapter by individual resource category.

A cumulative impact is the "incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 C.F.R. § 1508.7). This means that the agency's cumulative impacts analysis must take into consideration actions that are not caused by the proposed action but that are close enough geographically and temporally to potentially affect the same resources as the proposed action. For the purposes of this EIS, cumulative impacts of the Proposed Action and its alternatives have been evaluated separately from direct and indirect impacts and are discussed in Chapter 5, Cumulative Impacts.

**TABLE 4-1
ENVIRONMENTAL IMPACT SUMMARY TABLE**

RESOURCE/IMPACT CATEGORY	BUILD ALTERNATIVE (PROPOSED ACTION via the WALLACETON TO MUNSON ROUTE)	BUILD ALTERNATIVE (MODIFIED PROPOSED ACTION via the ALTERNATE ROUTE FROM PHILIPSBURG TO MUNSON)	NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)	NO-ACTION ALTERNATIVE
At-Grade Public Road Crossings (#)	17	4	N/A	N/A
Grade-Separated Public Road Crossings (#)	2	1	N/A	N/A
At-Grade Private Driveway Crossings (#)	12	1	N/A	N/A
Grade-Separated Private Driveway Crossings (#)	1	1	N/A	N/A
Adjacent Residential Properties (#)	155	28	228	0
Estimated Annual Fuel Consumption (Gallons/Year)	105,431	94,349	492,492	0
Estimated Annual Mobile Source Air Emissions				
NOX (Tons/Year)	21.0	18.6	52.0	0
CO (Tons/Year)	3.1	2.8	24.7	0
HC (Tons/Year)	1.2	1.0	2.4	0
PM (Tons/Year)	0.8	0.7	1.3	0
Noise-Impacted Sensitive Land Uses (#)	178	32	204	0
Potential Vibration-Affected Residences (#)	6	0	N/A	0
Vegetative Community/Wildlife Habitat Impacts				
Old Field/Herbaceous (Acres)	3.9	3.5	5.8	0
Shrub (Acres)	0.7	1.6	7.6	0
Forest (Acres)	36.0	40.5	35.5	0
Threatened & Endangered Species Impacts (Potential Species)	Branching Bur-reed	Branching Bur-reed	Alleghany Plum	None
Wetland Impacts (Acres)	1.34	3.36	1.79	0
Watercourse Impacts (Linear Feet)	1,570	980	960	0
Floodplain Encroachment (Linear Feet)	7,480	24,330	0	0
Displaced Residential Structures (#)	0	0	3	0
Parks and Recreation Facilities (Facilities Impacted)	Snow Shoe Rail Trail Moshannon State Forest	Snow Shoe Rail Trail Moshannon State Forest	PA Bicycle Route V PA Wilds Elk Drive	0
Potential Hazardous/Residual Waste Sites (# of Adjacent Sites)	7	2	17	0
Cultural Resources (Effect)	No Effect	No Effect	Adverse Effect	No Effect

4.1 TRANSPORTATION AND SAFETY

4.1.1 Methodology

The Proposed Action, the Modified Proposed Action, and the Local Road System Upgrade alternative would impact the operation of the existing local road system. The Proposed Action and the Modified Proposed Action would result in impacts from the reintroduction of grade crossings into the local road system and the subsequent vehicle delay that would occur at each grade crossing when in use by a train. The Local Road System Upgrade alternative would result in impacts from the associated increase in the volume of truck traffic. SEA quantitatively evaluated both of these impacts and used information on the existing local road system contained in the I-80/Gorton Road Interchange Point of Access Study (November 14, 2006) to supplement this analysis.

For rail operations and safety, SEA's typical threshold for analysis is an increase of eight trains per day or more. In response to concerns raised about the proposed rail line, SEA analyzed rail operations and safety issues for this project even though RJCP anticipates that it would operate one (or at most two) train(s) per day. Additionally, this section reports on the coordination activities with PA PUC about the identification of appropriate safety appurtenances required at each grade crossing. SEA only completed this analysis for the Proposed Action and the Modified Proposed Action, as rail operations and safety have no applicability to the Local Road System Upgrade alternative or the No-Action Alternative.

4.1.2 Impact Analysis – Local Road Traffic/Grade Crossing Delay

As previously mentioned, the Western Segment would involve a number of public road and private driveway crossings. Specifically, the Proposed Action (via the Wallaceton to Munson Route) would require nineteen public road crossings, including nine crossings of numbered state routes (the remaining ten public road crossings would occur at local municipal routes) and thirteen private driveway crossings. Of these nineteen public road crossings, only two would be grade-separated. The remaining seventeen public road crossings would consist of at-grade intersections. Of the thirteen private driveway crossings, only one would be grade-separated. The remaining twelve would be at-grade. Table 4-2 summarizes these public road crossings, including the functional classification and estimated average daily traffic (ADT) volume (if known) for each roadway. Figure 4-1 shows the locations of both the public road and private driveway crossings associated with both routes along the Western Segment.

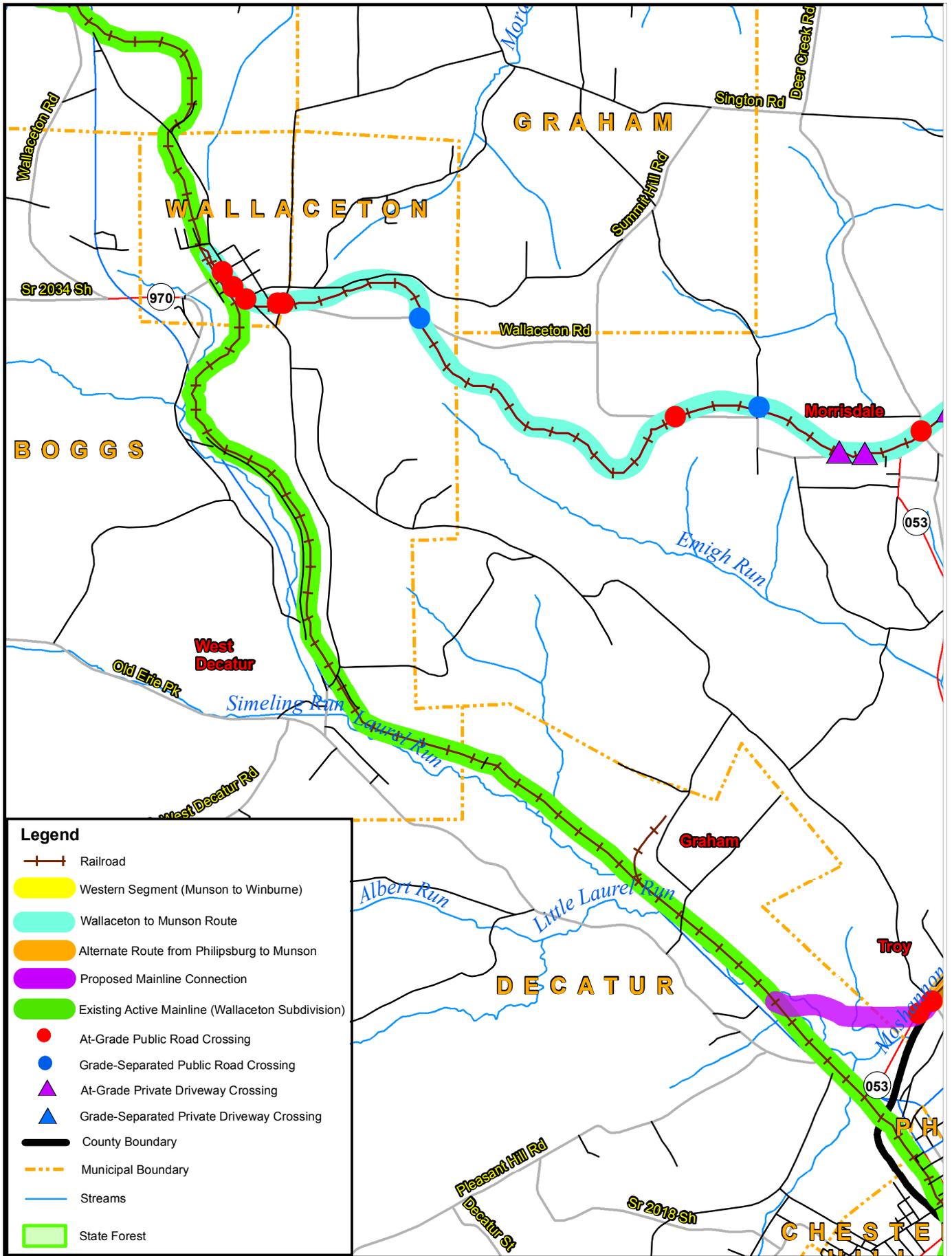
In comparison, the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson) would involve only five public road crossings (four at-grade and one grade-separated) and two private driveway crossings (one at-grade and one grade-separated). Of these five public road crossings, three would occur at numbered state routes while the remaining two would occur at local township roads. Table 4-3 summarizes these public road crossings, including the functional classification and estimated ADT volume (if known) for each roadway. Selection of the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson), with its significantly fewer grade crossings (i.e., 4 versus 17), would minimize impacts on the local road system with respect to vehicle delay at grade crossings.

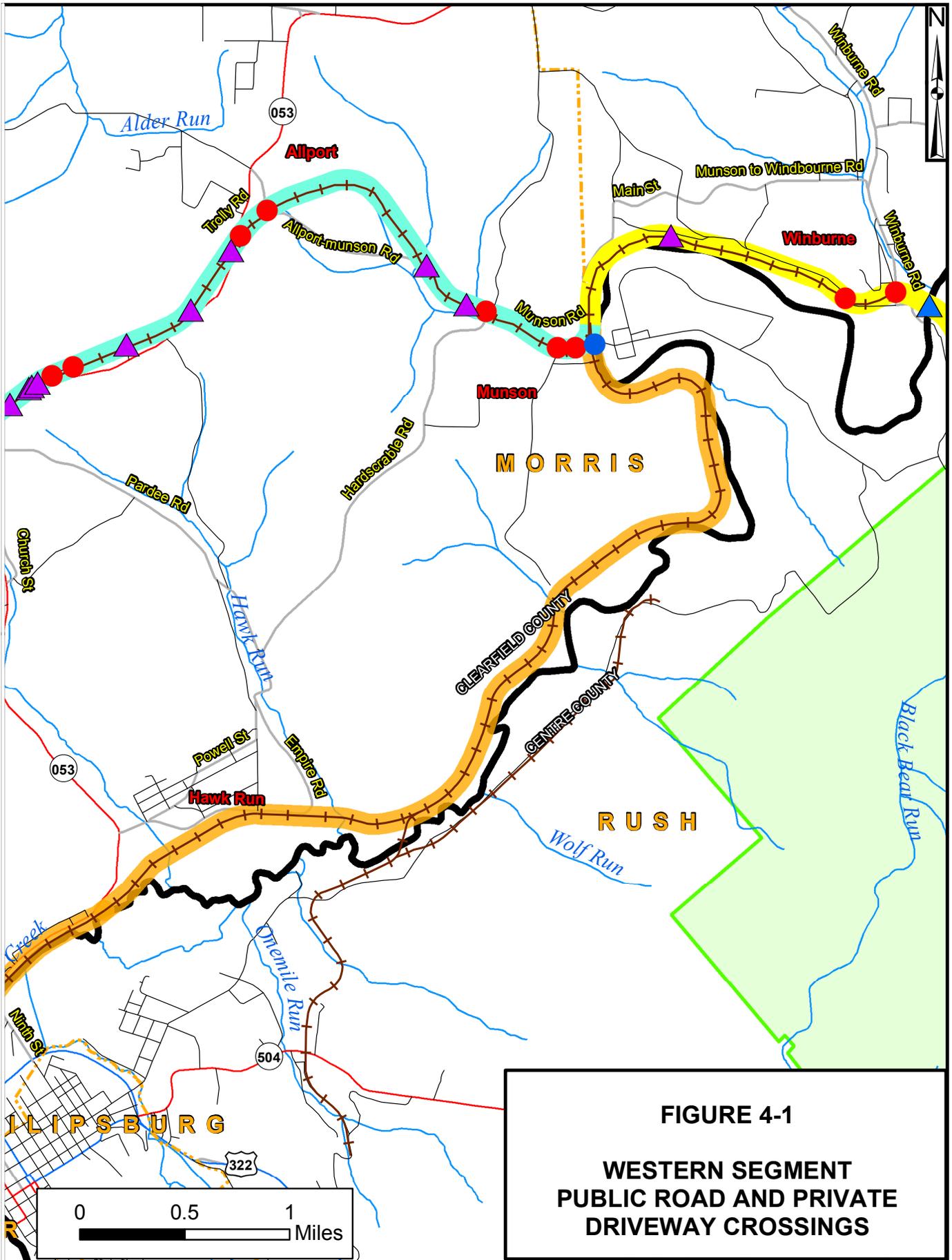
TABLE 4-2
BUILD ALTERNATIVE – PROPOSED ACTION
WESTERN SEGMENT (WALLACETON TO MUNSON ROUTE)
GRADE CROSSING SAFETY FEATURES

ID #	MUNICIPALITY	MILEPOST	ROAD NAME	FUNCTIONAL CLASSIFICATION	ADT	SAFETY FEATURE
1	Wallaceton	75.18	Pine Street	Local Road	N/A	Crossbucks
2	Wallaceton	75.02	Reed Street (S.R. 2034)	Minor Collector	N/A	Signals/Gates
3	Wallaceton	74.94	Baughman Street	Local Road	N/A	Crossbucks
4	Wallaceton	74.85	Hilltop Road	Local Road	N/A	Crossbucks
5	Wallaceton	74.70	Wallaceton Road (S.R. 2034)	Minor Collector	350	Signals
6	Wallaceton	74.66	Unnamed Gravel Road	Local Road	N/A	Crossbucks
7	Boggs	73.87	Wallaceton Road (S.R. 2034)	Minor Collector	350	N/A
8	Morris	72.22	Wallaceton Road (S.R. 2034)	Minor Collector	350	Signals
9	Morris	71.80	Myers Road (T-682)	Local Road	N/A	N/A
10	Morris	70.93	Deer Creek Road (S.R. 1009)	Minor Collector	60	Signals
11	Morris	70.52	Jones Lane	Local Road	N/A	Crossbucks
12	Morris	70.41	Jones Lane	Local Road	N/A	Crossbucks
13	Morris	69.35	S.R. 0053	Minor Arterial	478	Cantilever Signals/Advance Signage
14	Morris	69.18	Old Turnpike Road (S.R. 2032)	Minor Collector	46	Crossbucks
15	Morris	67.92	Main Street (S.R. 2035)	Minor Collector	59	Signals/Advance Signage
16	Morris	67.43	Colorado Road (T-704)	Local Road	N/A	Crossbucks
17	Morris	67.29	Casanova Road (T-958)	Local Road	N/A	Signals/Advance Signage
18	Cooper	65.65	Sawmill Road (T-707)	Local Road	N/A	Crossbucks
19	Cooper	65.38	Winburne Road (S.R. 2037)	Local Road	N/A	Signals
Grade-Separated Crossing (Highway over Rail)						

**TABLE 4-3
 BUILD ALTERNATIVE – MODIFIED PROPOSED ACTION
 WESTERN SEGMENT (ALTERNATE ROUTE FROM PHILIPSBURG TO MUNSON)
 GRADE CROSSING SAFETY FEATURES**

ID #	MUNICIPALITY	MILEPOST	ROAD NAME	FUNCTIONAL CLASSIFICATION	ADT	SAFETY FEATURE
1A	Morris	N/A	S.R. 0053	Minor Arterial	6,973	Cantilever Signals/Advance Signage
2A	Morris	5.84	Ninth Street (S.R. 2043)	Local Road	7,120	Cantilever Signals/Advance Signage
3A	Morris	0.2	Casanova Road (T-958)	Local Road	N/A	N/A
18	Cooper	65.65	Sawmill Road (T-707)	Local Road	N/A	Crossbucks
19	Cooper	65.38	Winburne Road (S.R. 2037)	Local Road	N/A	Signals
Grade-Separated Crossing (Rail over Highway)						





Construction of these grade crossings would impact local traffic operations and movements on a short-term basis via temporary detours and/or lane restrictions. However, these construction-related impacts are anticipated to be minimal and of short duration. The more lasting impact would be associated with the operation of the proposed rail line and the subsequent vehicle delay at each of these grade crossings. Assuming an average train length of 4,800 feet (i.e., the approximate length of a 70-car train having car lengths between 58 and 71 feet) with a 10 mph (i.e., 880 feet/minute) front end operating speed approaching the grade crossing and then accelerating up to 25 mph (i.e., 2,200 feet/minute) once the front end of the train has safely negotiated the grade crossing, the minimum length of time a single grade crossing would be closed to vehicular traffic when in use by a train would be approximately 3 minutes. This length of time would increase in developed areas and in areas of multiple grade crossings where the maximum operating speed would be 10 mph for a longer distance. An example would be in Wallaceton which has six grade crossings within one half mile. Here, the average closure time of each grade crossing would be approximately 5.5 minutes.

SEA requires Level of Service (LOS)¹ analysis for those grade crossings having an ADT volume of 5,000 vehicles or greater. Within the project area, only two grade crossings would exceed this ADT. These grade crossings would be located at S.R. 0053 and Ninth Street (S.R. 2043) in Morris Township along the Modified Proposed Action's Alternate Route from Philipsburg to Munson. Given their close proximity (i.e., approximately 800 feet apart) and interdependent operations, SEA evaluated LOS at these grade crossings jointly. Both of these grade crossings would be closed when a train is passing through the area. Traffic would be controlled by coordinated signals located at each segment of intersection. These signals would be coordinated via the use of railroad pre-emption equipment. This would prevent traffic from entering the section of S.R. 0053 located between the grade crossing and the Ninth Street intersection. Thus, the total vehicle delay time at these two grade crossings would be approximately 6 minutes. This 6-minute closure would represent the total time it would take for a 4,800-foot train to pass entirely through both grade crossings.

