

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter describes the existing environmental conditions and potential effects to the human and natural environment of the proposed Transaction. Resource topics analyzed in this chapter include land use, geology and soils, energy, water, biological and cultural resources. In addition, the potential for encountering hazardous waste sites, the potential effects to socioeconomic conditions of the region, environmental justice populations, air quality and climate, the local road network, grade crossing delay and safety, and noise and vibration generated from Transaction-related changes to rail activity and facilities are analyzed in this chapter. Hazardous materials transportation is not analyzed in this chapter because no changes in hazardous materials transportation are anticipated to result from the Transaction. Data were gathered from the Applicants, Federal, state, and local agency contacts, members of the general public and through site reconnaissance. Site visits were made on August 26, 27 and September 1, 2008 to garner information about impacts to specific resource categories at the three facility sites. The Transaction includes a new intermodal and automotive facility on the site of two former rail yards in Mechanicville, New York and a new automotive facility at the San Vel site in Ayer, Massachusetts. The potential environmental impacts discussed in this chapter are primarily associated with these proposed new facilities. The analysis also addresses the segments of the east-west main line where rail traffic is projected to increase and where improvements would be made. The analysis does not address other existing rail lines and associated facilities that are part of the Transaction where no construction is proposed to occur and where no traffic or activity levels are projected to change and therefore, no impacts would result from the Transaction.

In addition to construction of the proposed new Mechanicville Facility and San Vel Automotive Facility, the existing Ayer Intermodal Facility in Ayer, Massachusetts would undergo minor improvements (such as pavement patching and track upgrades) as a result of the Transaction. Previously existing interconnections would be re-established at Millers Falls, Massachusetts, and Holyoke, Massachusetts, and a siding would be re-established at Pownal, Vermont as part of the proposed Transaction. These minor improvements and upgrades would be commensurate with maintenance activities routinely conducted by railroads and would not involve excavation, acquisition of property, or changes in the footprint of existing facilities. These improvements would not result in adverse impacts to geology and soils, energy, water, cultural, or biological resources. There would be no adverse impacts to land use, grade crossing delay and safety, socioeconomics, or environmental justice populations. No adverse impacts are anticipated as a result of Transaction-related noise and vibration or existing hazardous waste sites related to these minor improvements.

3.1 TRANSPORTATION

3.1.1 LOCAL ROAD NETWORK

This section presents an analysis of the potential effects of the Transaction on the local road network in the vicinity of the proposed Mechanicville Facility, the proposed San Vel Automotive Facility and the existing Ayer Intermodal Facility. No other yards or facilities included in the Transaction are expected to generate additional vehicle traffic because the yard activity is not anticipated to change as a result of the Transaction.

The proposed new Mechanicville Facility would be located approximately 25 miles northeast of Albany. The Mechanicville Facility would consist of both an intermodal and an automotive facility. Truck traffic to and from the facility would result from both the intermodal and the automotive activities at the facility. In addition, facility employees would commute to the facility, and construction of the facility would generate a temporary increase in construction-related traffic.

The proposed San Vel Automotive Facility would be located approximately 35 miles northwest of Boston, near the existing Ayer Intermodal Facility. The San Vel Automotive Facility would generate new truck trips and employee commute trips. Construction at the proposed new San Vel Automotive Facility would generate temporary increases in construction-related traffic. Increased post-Transaction yard activity at the existing Ayer Intermodal Facility is anticipated to cause an increase in the number of trucks entering and exiting that yard. No additional employees are expected at the Ayer Intermodal Facility as a result of the Transaction, and thus commuter trips associated with this facility are not expected to change.

The potential affected local road network (area of potential effect [APE]) includes the facility sites and surrounding roadways that could potentially be affected by traffic generated as a result of the Transaction. For the Mechanicville Facility, these roads include NY Route 67 (providing direct access to the facility), U.S. Route 9, and Interstate (I) 87, also know as the Adirondack Northway. The potentially affected road network for the proposed San Vel Automotive Facility and the nearby Ayer Intermodal Facility is bound by I-495 to the east; Littleton Road/Ayer Road/King Street to the north; and MA Route 2 to the south. The western boundary is Barnum Road.

The local road network effects of the Transaction at these facilities are discussed below, organized by location.

3.1.1.1 Affected Environment

This section describes the existing characteristics and operations of the roadways and intersections within the local road network for the proposed Mechanicville Facility, the proposed San Vel Automotive Facility, and the existing Ayer Intermodal Facility.

Mechanicville Facility

Regional highway access to the Mechanicville Facility is provided directly by NY Route 67, U.S. Route 9, and I-87. NY Route 67 in the vicinity of the site is an east-west, two-lane arterial highway with a double-yellow centerline providing direct access to the Mechanicville Facility. NY Route 67 provides direct access to I-87 and the City of Mechanicville. U.S. Route 9 is a north-south, two-lane arterial highway with a double yellow centerline that runs parallel and east of I-87. A segment of U.S. Route 9, to the north of Round Lake in the Town of Malta, shares the right-of-way with NY Route 67. I-87, also known as the Adirondack Northway, originates in Albany, New York and travels north-south providing access to the Adirondacks and Canada. In the vicinity of the project site, I-87 provides local access from interchanges #10, #11, and #12.

For purposes of evaluating current and projected future traffic conditions with and without the proposed Transaction, the following roadway segments were analyzed:

- NY Route 67, between U.S. Route 4 and Cary Road
- NY Route 67, between Cary Road and U.S. Route 9
- U.S. Route 9, between N.Y. Route 67 and Dunning Street
- Cary Road, between N.Y. Route 67 and Ushers Road
- Ushers Road, between Cary Road and U.S. Route 9
- Ushers Road, between I-87 and U.S. Route 9

These roadway segments were analyzed because they provide the primary routes from the facility to the regional highway system. In addition, traffic flow was analyzed through the following intersections within the APE:

- NY Route 67 / North Main Street
- NY Route 67 / U.S. Route 4/NY Route 32
- NY Route 67 / Coons Crossing Road
- NY Route 67 / U.S. Route 9
- U.S. Route 9 / Ushers Road

San Vel Automotive Facility and Ayer Intermodal Facility

Due to the proximity of the San Vel Automotive Facility and the Ayer Intermodal Facility, and the likelihood that truck and employee traffic from these two facilities would traverse some of the same roadways, the effect of combined truck and employee traffic from both facilities on the roadways within the APE was evaluated. Regional highway access to the facilities is provided by MA Route 2 or 2A, which run generally east-west, traversing northern Massachusetts between Williamstown and Boston; and by I-495, which runs around the perimeter of the greater Boston metropolitan area, approximately 30 miles west of downtown Boston.

The analysis included the key roadways and intersections that are located within the APE, between the proposed San Vel Automotive Facility and the Ayer Intermodal Facility and the nearby regional highway system. For the analysis presented, the following two roadway segments were analyzed:

- MA Route 110/111 (Ayer Road / Harvard Road), between Littleton Road (rotary) and MA Route 2
- MA Route 110/2A (Littleton Road / Ayer Road / King Street), between Harvard Road (rotary) and I-495

These two segments were analyzed because they provide the primary routes from the two facilities to the regional highway system. Both roadway segments are two-lane roadways that intersect with local access roadways at regular intervals, and have speed limits that range between 35 and 45 miles per hour (mph). Local access roads that intersect with the roadway segments are controlled by stop signs. Traffic control at the intersection of these two roadways consists of a two-lane rotary, which also serves Sandy Pond Road to the north, E. Main Street/Harvard Road to the northwest, and Barnum Road to the southwest.

In addition, traffic flow was analyzed through the following intersections within the APE:

- MA Route 2 EB Off-Ramps / Ayer Road
- MA Route 2 WB Off-Ramps / Ayer Road
- Poor Farm Road/ Lancaster County Road / Ayer Road
- Myrick Lane / Ayer Road/ Harvard Road
- Harvard Road / Barnum Road / E Main Street / Sandy Pond Road / Littleton Road
- Littleton Road / Copeland Drive/ Willard Street
- Littleton Road / Bennetts Crossing Road
- Littleton Road / Willow Road/ Bruce Street
- Distribution Center Drive / Ayer Road
- Ayer Road / King Street
- King Street / Mill Road
- Ayer Road / New Estate Road
- King Street / I-495 SB Ramps/ Murray Park Road
- King Street / I-495 NB Ramps

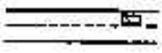
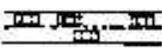
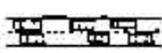
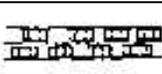
3.1.1.2 Existing Level of Service

Overall operating conditions of the road system in the APE are evaluated by assessing the operating conditions of key road segments and intersections within the APE⁶. Level of Service (LOS) is the primary measurement used to determine the operating quality of a roadway segment or intersection. Methods applied to calculate LOS are provided in the Highway Capacity Manual (Transportation Research Board, 2000), which is the industry-standard document that guides roadway operational analysis. Using Highway Capacity Manual methods, LOS is measured by the volume to capacity ratio (V/C), which is the volume of traffic that travels on a roadway compared to its carrying capacity; or by the average vehicle delay, which is the difference between unrestricted travel time and actual

⁶ LOS was calculated for intersections and roadways within the APE of the Mechanicville Facility and the San Vel Automotive and Ayer Intermodal Facilities using traffic count data collected in September 2008.

travel time on a roadway. Using Highway Capacity Manual methods, the quality of traffic operation is graded into one of six LOS designations: A, B, C, D, E, or F. LOS A represents the most favorable range of operating conditions and LOS F represents the least favorable. Table 3.1.1-1 provides a general description of conditions of a roadway under each of the LOS designations.

**Table 3.1.1-1
Characteristic Traffic Flow for LOS Designations**

LOS Designation	Characteristic Traffic Flow
A	 Free flow, little or no restriction on speed or maneuverability caused by the presence of other vehicles.
B	 Stable flow, operating speed is beginning to be restricted by other traffic.
C	 Stable flow, volume and density levels are beginning to restrict drivers in their maneuverability.
D	 Stable flow, speeds and maneuverability closely controlled due to higher volumes.
E	 Approaching unstable flow, low speeds, considerable delay, volume at or near capacity, freedom to maneuver is difficult.
F	 Forced traffic flow, very low speeds, traffic volumes exceed capacity, long delays with stop and go traffic.

Source: Transportation Research Board, 2000.

Mechanicville Facility

Table 3.1.1-2 presents the LOS for the roadway segments in the Mechanicville Facility APE under existing 2008 conditions. As shown in the table, all segments are operating at a LOS D or better under existing 2008 conditions for both the AM and PM peak hours of traffic.

**Table 3.1.1-2
Weekday AM and PM Peak Hour Road Segment LOS – 2008 Conditions
– Mechanicville Facility**

Segment	Location	AM Peak Hour		PM Peak Hour	
		LOS	V/C ^a	LOS	V/C ^a
NY Route 67	Between State Road 4 and Cary Road	B	0.27	B	0.27
NY Route 67	Between Cary Road and State Road 9	B	0.14	B	0.15
NY Route 67	Between State Road 9 and Dunning Street	C	0.35	D	0.43
Cary Road	State Road 67 and Ushers Road	A	0.13	A	0.13
Ushers Road	Between Cary Road and State Road 9	A	0.14	A	0.17
Ushers Road	Between State Road 9 and I-87	C	0.33	C	0.33

a. V/C = traffic volume on the road divided by the road's carrying capacity.

Table 3.1.1-3 presents the existing LOS for the intersections in the Mechanicville Facility APE. As shown in the table, all of the intersections analyzed operate at an overall LOS C or better for both AM and PM peak hours.

**Table 3.1.1-3
Weekday AM and PM Peak Hour Intersection LOS –2008 Conditions –
Mechanicville Facility**

Intersection	Traffic Control ^a	AM Peak		PM Peak	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
NY Route 67 / North Main Street	Traffic Signal	B	18	B	16
NY Route 67 / U.S. Route 4/NY Route 32	Traffic Signal	C	21	B	19
NY Route 67 / Coons Crossing	NB/SB Stop Control	A/B	3/12	A/B	2/11
NY Route 67 / U.S. Route 9	WB/EB Stop Control	B/A	11/2	B/A	13/3
U.S. Route 9 / Ushers Road	Traffic Signal	B	20	C	24

- a. EB = eastbound; WB = westbound; NB = northbound; SB = southbound.
 b. For an intersection with a traffic signal, the LOS and delay values are the average of all approaches to the intersection. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (*e.g.*, at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction).

San Vel Automotive Facility and Ayer Intermodal Facility

Table 3.1.1-4 presents the existing LOS for the two MA Route 110 roadway segments analyzed. As shown in the table, both segments are operating at LOS D under existing 2008 conditions.

**Table 3.1.1-4
Weekday AM and PM Peak Hour Road Segment LOS –2008 Conditions – San Vel
Automotive and Ayer Intermodal Facilities**

Segment	Location	AM Peak Hour		PM Peak Hour	
		LOS	V/C ^a	LOS	V/C ^a
MA Route 110/111 (Ayer Road/Harvard Road)	Between MA Route 2 and Littleton Road	D	0.44	D	0.44
MA Route 110/2A (Littleton Road/Ayer Road/ King Street)	Between Harvard Road and I-495	D	0.41	D	0.53

- a. V/C = traffic volume on the road divided by the road's carrying capacity.

Table 3.1.1-5 presents the results of intersection and rotary LOS analysis under existing 2008 conditions. As shown in the table, five intersections and the rotary are currently operating at LOS D or better under both peak hours. Three intersections are operating at LOS E under one or both peak hours, which means they are currently approaching congested conditions. Five intersections are currently operating at LOS F under one or both peak hours, which indicates congested conditions are currently experienced at these locations. These five intersections currently operating at LOS F are controlled with stop signs on the streets that intersect with MA Route 110 (called two-way or one-way stop controlled intersections). Based on Highway Capacity Manual procedures, the LOS of two-way or one-way stop controlled intersections is measured according to operations on the approaches that have stop signs. At these five intersections, the LOS F operation is

experienced by traffic on the approaches with stop signs. Traffic on the MA Route 110 approaches of each of these intersections flows without major interruption.

**Table 3.1.1-5
Weekday AM and PM Peak Hour Intersection LOS –2008 Conditions – San Vel
Automotive and Ayer Intermodal Facilities**

Intersection	Traffic Control ^a	AM Peak		PM Peak	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
MA Route 2 EB Off-Ramps / Ayer Road	EB/WB Stop Control	B/B	13/12	B/B	11/11
MA Route 2 WB Off-Ramps / Ayer Road	EB/WB Stop Control	B/B	12/14	B/B	12/14
Poor Farm Road/ Lancaster County Road / Ayer Road	EB/WB Stop Control	E/E	49/41	E/D	49/27
Myrick Lane / Ayer Road/ Harvard Road	WB Stop Control	C	25	C	20
Harvard Road / Barnum Road / E Main Street / Sandy Pond Road / Littleton Road	Rotary	A	6	A	2
Littleton Road / Copeland Drive/ Willard Street	NB/SB Stop Control	C/C	25/16	E/C	41/25
Littleton Road / Bennetts Crossing Road	NB Stop Control	B	14.7	C	15.2
Littleton Road / Willow Road/ Bruce Street	NB/SB Stop Control	D/F	26/141	C/F	21/118
Distribution Center Drive / Ayer Road	WB Stop Control	C	22	E	37
Ayer Road / King Street	NB Stop Control	D	27	F	322
King Street / Mill Road	NB Stop Control	C	18	D	25
Ayer Road / New Estate Road	WB Stop Control	F	58	C	22
King Street / I-495 SB Ramps/ Murray Park Road	NB/SB Stop Control	F/F	ECL ^c /80	F/F	ECL ^c /111
King Street / I-495 NB Ramps	NB Stop Control	C	19	F	56

- a. EB = eastbound; WB = westbound; NB = northbound; SB = southbound.
- b. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (e.g., at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction). If an intersection has a stop sign on only one approach, a single value is presented. The values presented for the rotary are for the most congested approach.
- c. ECL = exceeds calculable limits. This means that the average delay at this location is greater than 350 seconds, and exceeds the limits of that can be calculated using Highway Capacity Manual methods.

3.1.1.3 Environmental Consequences

Potential effects of the Transaction on roadway operations were identified by comparing future traffic conditions with and without the Transaction. Analysis of future conditions was conducted for the year 2012. The analysis takes into account regional traffic growth unrelated to the Transaction that is expected to occur between 2008 and 2012. If regional traffic growth were not taken into account, the potential occurs for traffic conditions to be

underestimated. The analysis was based on projected conditions in 2012, with and without the Transaction.

Overall operating conditions are evaluated by assessing the operating conditions of key road segments and intersections within the potentially affected road network using LOS, the primary measurement of the operating quality of a roadway segment or intersection. The projected traffic volumes were analyzed using Highway Capacity Manual methods to estimate the 2012 operating conditions on the potentially effected road network, with and without the Transaction.

The projected 2012 traffic volumes and roadway LOS with and without the Transaction are discussed below, organized by facility location.

Mechanicville Facility

Projected 2012 Traffic Volumes without the Transaction

To estimate future traffic conditions without the proposed Transaction, the 2008 existing conditions traffic volumes were expanded by a general growth rate of two percent per year to the post-Transaction 2012 case. This rate accounts for general traffic growth in the area. The general growth rate is conservatively based on historical growth trends of the state highways within the APE, as provided by the New York State Department of Transportation.

In addition to accounting for general traffic growth in the APE, the projected 2012 future condition includes recently approved roadway construction projects such as the Round Lake Bypass. The Round Lake Bypass is currently under construction and will provide direct access to I-87 from NY Route 67 and U.S. Route 9. The Bypass will connect with the NY Route 67 and U.S. Route 9 intersection from the west. The Bypass will convert what is currently a T-type stop-controlled intersection to a full four-way signalized intersection. Construction is scheduled for completion in late 2009.

Projected 2012 Traffic Volumes Post-Transaction

Transaction-related traffic and traffic distribution were developed for the weekday AM and PM peak hours for both truck and employee commute trips at the Mechanicville Facility. These volumes were determined based on information provided by Applicants and previous experiences at comparable facilities. Table 3.1.1-6 summarizes the daily and peak hour trips that are projected to result from the proposed Transaction.

**Table 3.1.1-6
Estimated Truck and Employee Trips – Daily and Weekday Peak Hour, With and Without the Transaction – Mechanicville Facility**

	Mechanicville Facility
Truck Trips	
2007 Base Truck Trips (Daily)	--
2012 Truck Trips Without the Transaction (Daily)	--
2012 Post- Transaction Truck Trips (Daily)	334
Transaction-related Truck Trips (Daily)	334
AM Peak Hour Trips	42
Inbound (50% of AM Peak Hour)	21
Outbound (50 % of AM Peak Hour)	21
PM Peak Hour Trips	66
Inbound (50% of PM Peak Hour)	33
Outbound (50% of PM Peak Hour)	33
Transaction-related Daily Employee Commute Round Trips (assumes 84 total employees)	168
AM Peak Hour Trips	60
Inbound (50% of AM Peak Hour)	30
Outbound (50% of AM Peak Hour)	30
PM Peak Hour Trips	60
Inbound (50% of PM Peak Hour)	30
Outbound (50% of PM Peak Hour)	30

The projected Transaction-related truck traffic assumed 21 trucks would arrive at the site during the weekday AM peak hour and 33 trucks would arrive during the weekday PM peak hour. It was conservatively assumed that all trucks would arrive and depart the site within the same peak hour; therefore, total truck traffic for the AM peak is 42 vehicle trips and the PM peak is 66 vehicle trips.

The analysis also includes estimated employment at the new Mechanicville Facility of up to approximately 84 workers presumed to work in three shifts over a 24-hour period. For purposes of this analysis, it was assumed that approximately 70 percent of the employees would work during the two day shifts and would commute during peak hours. Although the shift changes would typically occur outside the normal peak commuter hours, in an effort to be conservative it was assumed that all of the day shift workers would arrive and depart the facility within the typical weekday commuter peak hours.

The projected traffic volumes were distributed across the network of intersections within the APE for the Mechanicville Facility. The distribution was based on the likely origin of trips to the proposed Mechanicville Facility. Transaction-related traffic routes in the APE were developed based on the most direct routes to and from the facility and local traffic regulations.

Projected 2012 Post-Transaction Level of Service

Tables 3.1.1-7 and 3.1.1-8 present the results of roadway segment LOS analysis under 2012 post-Transaction conditions near the Mechanicville Facility for the weekday AM and PM peak hours, respectively. Tables 3.1.1-9 and 3.1.1-10 present the results of intersection LOS analysis under 2012 post-Transaction conditions for the weekday AM and PM peak hours, respectively. For purposes of comparison, the post-Transaction conditions are presented next to projected conditions absent the Transaction.

**Table 3.1.1-7
Weekday AM Peak Hour Road Segment LOS – 2012 Conditions With and Without
the Transaction - Mechanicville Facility**

Segment	Location	2012 Without the Transaction		2012 Post- Transaction	
		LOS	V/C ^a	LOS	V/C ^a
NY Route 67	Between State Road 4 and Cary Road	B	0.27	C	0.30
NY Route 67	Between Cary Road and State Road 9	B	0.17	B	0.20
NY Route 67	Between State Road 9 and Dunning Street	D	0.42	D	0.42
Cary Road	State Road 67 and Ushers Road	A	0.14	A	0.15
Ushers Road	Between Cary Road and State Road 9	A	0.15	A	0.16
Ushers Road	Between State Road 9 and I-87	C	0.32	C	0.32

a. V/C = traffic volume on the road divided by the road's carrying capacity.

**Table 3.1.1-8
Weekday PM Peak Hour Road Segment LOS – 2012 Conditions With and Without
the Transaction - Mechanicville Facility**

Segment	Location	2012 Without the Transaction		2012 Post- Transaction	
		LOS	V/C ^a	LOS	V/C ^a
NY Route 67	Between State Road 4 and Cary Road	B	0.29	C	0.32
NY Route 67	Between Cary Road and State Road 9	B	0.17	B	0.19
NY Route 67	Between State Road 9 and Dunning Street	D	0.60	D	0.60
Cary Road	State Road 67 and Ushers Road	A	0.14	A	0.14
Ushers Road	Between Cary Road and State Road 9	A	0.18	A	0.19
Ushers Road	Between State Road 9 and I-87	C	0.35	C	0.36

a. V/C = traffic volume on the road divided by the road's carrying capacity.

**Table 3.1.1-9
Weekday AM Peak Hour Intersection LOS – 2012 Conditions With and Without
the Transaction - Mechanicville Facility**

Intersection	Traffic Control ^a	2012 Without the Transaction		2012 Post-Transaction	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
NY Route 67 / North Main Street	Traffic Signal	B	17	B	17
NY Route 67 / U.S. Route 4/NY Route 32	Traffic Signal	C	25	C	24
NY Route 67 / Coons Crossing	NB/SB Stop Control	A/B	3/13	A/B	3/13
NY Route 67 / U.S. Route 9	Traffic Signal	A	8	A	9
U.S. Route 9 / Ushers Road	Traffic Signal	C	24	C	24

- a. NB = northbound; SB = southbound.
- b. For an intersection with a traffic signal, the LOS and delay values are the average of all approaches to the intersection. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (e.g., at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction).

**Table 3.1.1-10
Weekday PM Peak Hour Intersection LOS – 2012 Conditions With and Without the
Transaction – Mechanicville Facility**

Intersection	Traffic Control ^a	2012 Without the Transaction		2012 Post-Transaction	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
NY Route 67 / North Main Street	Traffic Signal	B	16	B	16
NY Route 67 / U.S. Route 4/NY Route 32	Traffic Signal	C	24	C	24
NY Route 67 / Coons Crossing	NB/SB Stop Control	A/B	2/12	A/B	2/12
NY Route 67 / U.S. Route 9	Traffic Signal	B	14	B	15
U.S. Route 9 / Ushers Road	Traffic Signal	C	28	C	28

- a. NB = northbound; SB = southbound.
- b. For an intersection with a traffic signal, the LOS and delay values are the average of all approaches to the intersection. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (e.g., at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction).

Summary of Assessment – Mechanicville Facility

The results of the LOS analysis for the roadway segments and intersections under the 2012 Post-Transaction conditions indicate that all locations would continue to operate at acceptable LOS. The results of the analysis for the roadway segments indicate all locations would continue to operate at LOS D or better in both AM and PM peak hours after the Transaction. For the intersection analysis, all locations would continue to operate at LOS C or better in both AM and PM peak hours after the Transaction. Overall, based on the results of the analysis, the Transaction would have a negligible effect on overall traffic operations within the Mechanicville Facility APE.

San Vel Automotive Facility and Ayer Intermodal Facility

Projected 2012 Traffic Volumes without the Transaction

To estimate future traffic conditions without the proposed Transaction, the 2008 existing conditions traffic volumes were expanded by a general growth rate of three percent per year to the post-Transaction 2012 case. This rate accounts for general traffic growth in the area. The general growth rate is conservatively based on historical growth trends of the state highways within the APE, as provided by the Massachusetts Department of Transportation.

Projected 2012 Traffic Volumes Post-Transaction

Transaction-related traffic and traffic distribution were developed for the weekday AM and PM peak hours for truck and employee commute trips at the San Vel Automotive Facility and truck trips at the Ayer Intermodal Facility.⁷ These volumes were determined based on information provided by Applicants and previous experiences at comparable facilities. Table 3.1.1-11 summarizes the daily and peak hour trips that are projected to result from the proposed Transaction.

The daily truck trip projections were converted to hourly projections by analyzing the hourly truck trip distribution of the existing Ayer Intermodal Facility. The analysis assumed that hourly distribution of new trucks generated from Transaction-related activity at the San Vel Automotive Facility and Ayer Intermodal Facility would be similar to the existing hourly distribution of trucks currently generated by the Ayer Intermodal Facility, as determined by the 24-hour traffic count that was taken adjacent to the facility in September 2008. The traffic counts indicated that the AM peak hour trips comprise approximately 9 percent of total daily truck trips and the PM peak hour trips comprise approximately 6 percent of total daily truck trips. As such, the projected Transaction-related truck traffic assumed twelve truck trips to the roadways during the AM peak hours and eight truck trips during the PM peak hours.

The analysis also includes estimated employment at the new San Vel Automotive Facility of up to approximately 10 workers. In an effort to be conservative, it was assumed that all of the employees initially would commute during peak hours, with all workers arriving at the facility in the AM peak hour and departing in the PM peak hour.

The projected traffic volumes were distributed across the network of intersections within the APE for the San Vel Automotive and Ayer Intermodal Facilities. The distribution was based on the likely origin of trips to the facilities. Transaction-related traffic routes in the APE were developed based on the most direct routes to and from the facilities and local traffic regulations.

⁷ As noted above, no additional employees are expected at the Ayer Intermodal Facility in 2012 as a result of the Transaction, and thus commuter trips associated with this facility are not expected to change.

**Table 3.1.1-11
Estimated Truck and Employee Trips– Daily and Weekday Peak Hour, With and Without the Transaction – San Vel Automotive and Ayer Intermodal Facilities**

	San Vel Automotive Facility	Ayer Intermodal Facility
Truck Trips		
2007 Base (Daily)	--	226
2012 Without the Transaction (Daily)	--	252
2012 Post- Transaction (Daily)	82	310
Transaction-Related Trips (Daily)	82	58
AM Peak Hour Trips ^a	7	5
Inbound (48% of AM Peak Hour)	3	2
Outbound (52% of AM Peak Hour)	4	3
PM Peak Hour Trips ^b	5	3
Inbound (55% of PM Peak Hour)	3	2
Outbound (45% of PM Peak Hour)	2	1
Transaction-Related Daily Employee Commute Trips (assumes 10 employees at San Vel Automotive Facility)	20	0
AM Peak Hour Trips	10	0
Inbound (100% of AM Peak Hour)	10	0
Outbound (0% of AM Peak Hour)	0	0
PM Peak Hour Trips	10	0
Inbound (0% of PM Peak Hour)	0	0
Outbound (100% of PM Peak Hour)	10	0

a. Approximately 9 percent of daily truck traffic, based upon existing daily truck distribution at the Ayer Intermodal Facility.

b. Approximately 6 percent of daily truck traffic, based upon existing daily truck distribution at the Ayer Intermodal Facility.

Projected 2012 Post-Transaction Level of Service

Tables 3.1.1-12 and 3.1.1-13 present the results of LOS analysis for the MA Route 110 roadway segments under 2012 post-Transaction conditions for the weekday AM and PM peak hours, respectively. Tables 3.1.1-14 and 3.1.1-15 present the results of intersection and rotary LOS analysis for the San Vel Automotive Facility and Ayer Intermodal Facility APE under 2012 post-Transaction conditions for the weekday AM and PM peak hours, respectively. For purposes of comparison, the post-Transaction conditions are presented next to projected conditions absent the Transaction.

**Table 3.1.1-12
Weekday AM Peak Hour Road Segment LOS – 2012 Conditions With and Without
the Transaction – San Vel Automotive and Ayer Intermodal Facilities**

Roadway Segment	Location	2012 Without the Transaction		2012 Post- Transaction	
		LOS	V/C^a	LOS	V/C^a
MA Route 110/111 (Ayer Road / Harvard Road)	Between MA Route 2 and Littleton Road	D	0.48	D	0.48
MA Route 110/2A (Littleton Road / Ayer Road/ King Street)	Between Harvard Road and I-495	D	0.45	D	0.46

a. V/C = traffic volume on the road divided by the road's carrying capacity.

**Table 3.1.1-13
Weekday PM Peak Hour Road Segment LOS – 2012 Conditions With and Without
the Transaction – San Vel Automotive and Ayer Intermodal Facilities**

Roadway Segment	Location	2012 Without the Transaction		2012 Post- Transaction	
		LOS	V/C^a	LOS	V/C^a
MA Route 110/111 (Ayer Road / Harvard Road)	Between MA Route 2 and Littleton Road	D	0.48	D	0.48
MA Route 110/2A (Littleton Road / Ayer Road/ King Street)	Between Harvard Road and I-495	D	0.57	D	0.58

a. V/C = traffic volume on the road divided by the road's carrying capacity.