For analysis purposes, SEA conducted traffic counts along S.R. 0053 south of Ninth Street and along Ninth Street west of the Moshannon Creek bridge to obtain daily and peak period directional traffic volumes. In addition to daily traffic counts, SEA conducted a manual turning movement count at the S.R. 0053/Ninth Street intersection during the P.M. peak period of 3:00 to 6:00 P.M. The weekday peak hour of the entire intersection occurred between 3:15 and 4:15 P.M. However, each intersection approach had a different peak. The northbound (NB) approach of S.R. 0053 peaked between 4:30 and 5:30 P.M., the southbound (SB) approach peaked between 3:15 and 4:15 P.M., and the westbound (WB) approach of Ninth Street peaked between 5:00 and 6:00 P.M. SEA used this information to calculate queuing impacts associated with a six-minute train crossing for the highest 15-minute period of the P.M. peak hour for each segment of the intersection. Table 4-4 summarizes the results of this analysis.

Based on aerial mapping, the closest intersection along S.R. 0053 north of Ninth Street is at Dauphin Lane (950 feet), the closest intersection along S.R. 0053 south of Ninth Street is at U.S. Route 322 (2,825 feet), and the closest intersection along Ninth Street east of S.R. 0053 is at Moshannon Street (835 feet). Analysis of Table 4-4 indicates that a six-minute train crossing during the highest P.M.

¹ Level of service refers to a degree of peak congestion experienced by roadway vehicle traffic streams using procedures that consider factors such as vehicle delay, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Traffic analysts express level of service as letter grades, ranging from LOS A (free-flowing) to LOS F (severely congested); they measure level of service by the average for all vehicles using the particular system.

**TABLE 4-4
S.R. 0053/NINTH STREET PM PEAK HOUR
GRADE CROSSING QUEUE SUMMARY**

INTERSECTION SEGMENT	3:15 - 4:15 P.M. # VEHICLES (LINEAR FEET OF ROADWAY)	4:30 – 5:30 P.M. # VEHICLES (LINEAR FEET OF ROADWAY)	5:00 – 6:00 P.M. # VEHICLES (LINEAR FEET OF ROADWAY)
NB S.R. 0053	32 vehicles (800')	32 vehicles (800')	32 vehicles (800')
SB S.R. 0053	41 vehicles (1,025')	30 vehicles (750')	28 vehicles (700')
WB Ninth St.	26 vehicles (650')	27 vehicles (675')	27 vehicles (675')

peak hour would not impact the S.R. 0053 intersection with U.S. Route 322 or the Ninth Street intersection with Moshannon Street. However, Table 4-4 indicates that a train crossing during the highest P.M. peak hour (i.e., 3:15 – 4:15 P.M.) for the segment of S.R. 0053 north of Ninth Street would result in a queue of approximately 41 southbound vehicles stacked along S.R. 0053 for a distance of approximately 1,025 feet. Given the 950-foot distance between the S.R. 0053/Ninth Street intersection and the intersection with Dauphin Lane, this peak hour train crossing is estimated to result in approximately three vehicles blocking the southernmost intersection of Dauphin Lane. Because Dauphin Lane is a loop road, any vehicles wanting to enter or exit Dauphin Lane during a highest P.M. peak hour train crossing event could do so via its more northerly intersection with S.R. 0053. Thus, detailed traffic analysis shows that the addition of the S.R. 0053 and Ninth Street grade crossings would have only a minor impact on vehicle delay and traffic operation over the adjacent roadway network. Appendix D contains additional documentation of this intersection/grade crossing analysis.

Regarding the Local Road System Upgrade alternative, increased truck volumes would be experienced on Gorton Road, S.R. 0053, and S.R. 0144. Based on the estimated volume of truck traffic generated by peak capacity operation of RRLLC's proposed landfill as well as the other interested shippers, Gorton Road would experience approximately 1,100 roundtrip trucks (i.e., 550 loaded and 550 empty) per day. Of these 1,100 roundtrip trucks, approximately 65% (or 715 trucks) are anticipated to access Gorton Road via S.R. 0144 from the I-80 Snow Shoe Interchange. Approximately 25% (or 275 trucks) are anticipated to access Gorton Road via S.R. 0053 from the I-80 Kylertown Interchange. The remaining 10% (or 110 trucks) are anticipated to access Gorton Road via S.R. 0144 north of Moshannon. While the roadway improvements associated with this alternative would be designed to accommodate these increased truck volumes with all intersections and intersection movements operating at LOS C or better², the I-80 Interchange Point of Access Study notes that the addition of large trucks to the local roadway network would impact safety and result in potential conflicts with other local and regional traffic. Furthermore, the I-80 Interchange Point of Access Study states that the roadway improvements required to accommodate the increased truck traffic would be inconsistent with local and regional transportation plans.

² Level of service for intersections is measured by average stopped delay per vehicle. The volume to capacity ratio relates the peak hour traffic volumes to the theoretical maximum traffic volumes that the particular intersection can process under ideal conditions. LOS C corresponds to an average delay of 20.1 to 35.0 seconds/vehicle. Generally, LOS C or better is desirable for most roadway design scenarios, with LOS D being considered "acceptable" in areas with substantial traffic congestion or vehicle flows.

The No-Action Alternative would not have any impact on local road traffic, nor would it introduce any grade crossings into the existing local road system.

4.1.3 Impact Analysis – Rail Operations

RJCP is a Class III short line railroad operating out of Clearfield, PA. RJCP currently operates over a former Conrail light density line extending from an interchange with NS at Keating (Clinton County) to its central yard in Clearfield (referred to as the West Branch Valley Line). From its central yard in Clearfield, RJCP currently operates over its Wallaceton Subdivision Line through Wallaceton to Osceola Mills, PA.

For both the Proposed Action and the Modified Proposed Action, RJCP would use its existing yard in Clearfield to receive the daily inbound train(s) and to stage the daily outbound train(s). If any additional facilities were needed to accommodate the increased train traffic associated with the proposed rail line, RJCP would expand the Clearfield yard. It is anticipated that RJCP would haul unit trains of municipal solid waste and/or construction and demolition debris inbound from the Keating interchange to RRLLC's proposed landfill and backhaul empty gondola cars filled with sand and gravel outbound from Hawbaker's proposed quarry to Keating. Other carload traffic associated with the proposed industrial park and other interested shippers (i.e., Rex Energy, Robindale Energy, A.W. Long Coal Co.) would move as needed. At maximum capacity, RJCP anticipates the daily unit train to consist of 55 to 70 cars. Additionally, RJCP has committed to a daytime operating time (i.e., 7 A.M. to 10 P.M.) over the proposed rail line to minimize noise impacts in residential areas.

Regarding waste traffic, RJCP would not engage in any transloading (the transfer of material to or from truck to rail) or unloading activity. RJCP would only deliver trains to RRLLC, the permitted operator of the landfill, and RRLLC would be responsible for unloading and processing the materials pursuant to its permitted authorization. RJCP's anticipated operating speed over the proposed rail line would be 25 mph in undeveloped areas and 10 mph in developed areas. All operation and maintenance practices would be in compliance with FRA and R.J. Corman standards.

4.1.4 Impact Analysis – Rail Operations Safety

A number of people who submitted comments on the Draft Scope of Study for this EIS expressed concern about rail operations safety. Specifically, people were concerned about the operation of trains through residential areas, vehicular accidents at grade crossings, and the potential for environmental contamination associated with train derailment. SEA evaluated the potential safety implications of the proposed rail line in light of these expressed concerns. Standard FRA rail operations safety regulations that would apply are defined in 49 C.F.R. Parts 200-299, including requirements for routine inspections and regular maintenance, certification of locomotive engineers, appropriate training and service testing of train crews, minimum safety requirements for rolling stock and track, communications procedures, and horn blasts/appropriate safety appurtenances at all public road crossings.

Operation of Trains through Residential Areas

Many people who commented on the Draft Scope expressed concerns about potential safety issues associated with the operation of trains through residential areas (i.e., pedestrian, vehicle, and pet

collisions). RJCP has stated that at most two trains per day would travel on the proposed rail line at a maximum operating speed of 10 mph in developed areas. This rate of speed should minimize potential safety concerns in residential areas. Additionally, RJCP has committed to sharing costs (50%-50%) for the installation of chain link right-of-way fencing in residential areas (if requested) to minimize the potential for trespassing on the railroad right-of-way and to further minimize potential safety concerns. Given these safety precautions, SEA has determined that the rail operations safety impact to residential areas would be negligible. The significantly fewer number of adjacent residential properties along the Modified Proposed Action's Alternate Route from Philipsburg to Munson (as discussed later in this chapter) would further minimize potential rail operations safety concerns in residential areas. Thus, the Modified Proposed Action would serve as an impact minimization alternative in this area.

Vehicular Safety at Grade Crossings

Within Pennsylvania, safety at grade crossings is regulated by the Rail Safety Division of PUC. RJCP conducted a field view with PUC on February 12, 2009, to identify the appropriate safety features required at each grade crossing. Tables 4-2 and 4-3 outline the identified safety features that would be required and installed at each grade crossing within the Western Segment for both the Proposed Action and the Modified Proposed Action, respectively. These safety features combined with the mandatory horn sounds would minimize the potential for vehicular collisions at each grade crossing. Additionally, the Modified Proposed Action's Alternate Route from Philipsburg to Munson, with its significantly fewer grade crossings, would minimize potential grade crossing safety concerns.

Train Derailment

As previously noted, RJCP's anticipated maximum operating speed over the proposed rail line would be 25 mph in undeveloped areas and 10 mph in developed areas. These low operating speeds would not only minimize the probability of derailment events but would also minimize the associated severity of a derailment event should one occur.

Only municipal solid waste would be transported and disposed of at RRLLC's proposed landfill. No hazardous waste would be transported for disposal, as RRLLC is not seeking a permit for the disposal of hazardous waste at their proposed landfill. Additionally, given that RJCP would be receiving carloads of waste from a NS mainline, all NS requirements for waste transport would apply. RJCP would have to comply with NS' Tariff NS 6306 – Rules and Regulations for Handling Municipal Solid Waste, Contaminated Soil, Hazardous Materials, which establishes strict requirements for the acceptance of municipal solid waste and Related Articles (see Appendix E). Municipal solid waste would only be accepted if it consists of airtight, watertight, double-wrapped bales transported in covered gondola cars or in watertight intermodal containers transported on flatcars. Minimum bale requirements are as follows:

“Bales must be tightly wrapped on all sides without any gaps or ballooning. Bales shall have a minimum of two (2) layers of wrapping material and 25% overlap to prevent emissions of odor and/or leachate. The wrapping material for the stretch-wrap method shall be made of a low-density polyethylene material. The wrapping tube for the shrink-wrap method shall be made of a high-density polyethylene

material. The wrapping material must be tear and puncture resistant to prevent ripping, tearing and/or chaffing, which may be caused by normal rail transportation movements. The bailing twine or strap must be bound in a manner that will not damage the wrapping material. Wire is not acceptable. Industry shall not use load and unloading equipment that will rip, tear and/or shred the wrapping material of the bales. Upon notice from NS, bales must be sprayed with an odor reducing and/or suppressing enzyme.”

Minimum gondola car requirements are as follows:

- The interior of the gondola shall have a flat bottom with straight sides. Any necessary interior cross-bracing will be located so as not to obstruct loading or unloading of wrapped bales.
- Any floor weep holes must be sealed to contain possible leachate or seepage.
- Industry shall install one (1) three-inch ball valve located in the lower floor area of the gondola to be utilized for washout operations. Washout operations and effluent disposal will be conducted in compliance with federal, state and local laws and regulations.
- Industry shall install a fire hose port, which will allow the fire department to extinguish potential fires within the gondola or approved container.
- Gondolas must be equipped with a fiberglass or steel lid. The lids for the gondolas will be a rigid one-piece fiberglass or steel cover approved for rail industry equipment to ensure containment and water tightness.
- The fiberglass or steel lid shall have adequate locking mechanisms to safely secure the lid during transit. The locking mechanisms may be manually or automatically activated.

Given these strict municipal solid waste transportation requirements, combined with the 25 mph maximum operating speed and the minimal potential for significant derailment events, SEA has determined that the likelihood for environmental contamination as a result of train derailment would be negligible. Additionally, should a derailment event occur, R.J. Corman Railroad Group has its own Derailment Services Division stationed in Pittsburgh, PA, to handle any and all derailment and emergency management incidents on a 24/7 basis. SEA has determined that the overall impact to the community and environment related to rail operations safety would be minimal for the proposed project.

4.2 LAND USE

4.2.1 Methodology

SEA evaluated the Proposed Action and its alternatives and their potential to impact land use, including consistency with local and regional land use plans. At the micro-level, SEA qualitatively

evaluated the differences in use, condition, and ownership of the former rail corridor for both the Eastern and Western Segments. SEA used GIS-based land use mapping at the tax parcel level to quantify the number of adjacent residential properties for both the Proposed Action's Wallaceton to Munson Route and the Modified Proposed Action's Alternate Route from Philipsburg to Munson. SEA used these data to compare community, quality of life, and property value impacts between the two alternate routes. Finally, SEA evaluated the consistency of the Proposed Action and its alternatives and examined land use planning goals outlined in various local and regional land use planning documents, paying particular attention to Comprehensive Plans.

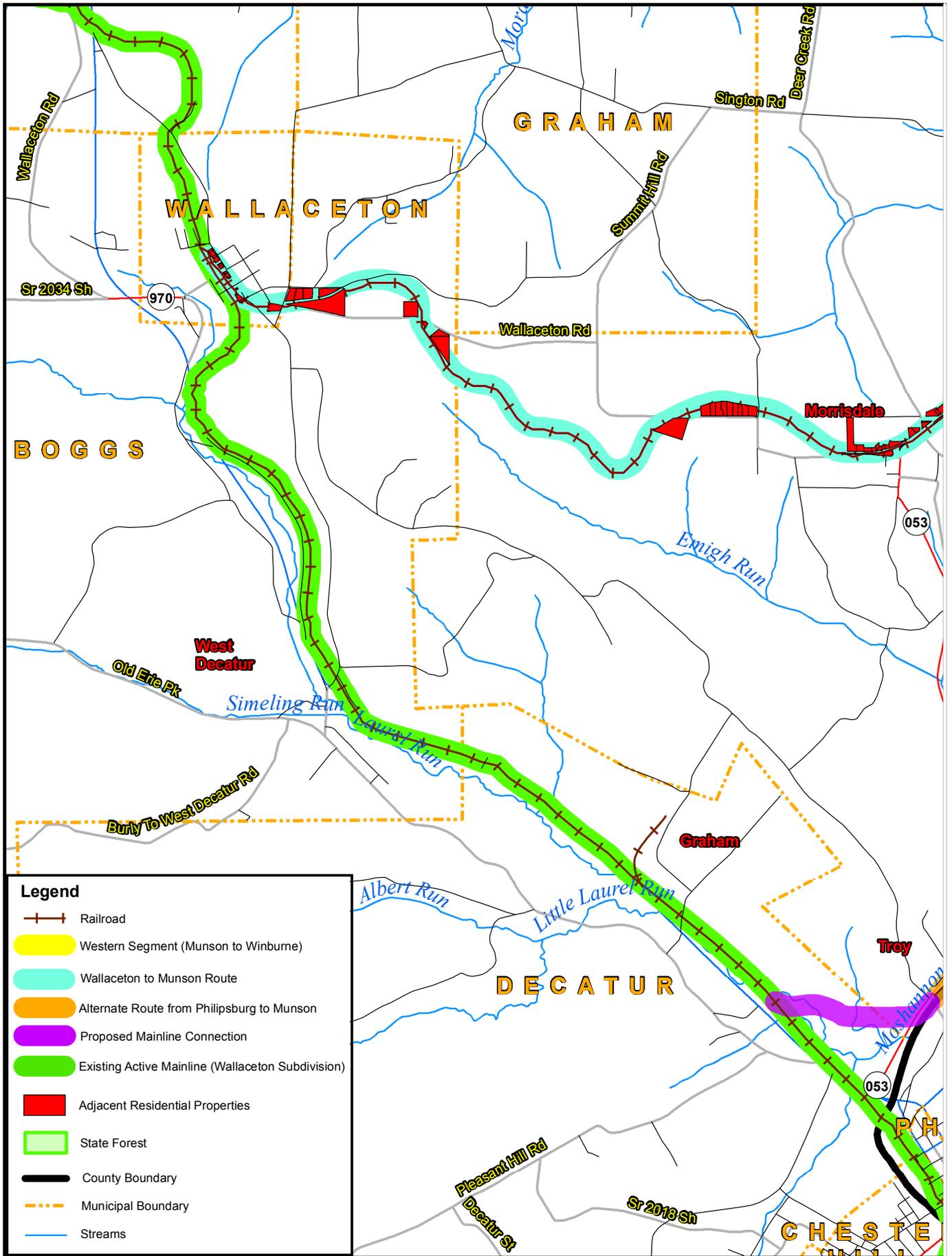
4.2.2 Impact Analysis

The Proposed Action would involve the construction of a single-track line over the existing graded roadbed of a previously abandoned/rail banked single-track line rather than the construction of entirely new right-of-way. Impacts to land use were first evaluated by focusing solely on the 66-foot wide right-of-way. Accordingly, use, condition, and ownership of the former rail corridor served as the primary means of analysis.

As previously mentioned, there are notable differences in use, condition, and ownership of the former rail corridor between the Eastern and Western Segments. Within both the Proposed Action's Western Segment and the Modified Proposed Action's Western Segment, the railroad right-of-way has been lawfully abandoned and portions of the corridor have reverted back to private ownership. Thus, the condition of the former rail line within both alternatives for the Western Segment varies considerably along its length. For example, along the Proposed Action's Wallaceton to Munson Route between Mileposts 72.5 and 73.5 just east of Wallaceton, the former rail line passes through an active strip mining area. Within this strip mining area, the former rail line and all evidence of its graded corridor have been completely eliminated by the active mining operations. Further to the east, however, the former rail line and its graded corridor are a visible part of the landscape and certain sections have filled in with vegetation over the years of non-use. Most of the rail bed within the Modified Proposed Action's Alternate Route from Philipsburg to Munson appears much the same as it did when the line was active, with the actual railroad ties still in place at some locations. Conversely, the entire 9.3-mile Eastern Segment has been rail banked, is owned by HCT, and is operated by SSRTA as the Snow Shoe Multi-Use Rail Trail. Given these notable differences in use, condition, and ownership, the primary impact of the proposed rail line on land use would be the conversion of this variable landscape into a 66-foot wide corridor of specific use, uniform condition, similar appearance, and sole ownership.

SEA evaluated impacts to land use by quantifying the number of adjacent residential properties and assessing the differences between the Proposed Action and the Modified Proposed Action. For purposes of this analysis, adjacent residential properties were considered to be privately owned parcels directly abutting the 66-foot rail corridor right-of-way that contained an occupied residence within relative close proximity of the rail corridor. Adjacent residential properties were considered equally regardless of the location at which the property abutted the rail corridor (i.e., front yard, back yard, side yard, corner, etc.). Residential properties located on the opposite side of a public road were not considered to be abutting the rail corridor.

Figure 4-2 shows the geographical relationship of adjacent residential properties between the Wallaceton to Munson Route and the Alternate Route from Philipsburg to Munson as well as for



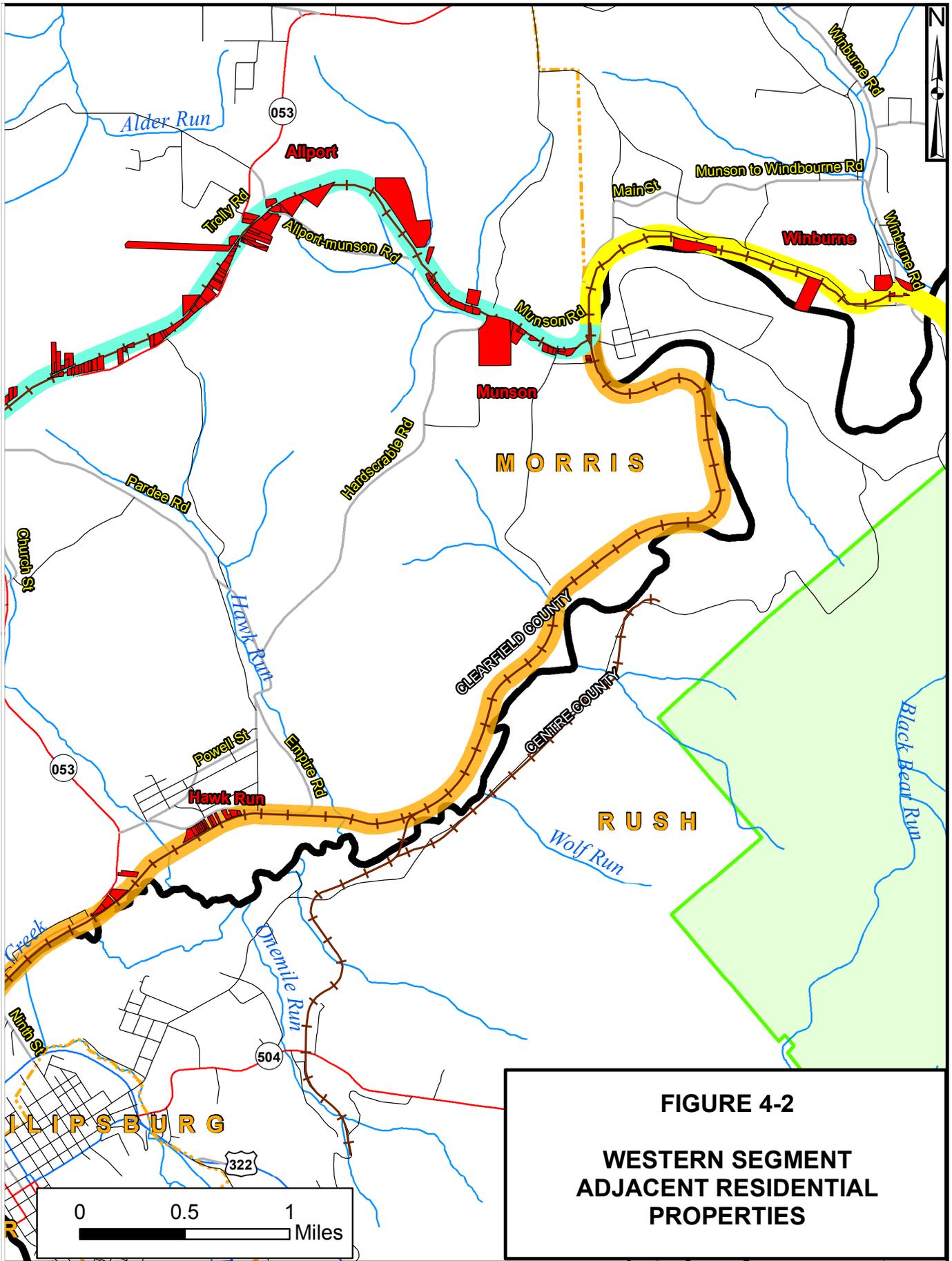


FIGURE 4-2
WESTERN SEGMENT
ADJACENT RESIDENTIAL
PROPERTIES

the remainder of the Western Segment. Analysis of this figure indicates that a greater number of adjacent residential properties exist along the Proposed Action's Wallaceton to Munson Route than along the Modified Proposed Action's Alternate Route from Philipsburg to Munson (i.e., 147 adjacent residential properties and 20 adjacent residential properties, respectively). Given the general land use impacts typically associated with the operation of a railroad next to residential properties (i.e., community, quality of life, and property values), this analysis indicates that the Modified Proposed Action's Alternate Route from Philipsburg to Munson would result in less land use impacts than the Proposed Action's Wallaceton to Munson Route because of the fewer number of adjacent residential properties. Additionally, a significant portion of the Modified Proposed Action's Alternate Route from Philipsburg to Munson, approximately 26,863 linear feet (or 76%), is located adjacent to undeveloped land consisting of a combination of wetlands, woodlands, and active/former mining areas. The remainder of the Western Segment is geographically situated between Moshannon Creek and local roadways within a wooded corridor containing eight scattered adjacent residential properties.

Land use impacts within the Eastern Segment are controlled by the uniform ownership and rail banked status of the former rail corridor. As previously mentioned, land use within the Eastern Segment is much more uniform in appearance, consisting almost exclusively of undeveloped forestland and reverting strip mine areas. The Eastern Segment also includes an approximate 4,400-foot section of the Moshannon State Forest. Thus, land use impacts within the Eastern Segment are limited to the loss of 9.3 miles of the Snow Shoe Multi-Use Rail Trail. Recreational impacts to the Moshannon State Forest are discussed in Section 4.8.4 below.

Land use impacts associated with the Local Road System Upgrade alternative would consist of the right-of-way acquisition required from adjacent private property owners to physically construct the identified roadway improvements. As previously mentioned, land use in the immediate proximity of this alternative is very similar to the diverse mixture of developed and undeveloped uses described for both routes of the proposed rail line's Western Segment. Thus, the Local Road System Upgrade alternative would require the acquisition of highway improvement right-of-way from both developed and undeveloped parcels, including many adjacent residential properties (approximately 228) in the small villages of Drifting, Moshannon, Gillintown, and Snow Shoe Borough. Construction of this alternative would require the displacement of a minimum of three residential structures (i.e., two single-family homes and one multi-unit apartment building) in Moshannon. Displacement of additional structures would be contingent upon the final design of the proposed roadway improvements.

The No-Action Alternative would not have any impact on land use. No rail corridor or highway improvement right-of-way would need to be purchased from any private property owners under this alternative. Similarly, no residential properties would be displaced or impacted by this alternative.

Consistency with Local and Regional Land Use Plans

SEA analyzed the long-range land use/transportation planning goals and objectives outlined in the Comprehensive Plans of the project area municipalities and counties to draw conclusions on the relative consistency of the Proposed Action and its alternatives, excluding the No-Action Alternative. Given the do-nothing nature of the No-Action Alternative, SEA drew no conclusions as to the consistency of this alternative. The following text describes SEA's findings:

Clearfield County – The Clearfield County Commissioners are on record (see Appendix B) as stating that RRLLC’s proposed landfill project would be in “direct conflict” with their Comprehensive Plan and that “reopening a rail line to import trash is inconsistent with our long-range plans.” SEA conducted no analysis on potential consistency issues associated with RRLLC’s proposed landfill, as the Board has no jurisdictional authority over RRLLC or its proposed landfill project. SEA reviewed the Clearfield County Comprehensive Plan (2006 Update) solely for RJCP’s proposed rail project. SEA identified the County’s transportation goals and objectives found in Chapter 3 of the Comprehensive Plan, which include the following objectives under Goal #1 (Support efforts to improve the efficiency in the movement of people and goods along local transportation networks):

- Promote use of local air and rail services.
- Promote use of fuel efficient modes of transportation.

Additionally, SEA reviewed the rail and freight section of the Long Range Transportation Plan found in Chapter 10 of the County’s Comprehensive Plan. The main goal in this section of the County’s Plan, is to “support competitive rail access to all shippers, receivers, and passengers in the north central Pennsylvania region and preserve rail corridor lands throughout the region for current and future transportation use.” Specific objectives identified in the County’s Plan to meet this goal include the following:

- Increase the use of rail and decrease the use of trucks.
- Seek to preserve rail corridor lands throughout the region for current and future transportation use.
- Incorporate rail with economic development areas (KOZ sites, industrial parks).

Based on these stated goals and objectives, SEA has concluded that the Clearfield County Comprehensive Plan appears to be in favor of rail transportation projects. Therefore, SEA has concluded that RJCP’s proposed project appears to be consistent with the Clearfield County Comprehensive Plan.

Regarding the Local Road System Upgrade alternative and its associated increase in truck traffic, the rail and freight objective found in the Clearfield County Comprehensive Plan calls for an increase in the use of rail and decrease in the use of trucks. Based on this conflict, the Local Road System Upgrade alternative does not appear to be consistent with the County’s Comprehensive Plan.

Morris Township – SEA’s review of the Morris Township Comprehensive Plan (2006) has revealed that said plan specifically addresses RRLLC’s proposed landfill project and RJCP’s proposed rail line. Page 14 of the Comprehensive Plan states the following:

“In Rush Township, Centre County, a solid waste landfill is likely to soon come on line. In addition to the typical road based truck delivery of the waste, it is possible that rail deliveries of waste will occur from collection centers throughout Pennsylvania and surrounding states. Preliminary investigations are currently

underway to see if some rail lines can be brought back into service to handle this potential inflow. Morris Township, while understanding the importance of this project, does have a concern. One of the rail lines that is being explored for possible use travels through residential neighborhoods of Morris Township. The community feels that it would be highly detrimental if these train cars, loaded with waste, were to stop in the Township, waiting their turn to be unloaded at the facility. There are a variety of potential hazards associated with this scenario, including ground water pollution, increase in vermin, disease, and the general odor that waste hauling vehicles typically have. This may also create a scavenger bird strike hazard. As with Route 53, the rail line is close to homes in the community. If left on the track for even several hours in such an area, severe harm could be done to the property, animals, and residents of Morris Township.”

Based on the inclusion of this information in its Comprehensive Plan, it appears that Morris Township is knowledgeable of RJCP’s proposed project. Specifically, it appears that Morris Township would be concerned about trains hauling municipal solid waste stopping in residential areas. Given that there would be no stacking, staging, or storing of trains on the proposed rail line in Morris Township, SEA has subsequently concluded that the proposed rail line appears to be generally consistent with the Morris Township Comprehensive Plan. Additionally, given the stated concern about residential neighborhoods, it appears that the Modified Proposed Action’s Alternate Route from Philipsburg to Munson, with its significantly fewer adjacent residential properties and 26,863 linear feet (or 76%) located adjacent to undeveloped parcels, would be a more consistent alternative than the Proposed Action’s Wallaceton to Munson Route.

A consistency assessment was not made for the Local Road System Upgrade alternative because no portion of this alternative is located in Morris Township.

Decatur Township – Approximately 3,000 feet (or 75%) of the proposed new connection area associated with the Modified Proposed Action’s Alternate Route from Philipsburg to Munson is located in Decatur Township. No other portion of the Proposed Action, Modified Proposed Action, or any part of Local Road System Upgrade alternative is located in this township. Analysis of the Osceola Mills Borough/Decatur Township Joint Comprehensive Plan (1997) reveals that there are no immediate or long-range plans/goals for rail transportation projects. The transportation component of the Comprehensive Plan focuses entirely on improvements to the existing local road system, pedestrian accommodation, and traffic calming. Thus, SEA could draw no conclusions as to the consistency of the proposed rail line with the township’s long-range transportation plan.

Regarding Decatur Township’s future land use, the area slated for the proposed new connection has been identified as a conservation area due to the presence of Laurel Run, its 100-year floodplain, and adjacent wetlands. In accordance with the Comprehensive Plan, wetlands, floodplains, and streams naturally limit growth and should be regarded as conservation areas left in open space. However, given the language in the Township’s Plan about limiting growth (i.e., residential, commercial, and industrial development) in this conservation area, it was unclear to SEA if this same concept would apply to the construction of a proposed rail line connection (i.e., a linear transportation corridor) that is not anticipated to result in any residential, commercial, or industrial development in this area. Therefore, SEA was unable to draw a conclusion as to the consistency of the proposed rail line with the township’s future land use plan.

Cooper Township – Cooper Township’s Comprehensive Plan (prepared jointly with Morris Township in 1995) contains no immediate or long-range plans/goals for rail transportation projects. The transportation component of the Comprehensive Plan focuses entirely on improvements to the existing local road system. Thus, SEA could draw no conclusions about the consistency of the proposed rail line with the township’s long-range transportation plan. However, given the concern stated in the Township’s Plan about the existing volume of truck traffic on S.R. 0053, its connection to I-80 at Kylertown, and its conflict with residential land uses through several small communities, SEA concluded that the Local Road System Upgrade alternative, and its associated volume of increased truck traffic on S.R. 0053, would not be consistent with the long-range transportation goals of Cooper Township.

Centre County – Analysis of the Centre County Comprehensive Plan – Phase I (2003) indicates that the primary transportation goal of the County is “to provide a multi-modal transportation system, which includes air, bicycle, highway, pedestrian, public transportation, and rail facilities to maximize the efficient, safe, economical, and convenient movement of people and goods while minimizing the adverse impact the system will have on natural and cultural resources, as well as people.” Additionally, the County’s Plan notes that rail freight is expected to increase in the County, and the system must continue to be maintained and expanded to serve future industry needs. The County’s Plan also makes several references to the County’s central location and the issues associated with the growing levels of truck traffic moving through the County, primarily via I-80. Based on these findings, SEA has concluded that RJCP’s proposed project appears to be consistent with the long-range transportation goals of Centre County. The Local Road System Upgrade alternative would not be consistent because of the increase in volume of truck traffic moving through the County.

Rush Township – Analysis of the Rush Township Comprehensive Plan (2007 Addendum) indicates that the primary transportation goal of the Township is “to provide an integrated multi-modal transportation system, which includes air, bicycle, highway, pedestrian, public transportation, and rail facilities to maximize the efficient, safe, economical, and convenient movement of people and goods in support of community and economic development activities within the Township.” Key objectives include:

- Support rail service in the Township for economic development, transportation safety, and environmental quality purposes; and
- Improve connectivity with other modes of transportation such as rail and air facilities to support economic development activities.

Additionally, the Comprehensive Plan identifies the area of RJCP’s proposed project as an Industrial Enterprise Zone, specifically mentioning the potential access provided by the proposed rail line. Based on these findings, SEA has concluded that RJCP’s proposed project appears to be consistent with the long-range land use/transportation goals of Rush Township.

No consistency assessment was made for the Local Road System Upgrade alternative because no portion of this alternative is located in Rush Township.

Snow Shoe Township – Coordination with Snow Shoe Township officials indicates that they have adopted the Centre County Comprehensive Plan as their township comprehensive plan. Thus,

the consistency determinations stated above for Centre County would also apply to Snow Shoe Township.

Snow Shoe Borough – SEA was unable to render a consistency determination about the Local Road System Upgrade alternative for Snow Shoe Borough because its comprehensive plan was unavailable for inspection.

4.3 ENERGY RESOURCES

4.3.1 Methodology

NEPA regulations stipulate that the Board must consider the energy requirements and conservation potential of various alternatives of a proposed project. Additionally, SEA's own environmental regulations (49 C.F.R. § 1105.7) require that any environmental impact analysis describe the effect of the Proposed Action and its alternatives on the transportation of energy resources and recyclable commodities and whether the Proposed Action would result in an increase or decrease in overall energy efficiency.