Table 3.1.1-14
Weekday AM Peak Hour Intersection LOS – 2012 Conditions With and Without
Transaction – San Vel Automotive and Ayer Intermodal Facilities

Intersection	Traffic Control ^a	2012 Without the Transaction		2012 Post- Transaction	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
MA Route 2 EB Off-Ramps / Ayer Road	EB/WB Stop Control	B/B	14/12	B/B	14/12
MA Route 2 WB Off-Ramps / Ayer Road	EB/WB Stop Control	B/C	12/15	B/C	12/15
Poor Farm Road / Lancaster County Road / Ayer Road	EB/WB Stop Control	F/F	77/80	F/F	78/81
Myrick Lane / Ayer Road / Harvard Road	WB Stop Control	D	31	D	31
Harvard Road / Barnum Road / E Main Street / Sandy Pond Road / Littleton Road	Rotary	A	7	A	7
Littleton Road / Copeland Drive / Willard Street	NB/SB Stop Control	D/C	29/19	D/C	31/20
Littleton Road / Bennetts Crossing Road	NB Stop Control	C	16	C	16
Littleton Road / Willow Road / Bruce Street	NB/SB Stop Control	D/F	30/302	D/F	31/339
Distribution Center Drive / Ayer Road	WB Stop Control	C	24	C	24
Ayer Road / King Street	NB Stop Control	D	34	E	36
King Street / Mill Road	NB Stop Control	C	23	C	23
Ayer Road / New Estate Road	WB Stop Control	F	101	F	109
King Street / I-495 SB Ramps / Murray Park Road	NB/SB Stop Control	F/F	ECL ^c /144	F/F	ECL ^c /152
King Street / I-495 NB Ramps	NB Stop Control	C	22	C	22

- a. EB = eastbound; WB = westbound; NB = northbound; SB = southbound.
- b. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (e.g., at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction). If an intersection has a stop sign on only one approach, a single value is presented. The values presented for the rotary are for the most congested approach.
- c. ECL = exceeds calculable limits. This means that the average delay at this location is greater than 350 seconds, and exceeds the limits of what can be calculated using Highway Capacity Manual methods.

**Table 3.1.1-15
Weekday PM Peak Hour Intersection LOS – 2012 Conditions With and Without the
Transaction – San Vel Automotive and Ayer Intermodal Facilities**

Intersection	Traffic Control ^a	2012 Without the Transaction		2012 Post-Transaction	
		LOS ^b	Average Delay (sec/veh) ^b	LOS ^b	Average Delay (sec/veh) ^b
MA Route 2 EB Off-Ramps / Ayer Road	EB/WB Stop Control	B/B	11/11	B/B	11/11
MA Route 2 WB Off-Ramps / Ayer Road	EB/WB Stop Control	B/B	12/15	B/B	12/15
Poor Farm Road / Lancaster County Road / Ayer Road	EB/WB Stop Control	F/E	87/47	F/E	88/48
Myrick Lane / Ayer Road / Harvard Road	WB Stop Control	C	25	C	25
Harvard Road / Barnum Road / E Main Street / Sandy Pond Road / Littleton Road	Rotary	A	4	A	4
Littleton Road / Copeland Drive / Willard Street	NB/SB Stop Control	F/E	54/37	F/E	55/38
Littleton Road / Bennetts Crossing Road	NB Stop Control	C	17	C	18
Littleton Road / Willow Road / Bruce Street	NB/SB Stop Control	D/F	27/269	D/F	27/305
Distribution Center Drive / Ayer Road	WB Stop Control	E	48	E	49
Ayer Road / King Street	NB Stop Control	F	495	F	511
King Street / Mill Road	NB Stop Control	D	33	D	34
Ayer Road / New Estate Road	WB Stop Control	D	27	D	27
King Street / I-495 SB Ramps / Murray Park Road	NB/SB Stop Control	F/F	ECL ^c /314	F/F	ECL ^c /326
King Street / I-495 NB Ramps	NB Stop Control	F	102	F	107

- a. EB = eastbound; WB = westbound; NB = northbound; SB = southbound.
- b. LOS and average delay for each stop-controlled movement for two-way stop controlled intersections is presented in X/Y format (e.g., at an intersection with NB and SB stop control, an LOS listed in this table as B/C means LOS B in the NB direction, and LOS C in the southbound direction.) If an intersection has a stop sign on only one approach, a single value is presented. The values presented for the rotary are for the most congested approach.
- c. ECL = exceeds calculable limits. This means that the average delay at this location is greater than 350 seconds, and exceeds the limits of what can be calculated using Highway Capacity Manual methods.

Summary of Assessment – San Vel Automotive Facility and Ayer Intermodal Facility

As shown in Tables 3.1.1.12 and 3.1.1.13, the two roadway segments are expected to operate at LOS D in 2012 with or without the Transaction. This indicates a negligible effect of the Transaction on operations along Route 110 within the APE.

As shown in Tables 3.1.1.14 and 3.1.1.15, five intersections and the rotary are expected to operate at LOS D (stable flow) or better in 2012 in both peak hours, both without and with the Transaction. One intersection is expected to operate at LOS E in at least one

peak hour, both without and with the Transaction. At this intersection, the Transaction does not change the LOS C condition in the AM peak hour without the Transaction, nor does it change the LOS E condition in the PM peak hour without the Transaction. Seven intersections are expected to operate at LOS F (congested conditions) in 2012 in one or both peak hours. In the peak hours during which these seven intersections would experience LOS F conditions, such conditions would occur both without and with the Transaction at each of these intersections. There is only one intersection that is anticipated to experience a change in LOS conditions in one or both peak hours post-Transaction. Specifically, the stop-controlled Ayer Road/King Street intersection is expected to experience LOS D without the Transaction and LOS E with the Transaction in the AM peak hours. This same intersection is expected to experience LOS F both with and without the Transaction in the PM peak hours. Despite the LOS conditions at this intersection during the AM peak hours, however, the Transaction is estimated to change the average delay by only two seconds per vehicle, from 34 seconds per vehicle without the Transaction to 36 seconds per vehicle with the Transaction. In addition, the southbound direction of the Littleton Road/Willow Road/Bruce Street intersection is projected to experience an increase of 37 and 36 seconds per vehicle in the AM and PM peak hours, respectively, and of one and zero seconds per vehicle in the northbound direction in AM and PM peak hours, respectively. This intersection is anticipated to already be LOS F (congested conditions) in 2012 absent the Transaction. Further, the estimated additional Transaction-related twelve and eight trucks on the roadways during the AM and PM peak hours, respectively, are not anticipated to create a significant impact to the projected pre-Transaction LOS F traffic conditions. Most of the other intersections in the APE would experience no increase in average delay, with a small number expected to experience delay of one or two seconds per vehicle and three intersections between five and twelve seconds per vehicle. Because the Transaction is not anticipated to change the LOS during either peak hours at any intersection except one, the average vehicle delay at that one stop-controlled intersection is anticipated to change by only three seconds, and the vehicle delay at each of the intersections is not anticipated to significantly impact 2012 pre-Transaction traffic conditions, the Transaction is not anticipated to have a significant effect on the intersections within the APE.

Overall, based on the results of the analysis, the Transaction would have a negligible effect on overall traffic operations within the San Vel Automotive Facility and Ayer Intermodal Facility APE.

3.1.2 GRADE CROSSING DELAY AND SAFETY

This section describes potential impacts related to grade crossing delay and safety resulting from the proposed Transaction. At-grade highway/rail crossing delay and safety are sometimes affected where train frequency, length, and/or speed change as a result of a given proposed action. Information regarding traffic volumes and grade crossings is based upon public data and project plans, as well as information from Applicants.

Several agencies within the U.S. Department of Transportation (USDOT) – including the Federal Highway Administration (FHWA) and the Federal Railroad Administration (FRA) – have safety-related roles with respect to highway-rail grade crossings. All traffic control devices installed at railroad facilities involving Federal aid projects must comply with FHWA’s *Manual on Uniform Traffic Control Devices*, and on certain projects where Federal-aid funds participate in the installation of warning devices, automatic gates and flashing light signals must be included.⁸ FRA has issued rules under its railroad safety authority that impose minimum maintenance, inspection and testing standards for grade crossing warning devices.⁹ Generally, however, states have jurisdiction over grade crossing safety issues, including the selection and placement of warning devices.

3.1.2.1 Affected Environment

Grade crossing conditions associated with the existing rail line that would be part of the Applicants’ proposed Transaction were reviewed in order to assess potential impacts to grade crossing delay and safety. The Transaction does not contemplate construction, modification or removal of any at-grade crossings. As described in Chapter 2, the average number of trains per day is projected to increase between 1.5 and 2.5 trains per day on four owned and three trackage segments as a result of the Transaction, with no increase in Transaction-related train traffic projected on the remaining five owned and six trackage rights line segments that are included in the Transaction. Table 3.1.2-1 summarizes the number of existing public at-grade crossings along the seven rail segments where the number of trains is projected to increase. In general, train speed is expected to increase to time table speeds¹⁰ as a result of track rehabilitation which is part of the proposed Transaction.

⁸ 23 CFR § 646.214

⁹ 49 CFR Part 234

¹⁰ Time table speed is the maximum allowable speed based on track class.

**Table 3.1.2-1
Summary of Existing Public At-Grade Crossings Along Rail Segments with
Transaction-Related Traffic Increases**

Rail Segment	Number of At-Grade Crossings	Projected Increase in Transaction-Related Rail Traffic (trains/day)	Current Freight Train Average Speed (mph)	Anticipated Post-Transaction Freight Train Speed (mph) ^a
Mohawk Yard, NY – Crescent, NY ^b	3	1.5	30	30
Crescent, NY – Mechanicville, NY ^b	4	1.5	37	45
Mechanicville, NY – Hoosick Jct., NY	9	2.5	21	30 to 40
Hoosick Jct., NY – E. Deerfield, MA	23	1.5	21	40
E. Deerfield, MA – Gardner, MA	7	1.5	16	40
Gardner, MA – Fitchburg, MA	0	1.5	21	30
Fitchburg, MA - Ayer, MA ^c	7	1.5	29	40
Total	53	-	-	-

a. Based on track chart speeds.

b. Trackage rights over Canadian Pacific Railway Company (CP) rail line.

c. Trackage rights over Metropolitan Boston Transit Authority (MBTA) rail line.

3.1.2.3 Environmental Consequences - Grade Crossing Delay

Highway/rail at-grade crossings can be a source of delay to motorists. Increases in vehicle delay at at-grade crossings are generally expected to be greatest at crossings with the largest anticipated increases in train traffic or train length and the largest number of vehicles using a crossing.

Grade crossing analysis was conducted for the Transaction using FHWA guidelines (FHWA, 2002). These guidelines take into account the frequency, length and speed of trains, as well as the volume of road traffic and physical characteristics of roads at at-grade crossings (e.g., road classification, number of lanes). The quantitative analysis of delay at public at-grade crossings took into consideration the existing and anticipated future rail traffic volumes presented in Chapter 2. The calculation of grade crossing delay was limited to public at-grade crossings due to the low traffic volume on private roads where private at-grade crossings may occur. Vehicle delay was analyzed at the at-grade crossings included in the Transaction that reflect (1) the rail segment with the largest projected increase in trains per day, (2) the public at-grade crossing with the largest average annual daily vehicle traffic (AADT), and (3) the rail segment with the largest projected increase in train length. Estimates of AADT for each evaluated crossing were calculated and analyzed for the year 2012. Further information on the grade crossing analysis methods utilized can be found in Appendix C.

The Mechanicville, NY to Hoosick Junction, NY rail segment is projected to experience the largest increase in train traffic with an increase of 2.5 trains per day. The crossing of River Street (NY 22) in Hoosick Falls, NY, on the Hoosick Junction, NY to East Deerfield, MA rail

segment is the public at-grade crossing included in the Transaction with the highest AADT. While the at-grade crossings on the Mohawk Yard, NY to Crescent, NY rail segment are not projected to experience the largest increase in train traffic, these crossings were included in the analysis because they are the at-grade crossings that are projected to experience the largest increase in average train length. In addition, this is the only rail segment projected to have an increase in rail traffic as a result of the Transaction that is not projected to experience an increase in the average train speed. In order to assess the greatest potential impact of the Transaction on vehicle delay, therefore, the potential for Transaction-related vehicle delay was examined at the nine at-grade grade crossings on the Mechanicville, NY to Hoosick Junction, NY rail segment, where the largest anticipated increase in train traffic would occur; at the River Street at-grade crossing in Hoosick Falls, NY, where the greatest number of vehicles use an at-grade crossing; and at the three at-grade crossings along the Mohawk Yard, NY to Crescent, NY rail segment, which is projected to experience the largest increase in train length (but where train speed would not change and therefore would not be expected to affect vehicle delay time).

As shown in Table C-2 of Appendix C, it is estimated that the total number of vehicles delayed by rail traffic on at-grade crossings along the Mechanicville, NY to Hoosick Junction, NY rail segment would decrease from approximately 1.81 percent of all vehicles using the highway/rail at-grade crossings to approximately 1.77 percent. It is also estimated that the average delay experienced by each stopped vehicle would decrease from approximately 2.2 minutes per vehicle to 1.8 minutes per vehicle. This overall decrease in both the percentage of vehicles experiencing delay at a grade crossing and the average length of such delay is due to an anticipated increase in average train speed to time table speeds (with the elimination of existing slow orders) as a result of the Transaction. The estimated average delay per vehicle for all vehicles traversing grade crossings along the Mechanicville, NY to Hoosick Junction, NY rail segment in a 24-hour period after rail improvements as a result of the Transaction ranges from 0.61 to 6.21 seconds per vehicle, depending on the crossing. With the exception of the Viall Avenue crossing in Mechanicville, NY, this represents reductions in grade crossing delay conditions as a result of Transaction-related improvements of between 0.6 and 0.9 second per vehicle depending on the crossing. At the Viall Avenue grade crossing, average delay per stopped vehicle is estimated to decrease by 0.37 minutes per vehicle, but the number of vehicles delayed would increase due to the increased train traffic, resulting in an increase in the average delay per vehicle for all vehicles in a 24-hour period of 0.46 seconds per vehicle, for a post-Transaction delay of 6.21 seconds per vehicle. The increase in vehicle delay and the number of vehicles delayed per day at the Viall Avenue crossing constitute only a minimal impact. The grade crossing delay analysis shows that the level of service (LOS) (Level A [the best range of operating conditions] for the at-grade crossings on this rail segment) would remain unchanged after the Transaction for all nine crossings on the Mechanicville, NY to Hoosick Junction, NY rail segment, including the Viall Avenue crossing (see Appendix C for additional information on grade crossing LOS).

For the River Street at-grade crossing (with the largest projected AADT), it is estimated that the number of vehicles delayed by rail traffic would decrease from approximately 1.56 percent of all vehicles using the highway/rail at-grade crossings to approximately 1.12 percent and that the average delay experienced by each stopped vehicle would decrease from approximately 2 minutes per vehicle to 1.17 minutes per vehicle. This improvement over existing conditions with respect to both the percentage of delayed vehicles and the duration of the delay is due to the projected increase in average train speed to time table speeds (with the elimination of existing slow orders) as a result of improvements made as part of the Transaction. The average delay per

vehicle for all vehicles at the River Street at-grade crossing in a 24-hour period would decrease 1.09 seconds per vehicle, from a pre-Transaction delay of 1.87 seconds per vehicle to a post-Transaction delay of 0.78 seconds per vehicle. The grade crossing delay analysis shows that the LOS (Level A) would remain unchanged after the Transaction for this at-grade crossing.

For all three at-grade crossings along the Mohawk Yard, NY to Crescent, NY rail segment (with the projected largest increase in train length, and where train speed would not increase), it is estimated that the total number of vehicles delayed by rail traffic would increase from approximately 1.05 percent of all vehicles using the highway/rail at-grade crossings to approximately 1.64 percent, and that the average delay experienced by each stopped vehicle would increase from approximately 1.27 minutes per vehicle to 1.72 minutes per vehicle. This overall increase in both the percentage of vehicles experiencing delay at an at-grade crossing and the average length of such delay is a result of the projected increase in average train length, given that average train speeds are not projected to change on this rail segment as a result of the Transaction. The average delay per vehicle for all vehicles traversing at-grade crossings along the Mohawk Yard, NY to Crescent, NY rail line segment in a 24-hour period as a result of the Transaction would range from 1.53 to 2.72 seconds per vehicle after the Transaction. This represents a slight increase from existing grade crossing delay conditions of between 0.83 and 1.51 seconds per vehicle. The grade crossing delay analysis shows that the LOS (Level A) would remain unchanged after the Transaction for all three at-grade crossings on this rail segment.

These calculated effects on vehicle delay would be minimal. All evaluated at-grade crossings would remain at LOS Level A, the most favorable level. Because all other affected rail segments included in the Transaction are projected to experience smaller or no increases in train traffic, increased train speed, and/or lower vehicle traffic, the effect of the proposed Transaction on vehicle delay would be minimal.

Appendix C presents additional information for each evaluated at-grade crossing included in the Transaction, with the corresponding total number of vehicles delayed per day, average crossing delay per stopped vehicle, average delay per vehicle for all vehicles in a 24-hour period, and the total delay in a 24-hour period for existing and post-Transaction conditions.

3.1.2.4 Environmental Consequences -- Grade Crossing Safety

The grade crossing safety analysis evaluates predicted accident frequencies at at-grade crossings as a result of the proposed action and a no-action alternative. Predicted accident frequency is typically measured as the number of grade crossing accidents per year.

Grade crossing safety was evaluated by estimating predicted accident frequency with and without the proposed Transaction using the FRA Personal Computer Accident Prediction System (PCAPS) (FRA, 2007b). The analysis took into account the accident history and frequency of trains at at-grade crossings, volume of vehicle traffic, existing safety devices at grade crossings, and other factors to determine the potential impacts of an increase in rail traffic. The quantitative analysis of accident frequencies at existing public grade crossings took into consideration the projected train traffic volumes presented in Chapter 2. Estimates for AADT for each road crossing evaluated were calculated for the year 2012 and used in the analysis. Further information on the grade crossings analysis methods utilized is provided in Appendix C.

For the reasons discussed above in reference to the delay analysis, the analysis of grade crossing safety was focused on the nine existing public at-grade crossings along the Mechanicville, NY to Hoosick Junction, NY rail segment, the River Street at-grade crossing on the Hoosick Junction, NY to East Deerfield, MA rail segment and the three public at-grade crossings along the Mohawk Yard, NY to Crescent, NY rail segment. The Transaction does not contemplate constructing new or removing any existing at-grade crossings.

Table 3.1.2-2 shows the estimated predicted accident frequency for the selected crossings with and without the Transaction. The grade crossing safety analysis indicates that the predicted accident frequency at the evaluated grade crossings would range from a minimum rate per year of 0.0084 to a maximum of 0.029 as a result of the Transaction. This translates into one predicted accident every 34 to 118 years, depending on the crossing. This would be only a slight increase from one predicted accident every 35 years to 136 years without the Transaction, and is considered minimal.

Because all other rail segments included in the Transaction would have smaller or no increases in train traffic and/or lower vehicle traffic, the effect of the Transaction on safety at at-grade crossings would be minimal.

**Table 3.1.2-2
Predicted Accident Frequency**

Rail Segment	Road	Municipality	Predicted Accident Frequency (accidents/year) ^a		
			No Action	With Transaction	Change
Mechanicville, NY – Hoosick Junction, NY	Eagle Bridge Road	NA	0.013	0.015	0.002
	Beck Road	NA	0.010	0.012	0.001
	Potter Hill Road C-103	East Buskirk	0.011	0.012	0.001
	Hunt Road	NA	0.013	0.015	0.002
	Fisherman's Lane	Schaghticoke	0.022	0.028	0.006
	Buttermilk Falls Road	NA	0.007	0.008	0.001
	Depot Hill Road	NA	0.010	0.012	0.001
	Howland Avenue	Mechanicville	0.018	0.021	0.002
	Viall Avenue	Mechanicville	0.015	0.017	0.002
Hoosick Junction, NY – East Deerfield, MA	River Street	Hoosick Falls	0.022	0.025	0.002
Mohawk Yard, NY – Crescent, NY	Waite Road	NA	0.012	0.012	0.001
	Bluebarns Road	NA	0.023	0.025	0.001
	Alplaus Avenue	Alplaus	0.028	0.029	0.001

a. Predicted accident frequencies were calculated using the FRA Personal Computer Accident Prediction System (PCAPS) (FRA, 2007b).

According to FHWA guidelines on grade separation (FHWA, 2002), none of the crossings evaluated in this analysis would have a predicted accident frequency above 0.5, which is the minimum accident frequency level at which FHWA recommends grade separation. Additionally, FHWA recommends that active devices with automatic gates be considered if the accident frequency exceeds 0.1. Because none of the evaluated at-grade crossings would have a predicted accident frequency above 0.1, automatic gates would not be warranted under FHWA guidelines.

3.2 LAND USE

This section describes the environmental setting and potential environmental impacts to land use under the proposed Transaction.

The proposed Transaction has the potential to affect land use at two locations, the sites of new facility construction (the new Mechanicville Facility and the new San Vel Automotive Facility). Only minor improvements are planned at the existing Ayer Intermodal Facility; therefore, there is no effect on land use.

In summary, because the purpose of the Transaction is to improve existing rail infrastructure and the needed project actions would be congruent with historic and current land uses for the project areas, no significant impacts to land use are expected. The Transaction is not expected to be growth-inducing in terms of converting adjoining land uses. The Transaction is also not expected to conflict with land-use objectives in the adjacent areas.¹¹

Sections 3.2.1 and 3.2.2 describe the land-use setting and potential land-use impacts for both new facilities.

3.2.1 Mechanicville Facility

The Mechanicville Facility would be situated in three municipal jurisdictions in the Capital District of Saratoga County, New York, including the Towns of Halfmoon and Stillwater and the City of Mechanicville. The proposed facility would be constructed on approximately 81 acres of a 126-acre site just west of Mechanicville, bounded on the north by Route 67, one of the major east-west highway corridors through the area. The site was used primarily as rail yards some years ago. Today, it sits unused in an industrial area adjacent to a Brownfields site.

The Mechanicville Facility would occupy portions of three different zoning areas. The majority of the facility would be located in northern Halfmoon's "Light Industrial and Commercial District,"¹² with the remainder within the City of Mechanicville's western "Heavy Industrial District"¹³ and bordered by the Town of Stillwater's southern "Industrial District"¹⁴ and "Low Density Residential"¹⁵ zones. Low-density housing developments are located north and south of the Facility.

¹¹ The proposed Mechanicville Facility is not located within an area designated by New York as coastal zone under the Coastal Zone Management Act. Similarly, neither the proposed San Vel Automotive Facility is located within an area designated by Massachusetts as a coastal zone under the Coastal Zone Management Act.

¹² Defined in the Town of Halfmoon's Draft Comprehensive Plan (Town of Halfmoon, 2003) as: "light industrial and commercial uses in areas with good transportation access. Encourage the use of common utilities and access and discourage the strip-mall style of development. Uses particular to the LI-C district include assembly, automotive repair, and warehouses" (p. A-23).

¹³ Defined in the Code of the City of Mechanicville section 200-16: "all uses not otherwise prohibited by law (except any residential use)." Twenty-six specific uses, not including railroad-related uses, are identified as requiring a special use permit.

¹⁴ Defined in the Stillwater Comprehensive Plan (Town of Stillwater, 2006) as: "Auto body shops, asphalt plants, bulk storage, freight or trucking terminals, heavy and light industrial manufacturing or processing, research and development, sand/gravel/soil removal and processing, warehousing, bulk fuel storage, adult uses, contractor's yards, and junkyards" (p. 24).

¹⁵ Defined in the Stillwater Comprehensive Plan (Town of Stillwater, 2006) as: "Single and two-family dwellings, farm worker housing, bed and breakfasts, commercial greenhouses, farms, animal harboring, and home occupations, boarding houses, public and semi-public uses, sand/gravel/soil removal and processing, and small animal hospital or kennel" (p. 23).

The Transaction would be consistent with historic land uses for the area and would correspond with the Town of Halfmoon's plan for industrial development in its northern region (Town of Halfmoon, 2003). The Mechanicville Facility is also congruent with recent economic developments in the neighboring Town of Malta, in which there are a number of proposed and existing industrial parks. One notable example is the Luther Forest Technological Campus, a semiconductor manufacturing facility projected to bring upwards of 10,000 high-salary jobs when fully complete, located in the towns of Malta and Stillwater (LFTC Final Generic Environmental Impact Statement, 2003).

The Mechanicville Facility is located in proximity to a conceptual location for the Town of Halfmoon's Zim Smith Trail project (Town of Halfmoon, 2001). While the construction of this trail is not currently funded, the Town of Halfmoon has discussed the concept of connecting the trail in the Coon's Crossing area. Coon's Crossing, which is a highway/railroad at-grade crossing, is at the western boundary of the proposed Mechanicville Facility site (Richardson, 2008). The proposed Mechanicville Facility would not affect development of the Zim Smith Trail or a potential future connection at Coon's Crossing.

East of the Mechanicville Facility, Route 4 in Stillwater is designated as New York State Bike Route 9. The Stillwater Route 4 Corridor Plan (Town of Stillwater, 2006) acknowledges locations along Route 4/Bike Route 9 where "the width or condition of the shoulder is less than ideal" for bicyclists (p. 27). In the Village Center,¹⁶ paved shoulders are replaced by sidewalks and bicyclists are expected to "share the road" with motorists. The Mechanicville Facility, located west of Route 4, is projected to generate 334 truck trips per day by 2012 on certain road segments near the Facility. Transaction-related truck traffic traveling to and from the Mechanicville Facility would primarily travel west along Route 67 toward Interstate 87. A portion of Transaction-related truck traffic would travel east to Route 4/Bike Route 9. Route 4/Bike Route 9 is part of the Village Center Traffic Calming Project planned by the Town of Stillwater and the New York State Department of Transportation (NYSDOT), which includes transportation improvements such as adding a raised median with crosswalks, tightening turning radii at intersections, and shortening pedestrian cross walks¹⁷ from Park Avenue to Stillwater Bridge Road (Town of Stillwater, 2006). The traffic calming techniques that are part of the Stillwater Route 4 Corridor Plan would mitigate the effect of Transaction-related truck traffic along Route 4.

3.2.2 San Vel Automotive Facility

The proposed San Vel Automotive Facility is proposed to be constructed within the Town of Ayer, on a presently vacant lot north of Route 2A and east of its intersection with Willows Road. This area is predominantly within a "Heavy Industrial"¹⁸ zone and is adjacent to residential development along Willow Road. The site has historically been used for industry.

¹⁶ "Village Center" area is defined in the Stillwater Route 4 Corridor Plan (2006) as the portion of the Village of Stillwater between Stillwater Bridge Road (CR 125) and Park Avenue.

¹⁷ The purpose of the traffic calming is to reduce vehicle speed, to reduce traffic volumes, and to reduce pedestrian/vehicle conflicts (Town of Stillwater, 2006).

¹⁸ "Heavy Industrial" and "Light Industrial" districts are proposed to be replaced with "Industrial-I" and "Industrial-II" districts in the Town of Ayer Comprehensive Plan Update (Town of Ayer, 2005). The Industrial-II district allows for the same uses as in the Industrial-I category in addition to more intensive industrial uses such as large manufacturing and distribution operations.

According to the Town of Ayer's Land Use Plan Map (Map 2I of the Comprehensive Plan Update, 2005), the site falls predominantly within an area categorized as "Industrial II,"⁷ with a small portion of the site – that portion closest to Willow Road – categorized as "Mixed-Use Transition."¹⁹ The Ayer Comprehensive Plan Update proposes a mix of residential uses, light industry, and office development and home occupations within mixed use transition areas (p. 147). The Plan Update states that one of its economic development goals is to "establish a new village center along Willow Road...south of the railroad tracks and North of the Littleton Town line" (p. 110). Despite the proposed land uses for a small portion of the area near the San Vel Automotive Facility, as contemplated in Ayer's Plan Update, the Town of Ayer and certain subsidiaries of PARI, after lengthy litigation both before the Board and the US District Court for the District of Massachusetts, entered into a Consent Decree, lodged in the US District Court on July 24, 2003, pertaining to the development of the site that is to be the location of the San Vel Automotive Facility for railroad facility use. By the terms of the Consent Decree, the Town of Ayer has agreed that it has no right to approve, delay or otherwise regulate the construction or operation of a rail facility on the site of the proposed San Vel Automotive Facility.

To the west of the location of the San Vel Automotive Facility, there are wetlands and a small pond (Spectacle Pond). The Town of Littleton, in which a substantial portion of Spectacle Pond is located, maintains public access to Spectacle Pond for recreational use and has included restoration of the Spectacle Pond area in its 2003 Open Space and Recreation Plan (Town of Littleton, 2003). Spectacle Pond supplies a medium- and high-yield aquifer for the Town of Ayer and a high-yield aquifer for the Town of Littleton and is located within an Aquifer Protection District. According to the Town of Ayer's Plan Update, Ayer intends to create conservation zones in the area and has developed proposals for the creation of trails in the undeveloped areas surrounding Spectacle Pond. Because the proposed San Vel Automotive Facility is adjacent to but does not overlap with Spectacle Pond and its surrounding wetlands, the Transaction would not affect future trails or conservation areas around Spectacle Pond.

Development of the San Vel Automotive Facility is consistent with the Ayer land-use and economic development goal stated in the Plan Update, to "reinforce Ayer's industrial-village land use pattern" and "improve access to and from Ayer for residents, workers, and commercial vehicles" (Town of Ayer, 2005). A small portion of the proposed San Vel Automotive Facility property is subject to a Notice of Activity and Use Limitation (AUL) issued by the Massachusetts Department of Environmental Protection on January 27, 1999. The use limitation restricts the property to retail/commercial uses or industrial uses, which is consistent with use of the property under the Transaction. Moreover, the prior litigation involving the site of the proposed San Vel Automotive Facility resulted in the US District Court upholding the position that the Town of Ayer cannot prevent the construction and operation of a rail facility on the property. To resolve further litigation in the same dispute, the Town of Ayer entered into a Consent Decree with PARI subsidiaries (discussed in further detail in Section 4), in which the Town agreed not to interfere with railroad development on the site. In light of this Consent Decree, the AUL, and consistency with zoning and land uses in the area, the development of the San Vel Automotive Facility should not have an adverse impact on land use.

¹⁹ Commentary in the Land Use Plan Map states that future land use for "Mixed-Use Transition" is intended to "promote new mixed-use village area" and "discourage heavy industry."

3.3 HAZARDOUS WASTE SITES

This section describes the potential to encounter hazardous waste sites during implementation of the proposed Transaction, and the potential effects of such encounters.

Ground-disturbing activities, such as grading and excavation, associated with the proposed Transaction could potentially affect hazardous waste sites, if present in the areas where these activities would occur. The Transaction would include new facility construction at two sites – the Mechanicville Facility and the San Vel Automotive Facility. In addition, construction activities would occur at selected locations along the line of road associated either with bridge rehabilitation or increases in the vertical clearance on existing track along the east-west mainline.²⁰ Government databases and records were reviewed to determine whether there are any known hazardous waste sites or reports of hazardous materials spills on or within 500 feet of the footprint of each of the proposed facilities. In addition, information was obtained from Applicants and during site visits on August 26, 2008 and August 27, 2008.

This section summarizes the potential impacts from encountering hazardous waste sites for each of the proposed facilities and rail improvement projects with the potential for ground-disturbance.

3.3.1 Mechanicville Facility

The 81 acres on which the Mechanicville Facility is proposed to be developed, i.e., the facility footprint, comprise a portion of a larger area where former Delaware & Hudson Railway Company (D&H) and Boston and Maine Corporation (B&M) railyards previously operated. The overall area where the former D&H and B&M railyards were located is referenced under different names in a number of the government databases searched. The database search identified no known active hazardous waste sites on or within 500 feet of the proposed Mechanicville Facility footprint, but the following inactive or “closed” sites were noted in the databases:²¹

- **D&H Engine House (Route 67 – specific address not provided):** Listed in the New York spills database, a spill occurred on January 12, 1990, when vandals opened a 12,000-gallon lube-oil tank valve near the D&H engine house and 200 to 250 gallons spilled on the soil. This spill released into the areas where the parking area is proposed to be located as part of the new Mechanicville Facility. D&H hired a contractor to clean up the soil, and the spill record was closed on January 16, 1990.
- **D&H Railroad (Route 67 – specific address not provided):** Listed in the New York spills database for a historic spill. The spill occurred on May 31, 1983, when the D&H oil–water separator malfunctioned and oil ran into the Anthony Kill, approximately 300 feet north and

²⁰ A former siding will be reestablished at Pownal, VT, two formerly existing interconnections will be rehabilitated at Millers Falls, MA and Holyoke, MA, and minor improvements are anticipated for the existing Ayer Intermodal Facility. None of these improvements are anticipated to involve ground-disturbing activities or changes in the type of operations at these locations. Thus, they do not have the potential to disturb hazardous waste sites as a result of the Transaction.

²¹ As indicated in the descriptions below, the location of some of these inactive or closed hazardous waste sites identified through database searches is unknown and the sites may not be located within 500 feet of the footprint of the proposed Mechanicville Facility.

outside of the proposed Mechanicville Facility footprint. D&H reportedly cleaned up the spill and the spill record was closed on December 5, 1988.

- **Mechanicville Railroad Terminal (specific address not provided):** Listed in the Major Oil Storage Facilities Database for petroleum storage capacities of 400,000 gallons or greater. The exact location of the petroleum storage facilities was not identified in the records. Thus, it is not known if the petroleum storage facilities listed were located within 500 feet of the footprint of the proposed new Mechanicville Facility. Listed tanks included a 1,000-gallon leaded gasoline underground storage tank, two 10,000-gallon diesel underground storage tanks, a 500-gallon diesel underground storage tank, and a 675,000-gallon diesel above-ground storage tank. All these storage tanks were listed as being installed in December 1969 and constructed of steel. As discussed below, a closed 675,000 diesel above-ground storage tank is located to the southeast and within 500 feet of the footprint of the proposed 81-acre Mechanicville Facility. This closed tank is not, however, located within the Facility footprint.
- **D.A. Collins Construction (at Route 67):** Listed in the Leaking Tanks (LTANK), Historic LTANK, aboveground storage tank (AST), Historic AST, and Historic underground storage tank (UST) databases. This site is located approximately 400 feet north and outside of the proposed Mechanicville Facility footprint. The database reported two leaking tanks, one in 1992 and one in 1993. Corrective actions were taken to address each tank, and both sites were closed in 1993.
- Nine **orphan sites** were identified in the database search that were related to the former D&H and B&M railyards, but specific address information was not available to definitively determine whether these orphan sites were on or within 500 feet of the proposed Mechanicville Facility footprint. A review of available database information indicated that five of the nine orphan sites were related to historic releases. Corrective actions were conducted and the release records were closed for all five sites. The remaining four sites were listings for aboveground and underground storage tanks, all of which were reported as closed or removed.

Thus only one hazardous waste site contained in the databases (D&H Engine House) appears to have been located inside the 81-acre footprint of the proposed Mechanicville Facility. The D&H Engine House site was closed in 1990 following corrective actions.

In addition to the findings from the database search, information regarding hazardous waste sites was gathered during the site visit and through review of additional documentation provided by Applicants or located in agency records. This documentation includes a June 17, 2002, letter from the New York State Department of Environmental Conservation (NYSDEC) to Guilford Rail Systems, the former name of PARI's railroad operating group (NYSDEC, 2002) (the "June 2002 NYSDEC letter") and the August 30, 2002, response letter submitted to NYSDEC by Environmental Resources Management (ERM) on behalf of Guilford Rail Systems (ERM, 2002) (the "August 2002 response letter"). This further information is summarized below:

- A closed 675,000-gallon diesel aboveground storage tank (AST) and the former B&M engine maintenance shop and fueling area were located within 500 feet of the proposed 81-acre Mechanicville Facility footprint (as shown in Figure 3.3-1). None of these features of the former B&M rail yard, however, are located within the footprint of the proposed Mechanicville Facility. A large-capacity, sub-grade oil-water separator is present in the

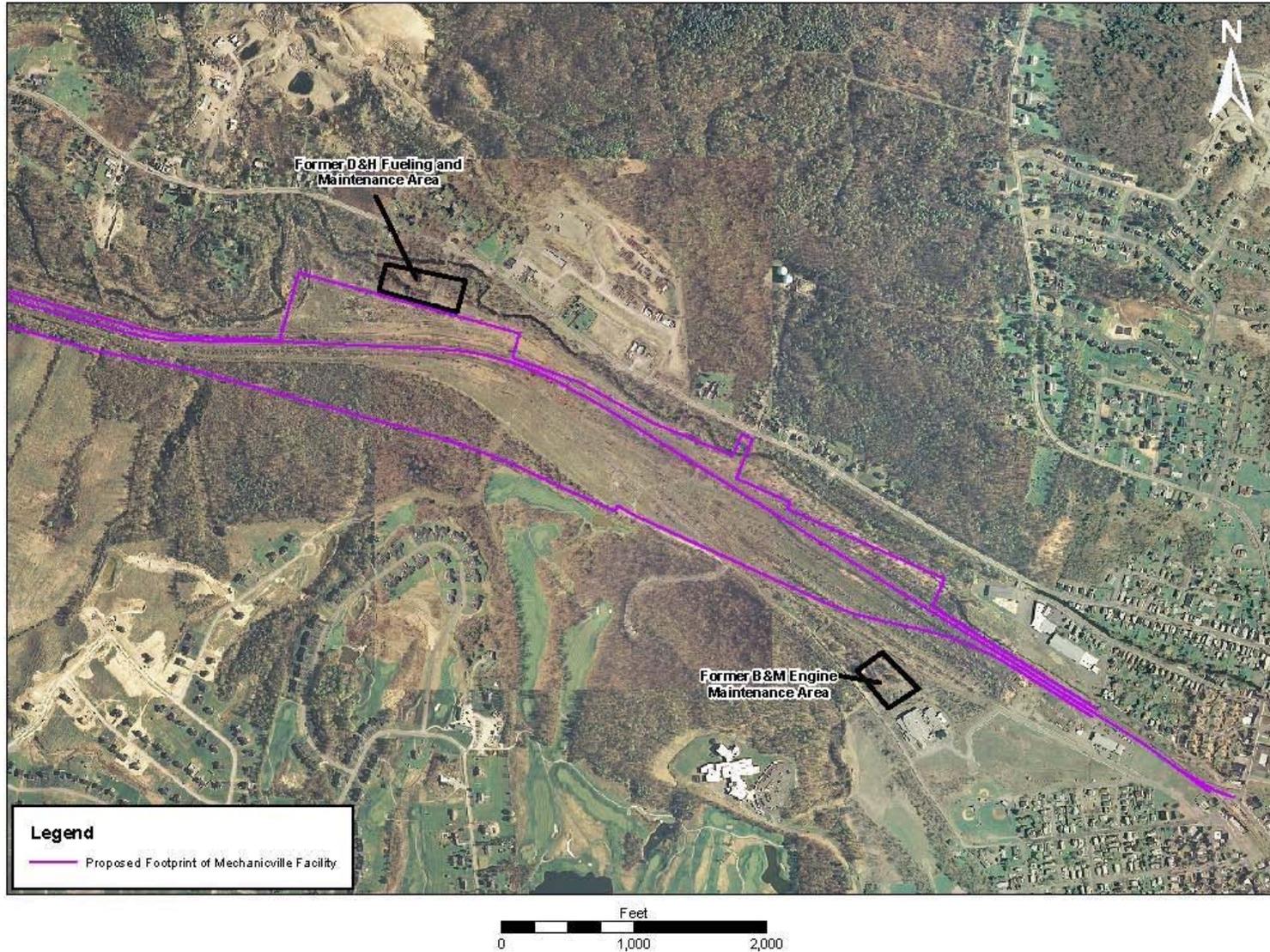
former B&M rail yard, within 500-feet of the Mechanicville Facility footprint. During the August 26, 2008 site visit, Pan Am Railways Inc. (PARI) personnel indicated that the separator continues to operate and discharges to the Anthony Kill stream. There are at least three recovery wells adjacent to the separator. According to the June 2002 NYSDEC letter, these were once used to extract free product from the groundwater in the area and pump it to the oil-water separator. The June 2002 NYSDEC letter states that action was undertaken in the 1980s to remove underground storage tanks (USTs), close the 675,000-gallon AST, and investigate and clean up diesel fuel. The June 2002 NYSDEC letter required additional soil and groundwater assessments in the area around the existing oil-water separator and former fueling/maintenance areas, sampling of influent and effluent from the oil-water separator, and cleaning and removal of the oil-water separator be undertaken if the unit was shown to be of no further use. The August 2002 response letter (ERM, 2002) described the proposed scope of work for investigation activities to address the items outlined in the June 2002 NYSDEC letter. PARI personnel do not have documentation of a response from NYSDEC related to the August 2002 response letter, and do not have information that NYSDEC sought additional action. Sampling and analysis of influent and effluent from the oil-water separator have been performed monthly.

- The former D&H railyard fueling and maintenance areas were located adjacent to the Anthony Kill and are within 500 feet of, but not on, the footprint of the proposed 81-acre Mechanicville Facility (as shown in Figure 3.3-1). According to the June 2002 NYSDEC letter, groundwater investigation and cleanup work was conducted in the 1980s to address diesel fuel contamination. Currently, an unlined collection lagoon, a pump house, associated piping, a dissolved air flotation oil-water separator, and two oil ASTs are located in this area, but are also outside of the proposed Mechanicville Facility footprint. The June 2002 NYSDEC letter required additional assessment of the collection-lagoon sediments and the surrounding soil and groundwater, remediation of residual contamination, decommissioning of the collection lagoon and oil-water separator system, and sampling of influent and effluent from the oil-water separator. The August 2002 response (ERM, 2002) described the proposed scope of work for investigation activities to address the issues outlined in the June 2002 NYSDEC letter. PARI personnel do not have documentation of a response from NYSDEC related to the August 2002 response letter and do not have information that NYSDEC sought additional action. Sampling and analysis of influent and effluent from the oil-water separator continue to be performed monthly.

As noted above, only one inactive hazardous waste site (D&H Engine House) was identified within the proposed 81-acre footprint of the Mechanicville Facility. Corrective actions were taken at this site and it is closed. Other inactive or “closed” and two active hazardous waste sites were identified within or potentially within 500 feet of the proposed footprint. However, each of these sites is located outside of the proposed 81-acre Mechanicville Facility footprint. Therefore, construction and operation of the Mechanicville Facility would not be expected to disturb hazardous waste sites.

Applicants are aware of the hazardous waste sites in the vicinity of the footprint of the Mechanicville Facility. Such sites are subject to NYSDEC oversight. In light of these nearby sites, in the event any impacted media is encountered during construction of the Mechanicville Facility, Applicants will take appropriate actions to safeguard contractors as well as the environment in compliance with NYSDEC regulations during construction.

Figure 3.3-1
Active Hazardous Waste Sites within 500 Feet of the Footprint of the Proposed Mechanicville Facility



3.3.2 San Vel Automotive Facility

A search of government database records revealed no known active hazardous waste sites on or within 500 feet of the footprint of the proposed San Vel Automotive Facility and only one inactive or closed hazardous waste site on or within 500 feet of the footprint.

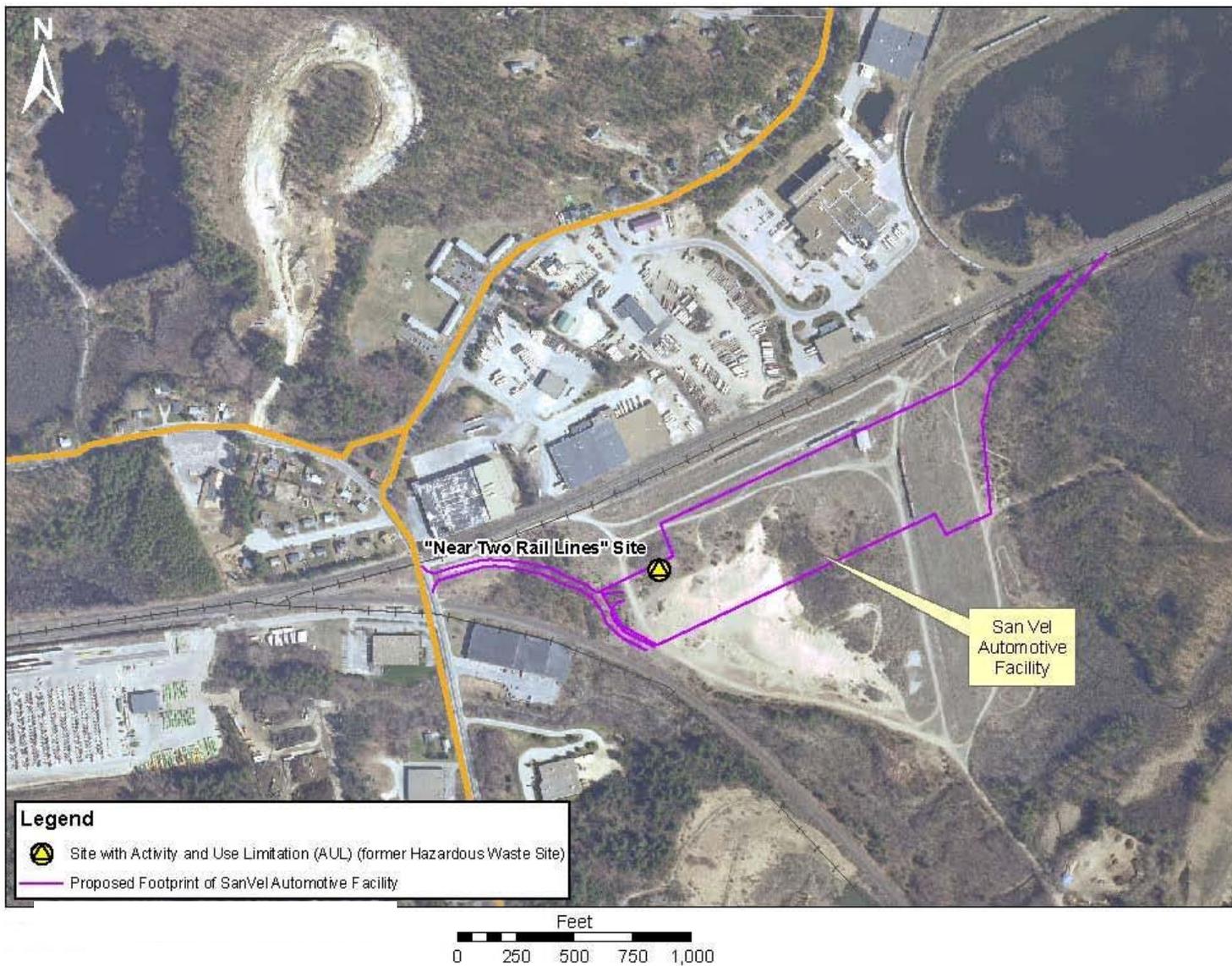
The database search identified an orphan site referred to as “Near Two Rail Lines” located on Willow Road which is listed in the *State Hazardous Waste Site*, *State Release* and *Institutional Controls* databases. According to the *Massachusetts Reportable Releases* database,²² the site is located on the western portion of the 26-acre footprint on which the San Vel Automotive Facility would be developed, as shown in Figure 3.3-2. A release of fuel oil was reported in January 1998. A removal action was conducted and a Response Action Outcome (RAO) statement was submitted. An Activity and Use Limitation (AUL) was implemented on a portion of the property as part of the corrective action. The area covered by the AUL is 12,439 square feet and is located within a portion of the footprint of the proposed San Vel Automotive Facility. The AUL allows for future industrial, retail, and commercial uses, but prohibits future uses of this portion of the property for residential, agricultural, recreational, day care or school purposes. The AUL also requires that if activities are likely to involve the removal and/or disturbance of the impacted soil in the AUL area, development of a Soil Management Plan and Health and Safety Plan is required prior to taking any action. The site is listed in the *Massachusetts Reportable Releases* database as “Closed Site with a Use Limitation.”

No evidence of hazardous materials contamination was observed within the footprint of the proposed 26-acre San Vel Automotive Facility during a site visit on August 27, 2008 or during the 1993 test pit/subsurface exploration program (Beal Associates Inc., 1993) conducted for Lone Star Industries (a predecessor of PARI). This test pit/subsurface exploration program was performed as part of a site development study conducted by Beal Associates Inc. (as discussed in Section 3.5.2). During the August 27, 2008 site visit, PARI personnel indicated that a pad-mounted transformer on the east side of the existing building on the site caught fire and was removed in August 2008 by the Town of Littleton Electric Light Department, the entity responsible for the transformer. Based on a September 23, 2008 discussion between PARI and Littleton Electric Light Department personnel, the transformer reportedly did not contain polychlorinated biphenyls (PCBs).

As noted above, one closed hazardous waste site (the “Near Two Rail Lines” site) was identified as being located on the proposed footprint of the San Vel Automotive Facility. Although the “Near Two Rail Lines” site is closed, an AUL has been implemented in an area located within a portion of the facility footprint. Because the Transaction is anticipated to involve removal and/or disturbance of soils within the AUL area, a Soil Management Plan and Health and Safety Plan would be prepared and implemented prior to commencement of any subsurface activities within the AUL area at the San Vel Automotive Facility. Therefore, the Transaction would not adversely impact any hazardous waste sites during construction or operation as long as these activities are conducted in a manner consistent with the AUL.

²² http://db.state.ma.us/dep/cleanup/sites/Site_Info.asp?textfield_RTN=2-0012082.

Figure 3.3-2
Inactive Hazardous Waste Site within the Footprint of the Proposed San Vel Automotive Facility



3.3.3 Bridge Improvement and Track Clearance Projects

The Transaction includes superstructure work on two bridges (Bridges 82.04 and 103.73) and track clearance work at nine other locations. All such bridge improvement and track clearance project locations are on the east-west mainline. The track clearance work will involve lowering the elevation of track under existing bridges by approximately 6 inches to 2 feet, depending on location, to provide added vertical clearance. No bridge modification work would be undertaken for the nine clearance projects. For these bridge and vertical clearance locations, impacts from and to hazardous waste sites could be possible if construction activities involve the disturbance of existing ground surface at hazardous waste sites. Nineteen other bridges may require varying amounts of routine steel repair, steel strengthening, and abutment-bearing seat repair as part of the Transaction, but these activities are not expected to involve penetration of the ground surface and thus would not disturb any hazardous waste sites. Accordingly, they are not addressed further herein.

Government databases were reviewed to determine whether any known active or inactive or “closed” hazardous waste sites or reports of hazardous materials spills exist at or within 500 feet of locations along the rail corridor where bridge improvement or track clearance projects are anticipated to involve ground disturbance as part of the Transaction. No known hazardous waste sites were identified on the footprints of any of the two bridge improvement or nine track clearance projects. Hazardous waste sites were identified 500 feet or less from the footprints of seven of the bridge improvement or track clearance projects (as listed in Table 3.3-1), but because none of these sites are within the footprints of the projects, the Transaction is not anticipated to disturb any hazardous waste sites during bridge improvement or track clearance projects.

**Table 3.3-1
Summary of Hazardous Waste Sites within 500 Feet of Bridge Improvement and Vertical Track Clearance Projects**

Bridge # ¹	Milepost	Location	Hazardous Waste Sites within 500 Feet (Database)
<i>Bridge Improvement Locations – Bridges Requiring Superstructure Repair</i>			
82.04	362.04	Tunnel Street, West Athol, Massachusetts	<ul style="list-style-type: none"> • Fuel Storage Room (11 Exchange St., 500’ north of bridge) – SHWS (Closed) • Bachelder Oil Co. Inc. (58 Sanders St., 300’ north of bridge) – UST (Closed)
103.73	383.73	McClelland Farm Road, East Greenfield, Massachusetts	None
<i>Vertical Track Clearance Locations</i>			
42.17	322.17	Leominster Road, Lunenburg, Massachusetts	<ul style="list-style-type: none"> • Shell Station (509 Main St.) – SHWS, INST CONTROL (Closed with Use Limitation) • Magic Fuel (509 Main St.) – UST, AST (Active) • Quebecor Print (27 Nashua St.) – ICIS (Active)
49.59	329.59	Water Street, Fitchburg, Massachusetts	<ul style="list-style-type: none"> • 16 separate sites within 500 feet of bridge, including SHWS, US BROWNFIELDS, UST, INST CONTROL, TRIS, MGP, CERCLA-NFRAP. Key sites include: Fitchburg Gas & Electric (Closed), Micron Medical Products (Closed), Fitchburg Development Authority (Closed), Riverfront Park

Affected Environment and Environmental Impacts

Bridge # ¹	Milepost	Location	Hazardous Waste Sites within 500 Feet (Database)
			(Former Hope Rubber) (Active), Montuori Oil (Closed), and Simonds Saw Co. (Active)
49.80	329.80	Putnam Street, Fitchburg, Massachusetts	<ul style="list-style-type: none"> • General Electric Co. (166 Boulder St.) – SHSW, FINDS, UST, INST CONTROL (Active)
63.39	345.6	Jackson Street, Gardner, Massachusetts	<ul style="list-style-type: none"> • Locomotive Fuel Release (Main St. at Donlan St., 400' east of bridge) – SHWS (Closed)
81.41	361.4	Chestnut Hill, Athol, Massachusetts	None
81.69	361.5	Main Street, Athol, Massachusetts	<ul style="list-style-type: none"> • Cumberland Farms (297 Main St.) – UST (Active) • Mobil Carwash (243 Main St.) – SHWS, UST (Active) • Getty Station (223 Main St.) – SHWS, UST (Closed) • Athol Texaco (223 Main St.) – SHWS (Active) • McLaughlin Law Offices (193 Main St.) – SHWS (Active) • Verizon Massachusetts (56-58 Riverbend St.) – UST (Active)
97.38	377.4	Dry Hill, Montague, Massachusetts	None
98.38	378.5	Montague, Massachusetts	None
142.49	422.6	Route 8, North Adams, Massachusetts	<ul style="list-style-type: none"> • Commonwealth of Massachusetts Department of Public Safety (40 American Legion Dr.) – UST (Closed) • 166 State St. – SHWS (Closed)

¹ = "Bridge #" for the nine track clearance projects refers to the location at which the track will be lowered. The bridges at these locations will not be modified.

3.4 SOCIOECONOMICS

The CEQ NEPA implementing regulations state that *Human Environment* “shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.”²³ The same regulations state that, although “economic or social effects are not intended by themselves to require preparation of an environmental impact statement,” when “economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment.” Proposed construction, improvement, and operational activities could have positive direct socioeconomic effects to the extent that (1) project activities generate increased expenditures in the local economy, and/or (2) project activities generate increased labor demand in the local economy.

This section describes the socioeconomic setting and potential socioeconomic impacts of facilities and rail line at which the proposed Transaction contemplates new or a change in activity. Specifically, Section 3.4.1 addresses the Mechanicville Facility, Section 3.4.2 addresses the San Vel Automotive Facility, and Section 3.4.3 addresses the Ayer Intermodal Facility. Section 3.4.4 describes potential impacts along the east-west main line.

In summary, there would be no displacement of population as a result of the modest activities contemplated by the proposed Transaction. No new rail lines would be constructed; no existing rail lines would be abandoned; the new facilities in Mechanicville, New York and Ayer, Massachusetts would be in industrial zones on railroad property; and the existing Ayer Intermodal Facility, whose footprint would not be altered, is located in an industrial zone.

Socioeconomic impacts as a general matter depend on the extent to which the increased expenditure and/or labor demand stimulate migration to the area and create increased demands for housing and public services. In this case, no significant impacts are expected.

3.4.1 Mechanicville Facility

The Mechanicville Facility is proposed to be constructed within the City of Mechanicville and the towns of Halfmoon and Stillwater, all in Saratoga County. The Mechanicville Facility location is just outside of the Mechanicville Urban Cluster. The City of Mechanicville is on the Hudson River, roughly 20 miles north of Albany, New York and its population in 2007 was estimated to be 4,892.²⁴ The Mechanicville Urban Cluster extends north to Stillwater and east along State Highway 67 toward the proposed Mechanicville Facility, and according to the 2000 U.S. Census, had a population of 9,844 and 4,356 housing units.²⁵ The City is also part of the Albany-Schenectady-Troy metropolitan area, as defined by the Office of Management and Budget (OMB) and applied in the U.S. Census.

The Albany-Schenectady-Troy area has a population estimated to be just over 850,000, having grown 3.3 percent between July 1, 2000, and July 1, 2007.²⁶ The U.S. Census Bureau attributes roughly 65 percent of this population growth to net migration.

²³ 40 C.F.R. § 1508.14

²⁴ U.S. Census Bureau, Population Estimates Program: <http://www.census.gov/popest/estimates.php>

²⁵ U.S. Census Bureau, Census 2000: <http://factfinder.census.gov>

²⁶ U.S. Census Bureau, Population Division, Metropolitan and Micropolitan Statistical Areas: <http://www.census.gov/population/www/metroareas/metroarea.html>

The U.S. Department of Labor reports that in July 2007, the civilian labor force in the Albany-Schenectady-Troy area was 461,700 and unemployment was 4.1 percent. As of July 2008, the unemployment rate had increased to 5 percent.²⁷

Construction of the Mechanicville Facility is expected to cost about \$40 million, including design, site preparation, building, paving, track work and other expenses. These expenditures are expected to have a positive effect on the local economy. Employment during construction of the Mechanicville Facility is anticipated to be approximately 40 people, with short-term peaks of up to 60 during periods of facility track construction. Because workers travel between the Mechanicville Urban Cluster and other parts of the Albany-Schenectady-Troy Metropolitan Area, the increase in employment during construction of the Mechanicville Facility would not be expected to generate any pressure on housing or public services that could not be absorbed by the existing infrastructure.

During operations, it is anticipated that the Mechanicville Facility would employ up to approximately 84 people. As with the case of employment during the construction period, employment for facility operations would not be expected to generate any pressure on housing or public services that could not be absorbed by the existing infrastructure.

3.4.2 San Vel Automotive Facility

The San Vel Automotive Facility is proposed to be constructed in the Town of Ayer, which is in Middlesex County, Massachusetts, approximately 35 miles northwest of Boston. In 2000 it had a population of 7,287 and 3,154 housing units.²⁸ Estimates of its current population suggest that the population increased to 7,369 by July 2007.²⁹

With commuter rail service to Boston, the Town of Ayer is part of the Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH New England County Metropolitan Area (Boston NECMA). In 2000, the population of the Boston NECMA was more than 6 million, with more than 2.4 million housing units.

The U.S. Department of Labor reports that in July 2007, the civilian labor force in the Boston area was 2,507,800 and unemployment was 4.3 percent. As of July 2008, the unemployment rate had increased to 4.8 percent.³⁰

Construction of the San Vel Automotive Facility would cost about \$8.1 million, including design, site preparation, building, paving, track work and other expenses. These expenditures are expected to have a positive effect on the local economy. The San Vel Automotive Facility construction workforce is anticipated to consist of approximately 10 to 20 workers for a 60-week period (approximately 14 months). Because workers travel between the Town of Ayer and other parts of the Boston Metropolitan Area, the increase in employment during construction of the San Vel Facility would not be expected to generate any pressure on housing or public services that could not be absorbed by the existing infrastructure.

During operations, it is anticipated that the San Vel Automotive Facility would employ up to approximately 10 people. As with the case of employment during the construction period,

²⁷ U.S. Department of Labor, Bureau of Labor Statistics: <http://www.bls.gov/lau/#tables>

²⁸ U.S. Census Bureau, Census 2000: <http://factfinder.census.gov>

²⁹ U.S. Census Bureau, Population Estimates Program: <http://www.census.gov/popest/estimates.php>

³⁰ U.S. Department of Labor, Bureau of Labor Statistics: <http://www.bls.gov/lau/#tables>. Note: The U.S. Department of Labor reports labor force and unemployment data for the Boston New England City and Town Area.

employment for facility operations would not be expected to generate any pressure on housing or public services that could not be absorbed by the existing infrastructure.

3.4.3 Ayer Intermodal Facility

The Ayer Intermodal Facility is located in the Town of Ayer, Massachusetts. See Section 3.4.2 for a description of the socioeconomic setting in Ayer, Massachusetts.

Improvement of the existing Ayer Intermodal Facility would consist of minor repairs that would employ 5 to 10 people intermittently during a period of six months and would cost approximately \$2.5 million. Because of the nature of the work, temporary employment, and relatively low expenditures, there would be no significant impacts to the local economy as a result of work at this Facility. Applicants do not anticipate additional employees for operation of the existing Ayer Intermodal Facility.

3.4.4 Rail Corridor

Proposed removal of long-term slow orders and added capacity and clearances along the east-west main line would require temporary work at various points along the east-west main line. Because of the nature of the work, its geographic dispersion, and the temporary employment involved, there would be negligible impacts on the local economy.

3.5 GEOLOGY AND SOILS

This section describes the environmental setting and potential environmental impacts to geology and soils from the proposed Transaction. The following principal sources of geology and soils information were reviewed during this assessment:

- U.S. Geological Survey Topographic Maps
- U.S. Geological Survey Bedrock and Surficial Geologic Maps
- U.S. Department of Agriculture, Natural Resources Conservation Service soil survey maps
- Site visits

Sections 3.5.1 through 3.5.2 describe the setting and potential effects to geology and soils for the proposed new facilities under the Transaction – the Mechanicville Facility and the San Vel Automotive Facility.