SEA analyzed the effects on energy resources that would result from the construction and operation of the Proposed Action and its alternatives. Specifically, SEA calculated the estimated annual fuel requirement for the Proposed Action, the Modified Proposed Action, and the Local Road System Upgrade alternative. Part of this assessment included a qualitative comparison of truck versus rail transport and the respective effects on overall energy efficiency. Additionally, SEA qualitatively evaluated the impact the Proposed Action and its alternatives would have on certain energy utilities (i.e., pipelines, electrical transmission lines, etc.), including the transport of energy resources and recyclable commodities. More detailed information on the annual fuel requirement calculation process is included in Appendix F.

4.3.2 Impact Analysis

Construction, operation, and reactivation activities associated with the proposed rail line would require energy consumption. The construction of 19 to 20 miles of rail line would require the operation of heavy equipment and other construction machinery that consume diesel fuel and gasoline. As discussed in Chapter 8, this construction-related fuel expenditure would be considered an irreversible and irretrievable commitment of energy resources. Additionally, diesel fuel would be required to operate trains over the proposed rail line. Table 4-5 estimates the total annual diesel fuel requirement for the operation of trains over the proposed rail line for both the Proposed Action (via the Wallaceton to Munson Route) and the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson), which is slightly shorter. For analysis purposes, SEA used the standard fuel consumption rate of 59.2 gallons/hour for a typical SD-40 (3000 horsepower) locomotive operating in Throttle Position 4. SEA considered that RJCP would likely be operating at least two of these locomotives per train over the proposed rail line with one roundtrip per day, six days per week. The analysis also included an estimated annual fuel consumption (calculated at the standard 4.1 gallons/hour) for locomotive idling time (8 hours/day) associated with loading/unloading operations.

Beyond the estimated annual fuel requirement, the proposed rail line would result in negligible impacts on other energy resources and would not impact utility facilities beyond minor utility pole

**TABLE 4-5
PROPOSED ACTION & MODIFIED PROPOSED ACTION
ESTIMATED ANNUAL DIESEL FUEL CONSUMPTION**

OPERATION	SD-40 LOCOMOTIVE OPERATION/IDLE FUEL ECONOMY (GALLONS/HOUR)	OPERATION/ IDLE TIME (HOURS)	ANNUAL FUEL CONSUMPTION (GALLONS/YEAR)
Roundtrip Transport via the Proposed Action	59.2 / 4.1	2.3 / 8.0	105,431
Roundtrip Transport via the Modified Proposed Action	59.2 / 4.1	2.0 / 8.0	94,349

relocations or adjustments to local overhead electrical lines, as necessary to safely construct the rail line. The proposed rail line is also not anticipated to impact electrical transmission towers, high-voltage transmission lines, or pipelines. Regarding the transport of energy resources and recyclable commodities, RJCP anticipates using the proposed rail line to ship coal (a fossil fuel) and municipal solid waste. In terms of overall fuel usage, rail transport is considered to be the most fuel efficient form of ground transportation. A freight train can move a ton of freight an average of 436 miles on a single gallon of fuel, which is four times the distance it could be moved by truck. Generally, freight trains are three to four times more fuel efficient than trucks. Thus, SEA has determined that the impact of the proposed rail line on energy resources would be negligible compared to that of the Local Road System Upgrade alternative, as reported in Table 4-6 below.

For the Local Road System Upgrade alternative, SEA calculated the estimated annual diesel fuel requirement associated with the operation of truck traffic (see Table 4-6). To complete the analysis, SEA used the estimated truck volumes anticipated to operate on each leg of this alternative on a daily basis multiplied by six days per week. Also factored into the analysis is the standard fuel consumption rate of 6 miles/gallon for heavy trucks.

**TABLE 4-6
NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)
ESTIMATED ANNUAL DIESEL FUEL CONSUMPTION**

ROADWAY SEGMENT	LENGTH (MILES)	ROUNDTRIP TRUCKS/DAY	FUEL ECONOMY (MILES/GALLON)	ANNUAL FUEL CONSUMPTION (GALLONS/YEAR)
S.R. 0053 (Kylertown to Moshannon)	10.7	275	6.0	153,010
S.R. 0144 (Snow Shoe to Moshannon)	3.9	715	6.0	145,002
Gorton Road (Moshannon to Gorton)	3.4	1100	6.0	194,480
Total				492,492

Analysis of this table indicates that the operation of truck traffic over the local road system would have an estimated annual fuel requirement of approximately 492,492 gallons, which is approximately five times greater than the estimated annual fuel requirement associated with the proposed rail line. Beyond this estimated annual fuel requirement, the associated roadway widening of this alternative would likely require the relocation of roadside utilities along S.R. 0053 and S.R. 0144. This alternative would involve the shipping of coal (a fossil fuel) and municipal solid waste just like the proposed rail line, but via truck instead of train.

The No-Action Alternative would not have any impact on energy resources.

4.4 AIR QUALITY

4.4.1 Methodology

SEA quantitatively evaluated the estimated annual air quality emissions for the Proposed Action and its alternatives. To complete the analysis, SEA used USEPA emission standards for both locomotives and heavy-duty diesel trucks to calculate emissions for the Proposed Action, the Modified Proposed Action and the Local Road System Upgrade alternative. Specifically, SEA calculated mobile source emissions for Nitrogen Oxides (NO_x), Carbon Monoxide (CO), hydrocarbons (HC), and particulate matter (PM). Because Sulfur Dioxide (SO₂) emissions are a direct result of the concentration of sulfur in the fuel, they were not included in the calculations. Diesel fuel is subject to a sulfur concentration standard rather than an emission limit from sources. More detailed information on the air quality impact/emissions calculation process is included in Appendix F.

Given Clearfield and Centre Counties' attainment/maintenance status and the lack of defined criteria for these emissions on the part of federal, state, and local authorities, SEA compared the calculated emissions for the Proposed Action and its alternatives with USEPA's Title V major emission-source threshold for permit applicability. This threshold of 100 tons/year emission of a criteria pollutant is used as an indicator of whether a proposed activity would result in impacts comparable to those for which USEPA requires a Title V permit (40 C.F.R. § 52). Emission of criteria pollutants below this level is considered to be below the threshold of significance.

4.4.2 Impact Analysis – Air Quality

Construction of the proposed rail line would have an effect on local ambient air quality as a result of fugitive dust and diesel fuel emissions generated by construction equipment and machinery. However, based on the relatively short duration of construction (i.e., 12 to 18 months), this effect would be both localized and temporary. Thus, the construction-related impact of the proposed rail line on regional air quality would be considered negligible.

From an air quality perspective, long-term operation of trains over the proposed rail line would be a more substantive concern. SEA used standard emission factors (*see* Appendix F) for NO_x, CO, HC, and PM pollutants derived from USEPA's "Emission Factors for Locomotives" (EPA-420-F-09-025) to calculate the estimated annual mobile source emissions associated with the operation of the proposed rail line. The calculations are based on RJCP's anticipated use of two locomotives. More specifically, the emission standard that SEA used is for locomotives constructed between 1973 and 2000 for line-haul operation (Tier 0). SEA applied the USEPA line-haul emission rates in grams/

gallon to the estimated annual fuel consumption, as previously reported in Section 4.3, Energy Resources above, to yield annual emissions for criteria pollutants.

For the Local Road System Upgrade alternative, SEA used FHWA's local road truck emissions in grams/mile, which was derived from USEPA's MOBILE6.2 emission modeling software. The estimated daily truck distribution over each leg of the local roadway network (as previously reported in Section 4.3, Energy Resources above) was used to calculate the proposed yearly air emissions.

Table 4-7 summarizes the results of these estimated annual mobile source emission calculations for the Proposed Action, the Modified Proposed Action, and the Local Road System Upgrade alternative. Analysis of this table indicates that the estimated annual mobile source emission of each criteria pollutant for the Proposed Action, the Modified Proposed Action, and the Local Road System Upgrade alternative would be below USEPA's major emission source threshold of 100 tons/year for Title V permit applicability. Under these standards, neither the operation of trains over the proposed rail line nor the increase in truck traffic associated with the Local Road System Upgrade alternative would result in significant adverse impacts to local air quality. However, the estimated annual emissions from the Local Road System Upgrade alternative would be significantly higher than that of the Proposed Action or the Modified Proposed Action due to the lower fuel efficiency of trucks as compared to rail. Additionally, the estimated annual emissions for the Proposed Action would be slightly higher than that of the Modified Proposed Action due to its approximate one mile longer length.

**TABLE 4-7
ESTIMATED ANNUAL MOBILE SOURCE EMISSIONS
OF CRITERIA POLLUTANTS (TONS/YEAR)**

ALTERNATIVE	NO _x	CO	HC	PM
Proposed Action (via the Wallaceton to Munson Route)	21.0	3.1	1.2	0.8
Modified Proposed Action (via the Alternate Route from Philipsburg to Munson)	18.6	2.8	1.0	0.7
No-Build Alternative (Local Road System Upgrade alternative)	52.0	24.7	2.4	1.3

The No-Action Alternative would not result in an increase in mobile source emissions. Therefore, this alternative would not have any impact on local or regional air quality.

4.4.3 Impact Analysis – Odors

As previously mentioned, the public scoping process yielded comments about potential odors derived from the proposed rail line and the associated transport of municipal solid waste to RRLLC's proposed landfill. To evaluate the magnitude or severity of this potential impact, SEA relied on the rail operations safety information reported in Section 4.1.4 above. Given that RJCP would be receiving carloads of waste from a NS mainline, all NS requirements for waste transport would apply. RJCP would have to comply with NS' Tariff NS 6306 – Rules and Regulations for

Handling Municipal Solid Waste, Contaminated Soil, Hazardous Materials, which establishes strict requirements for the acceptance of municipal solid waste and Related Articles (*see* Appendix E). Municipal solid waste would only be accepted if it consists of airtight, watertight, double-wrapped bales transported in covered gondola cars or in watertight intermodal containers transported on flatcars. Specific information about bale requirements and gondola requirements is outlined in Section 4.1.4 above and Appendix E. Because of these applicable NS municipal solid waste transportation requirements, SEA has determined that the proposed rail line would have a negligible impact on localized odors.

Regarding potential odor impacts associated with the Local Road System Upgrade alternative, SEA considered truck traffic as the associated mode of municipal solid waste transport. Under this alternative, trucks would be used to transport all municipal solid waste to RLLC's proposed landfill via I-80, S.R. 0053, S.R. 0144, and Gorton Road through the communities of Drifting, Moshannon, Gillintown, and Snow Shoe. While vehicular transportation of municipal solid waste is subject to certain federal and state regulatory requirements, those requirements do not mandate the use of airtight, watertight, double-wrapped bales in locked-cover vessels. Thus, SEA has concluded that the Local Road System Upgrade alternative and the associated truck-based transport of municipal solid waste would likely have a greater impact on localized odors than the Proposed Action or Modified Proposed Action.

The No-Action Alternative would not have any impact on localized odors.

4.5 NOISE AND VIBRATION

4.5.1 Methodology

This section presents SEA's analysis of potential noise and vibration impacts resulting from the construction, operation, and reactivation of the Proposed Action and its alternatives. Projected operations over the proposed rail line would be two trains per day (i.e., one daily train inbound and one daily train outbound). Consequently, no noise analysis would be required for this project under the Board's thresholds for noise impact assessment (i.e., eight trains per day), found at 49 C.F.R. § 1105.7(e). However, based on comments received during the public scoping process, SEA has performed a quantitative noise analysis to determine if the proposed rail line would result in either of the following conditions: an increase in community noise exposure as measured by Day-Night Average Noise Level (L_{dn}) (L_{dn} is a measure of cumulative noise over a 24-hour period, adjusted to account for the perception that a noise at night is more bothersome than the same noise during the day) of 3 A-weighted decibels (dBA) (the unit for L_{dn} is the dBA, or A-weighted decibel, which approximates the manner in which the human ear responds to sound) or more; or an increase to a noise level of 65 dBA L_{dn} or greater. If the estimated noise increase at a location exceeded these criteria, SEA estimated the number of noise-sensitive receptors (i.e., schools, libraries, hospitals, residences, retirement communities, and nursing homes) that would be subjected to such a noise increase.

In order to identify and quantify potential noise impacts, SEA used the Federal Transit Administration's (FTA) Noise Impact Assessment Spreadsheet to predict wayside train noise levels from the proposed rail operations. Wayside noise collectively refers to noise generated by railcars and locomotives, such as wheel/rail noise, locomotive exhaust, and general engine noise,

not including locomotive horn noise. The FTA model incorporates the procedures for a General Noise Assessment as described in Chapter 5 of the FTA’s guidance manual, “Transit Noise and Vibration Impact Assessment.” SEA used input parameters, such as land use category (see Table 4-8), existing noise level, type of source, speed of source, number of events, etc., to develop both severe and moderate noise impact contours (a noise contour is a line plotted on a map connecting points of equal sound). In addition to the FTA wayside noise model, SEA used FRA’s train horn assessment model to calculate severe and moderate impact zones resulting from horn noise at public grade crossings. These severe and moderate horn noise impact zones were incorporated into the noise impact contours generated by the wayside train noise model. These severe and moderate noise impact contours are shown on the Environmental Features Mapping in Volume 2. More detailed information on the noise impact assessment calculation process is included in Appendix G.

**TABLE 4-8
LAND USE CATEGORIES FOR TRANSIT NOISE IMPACT ASSESSMENT**

LAND USE CATEGORY	NOISE METRIC (dBA)	DESCRIPTION OF LAND USE CATEGORY
1	Outdoor L_{eq} (h)*	Tracts of land where quiet is an essential element of their intended purpose. This category includes lands set aside for serenity and quiet. Such land uses include outdoor amphitheatres and concert pavilions as well as National Historic Landmarks with significant outdoor use. Also included are recording studios and concert halls.
2	Outdoor L_{dn}	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor L_{eq} (h)*	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds and recreational facilities are also considered to be in this category. Certain historical sites and parks are also included.
* L_{eq} for the noisiest hour of transit-related activity during hours of noise sensitivity.		

Source: FTA Transit Noise and Vibration Impact Assessment, May 2006, FTA-VA-90-1003-06

Potential noise impacts were also assessed for the Local Road System Upgrade alternative. SEA conducted a traffic noise screening analysis using FHWA’s Traffic Noise Model (TNM2.5) Look-up Table Program. PennDOT/FHWA noise abatement criterion of 66 dBA was used as the impact threshold. SEA used the estimated truck distribution over the local roads as outlined in the I-80 Interchange Point of Access Study to generate an estimated 66 dBA noise impact contour for this alternative.

SEA also evaluated potential vibration impacts using documented information on train-induced vibration levels as a function of distance from a rail line and vibration levels likely to result in building damage or annoyance to humans based on the location of residences or other buildings in relation to the proposed rail line. Table 4-9 presents the FTA vibration impact criteria typically used to evaluate rail transit systems. SEA used these criteria to assess vibration from freight trains as no specific vibration impact criteria currently exist for freight railroads.

**TABLE 4-9
GROUNDBORNE VIBRATION IMPACT CRITERIA**

LAND USE CATEGORY	GROUNDBORNE VIBRATION IMPACT LEVELS (VdB re 1 micro-inch/second, RMS)		
	FREQUENT EVENTS ¹	OCCASIONAL EVENTS ²	INFREQUENT EVENTS ³
Category 1 Buildings where vibration would interfere with interior operations	65 VdB ⁴	65 VdB ⁴	65 VdB ⁴
Category 2 Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3 Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB
Notes:			
1 “Frequent Events” is defined as more than 70 vibration events of the same source per day.			
2 “Occasional Events” is defined as between 30 and 70 vibration events of the same source per day.			
3 “Infrequent Events” is defined as fewer than 30 vibration events of the same source per day.			
4 This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels. Ensuring low vibration levels in a building requires special design of HVAC systems and stiffened floors.			

Source: FTA Transit Noise and Vibration Impact Assessment, May 2006, FTA-VA-90-1003-06

Finally, SEA qualitatively evaluated potential vibration impacts resulting from project-related construction activities by using documented information on vibration from construction equipment and FTA vibration damage thresholds.

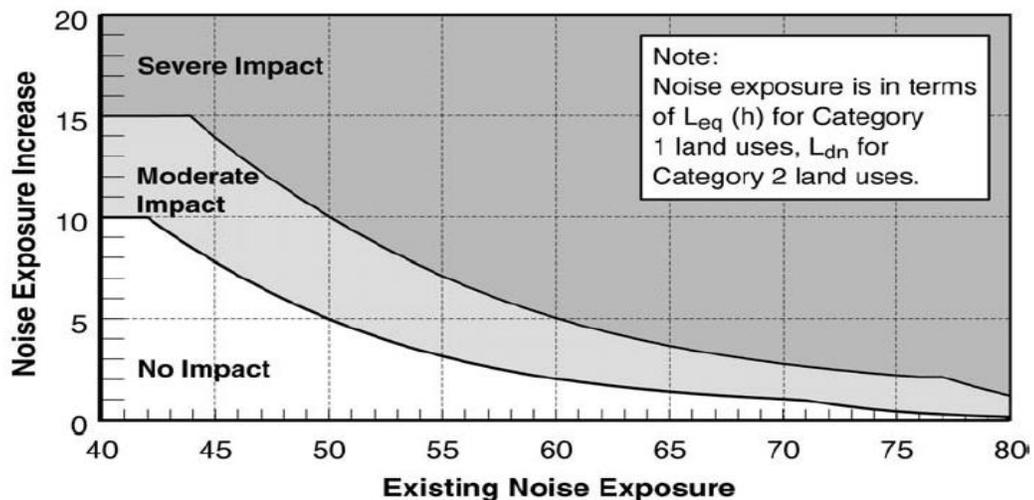
4.5.2 Impact Analysis – Noise

Construction of the proposed rail line would result in a temporary increase in local noise levels on a short-term basis caused by the operation of construction equipment and machinery. However, these

construction-related noise impacts would be of short duration at any one location and would occur during normal daytime working hours. The more lasting noise-related impact would come from the movement of trains over the proposed rail line.