3.5.1 Mechanicville Facility

The approximately 126-acre property in and near Mechanicville, New York contemplated to be conveyed to PAS as part of the Transaction, on which the Mechanicville Facility would be constructed, lies to the south of the Anthony Kill and Route 67. The proposed Mechanicville Facility would be constructed on approximately 81 acres (footprint of development) of the larger 126-acre property. The topography within the footprint of the proposed Mechanicville Facility is relatively flat, and is consistent with the floodplain landscape associated with the adjacent Anthony Kill stream. The topography of the footprint was previously altered for construction of the former rail yards that were earlier located on the site. Ground-surface elevations across the footprint of the Mechanicville Facility range from approximately 110 to 120 feet above mean sea level. There are upland areas to the south and north of the footprint, and moderately steep slopes rise to elevations in excess of 300 feet above mean sea level to both the north and the south.

The bedrock geology of the Mechanicville area is characterized by Canajoharie Shale, which is a sequence of the Lorraine & Trenton & Black River Groups and Metamorphic Equivalents (New York State [NYS] Museum/NYS Geological Survey, 1999). No bedrock outcrops were observed within the footprint of the proposed Mechanicville Facility during the August 26, 2008 site visit and depth to bedrock is estimated to be at least 6 feet below the ground surface based on U.S. Department of Agriculture, Natural Resources Conservation Service soil survey data.

The soils associated with the Mechanicville Facility footprint are floodplain alluvial deposits consisting primarily of silts and fine sands. Most of this area is characterized by Udorthents silt loam. The soil types along the northern edge of the property, adjacent to the Anthony Kill stream, are comprised of the Limerick-Saco complex, which are poorly drained alluvial soils comprised of predominantly silt and very fine sand and have slow infiltration rates.

There are no prime, unique, or local farmland soils within the footprint of the proposed Mechanicville Facility.

The property on which the Mechanicville Facility is proposed to be constructed has a long history of rail usage. The proposed Mechanicville Facility would occupy former rail yard property. It is anticipated that implementation of the Transaction would result in only minor changes to the topography, geology, or soils of the project area. Construction of the new facility would require removal of vegetation and surface grading. Construction of two proposed

stormwater retention areas and any associated drainage swales would require soil excavations to depths potentially up to 10 feet below the ground surface. Construction of a vehicle bridge would require pile driving and limited grading in order to connect the bridge to the existing roadway. The relatively flat topography and the standard erosion control practices that would be implemented by Applicants would limit soil erosion and minimize potential impacts to the nearby Anthony Kill stream and its associated tributaries.

3.5.2 San Vel Automotive Facility

The 126.1-acre property in Ayer, Massachusetts contemplated to be conveyed to PAS as part of the Transaction, on which the San Vel Automotive Facility would be located, lies to the east of Willow Road and a Metropolitan Boston Transit Authority (MBTA) rail line and south of the PARI freight main line. The proposed San Vel Automotive Facility would be constructed on approximately 26 acres (footprint of development) in the northern portion of the larger 126.1-acre property. The topography within the footprint of the proposed San Vel Automotive Facility is generally flat and has been influenced by prior use as a gravel source and as a storage area for precast concrete products. The 126.1-acre parcel was formerly used as a gravel pit with excavation and removal operations, and as such, a large portion of the property has been leveled. Approximately 30 acres of the 126.1-acre parcel, primarily to the east and south of, but not including, the footprint of the proposed San Vel Automotive Facility, are comprised of wetland areas with an undulating topography (see Section 3.6).

Ground-surface elevations across the property to be developed range from approximately 220 to 234 feet above mean sea level, with the eastern and southern edges of the property gently sloping downward to an elevation of approximately 220 feet above mean sea level. An upland area abuts the 126.1-acre parcel to the south, with steep slopes rising to approximately 340 feet above mean sea level.

The bedrock underlying the property to be developed as the San Vel Automotive Facility is predominantly of the New Hampshire–Maine Sequence, which consists of Silurodevonian and younger granite, but is also of the Avalon Province, which consists principally of Precambrian granite and granitic gneiss and metasedimentary rocks of Precambrian to Ordovician age. There are no bedrock outcrops within the project area based on observations during the August 27, 2008 site visit and review of U.S. Geological Survey geologic maps. Depth to bedrock exceeds 12 feet below the ground surface and may be considerably deeper based on regional geology and nearby wells (Stone and Stone, 2007; Orwig Associates and Environmental Resource Management, 2008).

A subsurface exploration program was conducted in 1993 for Lone Star Industries (a predecessor of PARI) as part of a Site Development Report (Beal and Associates Inc., 1993). Based on test pits excavated during this program, the overburden soils associated with the San Vel Automotive Facility are glacial outwash deposits that consist predominantly of fine to coarse sands with some gravel. The soils are highly permeable and extend to at least 62 feet below the ground surface (based on nearby U.S. Geological Survey monitoring well records). The U.S. Department of Agriculture Natural Resources Conservation Service classifies the soils as Hinkley loamy sands consisting of well drained to excessively drained sands and gravels, with high to very high infiltration rates and hydraulic conductivities. As part of the 1993 investigation, isolated areas of peat were observed in two test pits: one in the western portion of the proposed footprint of the San Vel Automotive Facility, in the approximate area near the

proposed security gate, trailer parking area, and a proposed stormwater retention pond; and one in the northeast portion of the proposed footprint, in the approximate area of the northeast corner of the proposed auto transfer area and another proposed stormwater retention pond. The peat layers were encountered at depth intervals ranging from 7 to 13 feet below the ground surface. The peat layers are overlain by sand and gravel fill. The presence of the peat areas in the western portion of the facility footprint was confirmed during the August 27, 2008 site visit.

There are no prime, unique, or local farmland soils within the footprint of the proposed San Vel Automotive Facility.

Because the site of the proposed San Vel Automotive Facility has been influenced by historic use as a gravel source, construction of most of the proposed facility would require limited surface grading and filling. Construction of the proposed stormwater retention areas and associated drainage swales would require soil excavations to depths of 6 to 10 feet below the ground surface. Additionally, areas where peat is encountered beneath proposed load-bearing structures (*e.g.*, parking lots, loading and unloading areas, and buildings) may need to be excavated and backfilled with soil suitable for construction. The relatively flat topography and the standard erosion control practices that would be implemented by Applicants would limit soil erosion and minimize potential impacts to the wetlands on the south and east portions of the 126.1-acre parcel (outside of the area to be developed) and the wetlands near the proposed site access road that would connect to Willow Road. These wetlands are not within the proposed footprint of the facility (see Section 3.6).

3.6 WATER RESOURCES

This section analyzes potential impacts to water resources resulting from the construction and operation of the Mechanicville Facility and the San Vel Automotive Facility. Four water resource areas are discussed in this chapter: Water Quality, Floodplains, Groundwater, and Wetlands and Other Waters of the United States. The Coastal Zone Management Act (CZMA) does not apply to the Mechanicville Facility and the San Vel Automotive Facility because neither facility is located within a coastal zone. For each of these resources, affected environment and potential environmental consequences are presented.

Project construction and operational activities that have potential to impact water resources may be regulated by several Federal and state agencies, including the following:

U.S. Environmental Protection Agency (USEPA):

- Section 402 of the Clean Water Act (CWA) – National Pollutant Discharge Elimination System (NPDES): Authorizes stormwater discharges to Waters of the United States.
- Section 404 of the CWA – USEPA reviews and comments on U.S. Army Corps of Engineers (USACE) Section 404 permit applications for compliance with the Section 404(b)(1) guidelines and other statutes and authorities within its jurisdiction.
- The Safe Drinking Water Act (42 United States Code [U.S.C.] § 300f *et. seq.*) – Protects the quality of public drinking water and its sources.

U.S. Army Corps of Engineers (USACE):

- Section 10 of the Rivers and Harbors Act – For placement of structures over, under, or within Navigable Waters of the United States.
- Section 404 of the CWA – Discharge of Fill Material to Waters of the United States.
- Executive Order 11990, Protection of Wetlands (24 May 1977).
- Executive Order 11988, Floodplain Management (24 May 1977).

New York Department of Environmental Conservation (NYSDEC):

- Freshwater Wetlands Act: Regulates dredging, draining, or filling of freshwater wetlands 12.4 acres or larger. Smaller wetlands may be protected if they are considered of unusual local importance. Also regulates 100-foot buffers around these wetlands.
- Protection of Waters Regulatory Program – Title 5 of the Environmental Conservation Law: Protects waters from human activities that can adversely affect the ecological balance of waters that are necessary for drinking and bathing; agricultural, commercial and industrial uses, and fish and wildlife habitat.
- Section 401 of CWA – Implemented by NYSDEC under the New York State Stormwater Pollutant Discharge Elimination System (SPDES) permit program: Requires that states certify compliance of Federal permits and licenses with state water quality requirements.

Massachusetts Department of Environmental Protection (DEP):

- 314 Code of Massachusetts Regulations (CMR) 9.00 (implementing Section 401 of the CWA) – Requires state to certify compliance of Federal permits and licenses with state water quality requirements.
- 314 CMR 5.00 – Groundwater Discharge Permit: Regulates discharge of pollutants to groundwater.
- 310 CMR 10.00 – Wetlands Protection: Regulates activities that would remove, fill, dredge, or alter a wetland. Also regulates activities within a 100-foot buffer zone around wetlands.
- 310 CMR 9.00 – Waterways: Regulates work below the ordinary high water line of DEP designated waterways.

The potential presence of water resources was identified using the U.S. Geological Survey (USGS) 7.5-minute series quadrangle topographic maps, the associated U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), the Natural Resource Conservation Service soil surveys, the NYSDEC environmental resources database, the Massachusetts DEP environmental resources database, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), lists of impaired waters for New York and Massachusetts prepared under CWA section 303(d), and publicly available aerial photographs. Site surveys were conducted during site visits and environmental reports were also reviewed.

Wetland and surface water data were collected at portions of the proposed Mechanicville Facility footprint during the week of September 1, 2008. Similar data were collected for the proposed San Vel Automotive Facility footprint in October 2006, and field work was conducted again in the proposed footprint during the week of September 1, 2008.

The area of potential effect for water resources would consist of all areas within the construction footprint, and a 100-foot wide buffer area around the construction footprint where sedimentation, erosion, and water quality effects may occur. Both New York (6 New York Codes, Rules, and Regulations [NYCRR] 664.7(d)) and Massachusetts (310 CMR 10.00, Section IV) have determined that 100-foot buffers around wetland resources are sufficient to protect the biological, physical, and chemical properties of these resources. This distance has been determined to provide protection to the resource from sediment and contaminated water in each state. Water resources within the 100-foot buffer surrounding the construction footprint would have the potential to be affected by construction generated sedimentation and contaminated runoff. Resources outside of the 100-foot buffer would not have the potential to be affected.

The proposed designs for both the Mechanicville Facility and the San Vel Automotive Facility were developed with the goal of avoiding and minimizing any impacts to water resources.

Water Quality

The CWA requires that states protect the water quality of their surface waters, including rivers, streams, lakes, and estuaries. To accomplish this, CWA Section 303(d) requires that each state develop a list of water bodies that do not meet state water quality standards.

Floodplains

The FEMA mapping program identifies floodplains. Designated 100-year floodplain areas have a one percent chance of being flooded in any given year, and are considered Special Flood Hazard Areas (SFHA). The SFHA is the area where the National Flood Insurance Program

(NFIP) floodplain management regulations must be enforced. Areas with a 0.2 percent chance of being flooded in any given year are identified by FEMA as 500-year floodplains. Floodplains are important in storing excess water during high flows.

Groundwater

Groundwater is an important water resource that many municipalities and rural areas use as a source for drinking water. Groundwater also can serve the needs of the agriculture community for crop irrigation and animal use, and businesses and industries for operations and production. Groundwater can also be important in recharging surface waters such as wetlands, streams, lakes, and ponds.

Wetlands and other Waters of the United States

Wetlands provide many functions and values. Wetlands improve water quality, recharge water supplies, reduce flood risks, and provide fish and wildlife habitat. Wetlands also provide recreational and education opportunities, as well as habitat for sport and commercial fishery species. Wetland buffers also provide important functions, including water quality improvement, wildlife habitat, protection from human access, and protection of wetland functions. Buffers can also filter out pollutants and control erosion that may impact water quality. Buffers may reduce water velocities and moderate water level changes in wetlands; they also provide essential habitat for wildlife that are dependent on wetland habitat.

3.6.1 Mechanicville Facility

3.6.1.1 Water Quality

No water bodies within or near the Mechanicville Facility footprint are listed on the New York 303(d) water quality-limited water bodies list. Construction impacts may include potential short-term and temporary erosion, sedimentation, and water quality impacts that result from ground disturbance activities from construction. Operational impacts to water resources may include stormwater runoff from new impervious surfaces. However, a Storm Water Pollution Prevention Plan (SWPPP) that would treat and divert stormwater from all impervious surfaces as required by NYSDEC would be developed as part of the final facility design. For additional information on potential water quality impacts, see Section 3.6.1.3 on Groundwater and Section 3.6.1.4 on Wetlands and Other Waters of the United States.

3.6.1.2 Floodplains

Federal Emergency Management Agency (FEMA) 100-year and 500-year floodplains are mapped along the Anthony Kill on the north side of the Mechanicville Facility (see Figure 3.6-1). A floodplain impact may potentially occur if permanent structures or fill material were to be placed in a designated floodplain. This may reduce floodplain capacity and increase the potential for flooding. Construction activities in floodplains may potentially obstruct or change floodwater channels, which can increase downstream flows and/or upstream flooding. Standard mitigation measures effectively eliminate impacts to floodplains.

The footprint of the proposed Mechanicville Facility is estimated to include approximately 1.4 acres of 100-year floodplain and approximately 7.1 acres of 500-year floodplain in the northeast area of the facility footprint where proposed paved parking areas would be constructed at or near grade. The floodplain capacity is not expected to be reduced and no structures or inhabitable

facilities would be located in the floodplain. As the design is finalized, adjustments to the proposed facility footprint may minimize or avoid floodplains.

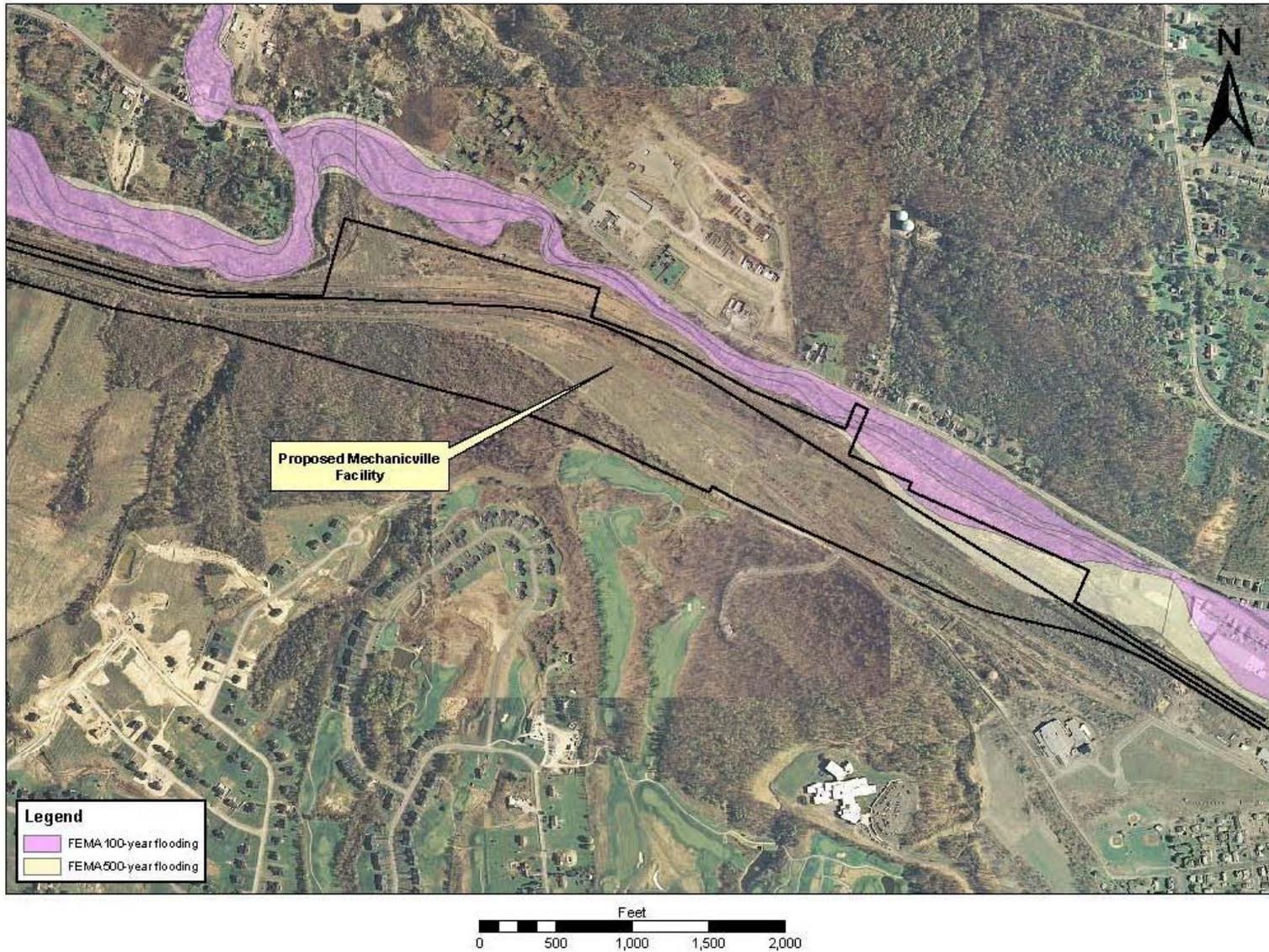
The floodplain area in the footprint of the proposed Mechanicville Facility is small when compared to the overall area of floodplain along the Anthony Kill. The total area of 100-year floodplain along the entire length of the Anthony Kill is 1,409 acres, and approximately 1.4 acres of 100-year floodplain within the proposed facility footprint would account for 0.09 percent of this total. Total floodplain area (100- and 500-year) of the Anthony Kill is 1,427 acres, and the approximately 7.1 acres of floodplain within the facility footprint would account for 0.5 percent of this total. Thus, any potential loss of floodplain capacity would be considered minor on a watershed scale, and no loss of floodplain capacity is anticipated with the conceptual design for the facility.

3.6.1.3 Groundwater

There are no sole-source aquifers designated by USEPA in the vicinity of the Mechanicville Facility. The aquifer at the facility is considered a glacial aquifer system; no primary aquifers are identified at the facility (USGS, 2008). The surficial aquifer system consists of fine-grained and unstratified glacial deposits, and includes glacial till and fine-grained glacial lake sediments. NYSDEC has not designated any principal or primary aquifers in the vicinity of the Mechanicville Facility.

Approximately 58 of the 81 acres to be developed for the Mechanicville Facility would constitute impervious surface that may potentially affect groundwater recharge during facility construction and operation. A SWPPP that would protect groundwater by treating and diverting stormwater from all impervious surfaces to retention areas would be developed as part of the final facility design.

Figure 3.6-1
Floodplains in the Vicinity of the Mechanicville Facility



Two stormwater “retention areas” are planned to be installed within the facility footprint. The SWPPP would follow applicable Federal, state and local stormwater management practices and regulations, which are designed to prevent the adverse effects of stormwater discharge to surface waters and groundwater. Applicants would follow the New York State Stormwater Management Design Manual (April 2008). Stormwater management components may include, as needed, features such as detention/retention ponds, swales, filtering systems, oil-water separators, and catch basins. Implementation of a NYSDEC approved SWPPP would prevent groundwater impacts.

3.6.1.4 Wetlands and Other Waters of the United States

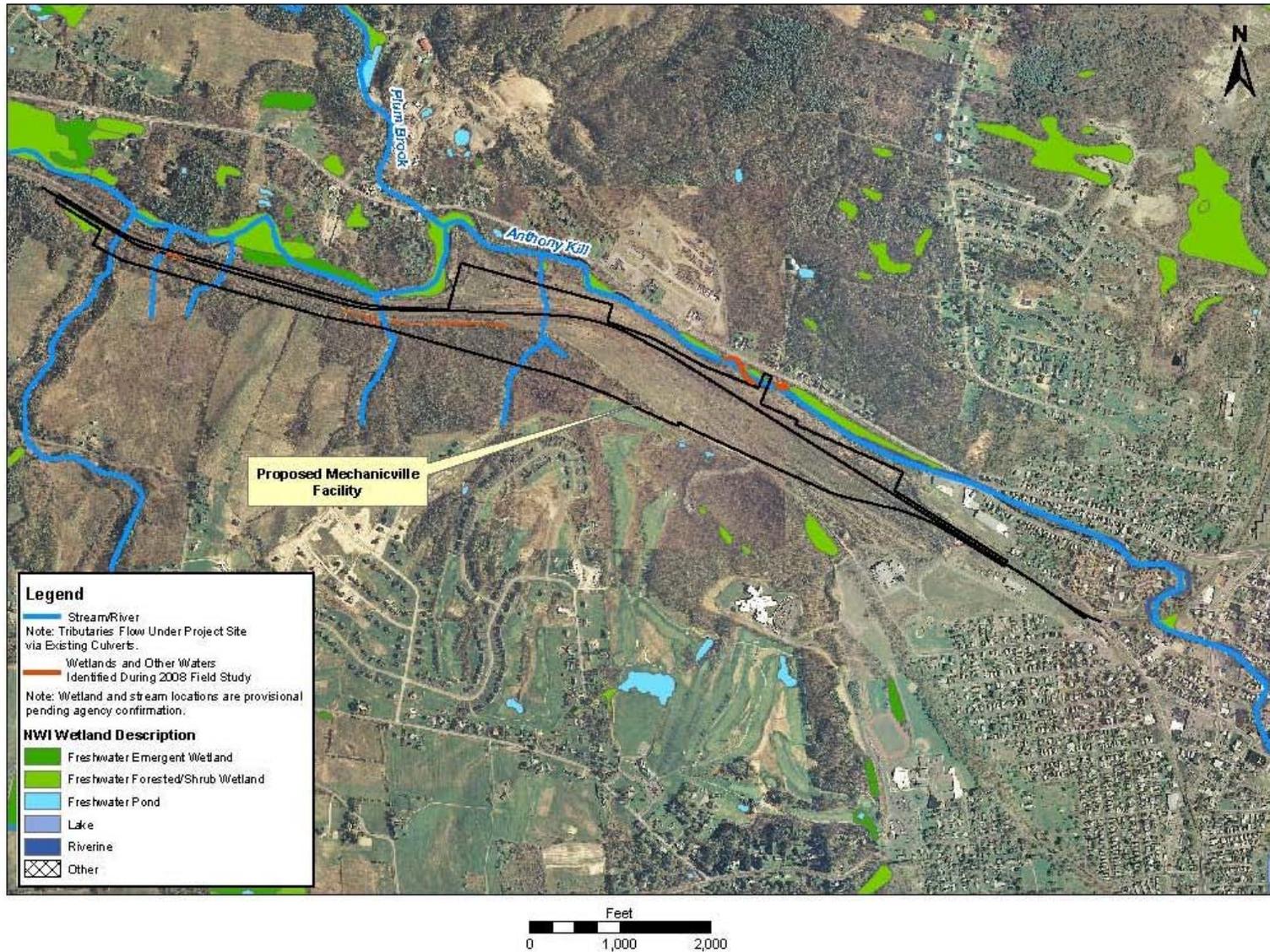
The Mechanicville Facility falls within USGS Hydrologic Unit Code (HUC) 02020003 (Hudson-Hoosic Watershed), which is within the larger HUC 0202000 (Upper Hudson Watershed). Wetlands were identified at and around the Mechanicville Facility through wetland maps and field delineations (see Figure 3.6-2). The NWI map and NYSDEC wetland map for the region indicate wetlands along the Anthony Kill and tributaries to the Anthony Kill. The footprint of the Mechanicville Facility is outside of wetland areas shown on the NWI and NYSDEC wetland maps. Wetland field delineations indicate wetlands and streams within the southern portion of the proposed facility footprint. These waters are associated with tributary streams that flow through existing culverts under the facility to the Anthony Kill.

The Anthony Kill flows from west to east along the north side of the proposed facility. The Anthony Kill is identified as a Class C(T) stream by NYSDEC, which indicates that the water supports trout fisheries but is not suitable for contact activities (swimming and other contact recreation). Five tributary streams to the Anthony Kill have been identified during recent field delineations. These streams flow north through existing culverts underneath the facility footprint. Three of these streams have been identified as Class C streams by NYSDEC. Streams that are designated C(T) and C are considered protected streams under the stream protection provisions of the NYSDEC Protection of Waters regulations.

Construction impacts may include partial or permanent loss of a water resource through excavation or filling; the loss or alteration of a water resource function; the degradation of wetland soils, hydrology, or vegetation; and the removal of water resource buffers. Construction impacts may also include potential short-term and temporary erosion, sedimentation, and water quality impacts occurring beyond a construction area if run-off from the ground disturbance activities from construction is not properly controlled. Operational impacts to water resources could include stormwater run-off from new impervious surfaces.

Wetland delineations of the facility indicate potential wetland and stream impacts along the south portion of the facility footprint. Preliminary wetland delineations for the proposed Mechanicville Facility indicate that the facility development may affect no more than approximately one acre of wetlands and waters. As the design is finalized, adjustments to the proposed facility design may further minimize or avoid wetland and stream impacts. If the final design results in impacts to jurisdictional wetlands and other waters, Applicants would secure a Section 404 permit and comply with the terms and conditions of the permit. If wetland impacts are less than 0.5 acre, discharges to the wetland area may be allowed under the terms and conditions of an applicable Nationwide Permit.

Figure 3.6-2
Wetlands in the Vicinity of the Mechanicville Facility



A SWPPP would be developed as part of the final design of the Mechanicville Facility. Two stormwater “retention areas” are planned to be installed within the proposed Mechanicville Facility footprint. The SWPPP would follow applicable Federal, state and local stormwater management practices and regulations, which are designed to prevent the adverse effects of stormwater discharge to wetlands and surface waters. Applicants would follow the New York State Stormwater Management Design Manual (April 2008). Stormwater management components may include, as needed, features such as detention/retention ponds, swales, filtering systems, oil-water separators, and catch basins.

Applicants are proposing to construct a vehicle bridge across the Anthony Kill. The Anthony Kill is not considered a navigable water by USACE, and therefore is not subject to Section 10 of the Rivers and Harbors Act. The proposed location of the bridge may impact wetlands along the Anthony Kill. As the bridge design is finalized, adjustments to the proposed bridge may minimize or avoid wetland and stream impacts. If the final design results in impacts to jurisdictional wetlands and other waters, Applicants would secure and comply with the terms and conditions of a Section 404 permit. If needed based upon the final design, Applicants may also submit appropriate filings to NYSDEC related to a NYSDEC Protection of Waters Permit or a NYSDEC Wetlands Permit (Freshwater).

Some vegetated buffer along the Anthony Kill or wetlands associated with the Anthony Kill may be removed by facility construction depending on the final design of the facility. NYSDEC regulations include provisions for the protection of 100-foot buffers. Buffer mitigation, if required, would be determined during the permitting process. Typical mitigation for buffer impacts may include buffer enhancement or buffer averaging, two potential techniques to ensure protection of the waterbody functions or to allow for reasonable use of a parcel (see glossary for definitions).

3.6.2 San Vel Automotive Facility

3.6.2.1 Water Quality

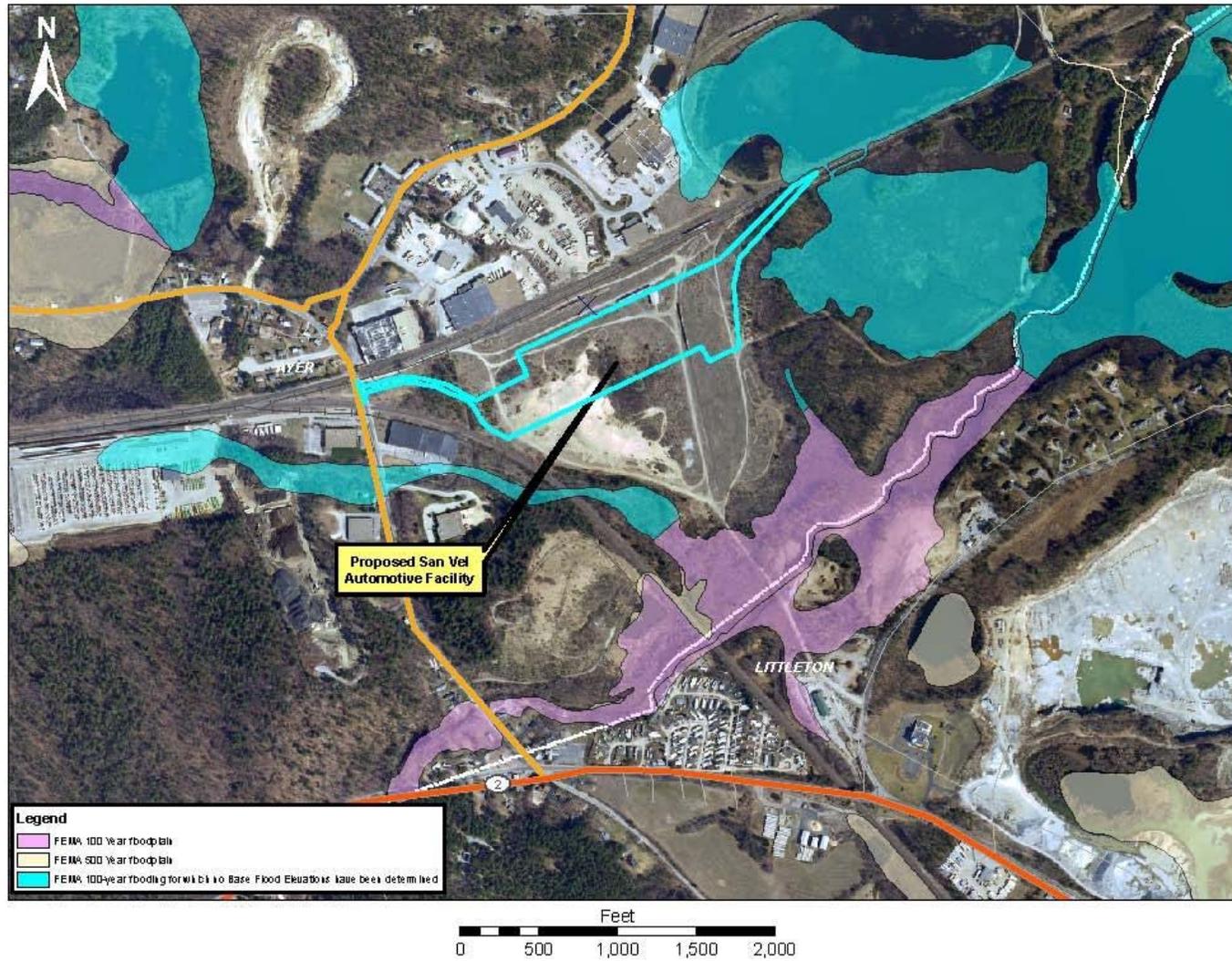
No water bodies in the area of potential effect are listed on the Massachusetts State 303(d) water quality-limited water bodies list.