FTA procedures to predict wayside noise were used in conjunction with FRA procedures to predict train horn noise and to develop noise impact contours for the proposed rail line. Both the Proposed Action and the Modified Proposed Action were analyzed in order to compare potential noise impacts. The FTA procedures for determining wayside noise consider annoyance due to the change in the noise environment caused by the project. The noise criteria depend on land use, as defined in Table 4-8 above. The impact criteria also depend on the projected noise increase over the existing community ambient noise levels, as shown in Figure 4-3 below. Analysis of this figure indicates that the criterion for impact considers a noise exposure increase of: a) 10 dBA L_{dn} if the existing noise environment is 42 dBA L_{dn} or less; b) 5 dBA L_{dn} if the existing noise environment is 50 dBA L_{dn} or less; c) 3 dBA L_{dn} if the existing noise environment is 55 dBA L_{dn} or less; and d) 1 dBA when the existing noise environment is 70 dBA L_{dn} or less. Sound levels above 65 dBA L_{dn} are considered significant regardless of the increase in noise.

**FIGURE 4-3
INCREASE IN CUMULATIVE NOISE LEVELS ALLOWED BY CRITERIA**



The anticipated noise impacts identified within the rail corridor vary in degree based upon land use, existing community noise levels, speed of the train within the community, distance between the noise-sensitive land use and the track, and proximity to a public road grade crossing. Table 4-10 lists the total number of moderate and severe impacts associated with the proposed rail line.

Of the 178 total noise impacts to sensitive land uses associated with the Proposed Action (via the Wallaceton to Munson Route), 6 were identified as Category 3 land uses while the other 172 were identified as Category 2 (i.e., residential) land uses. These potentially noise-impacted Category 3 land uses include the Wallaceton United Methodist Church, Wallaceton Church of God, Clearfield County Alternative Education Building, St. Agnes Church in Morrisdale, the Winburne Cemetery, and the Winburne Fireman's Park. All of these potential noise impacts would be due to train horn noise and the buildings' proximity to public road grade crossings. More specifically, the Wallaceton United Methodist Church, Wallaceton Church of God, and Clearfield County Alternative Education

TABLE 4-10
PROPOSED ACTION & MODIFIED PROPOSED ACTION
NOISE-IMPACTED SENSITIVE LAND USES

RAIL SEGMENT	NOISE-IMPACTED SENSITIVE LAND USES		
	MODERATE	SEVERE	TOTAL
Western Segment (via the Wallaceton to Munson Route)	71	107	178
Western Segment (via the Alternate Route from Philipsburg to Munson)	23	9	32
Eastern Segment	0	0	0

Building would be collectively impacted by train horn noise associated with the Pine Street, Reed Street, Baughman Street, Hilltop Road, Wallaceton Road, and Boundary Road/unnamed gravel road grade crossings in Wallaceton Borough. The St. Agnes Church would be impacted by train horn noise associated with the Deer Creek Road grade crossing in Morrisdale. The Winburne Cemetery and Winburne Fireman's Park would be impacted by train horn noise associated with the two public road grade crossings in the Winburne area (i.e., Sawmill Road and Winburne Road). Although these Category 3 land uses would be impacted by noise, SEA has concluded that the impacts from horn noise would not be significant for the churches, as the rail line is not anticipated to be in operation on Sunday.

Of the 32 total noise impacts to sensitive land uses associated with the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson), 2 were identified as Category 3 land uses while the other 30 were identified as Category 2 (i.e., residential) land uses. These potentially noise-impacted Category 3 land uses include the Winburne Cemetery and the Winburne Fireman's Park. Both of these potential Category 3 land use noise impacts would be due to train horn noise associated with the two public road grade crossings in the Winburne area (i.e., Sawmill Road and Winburne Road).

Overall, train horn noise would adversely affect any noise-sensitive land uses (any category) close to the proposed public road grade crossings. However, due to the low level of projected train traffic (a maximum of two trains per day), the sound levels generated by the horn at the proposed public road grade crossings would not appreciably affect the overall L_{dn} . Moreover, the blowing of the horns would be short (20 seconds), and the horns would only sound during daytime hours (7 A.M. to 10 P.M.). Thus, SEA has concluded that the impacts from horn noise and wayside noise from the proposed train operations would be negligible.

A traffic noise screening analysis was conducted for the Local Road System Upgrade alternative. FHWA's Traffic Noise Model (TNM2.5) Look-up Table Program was used to analyze the potential for increased noise resulting from additional truck traffic on the local roadway network. PennDOT/FHWA noise abatement criterion of 66 dBA was used as the impact threshold. SEA used the estimated truck distribution over the local roads as outlined in the I-80 Interchange Point of Access Study. Based on this estimated truck distribution, TNM2.5 predicted a noise impact contour of approximately 100 feet from the edge of the shoulder of the local roadways (e.g., S.R. 0053,

S.R. 0144, and Gorton Road). Beyond 100 feet, the sound level dropped below the 66 dBA criterion. Table 4-11 lists the number of noise-impacted sensitive land uses within the 66 dBA contour.

TABLE 4-11
NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)
NOISE-IMPACTED SENSITIVE LAND USES

ROADWAY SEGMENT	NOISE-IMPACTED SENSITIVE LAND USES
S.R. 0053 (Kylertown to Moshannon)	91
S.R. 0144 (Snow Shoe to Moshannon)	80
Gorton Road (Moshannon to Gorton)	33
Total	204

The No-Action Alternative would not result in any noise-related impacts.

4.5.3 Impact Analysis – Vibration

For analysis purposes, SEA used a large bulldozer as the vibration source to estimate vibration from general construction of the proposed rail line because this type of construction equipment imparts the highest vibration levels to the ground. Estimated construction vibration levels at the nearest sensitive receptor would be below FTA's 0.20-inch per second (in./sec) fragile building damage criterion; therefore, no construction-related building damage due to vibration would be expected.

Operational vibration impacts were evaluated on the basis of maximum level. Because train speed over the proposed rail line would be low (i.e., 10 to 25 mph maximum), vibration levels due to rail operations would also be low. For example, a freight train traveling at 50 mph will generate a vibration level of 95 VdB³ measured 10 feet from the tracks (FTA, 2006). This level of vibration is substantially lower than vibration associated with cosmetic building damage levels (0.20 in./sec – nominally 106 VdB, or 100 VdB assuming a crest factor⁴ of 2) (Martin, 1980) and structural damage levels (126 VdB) (Nichols, et al., 1971). Because vibration level decreases as train speed decreases, vibration levels associated with the proposed rail line would be even lower than these values. Consequently, no building damage related to vibration due to train operations would be expected.

According to FTA Groundborne Vibration Impact Criteria, a vibration level of 80 VdB or above constitutes an impact in terms of human annoyance (Category 2) for infrequent train events (fewer than 30 events per day). For a freight train traveling 20 mph, this annoyance impact corridor extends approximately 30 feet from the tracks (FTA, 2006). The train speed through the larger towns such as Wallacetown and Morrisdale would be 10 mph (increasing to 25 mph outside of the major

³ VdB is the unit of measure used by FTA to reference vibration velocity levels in decibels. The reference quantity used in the United States from VdB is 1 micro-inch/sec.

⁴ The crest factor is a peak to average ratio. A low crest factor implies that the vibration is reasonably characterized by the root mean square (RMS) (i.e., average) value. A high crest factor implies that the vibration is better characterized by the peak particle velocity. A crest factor of 2 assumes a relatively smooth and uniform vibratory condition without "spikiness."

towns), which would make the annoyance impact corridor less than 30 feet from the tracks. SEA determined that one residential structure in Wallaceton, three residential structures in Morrisdale, and two residential structures in Allport would be within 30 feet from the tracks. Therefore, these six residential structures along the Wallaceton to Munson Route of the Proposed Action could receive vibration levels near vibration annoyance impact criteria. Conversely, there would be no residential structures within 30 feet of the track on the Alternate Route from Philipsburg to Munson of the Modified Proposed Action or within the remaining portion of the Western Segment (i.e., Munson to Winburne); therefore no vibration impacts related to annoyance are expected.

No vibration impact assessment was completed for the Local Road System Upgrade alternative.

The No-Action Alternative would not result in any vibration impacts.

4.6 BIOLOGICAL RESOURCES

4.6.1 Methodology

Impacts of the Proposed Action and its alternatives on biological resources were evaluated both quantitatively and qualitatively. Construction/operation-related impacts on major vegetative communities were assessed quantitatively using the 24-foot typical track and 40-foot typical roadway improvement cross-sections. Following these quantitative evaluations, the project's overall ecosystem/wildlife habitat impacts were assessed qualitatively based on the results of field surveys and existing conditions as reported in Chapter 3, Affected Environment. Specifically, this qualitative assessment focused on the results of the detailed threatened and endangered species field surveys and associated vegetative community/wildlife habitat studies. Finally, SEA used select rail operations safety information, as reported in Section 4.1.4 above, to qualitatively evaluate the impact of the Proposed Action and its alternatives on potential increases in vermin/vectors for disease.

4.6.2 Impact Analysis – Vegetation and Wildlife

As previously indicated, the Proposed Action would involve the construction of a single-track line over the existing graded roadbed of a previously abandoned/rail banked single-track line. Given this scope of work, construction-related impacts of the proposed rail line on vegetation and wildlife are anticipated to be minimal and would be limited to clearing of brush and minor tree removal within the roadbed. This impact would be nominal in areas that receive regular ATV traffic, including the entire 9.3-mile Eastern Segment and several sections of the Western Segment. The exception to this minor construction-based impact would be the proposed new mainline connection along the Modified Proposed Action's Alternate Route from Philipsburg to Munson. Approximately 2,500 linear feet of new railroad corridor would be constructed in a reclaimed surface mine area consisting predominantly of old field and early successional forest habitats.

SEA anticipates that impacts from the operation of trains over the proposed rail line would be negligible and would consist of removal of tree and shrub vegetation located immediately adjacent to the roadbed. SEA used the 24-foot typical track section combined with a 10-foot buffer on each side to calculate an operations-based impact to adjacent vegetation. Table 4-12 reports this impact in acres by major vegetative community type over the entire 19- to 20-mile project length.

**TABLE 4-12
PROPOSED ACTION & MODIFIED PROPOSED ACTION
VEGETATIVE COMMUNITY/WILDLIFE HABITAT IMPACTS**

SEGMENT	OLD FIELD/ HERBACEOUS (ACRES)	SHRUB (ACRES)	FOREST (ACRES)
Western Segment (via the Wallaceton to Munson Route)	3.2	0.7	13.3
Western Segment (via the Alternate Route from Philipsburg to Munson)	2.8	1.6	17.8
Eastern Segment	0.7	0.0	22.7

Given the former railroad's presence as an existing landscape feature, the proposed rail line would not likely result in habitat fragmentation because the graded roadbed of the former railroad already serves as an existing linear corridor between adjacent habitat types. Additionally, given the 25 mph maximum operating speed, the potential impact of locomotive-wildlife strikes would likely be nominal. Finally, the proposed rail line is not anticipated to impact the Moshannon State Forest Important Bird Area because of the 100-year history of active rail use and the establishment of the Important Bird Area despite the recent use of ATV traffic along the rail corridor.

Vegetation and wildlife impacts of the Local Road System Upgrade alternative would be similar to that of the proposed rail line. Because of the proposed improvements to existing public roadways, this alternative would result in only minor impacts to adjacent vegetation. Table 4-13 summarizes the vegetative community/wildlife habitat impacts of this alternative. Under this alternative, which uses existing local roadways, the Southern Sproul State Forest Important Bird Area, the Snow Shoe Moshannon Biological Diversity Area and the Snow Shoe Swamp Biological Diversity Area would likely not be impacted. This alternative would, however, result in a substantial increase in truck traffic on S.R. 0053, S.R. 0144, and Gorton Road, which would potentially impact the Black Moshannon Landscape Conservation Area by increasing the potential for vehicle-wildlife collisions.

The No-Action Alternative would not have any impact on vegetation and wildlife.

**TABLE 4-13
NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)
VEGETATIVE COMMUNITY/WILDLIFE HABITAT IMPACTS**

SEGMENT	OLD FIELD/ HERBACEOUS (ACRES)	SHRUB (ACRES)	FOREST (ACRES)
S.R. 0053 (Kylertown to Moshannon)	4.3	4.8	19.4
S.R. 0144 (Snow Shoe to Moshannon)	1.2	2.2	3.4
Gorton Road (Moshannon to Gorton)	0.3	0.6	12.7
Total Impact	5.8	7.6	35.5

4.6.3 Impact Analysis – Threatened and Endangered Species

As indicated in Chapter 3, coordination with the various threatened and endangered species resource agencies indicated that the proposed rail line is within the known range of several different threatened and endangered species. These species include:

- Indiana Bat (*Myotis sodalis*) – Federal Endangered,
- Timber Rattlesnake (*Crotalus horridus*) – PA Candidate,
- Branching Bur-reed (*Sparganium angrocladum*) – PA Endangered,
- Alleghany Plum (*Prunus alleghaniensis*) – PA Threatened (proposed),
- Carey’s Smartweed (*Polygonum careyi*) – PA Endangered,
- Mountain Starwort (*Stellaria borealis*) – undetermined status,
- Creeping Snowberry (*Gaultheria hispidula*) – PA Rare, and
- Mountain Fly Honeysuckle (*Lonicera villosa*) – PA Endangered.

Because the rail corridor already exists and construction of the rail line would require minimal tree removal, the proposed rail line is not anticipated to impact the Indiana Bat. Given the non-critical foraging habitat found along the Eastern Segment, the proposed rail line is also not anticipated to have a significant impact on the Timber Rattlesnake. Of the above-listed plant species, only Branching Bur-reed potentially could be found within immediate proximity of the proposed rail line. This *Sparganium* species was observed in a number of wetland habitats along both routes of the Western Segment. However, due to the critical flowering/fruitleting time period required for precise field identification of this genus, identification down to the species level was not possible. Thus, additional field surveys will be conducted during the 2010 flowering/fruitleting season to positively identify this species. If the *Sparganium* species is discovered to be Branching Bur-reed, construction of the proposed rail line would result in a direct impact to this Pennsylvania Endangered Species. This construction-related impact, however, would be minimized through the threatened and endangered species mitigation items presented in Chapter 6.

Regarding the Local Road System Upgrade alternative, coordination with the appropriate agencies indicated that this alternative is within the known range of the following threatened and endangered species:

- Indiana Bat (*Myotis sodalis*) – Federal Endangered,
- Timber Rattlesnake (*Crotalus horridus*) – PA Candidate,
- Alleghany Woodrat (*Neotoma magister*) – PA Threatened,
- Alleghany Plum (*Prunus alleghaniensis*) – PA Threatened (proposed), and
- Carey’s Smartweed (*Polygonum careyi*) – PA Endangered.

Because minimal tree removal would be required for the Local Road System Upgrade alternative, this alternative is not anticipated to impact the Indiana Bat. Given the non-critical foraging habitat found along Gorton Road, this alternative is also not anticipated to have a significant impact on the Timber Rattlesnake. A known population of the Alleghany Woodrat has been identified and mapped as the Snow Shoe Moshannon Biological Diversity Area in the Centre County Natural Heritage Inventory along Black Moshannon Creek between Gorton Road and S.R. 0053. However, given the existing roadway improvements associated with this alternative and the lack of suitable habitat in the immediate proximity of the existing roadway, no impacts to the Alleghany Woodrat would be

anticipated. Finally, of the two listed plant species, one potential specimen of the Alleghany Plum was identified near the vicinity of the Gorton Road Bridge over Black Moshannon Creek. This specimen would likely be impacted by the proposed bridge replacement.

The No-Action Alternative would not have any impact on threatened and endangered species at either the federal or state level.

4.6.4 Impact Analysis – Vermin/Vectors for Disease

The public scoping process yielded comments about the potential increase in vermin/vectors for disease derived from the proposed rail line and the associated transport of municipal solid waste to RRLLC's proposed landfill. To evaluate the magnitude or severity of this potential impact, SEA relied on the rail operations safety information reported in Section 4.1.4 above. Specifically, RJCP's operations would be subject to NS municipal solid waste transportation requirements. Given that RJCP would be receiving carloads of waste from a NS mainline, all NS requirements for waste transport would apply. RJCP would have to comply with NS' Tariff NS 6306 – Rules and Regulations for Handling Municipal Solid Waste, Contaminated Soil, Hazardous Materials, which establishes strict requirements for the acceptance of municipal solid waste, and Related Articles (see Appendix E). Municipal solid waste would only be accepted if it consists of airtight, watertight, double-wrapped bales transported in covered gondola cars, or in watertight intermodal containers transported on flatcars. Specific information for bale requirements and gondola requirements is outlined in Section 4.1.4 above and Appendix E. Because of these applicable NS municipal solid waste transportation requirements, SEA has determined that the proposed rail line would have a negligible impact on increased vermin/vectors for disease.