Construction impacts may include potential short-term and temporary erosion, sedimentation, and water quality impacts that result from the ground disturbance activities from construction. Operational impacts to water resources may include stormwater runoff from new impervious surfaces. However, the San Vel Automotive Facility would not result in direct discharge to surface waters (Orwig Associates, 2008). For information on potential water quality impacts, see Section 3.6.2.3 on Groundwater and Section 3.6.2.4 on Wetlands and Other Waters of the United States.

3.6.2.2 Floodplains

In the San Vel Automotive Facility footprint, no FEMA floodplains have been mapped (see Figure 3.6-3) and impacts are not anticipated from construction or operation of the facility. The nearest FEMA floodplain area is greater than 200 feet away from the facility footprint.

Figure 3.6-3
Floodplains in the Vicinity of the San Vel Automotive Facility



3.6.2.3 Groundwater

There are no sole-source aquifers designated by USEPA in the vicinity of the San Vel Automotive Facility. The principal groundwater aquifer in the vicinity is the New England Crystalline-rock aquifer, which is comprised of igneous and metamorphic rock (USGS, 2008). The facility footprint is within Massachusetts DEP designated Zone II and Zone III wellhead protection areas (WPAs), which are associated with the Town of Ayer's and Town of Littleton's drinking water supply. A Zone II WPA is defined as "that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated" (310 CMR 22.02). A Zone III WPA is defined as "the land area beyond the area of Zone II from which surface water and groundwater drain into Zone II" (310 CMR 22.02). A Zone II WPA is classified as a "Critical Area" per the Massachusetts DEP Stormwater Management Policy. Two municipal public water wells associated with these zones are located on the edge of Spectacle Pond approximately 0.33 mile to the east of the facility footprint. The facility is not located over a Massachusetts DEP designated high or medium yield aquifer.

A site development plan prepared in 1993 (Beal Associates Inc., 1993) described subsurface and groundwater conditions within a 121-acre parcel then planned for development as an automotive facility, which encompasses the location of the proposed San Vel Automotive Facility. A test pit program was performed throughout the 121-acre property, including the footprint of the proposed San Vel Automotive Facility, to identify subsurface conditions. Depth to the saturated zone was observed to range from 4 feet to 15 feet below the surface. On average, the permanent water table appeared to be approximately 10 feet below the existing ground surface. From the data collected, the groundwater appeared to flow generally in a southeasterly direction through the site and toward the wetlands located to the east and the south of the facility footprint.

Three groundwater monitoring wells were observed within the proposed San Vel Automotive Facility footprint during the August 27, 2008 site visit. Applicants indicated that the wells were installed during previous site studies. Based on documentation in the Massachusetts Endangered Species Program (MAESP) files, it appears that the wells were installed in the late 1980's. The Beal Associates Inc. report (1993) noted several wells throughout the area, which may be the same wells observed in August 2008. Applicants indicated that these wells would either be closed or, if appropriate, incorporated into a new groundwater monitoring network for the site to comply with a groundwater monitoring condition of a Consent Decree between PARI subsidiaries and the Town of Ayer, discussed in Chapter 4.

Potential impacts to groundwater include new areas of impervious surface that would reduce infiltration for groundwater recharge. Total land disturbance for the proposed San Vel Automotive Facility is estimated to be approximately 26 acres, of which approximately 21.5 acres would be impervious surface that may potentially affect groundwater recharge and groundwater quality during facility construction and operation. As described above, the facility footprint is located over DEP designated Zone II and III WPAs, which are part of the Town of Ayer's and Town of Littleton's drinking water supply. Applicants have developed a SWPPP for the proposed San Vel Automotive Facility designed to treat and control stormwater run-off in light of the facility's location over Zone II and III WPAs and the potential effects from construction and operations (Orwig Associates, 2008). The SWPPP implements treatments and diversion of stormwater from all impervious surfaces to retention areas that would recharge

groundwater to maintain aquifer supply groundwater quality (Orwig Associates, 2008). The SWPPP is designed to meet USEPA stormwater regulations.

Specifically, the stormwater control system directs all impervious surface runoff to catch basins with 4-foot sump and gas hoods, followed by oil-water separators. Run-off then discharges to eight recharge areas: four retention areas and four water quality swales in upland areas that would recharge groundwater. The infiltration rate for stormwater infiltration is greater than 2.4 inches/hour based upon soils found during subsurface investigations. The SWPPP is designed to provide a 99 percent total suspended solids removal rate and no reduction in groundwater recharge to the water supply aquifer.

Additional water quality control measures may be implemented as necessary during construction and operation to prevent any potential effects from unlikely accidental spills of fuels or lubricants.

3.6.2.4 Wetlands and Other Waters of the United States

The San Vel Automotive Facility falls within USGS HUC 01070061202 (Stony Brook watershed), which is within the larger HUC 010700612 (Merrimack River – Nashua River to Shawsheen River watershed).

Two jurisdictional wetlands (see Figure 3.6-4 – Wetlands 1 and 2) were delineated within the area of potential effect and could be affected by short-term, temporary run-off associated with construction. Wetland 1 is 0.15 acre and Wetland 2 is 0.11 acre in area. These wetlands are not within the construction footprint of the San Vel Automotive Facility. A third jurisdictional wetland (Wetland 3), also outside of the project footprint, may be within the area of potential effect for short-term, temporary run-off during facility construction. A final wetland delineation, to occur prior to construction, would determine if Wetland 3 is within the area of potential effect. Another jurisdictional wetland has been identified to the southeast of the San Vel Automotive Facility, but is located far enough from potential construction areas to be outside of the area of potential effect. One intermittent drainage ditch that flows to a tributary of Bennetts Brook is associated with Wetlands 1 and 2. The tributary to Bennetts Brook is south of and outside of the area of potential effect and thus would not be affected by the construction or operation of the San Vel Automotive Facility.

Wetlands 1 and 2 are associated with an intermittent ditch that drains an industrial area to the north and across the east-west main line from the San Vel Automotive Facility. The drainage ditch was man-made and has several culverts that convey flow beneath rail tracks and an existing road on the facility. Wetlands 1 and 2 would be considered Palustrine Emergent wetland (PEM) under the Cowardin (1979) classification system. The vegetation is second growth and the areas adjacent to the drainage ditch are dominated by sedge species. The wetlands are typically saturated, but sometimes experience inundation during higher flows in the drainage ditch. The upland areas surrounding the wetlands are densely vegetated and consist of birch and jack pine.

Wetland 3, which as described above may not be within the area of potential effect, is a large wetland system associated with Spectacle Pond. The area of this wetland nearest the proposed San Vel Automotive Facility is dominated by red maple. The wetland is considered a Palustrine Forested (PFO) wetland under the Cowardin (1979) classification system.

A fourth wetland area, which appears to not be jurisdictional under CWA Section 404 based on site observations, was identified within the footprint of the proposed San Vel Automotive

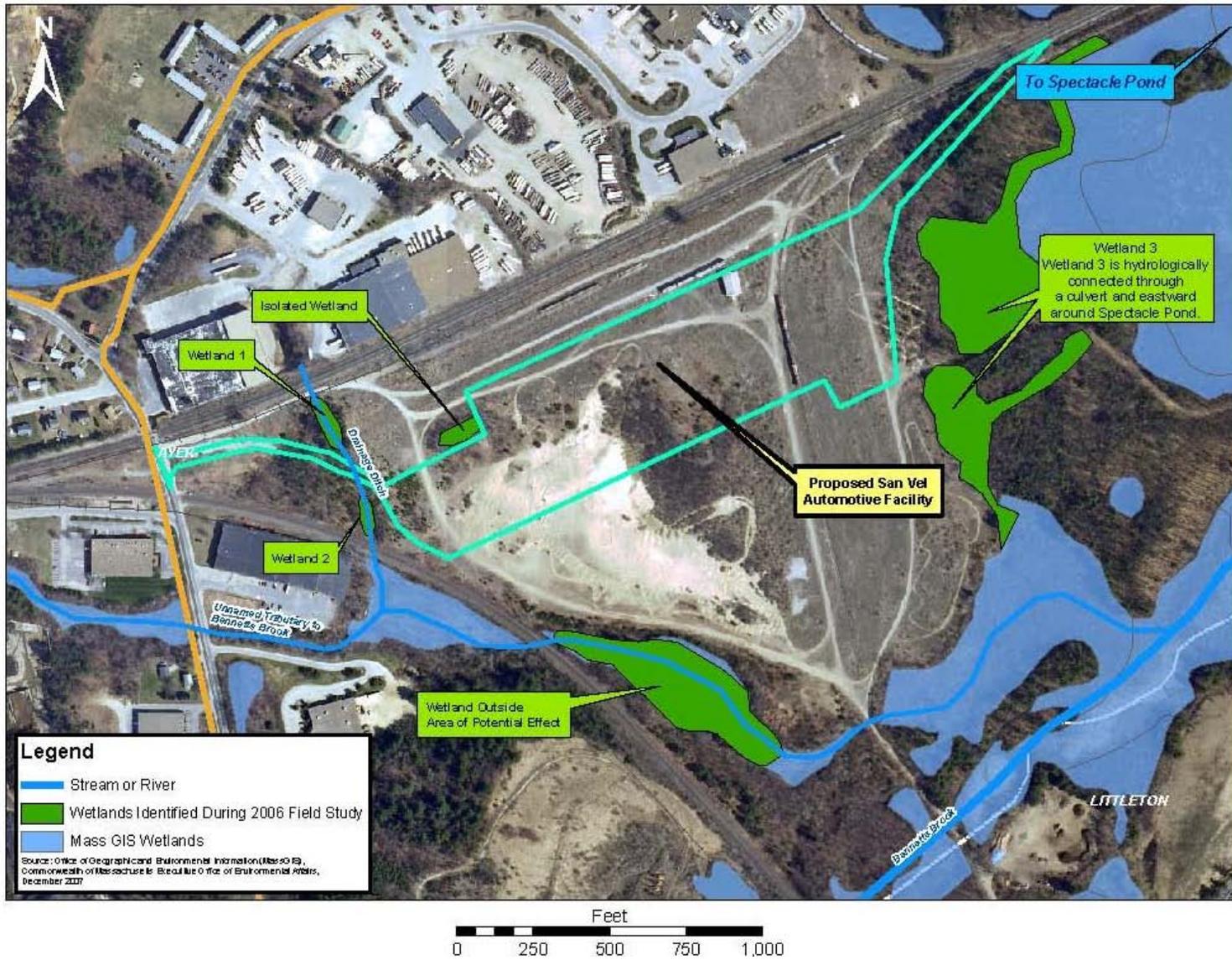
Facility (identified as Isolated Wetland in Figure 3.6-4). The wetland is approximately 0.1 acre and was formed after surface soil was removed from the area. Soil removal stopped at a layer of organic soil and left the depression that, over time, developed into conditions that may meet the USACE definition of a wetland (Environmental Lab, 1987). Some vegetated buffer exists around the wetland, but it is narrow, sparsely vegetated, and provides little benefit to the wetland. The wetland does not appear jurisdictional, but USACE would make a final determination.

Construction impacts may include partial or permanent loss of a water resource through excavation or filling; the loss or alteration of a water resource function; the degradation of wetland soils, hydrology or vegetation; and the removal of water resource buffers. Construction impacts may also include potential short-term and temporary erosion, sedimentation, and water quality impacts occurring beyond a construction area if run-off from the ground disturbance activities from construction is not properly controlled. Operational impacts to water resources could include stormwater run-off from new impervious surfaces.

Of the three jurisdictional wetlands (Wetlands 1, 2, and 3) within or potentially within the area of potential effect, none are within the construction footprint of the proposed San Vel Automotive facility and would not be filled or excavated by construction. The project does not involve direct discharges to these wetlands or the surrounding wetlands associated with Spectacle Pond. No wetland functions would be degraded. Small areas of buffer vegetation on an existing unused access road would likely be removed around Wetlands 1 and 2 during upgrades to the access road. Stormwater control measures would be implemented as appropriate to reduce the potential for run-off during project construction. These measures are discussed in the mitigation section in Chapter 4.

It is anticipated that the isolated wetland within the footprint of proposed San Vel Automotive Facility would not be considered a jurisdictional wetland under CWA Section 404. However, if the USACE determines there is a significant nexus to a traditional navigable waterway, discharge impacts to this wetland would require a Section 404 permit. If the wetland is found to be less than 0.5 acre, discharges to this wetland may be allowed under the terms and conditions of an applicable Nationwide Permit.

Figure 3.6-4
Wetlands in the Vicinity of the San Vel Automotive Facility



A SWPPP has been designed to eliminate all point-source drainage to all abutting wetland areas during facility operation. The plan would avoid all point-source drainage to all abutting wetland areas. Run-off from paved areas would be intercepted by catch basins with oil-water separator units that provide separation of sediment, oil, and grease from stormwater and route all run-off into eight retention areas. The SWPPP is designed to treat and contain all stormwater runoff from the facility. Therefore, water quality of wetland surface water or associated groundwater, and wetland hydroperiods would not be adversely affected by stormwater run-off from the facility.

3.7 BIOLOGICAL RESOURCES

This section describes the affected environment and potential impacts to vegetation, wildlife, and threatened and endangered species resulting from the construction and operation of the proposed new Mechanicville Facility and San Vel Automotive Facility.

Project construction and operational activities that have a potential to impact biological resources are regulated by the U.S. Fish and Wildlife Service (USFWS) through the Endangered Species Act, which protects Federally designated endangered or threatened species and critical habitat.

Biological resources may also be regulated by the following state agencies:

New York Department of Environmental Conservation (NYSDEC):

- Environmental Conservation Law (Chapter II – Lands and Forests [Part 193-Page 2]): Provides for the protection of state protected plants.
- Environmental Conservation Law – Section 11-0535: Provides for the protection of state listed threatened and endangered species, and species of special concern.

Massachusetts Department of Environmental Protection (MADEP):

- Massachusetts Endangered Species Act (Massachusetts General Law [M.G.L.] c.131A): Provides for the protection of designated threatened and endangered species.
- Wetlands Protection Act (M.G.L. c.131 s.40): Provides for the protection of rare animal species by prohibiting alterations that would have short or long term adverse effects on the wetland habitats of rare wildlife species.
- Massachusetts Environmental Policy Act (M.G.L. c.30, secs. 61-62H): May require projects resulting in a taking of state-listed rare species on a project site of two or more acres within Priority Habitat of Rare Species to file an Environmental Notification Form (ENF).

Resources were identified using the NYSDEC environmental resources database, the MADEP environmental resources database, aerial photographs, and environmental surveys and reports that have been undertaken for the two proposed new facilities, Mechanicville Facility and San Vel Automotive Facility.

Habitat and vegetation information was collected at the proposed Mechanicville Facility on August 29, 2008. Similar data was collected at the proposed San Vel Automotive Facility in October 2006. A visit on August 30, 2008 confirmed that site conditions there have not changed.

The following information describes biological resources at the Mechanicville Facility and at San Vel Automotive Facility. The area of potential effect to biological resources would consist of all areas of ground disturbance in the construction footprint and a buffer distance around the footprint to account for construction noise. The area of land disturbance at the Mechanicville Facility is estimated to be approximately 81 acres. Total land disturbance at the San Vel Automotive Facility is estimated to be approximately 26 acres.

Construction of these proposed facilities would include removal of vegetation within the construction footprint, which may result in impacts to vegetation and wildlife in the area of potential effect, as discussed below.

3.7.1 Mechanicville Facility

Vegetation

The Mechanicville Facility footprint and the immediately surrounding area include old rail beds (ties and rails have been removed) and unpaved access roads. The prior use of the area for rail yards resulted in a generally flat, well drained site with surface fill (sand, gravel, and crushed rock) in some areas. Old field and early successional forest communities that are typical of disturbed sites in the region comprise the majority of the land in the vicinity of the facility footprint. Common species observed include aspen, cottonwood, sumac, goldenrod, Japanese knotweed, and purple loosestrife.

Vegetation communities within and immediately around the facility footprint consist primarily of old field communities with small patches of early successional shrub and forest communities. These communities are typical of disturbed sites and include common invasive species such as Japanese knotweed, purple loosestrife and garlic mustard. Common old field species include goldenrod, Queen Anne's lace, common mullein, and chicory. The early successional shrub-forest species include aspen, cottonwood, sumac, elm, maple, and dogwoods.

Wildlife

Prior usage of the proposed Mechanicville Facility as rail yards precludes most of the facility footprint from providing natural habitat for wildlife. Developed areas in the vicinity of the Mechanicville Facility include some residential housing and a golf course to the south, residential housing and commercial development associated with the Town of Mechanicville to the east, and residential housing along NY 67 to the north. There is some connectivity to other habitat areas in the vicinity via the riparian corridor of the Anthony Kill and other areas of forest adjacent to the facility footprint. The level of development in the area associated with the Town of Mechanicville, and the disturbed nature of the Mechanicville Facility footprint from past land use, are expected to limit wildlife to species that are tolerant of human disturbance and urban areas, such as song birds, mice, skunks, raccoons, squirrels, and rabbits. However, due to the connectivity to forested and other habitat areas, larger mammals such as deer and coyotes could be found in the area surrounding the Mechanicville Facility. The removal of vegetation during construction is expected to displace wildlife to the larger forest, wetland, and open field habitats associated with and connected to the Anthony Kill riparian corridor.

Threatened, Endangered, and Rare Species

The USFWS lists the Karner Blue Butterfly and the Indiana Bat as endangered in Saratoga County, New York. The USFWS New York field office does not provide species list request response letters for proposed projects, but instead directs applicants to their website for guidance and a step by step process in determining whether or not a listed species habitat occurs at a specific project location. Based on the habitat survey conducted on August 29, 2008, and the step by step review process on the USFWS website, habitat for either the Karner Blue Butterfly or the Indiana Bat is not present within the Mechanicville Facility footprint or in the area surrounding the footprint. In addition, the USFWS species list for Saratoga County specifically states that "while Indiana Bats could be present in this county, we do not have any specific roost information to date and they are in such small numbers that it is unlikely that they would be present and impacted by any specific proposed project." See Appendix A for the USFWS species list request response letter and the species list for Saratoga County, New York. Because

the habitat survey and the step by step review process concluded no habitat presence for either species on or in the area surrounding the Mechanicville Facility footprint, a Biological Assessment or further coordination with USFWS under Section 7 of the Endangered Species Act is not required.

Based on a September 13, 2008 letter from the NYSDEC Natural Heritage Program, no known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats have been recorded on or in the immediate vicinity of the Mechanicville Facility. This includes occurrences of any state-listed bird species listed in the New York State Breeding Bird Atlas.

3.7.2 San Vel Automotive Facility

Vegetation

The footprint of the proposed 26-acre San Vel Automotive Facility is sparsely vegetated due to previous land disturbance activities associated with gravel extraction operations. The majority of the footprint has previously been cleared and leveled and consists of an exposed sand/gravel surface with little vegetation. Herbaceous vegetation observed in the footprint of the San Vel Automotive Facility includes goldenrods, Queen Anne's lace, poverty grass, Russian olive, sweet fern, and burrweed. Small trees, including white pine, red oak, birch, and black cherry, are found in two isolated areas of the San Vel Automotive Facility footprint, and removal during construction is anticipated. See Water Resources section, Section 3.6 for additional wetland vegetation information.

Wildlife

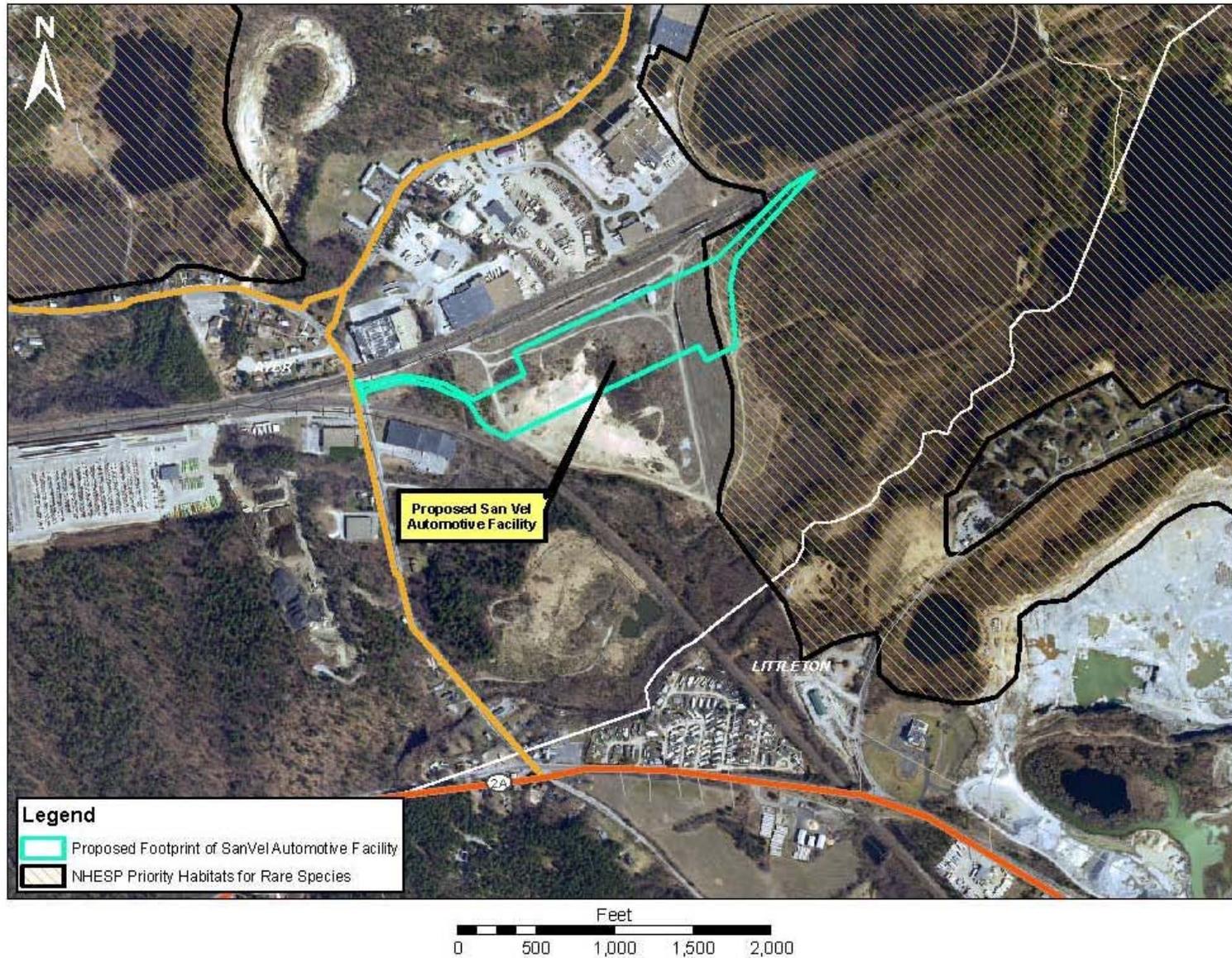
Prior usage of the San Vel Automotive Facility footprint as a gravel excavation and gravel storage area precludes most of it from providing natural habitat for wildlife. There are two patches of trees in the footprint that could be utilized by birds and small mammals. Developed areas are adjacent to the footprint to the north, east, and south, and would limit wildlife to species that are tolerant of human disturbance and urban areas, such as song birds, mice, skunks, raccoons, squirrels, and rabbits. The surrounding wetlands, which would not be affected by development of the San Vel Automotive Facility, could provide habitat for amphibians, possibly including Blanding's Turtle (discussed below), and other aquatic species common to the area.

Threatened, Endangered, and Rare Species

Based on a September 24, 2008 letter from the USFWS Field Office (Appendix A), no Federally listed or proposed threatened or endangered species or critical habitat is located in the footprint for the San Vel Automotive Facility or in the vicinity. The footprint has been previously disturbed from past gravel extraction activities and currently has limited vegetation. Therefore, preparation of a Biological Assessment or further consultation with USFWS under Section 7 of the Endangered Species Act is not required.

A review of the Massachusetts Natural Heritage and Endangered Species Program (NHESP) data and a related September 10, 2008 letter from NHESP indicated that a narrow portion of the San Vel Automotive Facility footprint (Figure 3.7-1) is in the geographical extent of and may include habitat for the Blanding's Turtle, which is state protected as a threatened species. According to NHESP, habitat designations are based on records of state-listed species observed within 25 years and contained in the state's database.

Figure 3.7-1
MADEP Priority Habitat in the Vicinity of the San Vel Automotive Facility



The Massachusetts Endangered Species Act (MESA) and its implementing regulations protect rare species and their habitats by prohibiting “take” of any plant or animal species listed as endangered, threatened or of special concern by the division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program. A small portion of the proposed San Vel Automotive Facility falls within a NHESP Priority Habitat for the Blanding’s Turtle, which is a NHESP delineated habitat area that defines the potential geographic range of the species.

The Blanding’s Turtle uses a variety of habitats, and in Massachusetts the species has been observed in pools, marshes, scrub-shrub wetlands, and open uplands (Sievert *et al.*, 2003, as cited in NHESP, 2007). Habitat use appears to vary according to the individual and the amount of precipitation (Joyal *et al.*, 2001, as cited in NHESP 2007). The NHESP has also described habitat as “primarily aquatic preferring densely vegetated shallow ponds, marshes, or small streams. It has also been known to utilize upland areas composed of hard soils for nesting” (Massachusetts Natural Heritage Program [MNHP], 1999). During site visits, no evidence of the existence of Blanding’s Turtle habitat was observed within the San Vel Automotive Facility footprint. NHESP would make the final determination on habitat presence or absence during the MESA review process, and Applicants would abide by all reasonable terms and conditions that would result from the NHESP review process for construction activity within a Priority Habitat. The wetlands adjacent to the facility are likely to have a higher probability of Blanding’s Turtle occurrence. A letter issued by the Massachusetts Division of Fisheries and Wildlife in 1999, relating to a similar facility then planned for the area where the San Vel Automotive Facility footprint is located, expressed concern that discharge to the wetlands from the stormwater detention system that was proposed at the time could potentially adversely affect the Blanding’s Turtle through possible contamination of surface and groundwater and alteration of the hydroperiod of the wetland habitat. More recently, a new stormwater pollution prevention plan (SWPPP) has been developed for the proposed San Vel Automotive Facility (Orwig Associates and Environmental Resource Management, 2008). The plan would avoid all point-source drainage to all abutting wetland areas. Run-off from paved areas would be intercepted by catch basins with oil-water separator units that provide separation of sediment, oil and grease from stormwater and route all run-off into eight retention areas. The stormwater plan is designed to treat and contain all stormwater run-off from the San Vel Automotive Facility. Therefore, water quality of wetland surface water or associated groundwater, and wetland hydroperiods would not be adversely affected by stormwater run-off from the San Vel Automotive Facility. As such, no adverse impacts to the Blanding’s Turtle, if present in the wetlands adjacent to the facility, would be expected.

3.8 AIR QUALITY AND CLIMATE

This section describes the potential impacts to air quality and climate that could result from the proposed Transaction. Air quality and climate can be affected by rail operations through the emission of pollutants from locomotive diesel fuel combustion, cargo handling equipment, and associated truck activity.

The primary regulatory mechanism governing air quality in the United States is the Clean Air Act (CAA), as amended in 1990 (USEPA, 1990). Under the CAA, the U.S. Environmental Protection Agency (USEPA) has promulgated a wide variety of air quality standards. USEPA has promulgated National Ambient Air Quality Standards³¹ (NAAQS) for criteria pollutants³² as set forth in Title I of the CAA, and regulates Hazardous Air Pollutants (hereafter referred to as air toxics) using a source-specific approach under Title III.³³

3.8.1 Criteria Pollutant Emissions

USEPA has established NAAQS for six specific pollutants (referred to as criteria pollutants) based on their potential to adversely affect public health and the environment. For each criteria pollutant, the NAAQS define an ambient concentration of that pollutant (or its chemical precursors) that is protective of public health and the environment. In any area where the NAAQS for a given criteria pollutant is exceeded, that area is referred to as being in “nonattainment” for that pollutant and the state encompassing that area must include in its overall State Implementation Plan (SIP) a mechanism for showing how it will achieve compliance with the NAAQS for that pollutant. In contrast, where the NAAQS are satisfied, those areas are designated as being in “attainment” for the pollutant.

STB regulations³⁴ set thresholds for analysis of anticipated effects on air quality. If the thresholds are projected to be exceeded (see Table 3.8-1), then the anticipated effect on air emissions is evaluated. To determine the effect of Applicants’ Transaction on air quality, changes in train traffic, yard activity, and truck traffic attributed to the Transaction were evaluated to determine whether those activities would affect air quality for the relevant regions with respect to criteria pollutants. The evaluation determined that Transaction-related changes that would involve air quality assessment (*i.e.*, changes in train traffic, yard activity, and/or truck traffic) are projected to occur within two regions that are designated as nonattainment for ozone: Albany-Schenectady-Troy, NY and Boston-Lawrence-Worcester, MA (referred to as nonattainment areas [NAAs]). Specific to this Transaction, the Mechanicville Facility, San Vel Automotive Facility, and Ayer Intermodal Facility are projected to experience increases in yard activity and truck traffic resulting from the Transaction.³⁵ Emissions related to these facilities as well as the relevant Transaction-related rail segments within the two NAAs were evaluated.

³¹ 40 CFR Part 50

³² The USEPA Office of Air Quality Planning and Standards has set NAAQS for six primary, or “criteria” pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), respirable particulate matter (PM), and lead (Pb).

³³ 40 CFR Part 63

³⁴ 49 CFR § 1105.7(e)(5)

³⁵ No other yards or rail facilities are projected to experience an increase in activities or truck traffic related to the Transaction.

**Table 3.8-1
STB Thresholds for Air Quality Analysis for NAAs and Class I Areas^a**

Rail Component	Activity Threshold
Rail Line Segment	Increase of 3 trains/day or 50% as measured in gross ton miles (GTM) annually
Rail Yards, Facilities	20% increase as measured in carload activity/day
Truck Traffic	Increase in truck traffic greater than 10% of average daily traffic on roadway segment or by 50 trucks/day

- a. Class I areas are EPA-designated locations, such as certain national parks, in which pristine air quality is considered to be a significant feature of the area, and regulations preventing air quality degradation are relatively stringent. There are no Class I areas involved in this analysis.

Source: 49 CFR § 1105.7(e)(5).

The USEPA General Conformity Rule *de minimis* emissions thresholds was used as a proxy to determine the effects of estimated increases in ozone precursor emissions between the base year (2007) and post-Transaction (2012).³⁶ The USEPA General Conformity emissions thresholds, known as *de minimis* levels for ozone precursor pollutants, are listed in Table 3.8-2. Emissions for the year 2012 without the Transaction, in order to provide a baseline for determining the Transaction-related increase, were calculated. Tables 3.8-3 and 3.8-4 present the estimated increases in emissions associated with 2012 projected Transaction-related activity at the Mechanicville Facility, and the combined effect of the San Vel Automotive Facility and Ayer Intermodal Facility, respectively, and compare these Transaction-related changes to the General Conformity Rule *de minimis* emissions levels for the respective ozone precursors. In addition to the ozone precursors (volatile organic compounds [VOCs] and nitrogen oxides [NO_x]), and although the regions of concern are in attainment for PM_{2.5}, the effect of the Transaction on PM_{2.5} emissions was also evaluated. This result is also presented in Tables 3.8-3 and 3.8-4.

**Table 3.8-2
USEPA General Conformity Emissions Thresholds for Ozone Precursor Pollutants**

Criteria Pollutant (Or Precursor)	Emission Rate Threshold (tons/year)
Ozone (as VOCs or NO_x precursor components) for NAAs inside an ozone transport region, and classified other than Serious, Severe, or Extreme:	
VOC	50
NO _x	100

Source: 40 CFR § 51.853

³⁶ Although USEPA's General Conformity Rule is not directly applicable to Board actions, it nevertheless provides useful thresholds for measuring the air quality impacts of a proposed project before the Board. The General Conformity Rule establishes emissions thresholds, or *de minimis* levels, for use in evaluating the conformity of a project. If the net emission increases due to a project are less than these thresholds, the project is presumed to conform and no further conformity evaluation is warranted. The General Conformity Rule is codified in 40 CFR Part 51, Subpart W.

**Table 3.8-3
Estimated Emissions in the Albany-Schenectady-Troy, NY NAA**

Source and Pollutant	Emissions (tons/year)				
	2007 Base Activity	2012 Projected Activity (without Transaction) ^a	2012 Projected Activity (with Transaction) ^a	2012 Projected Transaction-Related Change in Emissions	General Conformity Threshold
<i>Mechanicville Facility, NY^b</i>					
<i>Drayage Truck Trips</i>					
VOC	0.0	0.0	0.3	0.3	50
NO _x	0.0	0.0	6.6	6.6	100
PM2.5	0.0	0.0	0.1	0.1	NA ^d
<i>Carload Activity</i>					
VOC	0.0	0.0	0.1	0.1	50
NO _x	0.0	0.0	1.2	1.2	100
PM2.5	0.0	0.0	0.1	0.1	NA ^d
<i>Rail Line Segments^c</i>					
VOC	4.7	4.7	5.9	1.2	50
NO _x	83.1	84.0	105.0	21.0	100
PM2.5	3.0	3.0	3.8	0.8	NA ^d
<i>Total Emissions</i>					
VOC	4.7	4.7	6.3	1.6	50
NO _x	83.1	84.0	112.8	28.8	100
PM2.5	3.0	3.0	4.0	1.0	NA ^d

Note: Values are rounded to the nearest 0.1 ton. Values <0.05 are rounded to zero. Totals may not add due to rounding.

- a. Emissions values in these two columns include expected organic growth in Applicants' traffic that is unrelated to the Transaction. In addition, the "with Transaction" emissions include projected Transaction-related activities.
- b. The Mechanicville Facility is currently undeveloped. STB thresholds for percent change in carload activity do not apply to currently vacant facilities. However, the anticipated increase in truck traffic at the Mechanicville Facility is anticipated to be above the STB threshold of 50 vehicles per day on a given road segment.
- c. The Transaction-related rail line segments located in the Albany-Schenectady-Troy, NY NAA are as follows:
 Rotterdam Jct., NY – Crescent, NY (owned)
 Mohawk, NY – Crescent, NY (trackage rights)
 Crescent, NY – Mechanicville, NY (trackage rights)
 Mechanicville, NY – Hoosick Jct., NY (owned)
 Hoosick Jct., NY – E. Deerfield, MA (owned) – New York State portion only
- d. A threshold is not applicable because area is in attainment for PM2.5.

**Table 3.8-4
Estimated Emissions in the Boston-Lawrence-Worcester, MA NAA**

Source and Pollutant	Emissions (tons/year)				General Conformity Threshold
	2007 Base Activity	2012 Projected Activity (without Transaction) ^a	2012 Projected Activity (with Transaction) ^a	2012 Projected Transaction-Related Change in Emissions	
<i>San Vel Automotive, MA^b and Ayer Intermodal, MA</i>					
<i>Drayage Truck Trips</i>					
VOC	0.3	0.3	0.4	0.1	50
NO _x	8.5	5.0	7.0	2.0	100
PM2.5	0.2	0.1	0.2	0.0	NA ^d
<i>Carload Activity</i>					
VOC	0.1	0.1	0.1	0.0	50
NO _x	1.4	1.2	1.5	0.3	100
PM2.5	0.1	0.1	0.1	0.0	NA ^d
<i>Rail Line Segments^c</i>					
VOC	3.7	3.8	4.4	0.7	50
NO _x	66.1	66.6	78.2	11.6	100
PM2.5	2.4	2.4	2.8	0.4	NA ^d
<i>Total Emissions</i>					
VOC	4.2	4.1	4.6	0.5	50
NO _x	76.0	72.9	81.9	9.1	100
PM2.5	2.7	2.6	2.9	0.4	NA ^d

Note: Values are rounded to the nearest 0.1 ton. Values <0.05 are rounded to zero. Totals may not add due to rounding.

- a. Emissions values in these two columns include expected organic growth in Applicants' traffic and activities that are unrelated to the Transaction. In addition, the "with Transaction" emissions also include projected Transaction-related activities.
- b. The San Vel Automotive Facility is currently undeveloped. STB thresholds for percent change in carload activity do not apply to new facilities. However, the anticipated increase in truck traffic at the San Vel Automotive Facility is anticipated to be above the STB threshold of 50 vehicles per day on a given road segment.
- c. The Transaction-related rail line segments located in the Boston-Lawrence-Worcester, MA NAA are as follows:
 - Deerfield, MA - Gardner, MA (owned) - Worcester County portion only
 - Gardner, MA - Fitchburg, MA (owned)
 - Fitchburg, MA - Ayer, MA (trackage rights)
 - Ayer, MA - Willows, MA (trackage rights)
 - Willows, MA - CPF312, MA (owned)
 - Ayer, MA - Harvard Stn., MA (owned)
 - Willows, MA - Littleton, MA (trackage rights)
- d. A threshold is not applicable because area is in attainment for PM2.5.

Locomotive emissions on rail line segments were calculated by dividing the 2012 projected activity levels (in GTM per year) by the fuel efficiency factor³⁷ (in GTM per gallon of fuel used) to calculate the total fuel usage³⁸ (in gallons per year). The fuel usage was multiplied by emission factors³⁹ (in pounds of pollutant per gallon of fuel) to estimate the total annual emissions from locomotives. Emissions from drayage trucks⁴⁰ serving the intermodal and automotive facilities were calculated by multiplying the projected average number of truck trips per day by the average trip distance to calculate vehicle-miles traveled (VMT). The VMT was multiplied by emission factors (in grams per VMT) calculated using the EPA MOBILE6.2 model. Emissions from trucks idling at the facilities were calculated in a similar way using the average idling time⁴¹ (in hours per trip) and emission factors (in grams per vehicle-hour). Emissions from cargo handling equipment were calculated similarly based on emission factors from the EPA National Mobile Inventory Model (NMIM). The emissions (in grams per day) were converted to tons per year.

The Transaction-related emissions of regulated ozone precursor air pollutants within the Albany-Schenectady-Troy, NY and Boston-Lawrence-Worcester, MA NAAs are well below the USEPA General Conformity Rule thresholds. Because the estimated changes in emissions do not exceed any corresponding General Conformity threshold, the emissions increases associated with the Transaction-related activities are considered to be *de minimis* according to the USEPA General Conformity Rule. Thus, their contribution to ambient pollutant concentrations in both the Albany-Schenectady-Troy, NY and Boston-Lawrence-Worcester, MA NAAs would not cause or contribute to concentrations that exceed the NAAQS. Accordingly, the proposed Transaction would not impede the progress of the state or locality toward reaching attainment under the relevant SIPs and would not impact regional air quality.

Though some new or additional local truck traffic is projected at the new Mechanicville Facility, San Vel Automotive Facility and the existing Ayer Intermodal Facility, as a result of the Transaction, other truck traffic (approximately 19,000 trucks per year by 2012) is expected to decrease. Traffic is anticipated to be diverted from regional highways to rail as shippers choose to transport their goods via the more efficient rail service that would be available to them as a result of the Transaction. As there is a substantial fuel efficiency advantage to rail versus truck transport (railroads are, on average, three or more times more fuel efficient than trucks on a ton-

³⁷ “Fuel efficiency factor” is a railroad’s measure of the amount of cargo transport achieved per gallon of fuel burned by the locomotives (GTM per gallon). For air quality purposes, GTM includes the weight of the locomotives in addition to the loaded and unloaded rail cars. A value of 871.0 GTM/gallon was used, based on the Norfolk Southern Railway Company *Class I Railroad Annual Report* (Schedule R-1) for 2007 (Norfolk Southern Railway Company, 2007).

³⁸ “Total fuel usage” is the annual amount of fuel used by locomotives on the rail segments being considered calculated by dividing the railroad’s activity level (in GTM per year) by the fuel efficiency factor (as defined above, in GTM per gallon of fuel) to get the total fuel usage (in gallons per year) on the rail line segments of interest.

³⁹ “Emission factor” (E.F.) is a measure of the mass of a particular pollutant that is emitted per unit of activity by the emission source. For instance, for a truck on a highway the unit of activity is the vehicle-mile traveled (VMT) and the E.F. is expressed as grams/VMT.

⁴⁰ Defined as trucks that transport bulk goods from the railyard to another location.

⁴¹ “Average idling time” is the average amount of time a drayage truck spends idling (*e.g.* while waiting in a queue, having paperwork processed, being loaded, *etc.*) during each trip to a facility. An estimate of 5 minutes was used based on relevant state requirements (NY: 6 NYCRR Subpart 217-3, available at: <http://www.dec.ny.gov/regs/4256.html>; MA: 310 CMR 7.11, available at: <http://www.mass.gov/dep/service/regulations/310cmr07.pdf>).

mile basis [Association of American Railroads, 2008]), it is expected that the proposed Transaction likely would result in a decrease in overall energy consumption and, thus, an overall reduction in air pollutant emissions from current operations.

Construction activities associated with the Transaction could result in short-term impacts to ambient air quality as a result of fugitive dust emissions, direct emissions from construction equipment and trucks, and/or increased emissions from motor vehicles on the streets due to traffic disruption. All such impacts resulting from Transaction-related construction activities would be temporary, and would affect only the immediate vicinity of the construction site and access routes.

3.8.2 Roadway Intersection Screening

Emissions from vehicles at congested roadway intersections, where large volumes of vehicles may operate at low speeds or idle in queues, may in some circumstances result in additional localized emissions of carbon monoxide (CO) and PM. The potential for localized air quality impacts is greatest at intersections where traffic is most congested because these intersections tend to have the highest vehicle volumes, the lowest speeds, and the longest queues, all of which may result in additional emissions. USEPA guidance specifies criteria based on traffic level of service (LOS) for screening the roadway intersections affected by a project and selecting intersections, if necessary, for detailed air quality analysis (USEPA, 1992). (See Section 3.1.1 for further discussion of LOS). The USEPA guidance considers signalized intersections (i.e., intersections with traffic lights) that operate at LOS D, E, or F to have sufficient traffic congestion that the associated vehicle emissions might cause or contribute to local CO concentrations that might exceed the NAAQS, and such intersections are subject to further air quality analysis. USEPA considers signalized intersections that operate at LOS A, B, or C not to have sufficient traffic congestion to cause or contribute to local CO concentrations that might exceed the NAAQS. USEPA considers unsignalized intersections (i.e. intersections without traffic lights) not to have sufficient traffic congestion to cause or contribute to local CO concentrations that might exceed the NAAQS and does not require air quality analysis for unsignalized intersections.⁴² Accordingly, under the USEPA guidance, air quality analysis is not required for signalized intersections that would operate at LOS C or better under future conditions and also is not required for unsignalized intersections that would operate at any LOS.⁴³

The intersections included in the roadway traffic analysis for the Mechanicville Facility and their respective projected LOS are listed in Table 3.1.1-9 for the AM peak hour and Table 3.1.1-10 for the PM peak hour. As those tables indicate, the LOS at all intersections in 2012, both signalized and unsignalized and with or without the Transaction, is projected to be LOS C or better. USEPA considers all unsignalized intersections and signalized intersections that operate at LOS A, B, or C not to have sufficient traffic congestion to cause or contribute to local CO concentrations that might exceed the NAAQS. Accordingly, no further analysis of the

⁴² Levels of queuing and low-speed operation at unsignalized intersections are typically less than at signalized intersections. In addition, at unsignalized intersections where a major and a minor street intersect, the traffic on the major street typically does not stop or experience congestion.

⁴³ The New York State Department of Transportation (NYSDOT) also has established a LOS screening criterion for signalized intersections that is the same as USEPA. NYSDOT normally does not require screening of unsignalized intersections (NYSDOT, 2001). The Massachusetts Department of Environmental Protection applies the USEPA criteria to projects in Massachusetts.

intersections is needed, based on the USEPA guidance, and the Transaction would not lead to CO concentrations that might exceed the NAAQS at intersections in the vicinity of the Mechanicville Facility.

The intersections included in the roadway traffic analysis for the San Vel Automotive Facility and the Ayer Intermodal Facility, and their respective projected LOS, are listed in Table 3.1.1-14 for the AM peak hour and Table 3.1.1-15 for the PM peak hour. As those tables indicate, there are no signalized intersections in the traffic study area for the San Vel Automotive Facility and the Ayer Intermodal Facility. As explained above, unsignalized intersections are not analyzed under the USEPA criteria. Accordingly, no further analysis of the intersections in the San Vel Automotive Facility and Ayer Intermodal Facility traffic study area is needed, based on the USEPA guidance, and the Transaction would not lead to CO concentrations that might exceed the NAAQS at intersections in the vicinity of the facilities.

3.8.3 Air Toxics Emissions

Air toxics are pollutants that are known or are suspected to cause serious human health effects such as cancer, reproductive disorders, or birth defects. EPA has not established NAAQS or other permissible ambient levels for air toxics but rather regulates these pollutants via a source-specific approach. New activity at the Mechanicville Facility and the San Vel Automotive Facility, and increased activity at the Ayer Intermodal Facility as a result of the Transaction, are expected to result in small increases in emissions of certain air toxics. To determine potential impacts, a qualitative air toxics assessment was conducted. The assessment was based on diesel particulate matter (DPM) because almost all Transaction-related engine operation would be conducted by diesel engines and DPM is the dominant air toxic emission for these types of facilities and is also the principal source of health risk from the pollutants emitted by diesel engines.⁴⁴ Risks associated with air toxic emissions from sources other than diesel engines are generally small in comparison to those risks associated with DPM.

Emissions of DPM are a subset of PM10 emissions. In this assessment, PM10 was used to represent DPM for locomotives and yard equipment because (1) most PM10 emissions from these sources consist of DPM and (2) the EPA-approved emissions models for locomotives and yard equipment do not define specific DPM emission factors separately from PM10. The use of PM10 to represent DPM results in a slight overestimation of DPM emissions because there are other components of PM10 emissions in addition to DPM. For trucks, unlike for locomotive and yard equipment, DPM emissions data can be calculated from the EPA-approved MOBILE6.2 model, which defines the components of PM10 individually; such DPM emissions data for trucks were used in this assessment.

To assess the contribution of the Transaction to regional DPM emissions, estimated Transaction-related emissions increases were compared to the total DPM emissions in each of the two relevant NAAs, using data from the USEPA National Air Toxics Assessment (NATA). The

⁴⁴ In addition to DPM, the principal air toxics emitted from mobile sources are acetaldehyde, acrolein, benzene, 1,3-butadiene, and formaldehyde. USEPA has identified these substances and DPM as the air toxics of concern for impacts of transportation sources (40 CFR Parts 59, 80, 85, and 86). DPM emissions are considered to be an appropriate indicator of potential air toxics effects for this assessment because DPM has historically been used as a surrogate measure of exposure for diesel exhaust as a whole, and USEPA considers this use of DPM to be reasonable in assessments of diesel exhaust (U.S. Environmental Protection Agency. *Health Assessment Document for Diesel Engine Exhaust*. EPA/600/8-90/057F. May 2002. <http://www.epa.gov/ttn/atw/dieselfinal.pdf>).

latest data available are for 1999. Table 3.8-5 shows that total estimated Transaction-related DPM emissions increases are a negligible fraction of the DPM emissions in the respective NAAs.

**Table 3.8-5
Comparison of 2012 Transaction-Related to Regional DPM Emissions (tons/year)**

NAA	1999 NATA DPM Emissions ^a	Projected 2012 Transaction-Related DPM Emissions Increase ^b	Transaction-Related DPM Emissions Increase as % of NAA
Albany-Schenectady- Troy, NY	966.44	1.0	0.10%
Boston-Lawrence- Worcester, E. MA	6,474.35	0.5	0.01%

a. NATA data for 1999 are the most recent available.

b. Includes post-Transaction increases in rail line and facility operations and associated truck traffic in the NAAs.

To assess local effects, Transaction-related DPM emissions that would occur at each facility (on-site and in the vicinity) were assessed. Sources of DPM are common in developed areas, including the local environment of the Mechanicville Facility, San Vel Automotive Facility, and Ayer Intermodal Facility, due to the prevalence of diesel engines in trucks, trains, and construction and industrial equipment. The Transaction-related DPM emission increases were calculated using EPA models in the same way as for the criteria pollutants. The local assessment at each facility considered those operations that would occur on-site and in the vicinity of the facility. The local emissions were estimated by summing the emissions from the locomotives on the rail segment traversing the facility, the cargo handling equipment on the site, and the truck operations both on-site and off-site. This method tends to overestimate the emissions occurring in the immediate vicinity of each facility because the applicable rail segments and truck trips extend as much as several miles from each facility. The modeling results estimated Transaction-related DPM emission increases of 0.27, 0.02, and 0.06 tons per year at the Mechanicville Facility, San Vel Automotive Facility, and Ayer Intermodal Facility, respectively. These emissions would be minor, incremental additions to existing emissions in the respective local areas.

The emissions from each facility would disperse in the atmosphere and DPM concentrations would decrease as the distance from the facility increases. The distances from the boundary of each facility to the nearest residence are approximately 300 feet from the Mechanicville Facility, 1,000 feet from the San Vel Automotive Facility, and 3,200 feet from the Ayer Intermodal Facility. Distances to the closest residences from the areas of operation at the facilities where the emissions would originate, as explained below, would be even greater.

The individual emission sources (trains, trucks, and cargo handling equipment) at each facility do not remain stationary but move about the site as part of normal operations. These movements disperse the emissions around the facility and lead to lower offsite DPM levels than would occur if a single stationary source were to contribute the same emissions. In addition, the shape of the facility footprint on which activities occur affects local DPM levels at nearby locations. At the

proposed new Mechanicville Facility, which would be approximately a mile long, the nearest residences are located 300 feet from the eastern end of the property to be developed. Most site operations would occur in more central and western portions of the facility, several thousand feet from these residences. Thus, the distance from these residences to the emission sources normally would be much greater than 300 feet. Increased emissions that would occur nearest to these residences would be limited to intermittent emissions from the passing locomotives of the projected additional 2.5 trains per day on the rail line segment adjacent to the facility as they arrive and depart the Mechanicville Facility. There would be no Transaction-related increase in the number of trains per day on the rail line segments adjacent to the facility at the San Vel Automotive Facility or the Ayer Intermodal Facility.

Based on these considerations the Transaction-related DPM impacts of the proposed facilities are considered to be minimal.

3.8.4 Greenhouse Gas Emissions

The Transaction would result in emissions of greenhouse gases (GHGs), primarily carbon dioxide, as a result of fuel consumption during rail, facility and truck operations and construction. As indicated in Applicants' application to the Board, Applicants intend that the Transaction would allow them to compete more effectively for freight business with other rail carriers and trucks. To the extent that the Transaction results in a shift of freight traffic from one rail carrier to another, it is anticipated that the fuel efficiency factor (GTM/gallon) for the rail carriers would be similar and, thus, the resulting change in fuel use and GHG emissions, if any, would be minor. With respect to the potential shift from truck to rail, as discussed above and in Section 3.10, rail transport is on average three or more times more fuel efficient than truck transport. Accordingly, to the extent freight is shifted from truck to rail, this modal shift would reduce fuel use and, thus, GHG emissions. Though some new or additional truck traffic is projected at the Mechanicville Facility, San Vel Automotive Facility, and Ayer Intermodal Facility as a result of the Transaction, other truck traffic (approximately 19,000 trucks per year by 2012) is expected to decrease as shippers choose to transport their goods via the more efficient rail service that would be available to them as a result of the Transaction. Therefore, it is concluded that Transaction-related changes in rail, yard and truck activity would have a negligible effect on GHG emissions.

3.9 NOISE AND VIBRATION

The Board’s environmental rules establish thresholds for noise analysis.⁴⁵ These thresholds are shown in Table 3.9-1.

**Table 3.9-1
Board Thresholds for Noise Analysis**

System Component	Noise Analysis Thresholds
Rail Line Segments	Increase of 8 trains per day, or 100% increase in annual gross ton-miles
Rail Yards, Facilities	100% increase in carload activity per day
Truck Traffic	Increase of 50 trucks per day, or 10% increase in average daily traffic volumes on any affected road segment

Source: 49 CFR §1105.7(e)(6)

Information on changes in rail line segment traffic, rail yard and facility carload activity, and truck traffic as a result of the Transaction is presented in Chapter 2. Tables 2-1 and 2-3 summarize the projected post-Transaction rail traffic on the rail segments that would be included in the Transaction and show that the increase in average trains per day would range from 0 to 2.5 trains, which is below the Board’s rail line segment threshold for noise analysis. Tables 2-2 and 2-4 summarize the anticipated post-Transaction traffic expressed in annual gross ton-miles, and show that the largest increase would be 58 percent on the Mohawk Yard, NY to Crescent, NY rail segment, which also is below the Board’s threshold for noise analysis. Table 2-5 presents the anticipated change in carload activity as a result of the Transaction and shows that the largest increase in carload activity at a rail yard or facility would be approximately 6 percent at the Ayer Intermodal Facility, which is below the Board’s threshold for noise analysis.⁴⁶ Table 2-6 summarizes the anticipated change in average daily truck traffic as a result of the Transaction, and shows that the Board’s truck traffic threshold for noise analysis would be exceeded at the proposed Mechanicville Facility, San Vel Automotive Facility, and the existing Ayer Intermodal Facility. Thus, increased truck traffic at these three facilities is the only Transaction-related change that would require analysis based on the Board’s thresholds.

To conservatively evaluate the noise impacts of the increased truck traffic at the two new facilities, noise analysis was performed to determine the potential impacts of the projected additional truck traffic in conjunction with the nearby rail line segments and projected activity at the proposed new facilities. The projected noise increase due to Transaction-related changes at the existing Ayer Intermodal Facility was not analyzed in detail because the post-Transaction changes in noise levels would be small in the context of current rail operations, carload and other

⁴⁵ 49 CFR § 1105.7e(6)

⁴⁶ The Board’s threshold of 100 percent increase in daily carload activity is not applicable to the Mechanicville Facility and San Vel Automotive Facility, which are proposed new facilities. The Board ruled in *Missouri Central Railroad Co. – Acquisition and Operation Exemption – Lines of Union Pacific Railroad Co.*, STB Finance Docket No. 33537, decided September 9, 1999, *aff’d sub nom. Lee’s Summit v. STB*, 231 F.3d 39 (D.C. Cir. 2000) that its thresholds pertaining to rail yard activity are not applicable to new yards that have a base of zero activity.

yard activity and truck traffic at the facility and the surrounding industrial area in which the facility is located. Furthermore, no receptors were identified near the Ayer Intermodal Facility.⁴⁷

Potential impacts were analyzed based on the following conditions:

- An increase in noise exposure as measured by a day-night average noise level (DNL)⁴⁸ of 3 A-weighted decibels (dBA)⁴⁹ or more.
- An increase to a noise level of 65 DNL or greater.

Both of these components (3 dBA increase, 65 DNL) are employed to determine an upper bound of any area of potential noise impact. Both components – together resulting in a +3 dBA/65 DNL level – must be met to cause an adverse noise impact (STB 1998b, Coate 1999). That is, the Board would not find an adverse noise impact in any location unless post-Transaction noise levels both increase by 3 dBA or more and are equal to at least 65 DNL. If the estimated noise would exceed this +3 dBA/65 DNL level, the number of affected receptors was then estimated (e.g., schools, libraries, residences, retirement communities, nursing homes). For reference, Figure 3.9-1 shows noise levels for selected noise sources and community environments.

3.9.1 Noise from Facility Operations and Trucks

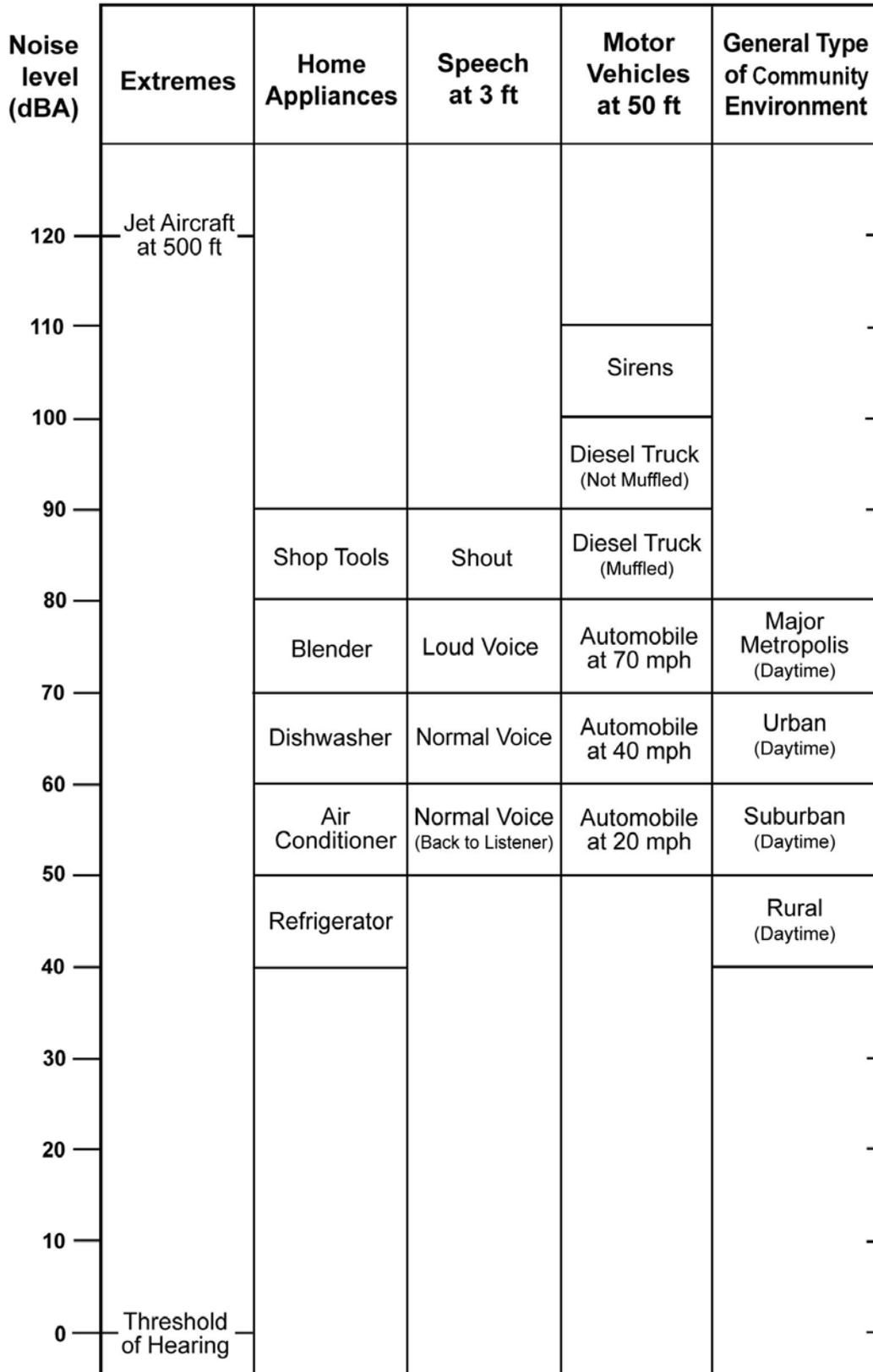
Facility operations at Applicants' proposed Mechanicville Facility and San Vel Automotive Facility are expected to increase noise levels at those locations and along the roadways used by trucks entering and leaving the facilities. The procedures utilized to identify the potential noise impacts of these Transaction-related changes are presented in Appendix D. Briefly, for the proposed new facilities, noise from expected train operations and related activities within or near the facility boundaries was considered, including (1) rail traffic on existing rail lines, (2) switch locomotive movements within the facilities, (3) idling locomotives and trucks, (4) cranes (to be used only at the intermodal portion of the Mechanicville Facility), and (5) automobile unloaders. Operations at both proposed facilities are projected to add new truck traffic to the local roadways. Both facility noise and noise from increased truck traffic on the adjacent roadways were analyzed using CADNA (Computer-Aided Noise Abatement), an environmental noise computer program which produces noise contours. Existing noise levels near the proposed facility locations were modeled based on existing rail traffic, including warning horn soundings at nearby at-grade crossings, on existing rail lines that run through (at the Mechanicville Facility) or adjacent to (at the San Vel Automotive Facility) the facility sites. Post-Transaction conditions were modeled to reflect new facility-related noise sources and projected increased rail activity. For both facilities, existing and post-Transaction vehicular traffic on roads with the projected largest increases in Transaction-related truck traffic was also modeled.