Regarding the potential increase in vermin/vectors for disease associated with the Local Road System Upgrade alternative, SEA considered truck traffic as the associated mode of municipal solid waste transport. Under this alternative, trucks would be used to transport all municipal solid waste to RRLLC's proposed landfill via I-80, S.R. 0053, S.R. 0144, and Gorton Road through the communities of Drifting, Moshannon, Gillintown, and Snow Shoe. While vehicular transportation of municipal solid waste is subject to certain federal and state regulatory requirements, those requirements do not mandate the use of airtight, watertight, double-wrapped bales in locked-cover vessels. Thus, SEA has concluded that the Local Road System Upgrade alternative and the associated truck-based transport of municipal solid waste would likely have a greater impact on increased vermin/vectors for disease than the Proposed Action or the Modified Proposed Action.

The No-Action Alternative would have no effect on potential increased vermin/vectors for disease.

4.7 WATER RESOURCES

4.7.1 Methodology

Impacts to water resources, including jurisdictional wetlands and watercourses (any flowing body of water), groundwater and public water supplies, and floodplains were evaluated both qualitatively and quantitatively. SEA calculated impacts to wetlands and watercourses on an individual resource basis using detailed aerial mapping combined with preliminary engineering field survey data and typical track/highway cross-section information. A quantitative accounting of the number of

impacted wetlands and watercourses was calculated, including the total square feet and linear feet of encroachment, respectively. SEA assessed impacts on groundwater and public water supplies qualitatively using rail operations safety information reported in Section 4.1.4 above. Finally, SEA evaluated impacts on 100-year floodplains both qualitatively and quantitatively using detailed FEMA mapping, GIS impact assessment tools, and hydrologic and hydraulic analysis.

4.7.2 Impact Analysis – Wetlands and Watercourses

Construction of the proposed rail line would result in impacts to wetlands and watercourses. Wetland and watercourse impacts vary along the Western Segment depending on which route to Munson is selected. However, unlike most other impacts, wetland impacts would be higher along the Modified Proposed Action's Alternate Route from Philipsburg to Munson than along the Proposed Action's Wallaceton to Munson Route. The primary reason for this higher number of wetland impacts lies in the topographic/landscape position of the Alternate Route from Philipsburg to Munson when compared to that of the Wallaceton to Munson Route. As discussed in Chapter 3, the Alternate Route from Philipsburg to Munson parallels the Moshannon Creek and its large bottomland wetland-riverine complex from Philipsburg to Munson. Conversely, the Wallaceton to Munson Route is generally situated in a more densely developed area and roughly follows the drainage divide between the Moshannon Creek and the West Branch of the Susquehanna River. This topographic/landscape position combined with the more developed nature of the corridor results in fewer adjacent wetlands along the Proposed Action's Wallaceton to Munson Route. The Modified Proposed Action's Alternate Route from Philipsburg to Munson would require the construction of a new bridge structure over Laurel Run (i.e., WC 030). This new bridge structure would cross Laurel Run west of S.R. 0053 in the area of the proposed new mainline connection.

Tables 4-14 and 4-15 quantitatively summarize the direct construction-related wetland and watercourse impacts for both the Proposed Action and the Modified Proposed Action. The locations of these individual resources are shown on the Environmental Features Mapping in Volume 2.

**TABLE 4-14
PROPOSED ACTION & MODIFIED PROPOSED ACTION
WETLAND IMPACTS**

WETLAND ID*	SHEET NUMBER*	STATION NUMBER*	IMPACT (SQUARE FEET)
Western Segment (via the Wallaceton to Munson Route)			
001 (PFO)	11	894+50	5,000
003 (PEM)	12	886+10	3,750
005 (PSS)	13	878+00	2,000
006 (PEM)	16	831+50	2,000
007 (PEM)	17	813+00	1,250
008 (PSS)	19	783+00	2,000
010 (PSS)	21	743+00	2,000
012 (PEM)	22	730+00	3,000
014 (PFO)	27	650+00	2,000
015 (PFO)	27	648+50	1,500
018 (PFO)	31	592+00	2,000
023 (PEM)	34	541+00	1,000
Western Segment (via the Wallaceton to Munson Route) Total Impact			27,500

**TABLE 4-14
(CONTINUED)**

WETLAND ID*	SHEET NUMBER*	STATION NUMBER*	IMPACT (SQUARE FEET)
Western Segment (via the Alternate Route from Philipsburg to Munson)			
TSD (PEM)	68	997+00	1,760
043 (PEM)	69	977+00	2,500
044 (PEM)	69	976+00	400
LRC (PEM)	70	961+25	4,000
MCC (PSS)	71	944+00	8,000
MCC (PSS)	72	935+00	500
MCC (PEM)	73	921+60	240
TSD (PEM)	74	900+00 & 904+20	600
045 (PEM)	75	898+40	200
MCC (PSS)	75	888+10	100
MCC (PSS)	76	875+00	500
047 (PFO)	77	865+00	3,300
MCC (PFO)	78	850+00	600
MCC (PSS)	78	848+00	1,000
050 (PEM)	79	831+50	100
051 (PEM)	79	829+00	750
TSD (2 sections)	80	820+00	2,000
MCC (PSS)	80	812+00	500
TSD (PEM)	81	803+00	800
052 (PEM)	82	792+00	2,500
MCC (PSS)	82	792+00	2,000
TSD (PSS)	82-83	792+40-774+00	11,400
MCC (PFO)	83	775+00	500
TSD	83	767+00	3,000
053 (PSS)	83	765+00	700
MCC (PSS)	83	765+00	1,500
TSD (PSS)	84-86	763+00-730+00	33,000
MCC (PFO)	84	755+00	1,000
TSD	86	729+50	500
TSD (PSS)	89-90	685+00-662+00	27,600
054 (PEM)	90	660+50	400
015 (PEM)	91	648+00	500
018 (PFO)	31	592+00	2,000
023 (PEM)	34	541+00	1,000
Western Segment (Alternate Route from Philipsburg to Munson) Total Impact			115,450
Eastern Segment			
024 (PEM)	35	531+50	1,400
TSD	38	480+00	1,600
TSD	56	191+60	1,200
TSD	57	177+00	3,000
026 (POW)	58	156+70	2,400
029 (PSS)	63	68+00	7,800
030 (PSS)	66	25+00	13,000
032 (PEM)	67	0+00	300
Eastern Segment Total Impact			30,700

*As shown on the Environmental Features Mapping in Volume 2

**TABLE 4-15
PROPOSED ACTION & MODIFIED PROPOSED ACTION
WATERCOURSE IMPACTS**

WATERCOURSE ID*	SHEET NUMBER*	STATION NUMBER*	IMPACT (LINEAR FEET)
Western Segment (via the Wallaceton to Munson Route)			
CHN 001	16	825+70	40
TSD	16	828+50	210
TSD	17	813+00	500
CHN 002	22	730+00	40
WC 003	26	666+00	40
WC 004	28	632+75	40
WC 005	29	629+00	40
WC 006	29	615+50	40
WC 007	30	611+50	40
WC 008	32	581+50	40
WC 010 (Moshannon)	34	538+00	No Impact
Western Segment (via the Wallaceton to Munson Route) Total Impact			1,030
Western Segment (via the Alternate Route from Philipsburg to Munson)			
WC 030 (Laurel Run)	68	994+00	60
WC 031 (Emigh Run)	75	896+00	No Impact
WC 032	76	871+60	40
WC 033 (Hawk Run)	78	849+70	No Impact
WC 034 (in Wetland 052)	82	792+00	40
WC 035 (in Wetland 053)	83	765+30	40
WC 036 (in Wetland 054)	90	660+50	60
WC 037 (Munson Run)	91	647+00	No Impact
WC 004	28	632+75	40
WC 005	29	629+00	40
WC 006	29	615+50	40
WC 007	30	611+50	40
WC 008	32	581+50	40
WC 010 (Moshannon)	34	538+00	No Impact
Western Segment (Alternate Route from Philipsburg to Munson) Total Impact			440
Eastern Segment			
WC 009 (Black Bear Run)	38	487+00	No Impact
WC 010 (Moshannon)	40	449+00	No Impact
WC 010 (Moshannon)	52	248+00	No Impact
WC 011	55	197+70	40
WC 013	57	180+50	40
WC 012	57	177+00	40
WC 015	58	158+40	60
WC 016	59	139+50	40
WC 017	59	129+25	200
WC 018	60	113+50	No Impact
WC 019	63	76+25	40
WC 020	64	65+00	40
WC 021	65	40+20	40
Eastern Segment Total Impact			540

*As shown on the Environmental Features Mapping in Volume 2

Beyond these direct construction-related impacts, operation of the proposed rail line has the potential to result in additional indirect wetland and watercourse impacts via typical line maintenance activities (i.e., clearing of drainage features, vegetation management, track and bed repair, etc.). While difficult to quantify, most of these indirect impacts are anticipated to be temporary in nature, and wetland functions and values would be naturally self-regenerative. Additionally, a significant train derailment event that would result in the failure of a tanker car hauling untreated “frac water” from natural gas drilling activities could result in potential water quality impacts to both surface and groundwater resources. However, SEA considers this potential water quality impact to be negligible given the low probability of a train derailment (see Section 4.7.3) and the existing impaired conditions of most local watercourses caused by historic Acid Mine Drainage (AMD). Black Bear Run would be an exception because of its PA DEP Exceptional Value water quality designation. The proposed rail line would cross Black Bear Run approximately 100 feet upstream from its confluence with Moshannon Creek. Because of this topographic position near the confluence with Moshannon Creek, a rail operations-based water quality event would likely impact less than 1% of the Black Bear Run watershed.

Similar to the proposed rail line, construction of the roadway improvements associated with the Local Road System Upgrade alternative would result in direct impacts to wetlands and watercourses. In particular, this alternative calls for the replacement of the existing bridge structure carrying Gorton Road over the Black Moshannon Creek. Tables 4-16 and 4-17 quantitatively summarize

**TABLE 4-16
NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)
WETLAND IMPACTS**

WETLAND ID*	SHEET NUMBER*	STATION NUMBER*	IMPACT (SQUARE FEET)
WET 101 (PSS)	97	2081+00	4,400
WET 102 (POW)	107-108	2233+00	15,500
WET 103 (PEM)	108	2240+00	1,600
BMC-WRC (PFO)	117	2380+00	6,400
BMC-WRC (PFO)	118	2393+00	7,000
WET 105 (PEM)	119	2414+50	2,800
WET 106 (PEM)	120	2433+50	16,700
WET 107 (PSS)	122	2463+50	4,800
WET 108 (PFO)	122-123	2469+25	5,600
WET 109 (PFO)	123-124	2479+25	6,800
WET 110 (PSS)	127	2537+00	2,500
WET 114 (PSS)	143	2797+75	600
WET 115 (PEM)	145	2827+00	600
WET 116 (PEM)	146	2831+75	1,500
WET 117 (PEM)	148	2871+00	1,000
Total Impact			77,800

*As shown on the Environmental Features Mapping in Volume 2

**TABLE 4-17
NO-BUILD ALTERNATIVE (LOCAL ROAD SYSTEM UPGRADE)
WATERCOURSE IMPACTS**

WATERCOURSE ID*	SHEET NUMBER*	STATION NUMBER*	IMPACT (LINEAR FEET)
WC 102	108	2249+50	40
WC 103	109	2255+50	40
WC 104	111	2291+50	40
WC 105	113	2310+00	40
WC 010 (Moshannon)	116	2374+00	No Impact
WC 108	120	2424+00	40
WC 107	124	2487+00	40
WC 109	126	2521+50	40
WC 110	128	2549+00	40
WC 111	130	2587+25	190
WC 112	135	2657+00	40
WC 114	143	2797+75	40
WC 113	145-146	2827+75	220
WC 113	146	2839+50	40
WC 106 (Black Moshannon)	147	2846+50	70
WC 115	148	2868+00	40
Total Impact			960

*As shown on the Environmental Features Mapping in Volume 2

these wetland and watercourse impacts. The locations of these individual resources are shown on the Environmental Features Mapping in Volume 2.

Beyond these direct construction-related impacts, the Local Road System Upgrade alternative has the potential to result in additional indirect wetland and watercourse impacts via typical roadway maintenance activities (i.e., clearing of drainage features, vegetation management, wintertime application of anti-skid compounds, etc.). While difficult to quantify, most of these indirect impacts are anticipated to be temporary in nature, and wetland functions and values would be naturally self-regenerative.

The No-Action Alternative would not have any impact on wetlands and watercourses.

4.7.3 Impact Analysis – Groundwater and Public Water Supplies

Impacts to groundwater resources and public water supplies were assessed qualitatively based on the rail operations safety information reported in Section 4.1.4 above. As noted in Chapter 3, most of the project area is serviced with public water by municipal and commercial suppliers with supply sources located outside the project area. The closest known public water supply source is the Cooper

Township Municipal Authority in the headwaters of Black Bear Run. This location is several miles upstream of the proposed rail line and would not be impacted by the proposed project.

Regarding groundwater impacts, potential surface compaction associated with construction activities could result in alterations to shallow groundwater flow paths by impacting the ability of the soil to receive and transport surface water runoff. However, these impacts are anticipated to be minor, with no long-term or lasting effects. The greater public concern would be groundwater impact from the potential contamination of a train derailment event. Given NS' municipal solid waste transportation requirements (see Section 4.1.4 above and Appendix E), the most significant derailment-related risk for groundwater contamination would not come from hauling municipal solid waste but rather from the failure of a tanker car hauling untreated "frac water" from natural gas drilling activities. This type of derailment could result in potential water quality impacts to both surface and groundwater resources. However, while not impossible, it is unlikely that a derailment of this magnitude would occur. First, the 25 mph maximum operating speed would minimize the overall potential for train derailment events. Second, should a derailment event occur, the 25 mph maximum operating speed would further minimize the likelihood of tanker cars tipping over. Finally, for contamination to occur, tanker cars would not only have to tip over, but would also have to break open and release their contents. Overall, the potential for a combination of these events to occur for a train traveling a maximum of 25 mph would be negligible. Therefore, SEA completed no further impact assessment.

Based on the rail operations safety information reported in Section 4.1.4 above, including the applicability of all FRA standard rail operations safety regulations, the planned 25 mph maximum operating speed of trains, and NS' municipal solid waste transportation requirements, SEA has determined that the potential for environmental contamination (including groundwater contamination) as a result of train derailment would be negligible.

Construction of the Local Road System Upgrade alternative could result in alterations to shallow groundwater flow paths. However, these impacts would be considered minor with no long-term or lasting effects. The greater groundwater concern associated with this alternative would be potential contamination resulting from highway traffic accidents. The most significant risk for groundwater contamination would come from a highway traffic accident that results in the failure of a tanker truck hauling untreated "frac water" from natural gas drilling activities. A traffic accident of this magnitude could result in potential water quality impacts to both surface and groundwater resources. SEA has determined that the likelihood or probability of occurrence for an event of this magnitude would be directly proportional to the traveling speed of the particular vehicle, which is typically controlled or dictated by the designated functional classification of the roadway. In other words, the potential for an event of this magnitude to occur would be much greater on I-80, where vehicles are traveling at speeds in excess of 65 mph, than on Gorton Road, where vehicles are traveling at speeds averaging 25 to 30 mph. However, any driver exceeding the local speed limit and traveling too fast for roadway conditions could cause a vehicular accident. Given the variability of factors, there is no way to predict the likelihood or probability of occurrence for such an event other than to conclude that such an event, however unlikely, is possible.

The No-Action Alternative would not have any impact on groundwater resources or public water supplies.

4.7.4 Impact Analysis – Floodplains

Floodplain encroachments are typically classified as either longitudinal or transverse in origin. Longitudinal floodplain encroachments occur when development pushes into the boundary of a floodplain but does not cross the actual watercourse itself. An example of a longitudinal floodplain encroachment would be the construction of a new highway, adjacent to a river and within the floodplain of that river, that does not actually cross or bridge the river itself. Conversely, a transverse floodplain encroachment involves a relatively perpendicular encroachment into a floodplain area usually resulting in a crossing or bridging of the subject watercourse.

Construction of the proposed rail line would involve both longitudinal and transverse floodplain encroachments. However, the floodplain impact associated with the majority of these encroachments would be negligible since the graded roadbed of the former rail corridor is an existing landscape feature already accounted for and factored into FEMA's floodplain model for Moshannon Creek. In FEMA's floodplain model, the existing graded roadbed of the former railroad serves as the topographic boundary of the 100-year floodplain at several locations. This is consistent with field observations of the former roadbed's topographic landscape position in relation to Moshannon Creek. In locations where the roadbed is shown to be overtopped by the 100-year floodplain, FEMA's model and associated FIRM have accounted for the minor elevation change (if any) associated with this existing landscape feature. The Proposed Action would merely involve the construction of track over this existing landscape feature. This track construction and the associated minor grading would not constitute a significant floodplain encroachment and would not be representative of a floodplain impact because there would be little to no change in surface elevation from what was already factored into FEMA's floodplain model. Significant floodplain encroachments and floodplain impacts are typically associated with new developments or activities (i.e., construction of buildings, placement of fill, significant earth moving, etc.) that are not reflected in the current FEMA model/FIRM. Nonetheless, SEA has quantified the linear feet of longitudinal and transverse floodplain encroachments in Table 4-18.

One exception would be the area along the proposed new mainline connection at the west end of the Modified Proposed Action's Alternate Route from Philipsburg to Munson. This proposed new mainline connection would involve the construction of new rail line through the Zone AE 100-year floodplain of Laurel Run, including a proposed new bridge crossing of Laurel Run itself. As noted in Table 4-18, this floodplain impact would be classified as a transverse encroachment totaling 1,275 linear feet. Figure 4-4 shows the location of the proposed new rail line construction within this Zone AE floodplain area.