⁴⁷ Based on review of aerial photography, the closest receptor is more than 3,000 feet from the Ayer Intermodal Facility, which is well beyond the 500 foot contour surrounding the facility in which noise levels of 65 DNL (day-night average noise level; see footnote 4 of this section for a definition of DNL) or higher are expected to be limited (based on contour estimates from the noise analyses conducted for the proposed San Vel Automotive Facility and Mechanicville Facility).

⁴⁸ DNL is the energy average of A-weighted decibels (dBA) sound level over a 24-hour period. DNL includes an adjustment factor for noise between 10 p.m. and 7 a.m. to account for the greater sensitivity of most people to noise during the night. The effect of nighttime adjustment is that one nighttime event, such as a train passing by between 10 p.m. and 7 a.m., is equivalent to 10 similar events during the daytime.

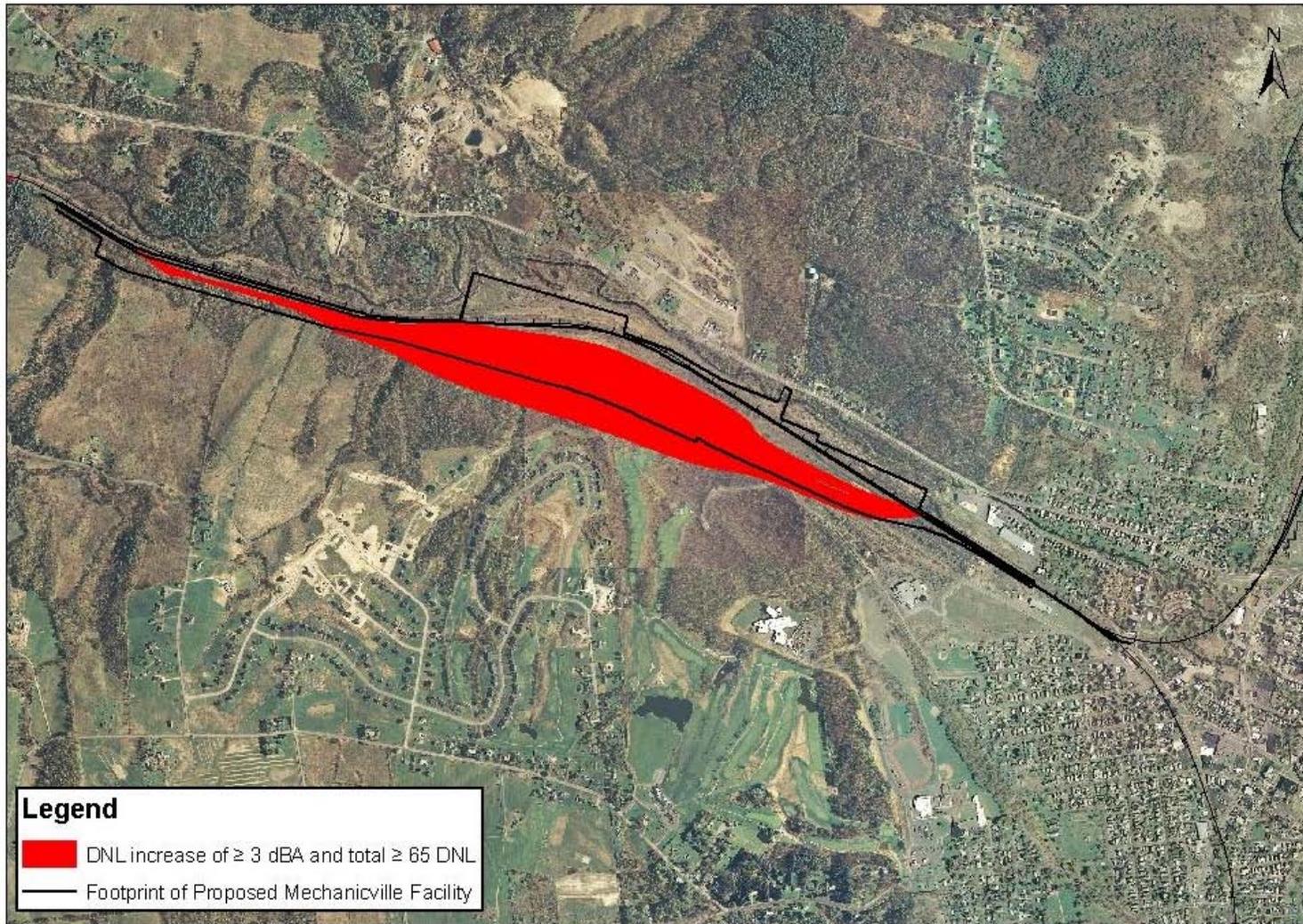
⁴⁹ A-weighted decibels (dBA) is a measure of noise level used to compare noise from various sources. A-weighting approximates the frequency response of the human ear.

**Figure 3.9-1
Noise Levels for Selected Sources and Community Environments**



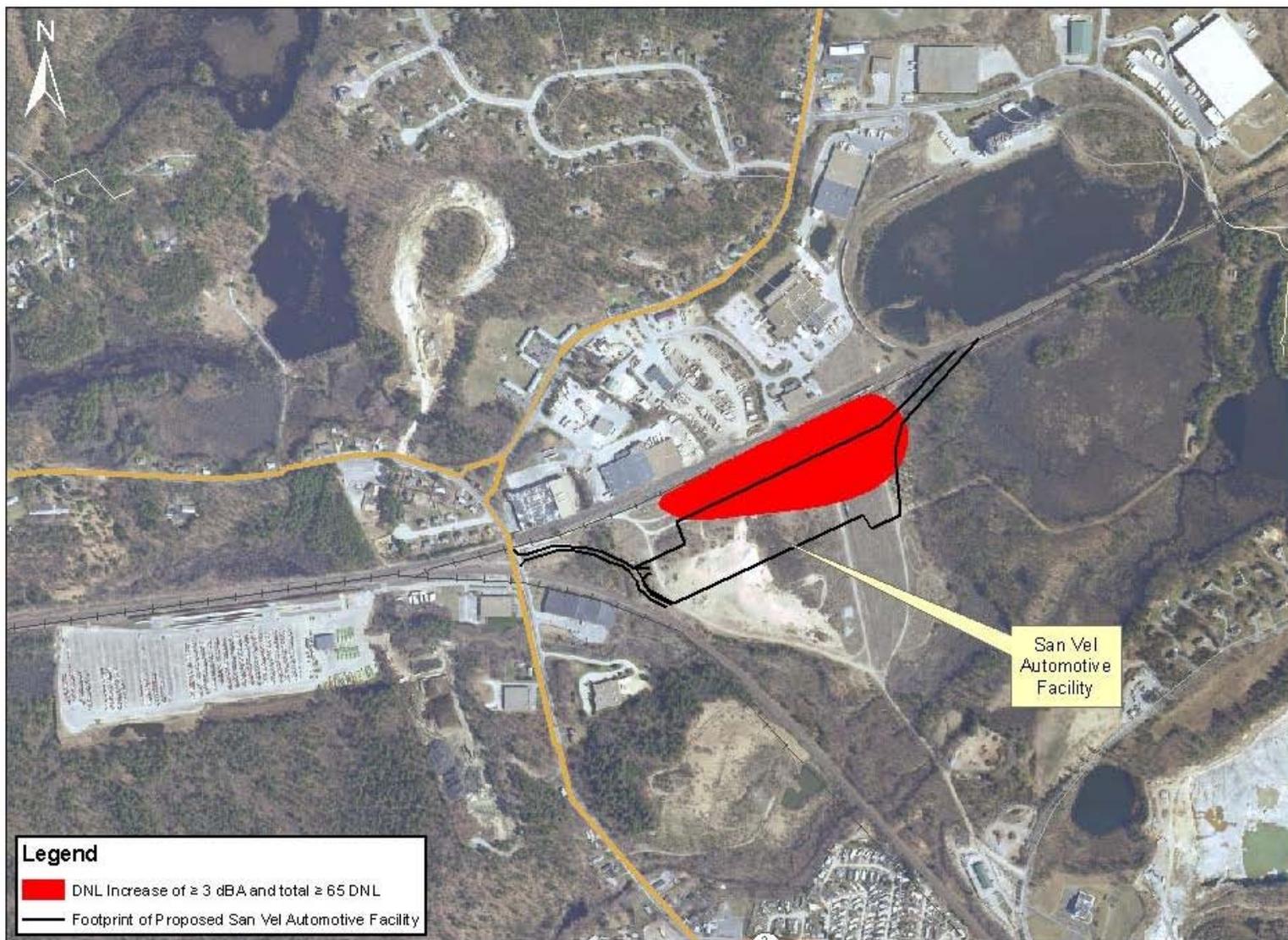
Figures 3.9-2 and 3.9-3 show in red the areas associated with the Mechanicville Facility and the San Vel Automotive Facility, respectively, that are anticipated to experience a post-Transaction increase in noise of 3 dBA or greater and an overall noise level of 65 DNL or greater associated with Transaction-related yard activity (including freight handling and other facility operations) and associated truck and rail line traffic. The facilities and the nearby rail lines are shown in black on these figures. As shown, the areas with an increase of 3 dBA or greater and an overall noise level of 65 DNL or greater would be limited to the immediate vicinity of the two proposed facility sites. The routes that trucks would use going to and from the facilities are not anticipated to experience both an increase of 3 dBA or greater and an overall noise level of 65 DNL. No receptors are within these contours, and as such, no receptor would experience a +3 dBA/65 DNL level at either the Mechanicville Facility or the San Vel Automotive Facility. Therefore, there would be no adverse noise impacts from either facility.

Figure 3.9-2
Mechanicville Facility Post-Transaction 2012
 ≥ 3 dBA Increase and ≥ 65 DNL Contour



Feet
0 1,000 2,000

Figure 3.9-3
San Vel Automotive Facility Post-Transaction 2012 ≥ 3 dBA Increase and ≥ 65 DNL Contour



Feet
0 500 1,000 1,500 2,000

3.9.2 Noise from Non-Yard Rail Traffic

Increases in rail traffic on rail segments included in the proposed Transaction are projected to range from 0 to 2.5 trains per day. The largest projected increase in rail traffic would occur on the Mechanicville, NY to Hoosick Junction, NY rail segment where the average number of trains per day is projected to increase from an existing 6.8 trains per day to a post-Transaction 9.3 trains per day. In addition, train speed on this rail segment is anticipated to increase from an average of 21 miles per hour in 2007, to post-Transaction track chart speeds of 30 or 40 miles per hour, depending on the location, due to the elimination of slow orders from Transaction-related track improvement work. The post-Transaction increase in noise on this rail segment was calculated to be less than 3 dBA. Similarly, the increase in noise on all other rail segments included in the Transaction, which would experience smaller (or no) increases in rail traffic and comparable (or no) increases in train speed, would also be less than 3 dBA. As a result, there would be no adverse noise impacts from the projected Transaction-related changes in rail traffic.

3.9.3 Construction Noise and Vibration

Construction activities, such as construction of the proposed Mechanicville Facility and San Vel Automotive Facility, typically generate temporary noise and sometimes ground-borne vibration. Construction-related noise and vibration levels vary depending upon the duration and complexity of the project. In addition, there are a wide range of noise and vibration levels associated with construction equipment. Noise- and vibration-creating construction activities are not long-term conditions, and in the case of the construction of the Mechanicville Facility and the San Vel Automotive Facility, no construction work is planned to occur at night when noise and vibration would be more noticeable.

Calculations to determine if the +3 dBA/65 DNL level would be met or exceeded at receptor locations are based on 24-hour average sound levels and are applicable to rail activities that occur on an ongoing basis and are distributed throughout the day and night. Construction activities, in contrast, are temporary and normally occur primarily, if not exclusively, during daytime hours, so the +3 dBA/65 DNL level is not applicable to construction. Instead, the Federal Transit Authority (FTA) General Assessment method and noise thresholds were used for evaluating construction noise, as further detailed in Appendix D. The FTA method evaluates noise at the nearest receptor using the combined noise level in one hour from the two pieces of equipment that are anticipated to be used for the construction and that have high noise levels, and assumes that they operate simultaneously. The noisiest pieces of equipment that would typically be used for facility construction are heavy trucks and bulldozers. This assessment thus evaluates noise resulting from the simultaneous use of heavy trucks and bulldozers at the two facilities during construction. The locations of the nearest receptors to the Mechanicville and San Vel Automotive Facilities were identified and construction noise levels for those locations were calculated to determine if the FTA construction noise thresholds would be exceeded at those distances. The results of this analysis are presented in Table 3.9-2, and show that the thresholds would not be exceeded.

**Table 3.9-2
Estimated Construction Noise Levels**

Location	Distance to Closest Receptor (ft.)	Combined Heavy Truck and Bulldozer Use for Facility Construction Noise Level (dBA) at Closest Receptor	FTA Construction Noise Threshold for Daytime Residential Land Use 1 hour Level Equivalent (L_{eq} in dBA)
Mechanicville Facility	300	74	90
San Vel Automotive Facility	230	77	90

In addition to general construction activity at the Mechanicville Facility, temporary pile driving activity is anticipated for construction of the access road bridge leading into the facility. No pile driving is planned for construction of the San Vel Automotive Facility or the remainder of the Mechanicville Facility. Applicants anticipate installing bridge pilings for the access road bridge at the Mechanicville Facility during the daytime using an air rotary drill or vibratory pile driver, which would be less noisy than the more typical impact method of pile driving. The nearest receptor location is approximately 165 feet from the area of the Mechanicville Facility where Applicants anticipate locating the bridge. The noise level at that distance during the temporary pile driving activity would be less than the FTA construction noise threshold of 90 dBA and thus would not be an adverse noise impact.

In addition to noise, ground-borne vibration may also result from construction at the Mechanicville Facility and San Vel Automotive Facility. Following the FTA General Assessment method (see Appendix D), construction vibration levels were estimated at the receptor locations closest to the approximate location of construction activities planned at each respective facility. In order to estimate worst-case construction vibration levels, the two construction activities relevant to these facilities with the highest vibratory impacts were used: pile driving and bulldozing. The results of the analysis are shown in Table 3.9-3. The table quantifies vibration in terms of peak particle velocity (PPV), measured in inches per second (in/sec). Estimated vibration levels at the receptor closest to the location of construction resulting from bulldozer and pile driving activities, as relevant to each facility, are listed. Because pile driving will only occur at the Mechanicville Facility access bridge and not at other locations at the Mechanicville Facility or at the San Vel Automotive Facility, vibration estimates based on this activity are provided for the Mechanicville access bridge location only. Similarly, because bulldozing will not occur at the Mechanicville access bridge, bulldozing vibration estimates are provided only for the Mechanicville Facility generally and the San Vel Automotive Facility.

**Table 3.9-3
Estimated Construction Vibration Levels (PPV^a)**

Location	Closest Receptor (ft.)	Bulldozer PPV (in/sec)	Pile Driving PPV (in/sec)
Mechanicville Facility	300	0.002141	- -
Mechanicville Facility Access Bridge	165	- -	0.0895 ^b
San Vel Automotive Facility	230	0.003197	- -

a. See Appendix D for an explanation of PPV.

b. The FTA methodology does not include a value for air rotary or vibratory pile driving. Thus, the analysis here assumes impact pile driving, which produces a conservative result because vibratory or rotary drill techniques would produce lower vibration levels than impact pile driving.

The potential effect of vibration on buildings was evaluated in comparison to FTA's building damage criterion for fragile buildings (0.20 in/sec PPV). As shown in Table 3.9-3, estimated vibration levels resulting from both bulldozer and pile driving activities would be below that level. In addition, SEA is not aware of the presence of any fragile or historic buildings near the proposed Mechanicville Facility access bridge location. Thus, comparison to the FTA criterion applicable to fragile buildings is conservative.

The potential effect of vibration on humans was also considered. Vibration levels due to pile driving for construction of the access bridge at the Mechanicville Facility might be noticeable, but the potential for annoyance effects would be temporary and limited to the few days during which pile driving is anticipated to occur. Thus, vibration impacts resulting from the Transaction are anticipated to be minimal in terms of impacts to both surrounding buildings and humans.

3.9.4 Summary

Estimated noise and vibration levels due to the Transaction would be below the +3 dBA/65 DNL level and the relevant FTA thresholds and criteria for construction noise and vibration, respectively, and thus, SEA concludes that no adverse noise or vibration impacts would result from the proposed Transaction.

3.10 ENERGY RESOURCES

Under the Board's environmental regulations,⁵⁰ SEA must consider the energy requirements and conservation potential of the proposed Transaction. Specifically, SEA must consider the effect of the proposed Transaction on energy resources, the transportation of recyclable commodities, and the potential for the Transaction to result in an increase or decrease in overall energy efficiency.

This section describes the environmental setting and potential environmental impacts to energy resources from the proposed Transaction. Energy resources include fuel consumption as a result of the Transaction, as well as utilities potentially affected by construction of the proposed facilities.

3.10.1 Environmental Consequences

Fuel Consumption

The Transaction would enhance the existing rail infrastructure on the main line between Mechanicville, New York and Ayer, Massachusetts. Additional diesel fuel would be consumed to power the slight projected increase in the number of trains per day on 7 of the 18 rail line segments that are part of the Transaction. This additional train fuel consumption would, however, be less than the commensurate decrease in diesel fuel consumption by trucks that would be removed from regional roadways as a result of the Transaction. Though some new or additional local truck traffic is projected at the new Mechanicville Facility and San Vel Automotive Facility and the existing Ayer Intermodal Facility as a result of the Transaction, other truck traffic (approximately 19,000 trucks per year by 2012) is expected to decrease and come off regional highways as shippers choose to transport their goods via the more efficient rail service that would be available to them as a result of the Transaction. As there is a substantial fuel efficiency advantage to rail versus truck transport (railroads are, on average, three or more times more fuel efficient than trucks [Association of American Railroads, 2008]), it is expected that the proposed Transaction would result in a decrease in overall energy consumption.

Utilities

No construction or modifications proposed as part of the Transaction would occur near electric transmission lines or gas or oil pipelines. The proposed new Mechanicville Facility and San Vel Automotive Facility would be outdoor facilities with modest energy requirements. Both facilities would be constructed on property that has previously been developed. As a consequence, the required utility infrastructure is already in place. As a result, no disruptions to utilities are anticipated as a result of the Transaction.

Transportation of Recyclable Commodities

Recyclable commodities make up a part of Applicants' existing cargo along the rail line segments involved in the Transaction, and would continue to be transported under the proposed Transaction. Because the Transaction is not expected to generate new demand for these commodities, but instead to transport them more efficiently along existing rail lines, SEA has concluded that the Transaction would have no adverse effect on the transportation of recyclable commodities.

⁵⁰ 49 CFR § 1105.7

Overall Energy Efficiency

The proposed Transaction is expected to result in the truck-to-rail diversion of freight. Given the increased efficiency resulting from truck-to-rail diversions of freight, the proposed Transaction would likely result in an overall increase in energy efficiency.

3.11 CULTURAL RESOURCES

This section describes the potential impacts to cultural resources, including archaeological and historical resources, resulting from the proposed Transaction.

Cultural resources listed on or determined eligible for listing on the *National Register of Historic Places* (National Register) are called “historic properties,” and are subject to compliance with Section 106 of the National Historic Preservation Act. Applicants consulted with State Historic Preservation Offices (SHPOs) for the State of New York and the Commonwealth of Massachusetts, the two states where there would be construction activities associated with the Transaction with the potential to affect historic properties.

The proposed Transaction was reviewed for potential effects on historic properties. Operational changes, such as increased railroad traffic, have no potential to directly affect historic properties. Routine or previously scheduled repair or maintenance of railroad structures, buildings, or equipment that would occur regardless of the Transaction are not part of the Section 106 undertaking. Rather, the Section 106 review involves an evaluation of any proposed new construction, building demolition, or repair/replacement of railroad structures directly related to the Transaction. The following four locations are the only locations related to the Transaction where new construction or repair/replacement of railroad structures would have the potential to affect historic properties:

- The proposed new construction of the Mechanicville Facility
- The proposed new construction of the San Vel Automotive Facility
- The repair/superstructure replacement of Bridge No. 82.04 over Tunnel Street in Athol, MA
- The repair/superstructure replacement of Bridge No. 103.73 over a former branch line near McClelland Road in East Deerfield, MA

The following criteria were used for determining potential impacts at these four areas:⁵¹

- Identification and potential eligibility of archaeological sites for inclusion on the National Register
- Identification and potential eligibility of historic architectural resources for inclusion on the National Register

The reporting methodology and analysis for cultural resource investigative activities are consistent with the requirements of the National Preservation Act of 1966 and the Advisory Council's Guidelines as set forth in 36 CFR Part 800, for the Protection of Historical and Cultural Properties.

Consultation with the New York SHPO (NYSHPO) was initiated on September 3, 2008, when information about the proposed Mechanicville Facility was submitted to the New York State Office of Parks, Recreation and Historic Preservation. Subsequently, Applicants have conducted a Phase IA survey and will submit the report once completed to the NY SHPO for review. The Phase IA will describe the literature review and sensitivity for encountering archaeological resources in the Mechanicville Facility project area. The Phase IA survey was conducted according to the New York Archaeological Council's *Standards for Cultural Resource*

⁵¹ Public Law 89-665, as amended

Investigations and the Curation of Archaeological Collections in New York State and the report conforms to the NY SHPO's *Phase I Archaeological Report Format Requirements*.

Consultation with the Massachusetts SHPO (MA SHPO) was initiated on September 10, 2008, when Applicants submitted information about the proposed construction of the San Vel Automotive Facility in Ayer and the proposed superstructure repair/replacement of two existing railroad bridges was submitted to the Massachusetts Historical Commission (MHC). The information submitted included a description of the proposed work and photographs of existing conditions at the San Vel Automotive Facility, Bridge 82.04 over Tunnel Street in Athol, MA, and Bridge No. 103.73 over a former branch line near McClelland Road in East Deerfield, MA.

In compliance with Section 106 of the National Historic Preservation Act and the Board's regulations,⁵² the Phase IA data and the responses from the NYSHPO and Massachusetts SHPO (MASHPO) were used to document the cultural and historic resources at the Mechanicville Facility, San Vel Automotive Facility, Bridge No. 82.04, and Bridge No. 103.73.

Section 3.10.1 describes archaeological resources and potential impacts to those resources for the Mechanicville Facility and the San Vel Automotive Facility, the only locations where there would be construction activities with the potential to affect archaeological resources.

Construction work at Bridge No. 82.04 and Bridge No. 103.73 would not require excavation of footings or other subsurface disturbance, so no archaeological investigation was completed for these bridges. Section 3.10.2 describes historic architectural properties and impacts to those resources at the four locations where the Transaction would have the potential to affect them.

3.11.1 Archaeological Resources

3.11.1.1 Mechanicville Facility

The proposed Mechanicville Facility is on the site of former Boston and Maine Corporation (B&M) and former Delaware and Hudson Railway Company (D&H) rail yards that operated until after World War II. The proposed development activity associated with the Transaction would include restoration of railroad tracks on gravel-surfaced rail beds and installation of paved parking areas and driveways for use in the transloading of trailers, containers, and automobiles between rail and highway modes. The property proposed to be developed for the Mechanicville Facility is primarily to the south of an active single track main line. The facility development would occur largely in areas of the site previously disturbed by former tracks and former railroad buildings and operations. Site access off Route 67 to the north of the existing mainline track would require a new vehicular bridge crossing of the Anthony Kill, which flows west to east along the south side of Route 67 through the City of Mechanicville and into the Hudson River.

The following methods were used to identify the potential for encountering archaeological and cultural resources in the Mechanicville Facility project area:

- Review of NYSHPO web site at <http://www.nysparks.state.ny.us/shpo>
- Review of historic aerial and topographic maps
- Review of New York Archaeological Site Survey forms
- Review of literature, including previous archaeological studies previously conducted in the vicinity

⁵² 49 CFR §1105.8

- Review of railroad valuation maps indicating the level of previous disturbance by development of the former D&H and B&M rail yards
- Pedestrian reconnaissance of the Mechanicville Facility project area

In a letter dated September 8, 2008, the NYSHPO requested that a Phase I survey be conducted to determine the presence or absence of archaeological or other cultural resources in the Mechanicville Facility's area of potential effects. Most of the footprint has been disturbed by the development of the former rail yards, and is not archaeologically sensitive. However, small portions of the footprint may be considered archaeologically sensitive, specifically at the south central portion and at the proposed bridge crossing over the Anthony Kill. The potential sensitivity is based on archaeological studies in the vicinity of the Anthony Kill conducted by Arthur Parker in the 1920s and a survey northwest of the project area conducted by the New York State Museum in 1994. Applicants are undertaking a Phase IB to provide additional testing for archaeological resources, and this study will be completed before construction. If currently unknown National Register eligible sites are discovered in the course of the Phase IB study, consultation with the NYSHPO and, if necessary, design of a treatment plan would be undertaken.

3.11.1.2 San Vel Automotive Facility

The proposed San Vel Automotive Facility site was heavily disturbed by a gravel pit and excavation operation that formerly occupied the site. The proposed new construction would be confined to previously disturbed areas of the site. Therefore, there is no potential for encountering previously undisturbed archaeological resources and no further study was warranted. On September 19, 2008, in response to the information and photos Applicants submitted to the MASHPO on September 10, 2008 regarding the San Vel Automotive Facility, the MASHPO stated: "After review of MHC [Massachusetts Historic Commission] files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources" (see Appendix A). In a telephone conversation on September 26, 2008, the MASHPO confirmed that no further work was necessary to comply with Section 106 because the San Vel Automotive Facility site had been so heavily disturbed. The archaeological resources review under Section 106 is completed at this site, with a finding of **"no historic properties affected."**

3.11.2 Historic Architectural Resources

The following methods were used to identify potential impacts of the Transaction on historic architectural resources in the area of potential effects for the proposed Mechanicville Facility, San Vel Automotive Facility, Bridge 82.04, and Bridge 103.73.

- Performance of historical background research
- Review of historic aerial and topographic maps
- Performance of field survey

3.11.2.1 Mechanicville Facility

Any yard tracks and buildings at the Mechanicville Facility property that could have been more than 50 years of age were previously removed from the site, which, except for the existing rail main line, has revegetated through natural processes. Photographs and information on the few

remaining historic architectural resources were provided to the NYSHPO on September 3, 2008. In a response letter dated September 8, 2008, the NYSHPO did not request any additional information on historic architectural resources submitted for its review. The historic architectural resources review under Section 106 is completed for the Mechanicville Facility, with a finding of **“no historic properties affected”**.

3.11.2.2 San Vel Automotive Facility

The only existing building at the proposed San Vel Automotive Facility site would be moved to a different location on the site. The structure is a metal-sided industrial building on a concrete pad, constructed in the late 1980s/early 1990s, and it would not meet National Register criteria consideration G for buildings less than 50 years old. On September 19, 2008, in response to the information and photos submitted about the San Vel Automotive Facility site, the MASHPO stated: “After review of Massachusetts Historical Commission (MHC) files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.” In a telephone conversation on September 26, 2008, the MA SHPO confirmed that no further work was necessary to comply with Section 106. The historic architectural resources review under Section 106 is completed at San Vel, with a finding of **“no historic properties affected.”**

3.11.2.3 Bridges

Bridge No. 82.04 over Tunnel Street in Athol was built in 1910 by the B&M, with alterations in 1930, 1940, and 1946. It has a riveted deck plate girder superstructure with open timber deck and maintenance walkway, with a 32-foot, 7-inch span with stone masonry abutments and wingwalls. Applicants anticipate that the existing superstructure may be replaced and the substructure may undergo structural repairs. Substructure repairs may include replacement of the backwalls and bearing seats with poured concrete. Bearing-seat and backwall replacement would not alter the cut-stone abutment, which would remain intact. The west abutment of Bridge No. 82.04 is adjacent to the beginning of a stone arch bridge over Mill Brook (Bridge No. 82.05). No repairs or modifications are planned for Bridge No. 82.05. On September 19, 2008, in response to the information and photos submitted about Bridge No. 82.04, the MASHPO stated: “After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.” In a telephone conversation on September 26, 2008, the MASHPO confirmed that no further work was necessary to comply with Section 106. The historic architectural and archaeological resources review under Section 106 is completed for the Bridge No. 82.04, with a finding of **“no historic properties affected.”**

Bridge No. 103.73 over a former branch line near McClelland Road in East Deerfield was built in 1911, with alterations in 1939, 1956, and 1960. It has a riveted deck plate girder superstructure with a 40-foot span, and open timber deck and maintenance walkways along both sides. The abutments and wingwalls are stone masonry with concrete backwalls. Applicants anticipate placing fill underneath Bridge No. 103.73 and the superstructure may be removed. The tangent tracks that pass under this bridge have been removed, and therefore there is no longer a need for a bridge in this location. This bridge is near the main span over the Connecticut River, Bridge No. 103.75. The two bridges are separated by the earthen railroad berm and were constructed separately. No repairs or modifications are planned for the nearby Bridge No. 103.75. Moreover, Bridge No. 103.75 is not in the direct area of potential effects for

construction related to the Transaction. On September 19, 2008, in response to the information and photos submitted about Bridge No. 103.73, the MASHPO stated: “After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.” In a telephone conversation on September 26, 2008, the MASHPO confirmed that no further work was necessary to comply with Section 106. The historic architectural and archaeological resources review is completed for Bridge No. 103.73, with a finding of **“no historic properties affected.”**

3.12 ENVIRONMENTAL JUSTICE

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs each Federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The Council on Environmental Quality (CEQ), which oversees the Federal government’s compliance with EO 12898 and NEPA, developed guidelines (CEQ, 1997) to assist Federal agencies in incorporating the goals of EO 12898 into the NEPA process. The CEQ guidance does not provide a standard approach or formula for identifying and addressing environmental justice issues. Instead, it offers Federal agencies general principles for conducting an environmental justice analysis under NEPA, including that Federal agencies should consider the population structure in the Region of Influence (ROI) to determine whether minority populations, low-income populations, or Indian tribes are present, and if so, whether there may be disproportionately high and adverse human health or environmental effects on any of these groups.

The CEQ guidance defines “minority” and “low income” in the context of environmental justice analysis. Minority individuals are members of the following population groups: American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. CEQ identifies these groups as minority populations when either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage in the ROI is meaningfully greater than the minority population percentage in the general population or appropriate unit of geographical analysis. For purposes of the analysis of minority populations, the term “meaningfully greater” refers to 10 percent higher, and the term “appropriate unit of geographical analysis” refers to the County in which the facility is located or adjacent to.

A low income household is one where the household income is below the Department of Health and Human Services’ poverty guidelines as reported by the Bureau of the Census. A low-income population exists when the low-income population percentage in the ROI is meaningfully greater than the low-income population in the general population or appropriate unit of geographical analysis. For purposes of the analysis of low-income communities, the term “meaningfully greater” refers to 10 percent higher, and the term “appropriate unit of geographical analysis” refers to the County in which the facility is located or adjacent to.

A sequential four-step methodology was followed in order to evaluate environmental justice impacts. Some of these steps were not triggered in this case because the conditions for further analysis were not met.

1. Identify the potential environmental justice populations located in the project areas using the definitions described above.
2. Assess whether any potential impacts would be high and adverse.
3. Assess whether any high and adverse effects would be borne by environmental justice populations.
4. Determine whether any potentially high and adverse effects would be disproportionately borne by environmental justice populations.

This section describes environmental setting and potential environmental impacts to environmental justice populations under the proposed Transaction.

The following environmental justice analysis is presented on a facility-specific level.

3.12.1 Mechanicville Facility

Affected Environment

As Step One of the analysis, demographic data for the population in the vicinity of the proposed Mechanicville Facility was identified. The facility would be located in Census block area 360910625051, near the southeastern border of Census block area 360910620003 and the western edges of Census Block areas 360910622001 and 360910622002 in Saratoga County, New York (see Figure 3.12-1). Table 3.12-1 details the demographic information for Saratoga County and the Census block areas. No Census block areas contain low income populations or minority populations that exceed 50 percent or are 10 percentage points higher than the County level. Therefore, minority or low-income population groups as defined by CEQ are not located within the ROI and further analysis is not necessary. However, the potential environmental consequences of the Transaction in Step Two have been considered below for informational purposes.

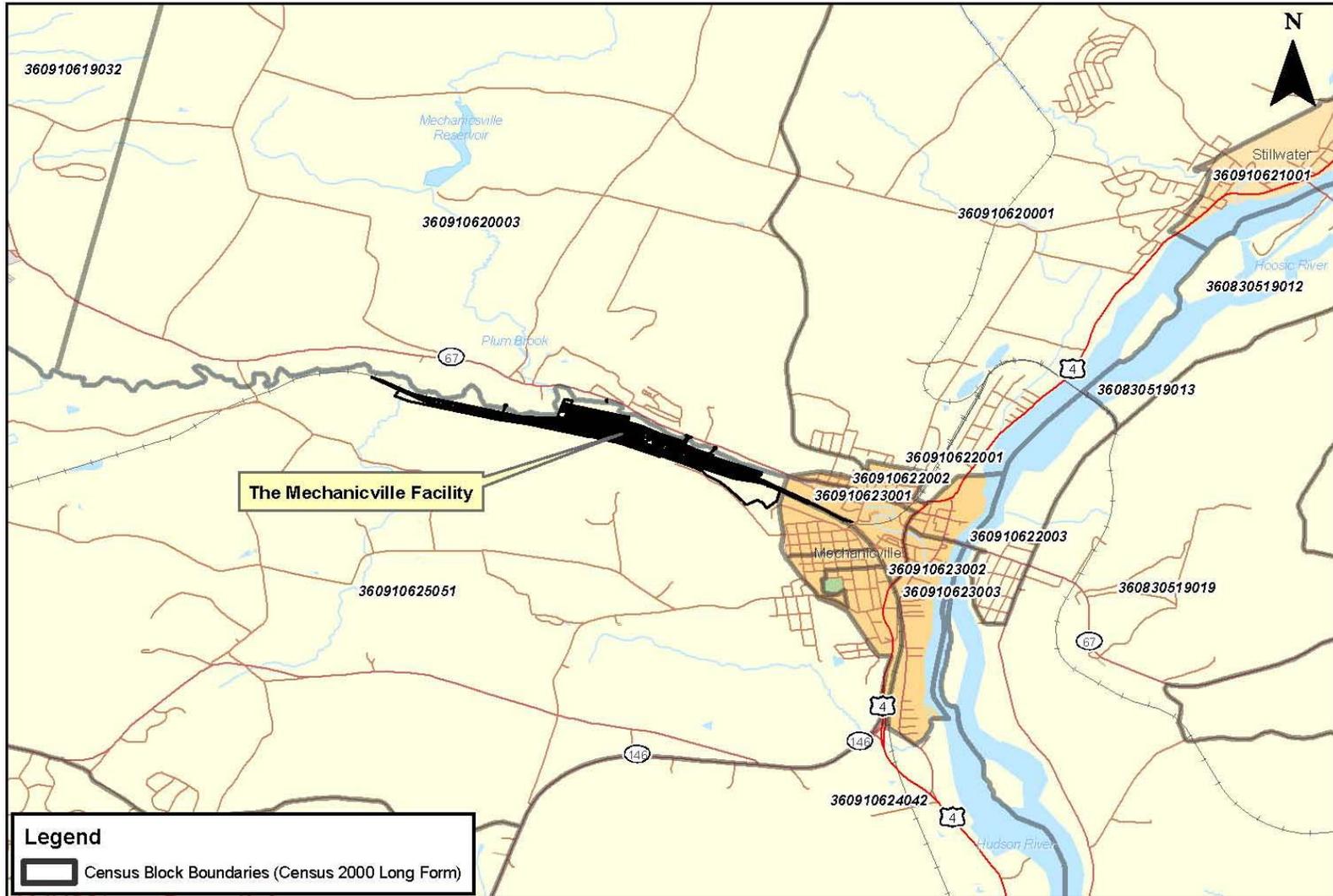
Environmental Consequences

As Step Two of the analysis methodology, it was assessed whether any high and adverse human health or environmental impacts to human populations would occur as a result of the proposed Transaction. The types of impacts that could affect human health or environmental impacts to human populations include air quality, noise, hazardous waste sites, water resources, and socioeconomics. However, the analyses in Chapter 3 concluded that the proposed Transaction would result in no or only minor adverse (and potentially beneficial, in the case of socioeconomics) impacts to these resource categories. As a result of this absence of high and adverse impacts to human populations in the vicinity of the Mechanicville Facility, Steps Three and Four of the impact assessment methodology were not conducted.

**Table 3.12-1
Demographic Data for Proposed Mechanicville Facility (percentage of population)**

	Saratoga County	Census Block Area 360910620003	Census Block Area 360910625051	Census Block Area 360910622001	Census Block Area 360910622002
White	96	98.3	97.3	99.4	97.8
Black or African American	1.4	1.1	0	0	0
American Indian and Alaska Native	0.2	0	0.61	0	0
Asian	1	0	1.47	0.6	0
Native Hawaiian and Other Pacific Islander	0	0	0	0	0
Some Other Race	0.4	0	0	0	0
Two or More races	1	0	0.61	0	0
Hispanic or Latino (of any race)	1.4	0	0	0	1.2
Families below poverty level	3.8	9.5	4.6	11.6	11.4

Figure 3.12-1
Census Blocks in the Vicinity of the Mechanicville Facility



3.12.2 San Vel Automotive Facility

Affected Environment

As Step One of the analysis, the demographic data for the population in the vicinity of the proposed San Vel Automotive Facility was identified. The proposed San Vel Automotive Facility and related operations would be located in Census block area 250173251001, near the northern border of Census block area 250173241007 in Middlesex County, Massachusetts (see Figure 3.12-2). Table 3.12-2 details the demographic information for Middlesex County and both Census block areas. Neither Census block area contains low income populations or minority populations that exceed 50 percent or are 10 percentage points higher than the County level. Accordingly, because minority or low-income population groups as defined by CEQ are not located within the ROI, further analysis is not necessary. As in the case of the Mechanicville Facility, however, the potential environmental consequences of the Transaction in Step Two have been considered below for informational purposes.

**Table 3.12-2
Demographic Data for Proposed San Vel Automotive Facility
(percentage of population)**

	Middlesex County	Census Block Area 250173241007	Census Block Area 250173251001
White	85.9	91	84.8
Black or African American	3.4	0	4.9
American Indian and Alaska Native	0.2	0	0
Asian	6.3	4	0
Native Hawaiian and Other Pacific Islander	0	0	0
Some Other Race	2.1	0	0
Two or More races	2.2	2.5	5.9
Hispanic or Latino (of any race)	4.6	2.5	4.4
Families below poverty level	4.3	5.1	5

Environmental Consequences

As Step Two of the analysis methodology, it was assessed whether any high and adverse health or environmental impacts to human populations would occur as a result of the proposed Transaction. The types of impacts that could affect human health or environmental impacts to human populations include air quality, noise, hazardous waste sites, water resources, and socioeconomics. However, the analyses in Chapter 3 concluded that the proposed Transaction would result in no or only minor adverse (and potentially beneficial, in the case of socioeconomics) impacts to these resource categories. As a result of this absence of high and adverse impacts to human populations in the vicinity of the San Vel Facility, Steps Three and Four of the impact assessment methodology were not conducted.

3.12.3 Ayer Intermodal Facility

Affected Environment

As Step One of the analysis, the demographic data for the population in the vicinity of the proposed Ayer Intermodal Facility was identified. The Ayer Intermodal Facility is located in

Census block area 250277141001, abutting the southwestern border of Census block area 250173251006 in Middlesex County, Massachusetts (see Figure 3.12-2). Table 3.12-3 details the demographic information for Middlesex County and both Census block areas. Census block area 250277141001 contains Black or African American populations and Hispanic or Latino populations that are more than 10 percentage points higher than the County level. Given the presence of minority or low income groups within the ROI, Step Two of the Environmental Justice analysis – in which any high and adverse health or environmental impacts to human populations are assessed for each resource area – is warranted. The results of this analysis (provided below) indicate that no high and adverse impacts to human populations would occur and thus, Steps Three and Four of the impact assessment methodology were not necessary.

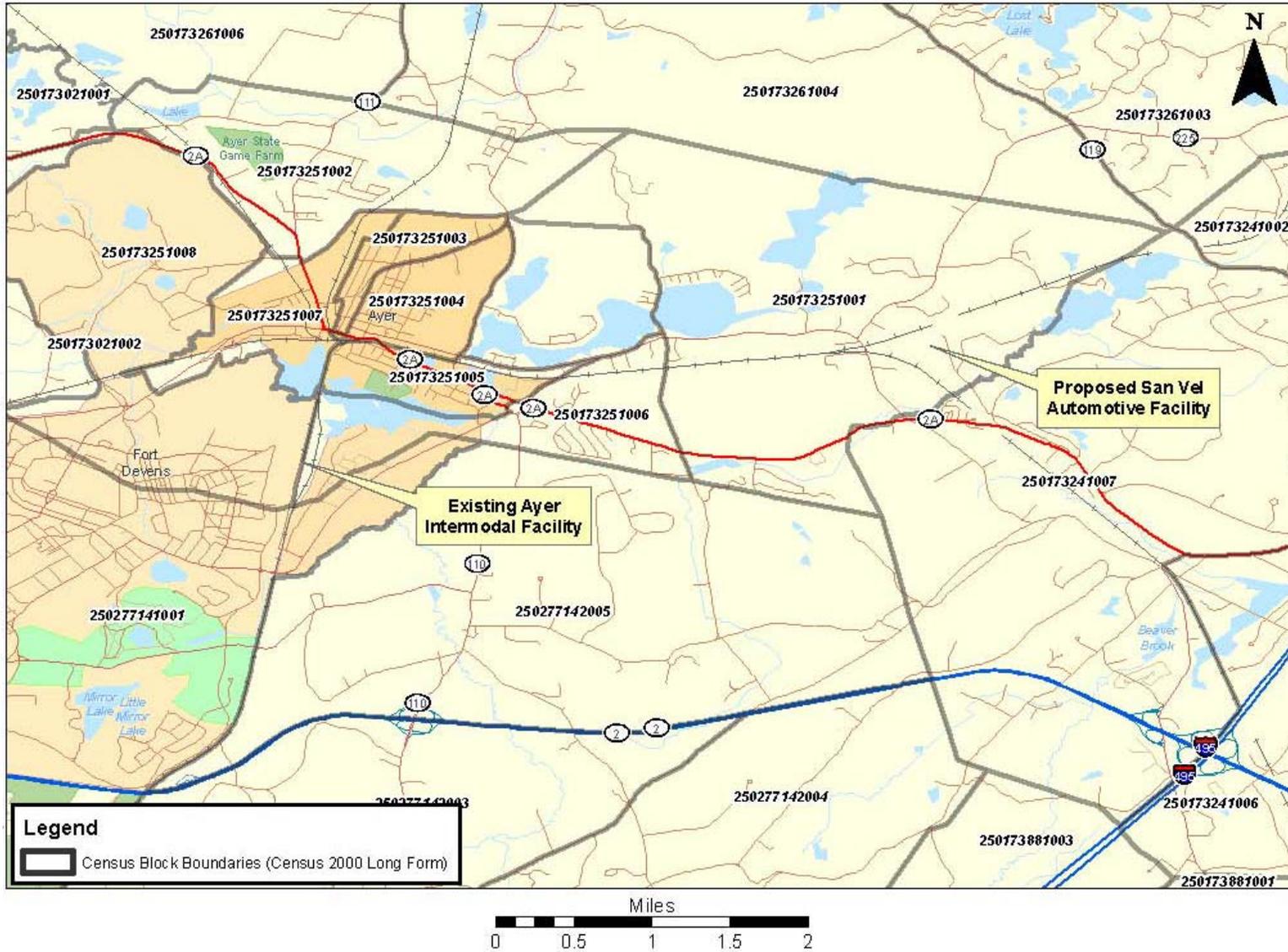
**Table 3.12-3
Demographic Data for the Ayer Intermodal Facility
(percentage of population)**

	Middlesex County	Census Block Area 250173251006	Census Block Area 250277141001
White	85.9	81.9	23.3
Black or African American	3.4	6.3	30.3
American Indian and Alaska Native	0.2	0	0
Asian	6.3	3.2	2
Native Hawaiian and Other Pacific Islander	0	0	0
Some Other Race	2.1	0	0
Two or More races	2.2	0	0
Hispanic or Latino (of any race)	4.6	8.6	44.3
Families below poverty level	4.3	9.5	0

Environmental Consequences

As Step Two of the analysis methodology, it was assessed whether any high and adverse health or environmental impacts to human populations would occur as a result of the proposed Transaction. The types of impacts that could affect human health or environmental impacts to human populations include air quality, noise, hazardous waste sites, water resources, and socioeconomics. However, the analyses in Chapter 3 concluded that the proposed Transaction would result in no or only minor adverse impacts to these resource categories. As a result of this absence of high and adverse impacts to human populations in the vicinity of the Ayer Intermodal Facility, Steps Three and Four of the impact assessment methodology were not conducted.

Figure 3.12-2
Census Blocks in the Vicinity of the San Vel Automotive Facility and Ayer Intermodal Facility



3.13 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations that implement the procedural provisions of the National Environmental Policy Act (NEPA) define cumulative effects as “the impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.”⁵³ To assist Federal agencies in assessing cumulative impacts under NEPA, CEQ developed a handbook entitled *Considering Cumulative Effects under the National Environmental Policy Act*. These guidelines were used to evaluate whether planned and reasonably foreseeable projects in the area, in combination with the potential impacts of the proposed Transaction, would cumulatively result in significant adverse environmental impacts. The cumulative impacts for those situations where planned or reasonably foreseeable projects overlapped with the proposed Transaction in terms of geographic area and time frame were analyzed. The proposed Transaction is not expected to cumulatively result in significant adverse environmental impacts.

Apart from the limited and few direct impacts attributable to this Transaction that are identified in this Environmental Assessment (EA), this assessment considered whether the approval of this Transaction would produce any indirect effects, i.e., impacts caused by the action but that occur later in time or are farther removed in distance, but are still reasonably foreseeable at the time that the Transaction is pending before the Board. No indirect impacts attributable to this Transaction were found.

As described in Chapter 3 of this EA, the Transaction would result in no or only negligible impacts to air quality, environmental justice populations, socioeconomic conditions, energy resources, geology and soils, grade crossing delay and safety, hazardous waste sites, land use, noise and vibration, and the local road network, and thus those resource categories are not discussed below. The Transaction could result in minor impacts to water, biological, and cultural resources at the Mechanicville Facility and the San Vel Automotive Facility. Therefore, this section addresses cumulative impacts to water, biological, and cultural resources related to other potential developments near these two facilities. Based on this analysis, there would be minimal cumulative impacts related to the Transaction.

3.13.1 Mechanicville Facility

The potential cumulative effects of the planned or reasonably foreseeable projects to take place in the vicinity of the proposed Mechanicville Facility were evaluated. They are as follows:

- *Fairway Meadow and Fairway Estates Housing Developments (Fairway Meadow)*: Phase II of these developments is currently under construction. Approximately 100 of the housing units (approximately one-acre lot size, with an expected 230 homes at build out) in the Fairway Meadow developments are currently built and occupied. These developments are located to the south and adjacent to the proposed Mechanicville Facility and sit on approximately 243 acres. Construction is scheduled for completion in 2010, but this timeline may vary depending on the rate at which the units sell.
- *Luther Forest Technological Campus (LFTC)*: The LFTC is a large industrial park planned to be built in the neighboring Towns of Stillwater and Malta. This development will be

⁵³ 40 CFR § 1508.7

situated on approximately 1,350 acres and will be located approximately five miles northwest of the proposed Mechanicville Facility. The Campus will be utilized for semiconductor and related nanotechnology manufacturing. The development will include construction of a roadway network providing access driveways from the Campus to Route 9, Route 67 and Cold Springs Road. Plans for construction of the LFTC and associated roadway network contemplated development phases lasting until 2025. A construction application for the LFTC was submitted in February 2008. Commencement of construction of the LFTC is contingent upon tenants and permitting.

- *Proposed Round Lake Bypass*⁵⁴: The Round Lake Bypass is located between I-87, exit 11, and US Route 9 in the Village of Round Lake and the Town of Malta, Saratoga County. The project involves geometric improvements to Curry Road, US Route 9 and US Route 67, a new highway and a new bridge over Ballston Creek to remove through traffic in the Village of Round Lake, preserve the village's historic district and improve the interstate connection between I-87 and US Route 9. The 1.6-mile Round Lake Bypass is currently under construction and is scheduled for completion in late 2009. The proposal for the LFTC increased the priority of the Round Lake Bypass to accommodate campus development in addition to ongoing development in southeastern Saratoga County.⁵⁵

Water Resources

The Fairway Meadow developments are in the same drainage area as the proposed Mechanicville Facility. Potential impacts to water resources resulting from the remaining houses yet to be constructed, such as increased storm water run-off and other non-point pollution, would be typical of residential developments and addressed through local planning and permitting processes. Therefore, minimal adverse cumulative impacts are anticipated.

A search of U.S. Army Corps of Engineers, New York District Public Notices between 2004 and July 2008 indicated that the LFTC (permit application ref. no. NAN-2005-77-WCO) is the only planned or reasonably foreseeable project that would entail in-water work in the Anthony Kill waterway. If the permit is issued and if the proposed project is constructed, the development is expected to impact 4.84 acres of wetlands and other waters within the Anthony Kill waterway upstream of the Mechanicville Facility site. The LFTC would have to obtain the appropriate permits and meet regulatory requirements for impacts to these waters, which may include wetlands compensation to ensure no net loss of jurisdictional wetlands. The LFTC project calls for no net loss of wetlands – and even a net gain – through the creation of a six-acre wetland just south of the project site (LFTC Final Generic Environmental Impact Statement, 2003). The project, like the Mechanicville Facility as discussed in Section 3.6, would also comply with the conditions of CWA Section 401 and Section 404 permits, which include measures to protect water quality. If the LFTC phased projects are eventually constructed, permitting requirements

⁵⁴ The Round Lake Bypass, currently under construction and anticipated to be completed prior to 2012, is considered in the analysis of the Transaction's effects on the local road network in this EA in Section 3.1.1.1. However, the potential effects of this bypass to water and biological resources are considered in this cumulative impacts analysis to determine the potential for adverse cumulative impacts that could occur in conjunction with the proposed Transaction and other reasonably foreseeable projects in the area.

⁵⁵ The towns of Malta and Stillwater released their final statement of findings in 2004 for the proposed LFTC including the requirement that the Round Lake Bypass be constructed prior to the issuance of a certificate of occupancy for the technology campus. As a result, NYSDOT increased the priority and funding for the project (NYSDOT, 2006).

and associated mitigation measures would minimize any adverse cumulative impacts to wetlands and other waters in the vicinity of the proposed Mechanicville Facility.

Construction of the Round Lake Bypass is anticipated to impact approximately 4.17 acres of jurisdictional wetlands. This project is also required to comply with the conditions of CWA Section 401 and Section 404 permits. New York State Department of Transportation (NYSDOT) plans to mitigate impacts to wetlands at the roadway construction site by providing wetland and woodland habitat replacement at a ratio of 2:1 (created: impacted). These wetlands will be created at several locations in the immediate project area and one location outside of the immediate project area but within the same watershed (NYSDOT, 2006). This required mitigation would minimize any cumulative impacts to wetlands and other waters in the Mechanicville Facility area as a result of construction of the Round Lake Bypass.

Biological Resources

The LFTC, Fairway Meadow developments, and the Round Lake Bypass have the potential to generate minimal impacts to biological resources. Wildlife impacts resulting from the Fairway Meadows developments are minimal. It is expected that the level of development in the area associated with the City of Mechanicville would limit wildlife inhabitants to species that are tolerant of human disturbance and urban areas, such as song birds, mice, skunks, raccoons, squirrels, and rabbits. Larger mammals such as deer and coyotes are likely to be found in the surrounding areas. Some wildlife displacement may have occurred as a result of the Fairway Meadows housing developments. However, suitable habitat is present west of the housing developments to maintain wildlife populations despite this displacement. Thus, minimal adverse cumulative impacts to biological resources are anticipated.

The LFTC would be developed on 1,350-acres of a mixed deciduous-conifer forest approximately five miles from the proposed Mechanicville Facility. This forest is the site of a former pine plantation, and was managed for timber extraction for over 50 years. The LFTC would entail development and forest-clearing on approximately fifty percent of the project site. The other fifty percent would be retained as green space and as a forest buffer for surrounding wildlife. No old-growth trees would be impacted through forest-clearing at the site. Some displacement of wildlife to the larger forest area is expected as a result of forest-clearing at the LFTC site (LFTC Final Generic Environmental Impact Statement, 2003). However, considering the amount of green space preservation at the LFTC site, the amount of similar forested habitat in the surrounding areas, and the minimal amount of habitat clearance at the Mechanicville Facility, there would be minimal adverse cumulative impacts to biological resources in the vicinity of the proposed Mechanicville Facility.

The Round Lake Bypass, currently under construction, is anticipated to require clearance of approximately 30 acres of mature wooded upland forest for roadway construction. Some displacement of wildlife to the larger forest area is expected as a result of this development. This displacement would be temporary and would be limited to the construction phase of the road project. In addition, habitat in the vicinity of the roadway is not anticipated to be substantially altered in a manner that would impede the natural movements of bird and wildlife populations. As the displacement of wildlife that is expected to occur at both the Round Lake Bypass and the Mechanicville Facility project sites is both temporary and minimal, there would be minimal adverse cumulative impacts to biological resources in the vicinity of the proposed Mechanicville Facility.

Cultural Resources

In a letter dated September 8, 2008, the NYSHPO requested that a Phase I survey be conducted to determine the presence or absence of archaeological or other cultural resources in the Mechanicville Facility's area of potential effects. As described at Section 3.11.1.1, Applicants are undertaking a Phase IB study to provide additional testing for archaeological resources, and this study will be completed before construction begins. If currently unknown National Register eligible sites are discovered in the course of the Phase IB study, consultation with the NYSHPO and, if necessary, design of a treatment plan would be undertaken. There are no other projects in the vicinity of the Mechanicville Facility that, in conjunction with the proposed facility, could result in a cumulative impact on cultural resources.

3.13.2 San Vel Automotive Facility

The potential cumulative effects of the planned or reasonably foreseeable projects to take place in the vicinity of the proposed San Vel Automotive Facility were evaluated. They are as follows:

- *Bulk Transfer Facility:* Norfolk Southern Railway Company currently has plans to construct a bulk transfer facility to handle plastic pellets near the location of the San Vel Automotive Facility, on property leased from PARI (or a subsidiary) or, after approval of the Transaction, from Pan Am Southern, LLC (PAS). This facility is independent of the proposed Transaction, and would be a Norfolk Southern Railway Company facility, not a PAS facility. It is planned to be located on approximately 10 acres of the 126.1-acre parcel between the proposed San Vel Automotive Facility and the existing east-west main line.
- *Pingry Hill Subdivision:* This subdivision is planned to be developed approximately one mile to the west of the San Vel Automotive Facility, at the intersection of Snake Hill Road and Route 2A. This development is currently in Phase I of completion, with six units occupied and fifteen currently sold and under construction. When finished, the development is planned to consist of a total of 163 units sitting on approximately 200 acres. Construction of these houses is planned to be completed within 5.5 to 6 years, but this timeline may vary depending on the rate at which the units sell.
- *Willow Road Development:* This development is planned off Willow Road near the intersection with Route 2A, adjacent to the San Vel Automotive Facility property on its southwest border (but separated by an existing rail line). Of the 97 units planned for inclusion in the Willow Road Development, eleven units have been built (ten of which are occupied) and an additional three are under construction. Construction of the remaining houses is planned to be completed within three years, but this timeline may vary depending on the rate at which the units sell.
- *Potential Changes in Passenger Operations:* On October 20, 2008, in compliance with the Board's September 25, 2008 decision in this proceeding, Applicants, the Executive Office of Transportation and Public Works for the Commonwealth of Massachusetts (EOTPW) and the Massachusetts Bay Transportation Authority (MBTA) reported back to the Board concerning their negotiations regarding unresolved issues related to the Transaction. In that filing, the parties reported that they have reached agreement as to resolution of the issues deemed essential to each party, and EOTPW and MBTA withdrew any objection those parties had to the proposed Transaction. In addition to resolving issues regarding the assignment and

sharing of certain freight easements and rights and obligations related to the East Deerfield, MA yard (which is part of the Transaction, but is not anticipated to experience any changes in activity resulting from the Transaction), the parties have committed to continue good faith negotiations concerning the Commonwealth of Massachusetts' plans to expand passenger operations over lines currently owned by rail carrier subsidiaries of PARI, including certain rail line segments that are part of the Transaction and other rail lines that are not part of the Transaction. The parties agreed to conduct a joint capacity study to determine whether additional capacity may be needed to accommodate certain increases in operations anticipated by PAS and expansions in passenger traffic under consideration by MBTA. At this time, however, no specific plans have been developed by the MBTA to implement any such increase in passenger rail traffic, and therefore, such potential changes are not included in the analysis of cumulative effects.

Water Resources

The bulk transfer facility proposed by Norfolk Southern Railway Company and a portion of the Willow Road development are in the same drainage area as the San Vel Automotive Facility and therefore, have the potential to generate cumulative effects to water quality. The Pingry Hill subdivision is considerably west of these projects in a different drainage area. Potential impacts resulting from the Willow Road development, such as increased storm water run-off and traffic, are expected to be typical of residential developments and would be addressed through local planning and permitting processes.

Given the proximity of the planned Norfolk Southern Railway Company bulk transfer facility to the San Vel Automotive Facility, as well as the sensitivity to stormwater controls at both facilities, Applicants' incorporated stormwater controls related to Norfolk Southern Railway Company's planned bulk transfer facility into the Storm Water Pollution Prevention Plan (SWPPP) for the San Vel Automotive Facility. The SWPPP includes collection and treatment of stormwater from both of these facilities, thus ensuring there would be no discharge to surface water. As a result, water quality of wetland surface water or associated groundwater and wetland hydroperiods would not be adversely affected by stormwater run-off from either the San Vel Automotive Facility or the planned Norfolk Southern Railway Company bulk transfer facility. Mitigation measures implemented by the bulk transfer facility and the San Vel Automotive Facility, as well as the local planning and permitting process that the Pingry Hill Subdivision and the Willow Road Development would undergo, would ensure that only minimal adverse cumulative water quality impacts would occur in the vicinity of the San Vel Automotive Facility.

Biological Resources

A review of the Massachusetts Natural Heritage and Endangered Species Program (NHESP) data indicated that a small portion of the proposed San Vel Automotive Facility falls within NHESP Priority Habitat for the Blanding's Turtle, a state-protected threatened species. The planned Norfolk Southern Railway Company bulk transfer facility would be located immediately adjacent to the San Vel Automotive Facility and within a narrow portion of the priority habitat area associated with the Blanding's Turtle. Potential impacts to Blanding's Turtle habitat from the bulk transfer facility were considered in conjunction with the San Vel Automotive Facility footprint. Adverse effects on the Blanding's Turtle would be avoided through design of the facility's stormwater management system to ensure the water quality of potential Blanding's Turtle habitat in the area surrounding the facility site. Moreover, the footprint of the San Vel

Automotive Facility and the footprint of the bulk transfer facility were designed to avoid and minimize impacts to potential Blanding's Turtle habitat. Neither the Pingry Hill Subdivision nor the Willow Road Development is located within NHESP Priority Habitat for rare, threatened, and endangered species.

Minor cumulative impacts to other wildlife may occur. Development in the general area of the Transaction is expected to limit wildlife in the project areas to species that are tolerant of human disturbance and urban areas, such as song birds, mice, skunks, raccoons, squirrels, and rabbits. Both housing developments will necessitate vegetation removal that will result in the displacement of some wildlife. However, ample habitat remains in the area characterized primarily by rural, large-lot development. Thus, minimal adverse cumulative impacts to biological resources are expected in the vicinity of the proposed San Vel Automotive Facility.

Cultural Resources

No historic or archeological resources are anticipated to be affected at the San Vel Automotive Facility as a result of the Transaction. Accordingly, no cumulative impacts to cultural resources are anticipated in conjunction with other projects.