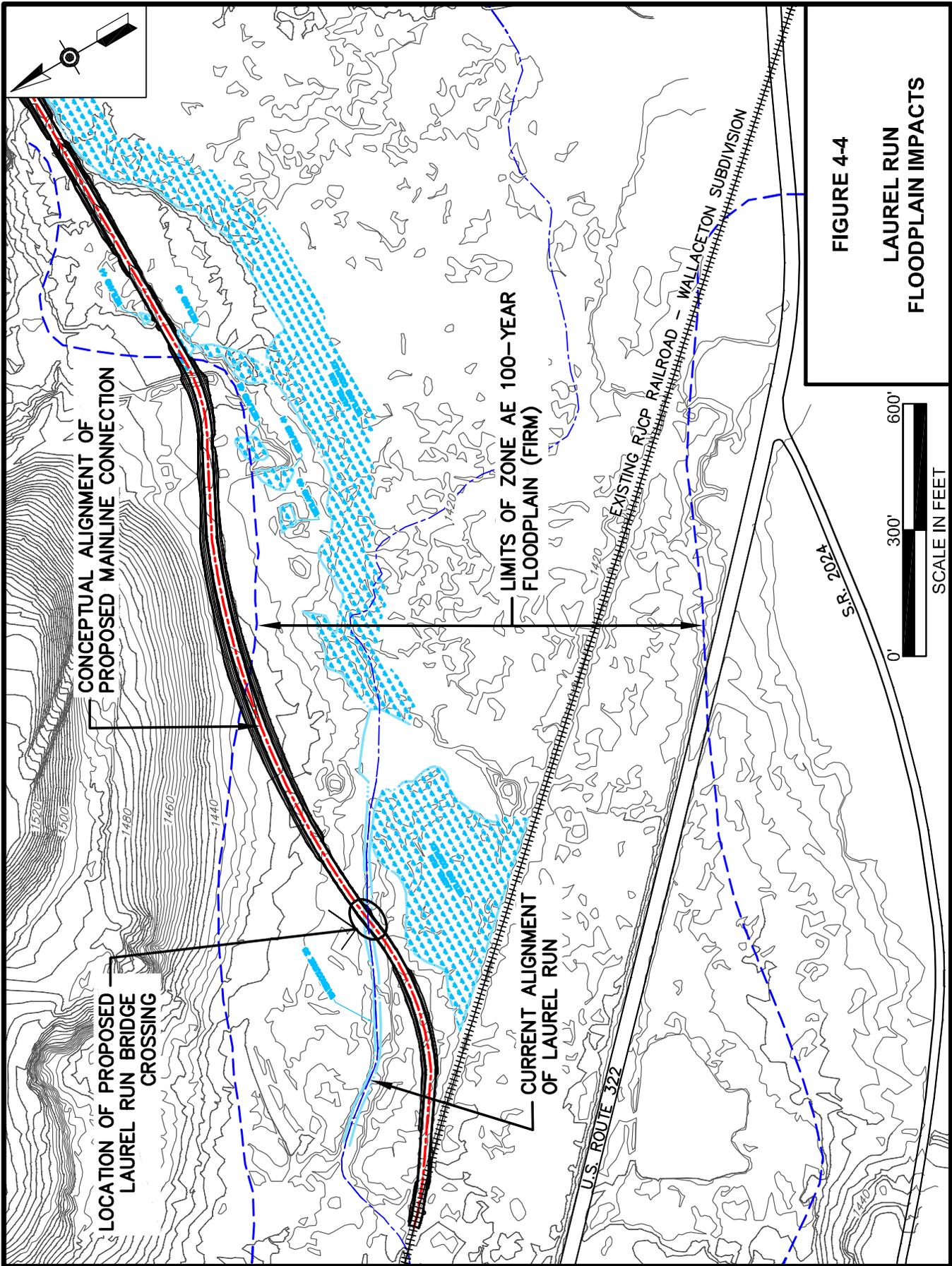
SEA conducted preliminary hydrologic and hydraulic analyses (see Appendix H) for the proposed Laurel Run Bridge crossing to evaluate potential floodplain impacts associated with this transverse encroachment. In accordance with FEMA floodplain impact assessment guidelines, computer modeling using the USACE's HEC-RAS v4.0 software was used to replicate the results of FEMA's Flood Insurance Study (FIS) for this area. This effort resulted in the development of what is known as a Duplicate Effective Model. However, in developing the Duplicate Effective Model it became apparent that the area of the proposed Laurel Run Bridge crossing has been subject to substantial physical alteration not accounted for in FEMA's initial FIS modeling efforts. This physical alteration consists of significant earthwork activities associated with surface mining reclamation efforts. Additionally, the channel of Laurel Run itself has been relocated and straightened, which is not

**TABLE 4-18
PROPOSED ACTION & MODIFIED PROPOSED ACTION
FLOODPLAIN IMPACTS**

ENCROACHMENT	SHEET NUMBER*	STATION NUMBER*	IMPACT (LINEAR FEET)
Western Segment (via the Wallaceton to Munson Route)			
Longitudinal	20	770+75	775
Transverse (Munson Tributary)	24	700+30	235
Transverse (Munson Tributary)	25	681+10	275
Longitudinal	27-28	650+75	1,425
Longitudinal	29	629+00	250
Transverse (Moshannon)	34	539+75	No Impact
Western Segment (via the Wallaceton to Munson Route) Total Impact			2,960
Western Segment (via the Alternate Route from Philipsburg to Munson)			
Transverse (Laurel Run)	68	1000+00	1,275
Longitudinal	69-72	977+80	4,800
Longitudinal	73-74	921+80	2,180
Longitudinal	76-79	871+25	3,600
Longitudinal	80-81	820+60	2,600
Longitudinal	83	778+50	1,425
Longitudinal	88-89	693+00	750
Longitudinal	90-28	665+80	2,930
Longitudinal	29	629+00	250
Transverse (Moshannon)	34	539+75	No Impact
Western Segment (Alternate Route from Philipsburg to Munson) Total Impact			19,810
Eastern Segment			
Longitudinal	35	528+25	825
Longitudinal	36	516+40	300
Longitudinal	37-38	496+50	2,325
Longitudinal	39	468+10	1,070
Transverse (Moshannon)	40	451+40	No Impact
Transverse (Moshannon)	52	249+75	No Impact
Eastern Segment Total Impact			4,520

*As shown on the Environmental Features Mapping in Volume 2

depicted in FEMA's FIS. Portions of the former channel of Laurel Run are also no longer within the area considered to be 100-year floodplain. To correct these inconsistencies, SEA attempted to convert the Duplicate Effective Model into a current Existing Conditions Model. The Existing Conditions Model reflects the current location of Laurel Run as well as the current topography of the area. This model was then used to evaluate the potential floodplain impact of building the proposed mainline connection, including the new bridge over Laurel Run. The analysis shows a



Plotted on: 2010-01-14

potential 0.08-foot maximum increase in the water surface elevation of the 100-year flood event over that reported in FEMA's FIS. The additional area of flooding impact associated with this 0.08-foot increase would be both negligible and confined within FEMA's original delineation of the 100-year floodplain on the township's FIRM. Thus, SEA has determined that this potential floodplain impact would be negligible and should be documented accordingly as part of the project's eventual 404/105 USACE waterway encroachment permit application. Additionally, SEA has determined that no additional floodplain investigations are warranted at this time.

Construction of the Local Road System Upgrade alternative would not have any impact on floodplains. This alternative would involve two existing transverse floodplain encroachments (i.e., the S.R. 0053 bridge crossing of Moshannon Creek and the Gorton Road bridge crossing of Black Moshannon Creek), but neither would impact the 100-year floodplain. While this alternative calls for the replacement of the existing bridge structure carrying Gorton Road over the Black Moshannon Creek, the proposed replacement bridge would be hydraulically designed and constructed to avoid any increase in the water surface elevation of the 100-year flood event. Thus, this alternative would result in no floodplain impacts.

The No-Action Alternative would not have any impact on floodplains.

4.8 SOCIOECONOMICS

4.8.1 Methodology

SEA analyzed the socioeconomic impacts of the Proposed Action and its alternatives. To complete the socioeconomic impact assessment for the proposed rail line, SEA evaluated the project area's existing demographic and employment trends, community facilities and services, and parks and recreation facilities. SEA conducted a similar level of analysis for the Local Road System Upgrade alternative and the No-Action Alternative for comparison purposes. The results of these individual impact assessments are reported below by resource category.

4.8.2 Impact Analysis – Demographics and Employment

Impacts to demographics and employment are typically calculated by assessing a given action's likelihood to result in the displacement of residential, commercial, and industrial structures as well as potential changes in employment (i.e., jobs created/eliminated). The proposed rail line would involve the construction of a single-track line over the existing graded roadbed of a previously abandoned/rail banked single-track line, and no new structures have been built within either route of the former rail corridor since the time of abandonment/rail banking. Additionally, the rail-banked Eastern Segment has been used as the Snow Shoe Multi-Use Rail Trail. Therefore, SEA does not anticipate the construction and operation of the proposed rail line to result in the displacement of any residential, commercial, or industrial structures.

From an employment perspective, RJCP reports that a minimum of six new jobs would be created. These new jobs, four new train and engine positions and two new maintenance of way positions, would be RJCP employees. Construction of the proposed rail line would be completed by R.J. Corman Railroad Group's own construction crew from Nicholasville, KY. However, both the Proposed Action's Wallaceton to Munson Route and the Modified Proposed Action's Alternate Route

from Philipsburg to Munson would each require the construction of two new bridges, which RJCP would contract out to a private construction company.

For comparison purposes, construction of the Local Road System Upgrade alternative would displace a minimum of three primary structures (i.e., two single-family homes and one multi-unit apartment building). All three of these structures are located in Moshannon and would be physically displaced as a result of the necessary roadway improvements. Displacement of additional structures would be contingent upon the final design of the proposed highway improvements. Initially, jobs created by this alternative would be temporary positions associated with the physical construction of the roadway improvements. Beyond these temporary construction jobs, this alternative could result in an increased demand for qualified truck drivers. SEA was unable to estimate the potential number of new truck driver jobs potentially generated by this alternative because SEA does not know who would be contracted to haul waste to the landfill, nor do we know if that contracted hauler would use existing drivers or hire new drivers.

The No-Action Alternative would not have any impact on demographics and employment. No structures would be displaced by this alternative, nor would any jobs be created or eliminated.

4.8.3 Impact Analysis – Community Facilities and Services

Impacts to community facilities and services are reported as direct encroachments (i.e., physical displacement of buildings or facilities), interruptions of services, and changes in service demand. The proposed rail line would not directly encroach on local or regional community facilities and services. All existing community facility/service structures (i.e., school buildings, police stations, fire companies, ambulance squads, churches, post offices, municipal buildings, and health care facilities) would remain at their present locations and continue to serve their current functions. Interruption of services would be limited to vehicle delay at grade crossings, as discussed in detail in Section 4.1.2 above. This would impact emergency service providers (i.e., police, fire, and ambulance) due to potential delays in response times. As noted previously, selection of the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson) would minimize this overall impact by involving significantly fewer grade crossings (i.e., 17 versus 4). Additionally, of the four grade crossings associated with the Modified Proposed Action, the Sawmill Road (T-707) and Winburne Road (S.R. 2037) crossings would delay emergency response service to fewer structures due to the rural nature of the area south of these roads. No grade crossings would be located along the Eastern Segment.

Minor changes in service demand could occur as a result of the proposed rail line. Specifically, potential vehicular accidents occurring at grade crossings could cause a minor increase in demand for emergency response services. However, this increased service demand is anticipated to be minimal and within the operational capacity of existing local and regional emergency response service providers. Additionally, the selection of the Modified Proposed Action, with its significantly fewer grade crossings, would minimize this increased service demand. The implementation of appropriate safety appurtenances at each grade crossing would further minimize this potential increased service demand, as outlined in Section 4.1.4 above.

Increased demand for emergency response services could also result from train derailment situations. While unlikely, train derailment events could require assistance from local emergency response

service providers, especially if the derailment were to occur at a grade crossing. This potential community facility and service impact is anticipated to be minimal and within the operational capacity of existing local and regional emergency response service providers. Additionally, the planned 10 to 25 mph operating speed of trains would minimize this potential impact.

The Local Road System Upgrade alternative would not require the physical displacement of any community facility/service structures. However, truck traffic associated with this alternative could result in potential conflicts with community facilities and services as well as a potential increased demand for emergency response services. Specifically, conflicts with emergency response service vehicles and local student busing operations could arise from the increased volume of truck traffic on local roadways. Additionally, the increased volume of truck traffic on local roadways could result in increased vehicle and pedestrian collisions, thereby placing an increased demand on emergency response services.

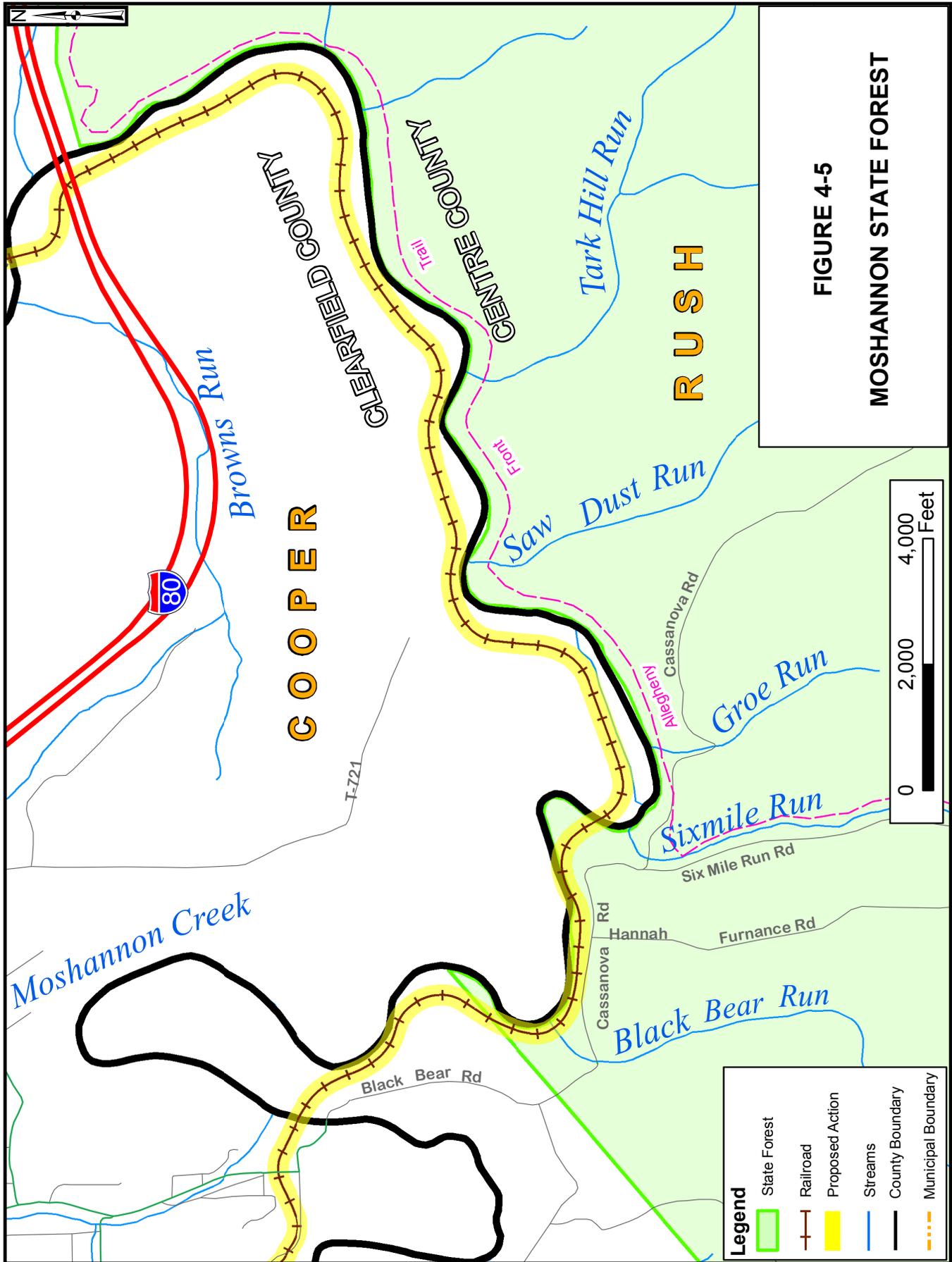
The No-Action Alternative would not have any impact on community facilities and services. No community facility/service structures would be displaced by this alternative, nor would any interruptions of service or changes in service demand occur.

4.8.4 Impact Analysis – Parks and Recreation Facilities

The Eastern Segment of the proposed rail line would impact two recreational facilities. These recreational facilities include the Snow Shoe Multi-Use Rail Trail and a portion of the Moshannon State Forest. Specifically, the proposed rail line would eliminate the 9.3-mile section of the Snow Shoe Multi-Use Rail Trail extending from its western terminus near the Black Bear Run Bridge to Gorton Road. This 9.3-mile impact constitutes approximately half of the total length of the Snow Shoe Multi-Use Rail Trail.

As part of the public scoping and agency coordination process, SEA received a number of comments opposing this recreational impact. The Snow Shoe Multi-Use Rail Trail was developed via a Certificate of Interim Trails Use (CITU) issued pursuant to the rail banking program under the Trails Act, 16 U.S.C. § 1247(d). Rail banking is a method by which rail lines proposed for abandonment can be preserved for future rail service through interim conversion to trail use. When a line is rail banked, the line is not abandoned, and the railroad retains a residual right to reinstitute rail service at any time.

Approximately 4,400 feet of the Eastern Segment would be physically located within the property boundary of the Moshannon State Forest, and another 3.3 miles would parallel the state forest boundary on the opposite side of Moshannon Creek. Figure 4-5 shows the location of the proposed rail line in relation to Moshannon State Forest. The proposed rail line would enter the Moshannon State Forest property boundary approximately 1,200 feet west of the Black Bear Run Bridge and exit the state forest boundary at the Sixmile Run Bridge over Moshannon Creek, for a total distance within the state forest of approximately 4,400 feet. Analysis of the Moshannon State Forest Public Use Map indicates that there are no developed recreational facilities, other than the former railroad bed itself (which now functions as the Snow Shoe Multi-Use Rail Trail), within this 4,400-foot section. From the Sixmile Run Bridge, the proposed rail line would parallel the state forest boundary (located on the opposite or south side of Moshannon Creek) for approximately 3.3 miles up to the point where it would cross underneath I-80. Within this 3.3 mile section, the Alleghany



Front Trail follows the Moshannon Creek within the state forest boundary. Thus, the proposed rail line would run parallel to the Alleghany Front Trail but on opposite sides of the Moshannon Creek.

Coordination with the District Manager of the Moshannon State Forest (see Appendix B) indicates that the proposed rail line would potentially impact the “ambience” of the area and the recreational experience of hikers using the Alleghany Front Trail. However, this impact is anticipated to be nominal given the number of trains RJCP proposes to operate on a daily basis (i.e., one or at most two unit trains daily). Additionally, the proposed rail line would eliminate this section of the Snow Shoe Multi-Use Rail Trail and the subsequent noise generated by ATVs, potentially enhancing the recreational experience of hikers using the Alleghany Front Trail.

The District Manager of the Moshannon State Forest also expressed concern about the increased potential for wildfires brought about by train operations such as locomotive brakes, carbon emissions, and rail maintenance activities. Given the undeveloped, forested land cover within the Eastern Segment, SEA has determined that train operations would present a potential increased risk for wildfire. While the frequency and probability of fire are difficult to estimate, it stands to reason that during high fire risk times of year (i.e., late fall and early spring), certain rail operations could spark a wildfire. Therefore, mitigation items specific to the minimization and elimination of this potential wildfire hazard are presented in Chapter 6.

Construction of the Local Road System Upgrade alternative would result in temporary impacts to the PA Wilds Elk Scenic Drive, PA Bicycle Route V, and the Snow Shoe Multi-Use Rail Trail. As previously mentioned, construction of the physical roadway improvements associated with this alternative would require temporary lane restrictions on S.R. 0144 and S.R. 0053 and would temporarily impact the PA Wilds Elk Scenic Drive and PA Bicycle Route V. Similarly, construction of the roadway improvements on S.R. 0053 and Gorton Road would result in temporary impacts to the Snow Shoe Multi-Use Rail Trail crossings at Gillintown and Gorton, respectively. Beyond temporary impacts, the increased volume of truck traffic on S.R. 0144 and S.R. 0053 would introduce additional conflicts with the recreational users of the PA Wilds Elk Scenic Drive and PA Bicycle Route V.

The No-Action Alternative would not have any impact on parks and recreation facilities. Under this alternative, the Snow Shoe Multi-Use Rail Trail would remain intact at its current 19-mile length.

4.9 ENVIRONMENTAL JUSTICE

4.9.1 Methodology

As identified in Chapter 3, the project area does not appear to contain a minority-based EJ population due to the low percentages of minority individuals reported at the block group level for all project area municipalities. However, the same cannot be said for a potential low-income EJ population. Therefore, SEA analyzed the likelihood of impacts to residential properties combined with the overall potential to result in the disruption of community cohesion. SEA combined and synthesized quantitative impact assessment information from Sections 4.1 (Transportation and Safety), 4.2 (Land Use), and 4.8 (Socioeconomics) to develop a comprehensive community impact assessment for the proposed project. General EJ impact conclusions were then made from the combined results of this comprehensive community impact assessment.

4.9.2 Impact Analysis

EJ impacts were measured as the likelihood of the Proposed Action and its alternatives to result in impacts to residential properties, combined with the overall potential to result in the disruption of community cohesion. For this analysis, SEA only evaluated the two routes of the Western Segment because of the undeveloped land uses and complete lack of residential properties, private driveway crossings, and public road crossings within the entire 9.3-mile Eastern Segment.

The physical displacement of residential structures would be the first measure for potential EJ impact. As noted in Section 4.8.2 – Demographics and Employment above, SEA does not anticipate the construction and operation of the proposed rail line to result in the displacement of any residential, commercial, or industrial structures. The proposed rail line would involve the construction of a single-track line over the existing graded roadbed of a previously abandoned/rail banked single-track line, and no new structures have been built within either route of the former rail corridor since the time of abandonment/rail banking. Conversely, construction of the Local Road System Upgrade alternative would displace a minimum of three primary structures (i.e., two single-family homes and one multi-unit apartment building). All three of these structures are located in Moshannon and would be physically displaced as a result of the necessary roadway improvements. Displacement of additional structures would be contingent upon the final design of the proposed highway improvements.

Indirect effects to adjacent residential properties would be the second measure for potential EJ impact. As noted in Section 4.2.2 – Land Use above, a significantly greater number of adjacent residential properties exists along the Proposed Action's Wallaceton to Munson Route than along the Modified Proposed Action's Alternate Route from Philipsburg to Munson (i.e., 147 adjacent residential properties and 20 adjacent residential properties, respectively). Given the general land use impacts typically associated with the operation of a railroad next to residential properties (i.e., community, quality of life, and property values), the Modified Proposed Action's Alternate Route from Philipsburg to Munson, with its significantly fewer adjacent residential structures, would be preferable to the Proposed Action's Wallaceton to Munson Route. Additionally, a portion of the Modified Proposed Action's Alternate Route from Philipsburg to Munson, approximately 26,863 linear feet (or 76%), would be located adjacent to undeveloped land consisting of a combination of wetlands, woodlands, and active/former mining areas. The remainder of the Western Segment would be geographically situated between Moshannon Creek and local roadways within a wooded corridor containing eight scattered adjacent residential properties.

For comparison purposes, land use impacts associated with the Local Road System Upgrade alternative would consist of the right-of-way acquisition required from adjacent private property owners to physically construct the identified roadway improvements. As previously mentioned, land use in the immediate proximity of this alternative would be very similar to the diverse mixture of developed and undeveloped uses as described for the Western Segment of the Proposed Action and the Modified Proposed Action. Thus, the Local Road System Upgrade alternative would require the acquisition of highway improvement right-of-way from both developed and undeveloped parcels, including a substantial number of adjacent residential properties (approximately 228) in the small villages of Drifting, Moshannon, Gillintown, and Snow Shoe Borough.

Finally, from a community cohesion perspective (i.e., the third measure for potential EJ impact), the Proposed Action/Modified Proposed Action would reintroduce train traffic to the area via construction and operation of the previously abandoned/rail banked Beech Creek Railroad/Philipsburg Industrial Track. Typical elements of an active railroad would again be present in the area (i.e., public road and private driveway crossings, horn noise generated at grade crossings, wayside noise, and air quality impacts from the operation of trains over the line, etc.). As noted in Section 4.1.2 – Grade Crossing Delay above, the proposed rail line would reintroduce a number of public road and private driveway crossings. Specifically, the Proposed Action (via the Wallacetown to Munson Route) would involve 19 public road crossings (17 at-grade) and 13 private driveway crossings (12 at-grade). For comparison purposes, the Modified Proposed Action (via the Alternate Route from Philipsburg to Munson) would involve 5 public road crossings (4 at-grade) and 2 private driveway crossings (1 at-grade). Thus, selection of the Modified Proposed Action would minimize the potential disruption of community cohesion associated with potential vehicle delay at railroad grade crossings.

Under the Local Road System Upgrade alternative, no railroad grade crossings would be introduced, but there would be a substantial increase in truck traffic on Gorton Road, S.R. 0053 and S.R. 0144. This increase in truck traffic would present potential conflicts with personal vehicles and bicyclists/pedestrians resulting in elevated highway noise levels in residential areas and decreased local air quality, particularly at intersections.

Given these residential/community impacts and their potential EJ implications, SEA has committed to a public involvement program for this project aimed at broad dispersal of project information and enhanced community participation. SEA has given all residents of the project area and interested parties the opportunity to review and comment on this EIS. Additionally, copies of this EIS have been distributed to a number of public buildings in both Clearfield and Centre Counties, including all project area municipal buildings, offices of all federal and state elected officials, both county courthouses, and all local libraries. The availability of the EIS and its associated public information meeting was advertised on the Board's website, in the Federal Register, and in local newspapers. Finally, similar to the initial public scoping meeting conducted for this project, the public meeting for the EIS will be held in an ADA-accessible public building convenient to the project area.

4.10 GEOLOGY AND SOILS

4.10.1 Methodology

Impacts to geology and soils were evaluated qualitatively based on the anticipated construction activities of the Proposed Action and its alternatives. Operation of trains under the Proposed Action and Modified Proposed Action, as well as trucks under the Local Road System Alternative, is not anticipated to result in any impacts to the structural geology or soil conditions of the project area.

4.10.2 Impact Analysis – Geology

As discussed in Chapter 3, the project area is underlain by Pennsylvanian-aged sandstone, shale and coal of the Alleghany and Pottsville formations, and Mississippian-aged sandstone of the Pocono and Mauch Chunk formations. The most notable aspect of the project area geology is the 100+ years of surface and sub-surface alteration caused by extensive coal mining activities. Morris Township has been identified as the most intensively mined municipality in Clearfield County. Thus, any

construction-related impacts to the local geology would likely be insignificant in comparison to the historic use of the area. However, SEA does not anticipate the proposed rail line to impact local geology due to the limited scope of the project. Construction of tracks over the existing graded roadbed of a former rail line would not likely result in geologic impacts. Minor earth-moving activities to reestablish the final grade of the rail line would not have an impact on the bedrock geology of the area.

Minor impacts to roadside geology (i.e., cutting and filling) would be anticipated under the Local Road System Upgrade Alternative due to the necessary roadway widening and relocation of part of Gorton Road.

The No-Action Alternative would not have any impact on geology.

4.10.3 Impact Analysis – Soils

Construction of the Proposed Action, Modified Proposed Action and the Local Road System Upgrade alternative would result in minor impacts to soils due to the necessary grading activities associated with each alternative. Implementation of appropriate erosion and sedimentation control measures pursuant to PA Code Title 25 Chapter 102, as outlined in an Erosion and Sedimentation Pollution Control Plan approved by the county conservation district, would avoid and minimize these impacts.

The No-Action Alternative would not have any impact on soils.

4.11 HAZARDOUS WASTE SITES/HAZARDOUS MATERIALS TRANSPORT

4.11.1 Methodology

The impact assessment process for hazardous waste sites measures how the Proposed Action and its alternatives might be impacted by a waste site that may need remediation. SEA evaluated the proximity of the Proposed Action and its alternatives to potential hazardous/residual waste sites identified within the project area. A more detailed analysis was completed for those potential hazardous/residual waste sites that were deemed close enough to warrant a potential concern.

The impact assessment methodology for hazardous materials transport focused on the known commodities that RJCP intends to move on the proposed rail line, as reported in its initial and subsequent filings with the Board.

4.11.2 Impact Analysis – Hazardous Waste Sites

As discussed in Chapter 3, a number of potential hazardous/residual waste sites have been identified within the immediate vicinity of the project area. Most of these potential hazardous/residual waste sites are located in the vicinity of the Local Road System Upgrade alternative and consist of current and former gas stations/automotive repair garages along S.R. 0053 and S.R. 0144. Apart from the improper waste disposal activities (i.e., illegal dumping and littering) observed at various locations along the railroad bed, the potential hazardous/residual waste sites identified within close proximity of the rail corridor consist of nine adjacent commercial/industrial properties that have known or

suspected waste-related concerns. Of these nine potential hazardous/residual waste sites, seven are located adjacent to the Proposed Action's Wallaceton to Munson Route and two are located adjacent to the Modified Proposed Action's Alternate Route from Philipsburg to Munson. No potential hazardous/residual waste sites were identified within or along the Eastern Segment.

The severity of waste-related concerns at these nine sites varies substantially. Of the seven sites located adjacent to the Proposed Action's Wallaceton to Munson Route, one has a PA DEP consent order for the remediation of waste oil and tires, one contained heavy soil staining and strong petroleum odors, one consisted of 55-gallon drum carcasses of unknown composition, and four contained visible evidence of potential hazardous/residual waste handling operations. Given the close proximity and severity of waste-related concerns, it is possible that construction activities could encounter hazardous materials and other contaminants that have migrated into the vicinity of the former rail line. Thus, additional Phase II/III Environmental Site Assessment investigations would be recommended at several of these sites if the Proposed Action is selected as the preferred route.

One of two sites identified adjacent to the Modified Proposed Action's Alternate Route from Philipsburg to Munson consists of a small storage area for approximately two to three unused vehicles and a small assortment of construction-related salvage materials while the other consists of a former gas station (now used for private residential purposes) along S.R. 0053 in the village of Troy. Both of these sites are located outside the proposed railroad right-of-way and would not be impacted by the proposed rail line. Similarly, given the minor severity of waste-related concerns at these two sites, they are not anticipated to have an impact on construction-related activities.

Construction of the Local Road System Upgrade alternative would likely require earth-disturbance activities and the associated acquisition of highway improvement right-of-way from many of the potential hazardous/residual waste sites identified along S.R. 0053 and S.R. 0144. A total of seventeen potential hazardous/residual waste sites were identified within the potential impact area of this alternative. Prior to construction of this alternative, PennDOT would require additional Phase II/III Environmental Site Assessment studies at each of these locations to determine the extent and severity of potential contamination within the required right-of-way.

The No-Action Alternative would not be impacted by any hazardous/residual waste sites.

4.11.3 Impact Analysis – Hazardous Materials Transport

At this point in time, RJCP does not plan to ship any hazardous materials over the proposed rail line. As reported in its initial and subsequent filings to the Board (see Appendix C), RJCP anticipates transporting municipal solid waste, coal, stone, and "frac water" from natural gas drilling activities. The transport of waste would only consist of municipal solid waste and not hazardous waste because RRLLC's proposed landfill would not be permitted to accept hazardous waste. USEPA classifies "frac water" as a residual waste material, not a hazardous material. Therefore, hazardous materials are not anticipated to be transported over the proposed rail line.

Commodities to be transported in association with RRLLC's future industrial park are unknown at this point in time. Given this unknown composition of future materials, it is possible that hazardous materials could be transported at some point. Should hazardous materials be transported

in the future, RJCP would be required to comply with all USDOT, USEPA, and PA DEP rules and regulations governing the transport of such materials as well as any applicable NS hazardous materials transportation requirements (see Appendix E).

4.12 CULTURAL/HISTORIC RESOURCES

4.12.1 Methodology

In accordance with the requirements of Section 106 of the NHPA, SEA evaluated the impact of the Proposed Action and its alternatives on all National Register listed, eligible, and potentially eligible historic properties identified within the project area. Pursuant to Section 106 regulations, impacts to historic properties are evaluated in terms of their overall “effect” on the subject resource(s). The effect is typically characterized as either “no effect,” “no adverse effect,” or “adverse effect” depending on the scope of the proposed project and the level of involvement with historic properties.

4.12.2 Impact Analysis

As discussed in detail in Chapter 3, Affected Environment, the roadbed of the Proposed Action, formerly the Beech Creek Railroad, has been identified as a linear historic district eligible for listing on the National Register. The National Register eligible rail line includes the former roadbed stretching from Wallaceton to Winburne and the entire Eastern Segment. The portion of the Western Segment under the Modified Proposed Action involving the Alternate Route from Philipsburg to Munson would use the roadbed of the former Philipsburg Industrial Track, which has not been identified as a National Register eligible historic property.

Because the proposed project involves constructing a single-track line over the existing graded roadbed of the previously abandoned/rail banked single-track line, SEA determined that the proposed rail line would have “no effect” on the National Register eligible rail bed. In its October 29, 2009, correspondence (see Appendix B), PHMC concurred with this no effect determination. PHMC also concurred, in its June 18, 2009, correspondence, that the proposed rail line would have no effect on archaeological resources.

Construction of the Local Road System Upgrade alternative would likely involve the acquisition of right-of-way from the cemetery portion of the National Register listed St. Severin’s Old Log Church to permit the planned highway improvements that would take place under this alternative. Additional highway improvements would likely require acquisition of property from the potentially National Register eligible nineteenth century residence at the intersection of S.R. 0053 and Winburne Road, the historic farmstead along S.R. 0144 just west of the I-80 Exit 147 Interchange, and a number of contributing elements (i.e., properties containing buildings or features that contribute to the overall significance of the district) within the Snow Shoe Borough Historic District. While the extent and magnitude of the need to acquire property is unknown at this time, it is likely that it would result in an adverse effect to several of these resources.

The No-Action Alternative would not have any impact on cultural/historic resources. Under this alternative, the Snow Shoe Multi-Use Rail Trail would continue to operate over the former roadbed of the National Register eligible rail line. Similarly, the acquisition of property for highway improvements would not be required as part of this alternative.