4.11 FARMLAND SOILS

4.11.1 INTRODUCTION

This chapter discusses the presence of farmland soils that may be affected by the proposed South Coast Rail alternatives and associated stations and layover facilities. Section 4.11.1 provides general information relative to farmland soils, associated regulations, and state agricultural programs; Section 4.11.2 identifies the project Study Area, lists the farmland soils type, and describes existing farmland soils potentially affected by the South Coast Rail project; and Section 4.11.3 evaluates the specific impacts of each of the proposed alternatives to designated areas of mapped farmland soils. Background information on the proposed project and a summary of each of the proposed alternatives are provided in Chapter 3, "Alternatives," and in the November 2008 Environmental Notification Form (ENF).[1]

This Chapter addresses the requirements of the Certificate of the Secretary of Environmental Affairs on the Environmental Notification Form (ENF) dated April 3, 2009. The Secretary's Certificate on the ENF required that the Draft Environmental Impact Report (Draft EIR):

- The DEIR should include cumulative totals for land alteration and impervious area, as well as a breakdown for specific elements of the project such as stations and layover facilities.
- The DEIR should include a comparative analysis of land alteration for the alternatives, which should include a breakdown of the different types and amounts of land altered, for example: forest; woodland; wetland resource area (bordering vegetated wetlands, riverfront, bank, etc.); wetland buffer; priority habitat; previously disturbed area (specify land type/use).

Chapter 5, "Summary of Indirect Effects and Cumulative Impacts," evaluates the potential effects of induced growth and cumulative losses of farmland soils in the South Coast region.

4.11.1.1 RESOURCE DEFINITION

Designated farmland soils are comprised of three classes of soils that have been identified by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS): prime farmland, unique farmland, and farmland of statewide or local importance. These soil classes have been identified as contributing to the agricultural productivity of the country and should be protected from conversion to non-agricultural uses by federal programs.

Prime farmland is defined by the USDA NRC as "land that has the best combination of physical and chemical characteristics" for agriculture. This includes land with these characteristics used for livestock or timber production, but not land that is already urbanized or used for water storage. Unique farmland is defined as "land other than prime farmland that is used for production of specific high value food and fiber crops," with such crops defined by the Secretary of Agriculture. Farmland of statewide or local importance is defined as "farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops."

4.11.1.2 REGULATORY CONTEXT

In 1981, the USDA passed the Farmland Protection Policy Act (FPPA)[2] to ensure that significant agricultural lands are protected from being converted to non-agricultural uses during federal programs.

[1] Executive Office of Transportation and Public Works, South Coast Rail Environmental Notification Form, November 2008.
[2] United States Department of Agriculture, Farmland Protection Policy Act, 1981, (Public Law 97-98, 7 U.S.C. 4201).

The determination of whether or not farmlands are subject to FPPA requirements is based on soil type and the land does not have to be actively used for agriculture. The FPPA regulates four types of farmland soils:

- Prime Farmland
- Unique Farmland
- Farmland of Statewide Importance
- Farmland of Local Importance

The USDA has adopted a policy of mitigating loss of farmland by any project that uses state funds, requiring the agency to replace the land or pay money into a local fund for preserving farmland. Massachusetts Executive Order 193, Preservation of Agricultural Land, directs all state agencies to mitigate against the conversion of agricultural land to other uses when feasible alternatives are available.

4.11.1.3 STATE AGRICULTURAL PROGRAMS

This section provides an overview of the agricultural programs that are available in Massachusetts. Farmlands in southeastern Massachusetts are considered important because they play an important role in the local economy, keeping the taxes down, preventing sprawl, and maintaining the overall quality of life preferred by the local residents.[3]

Massachusetts Agricultural Preservation Restriction Program

The state's Agricultural Preservation Restriction program (APR) is a voluntary program that encourages farmers to keep their land in active agricultural use. To alleviate development pressures on important pieces of agricultural land, the state provides funds for municipalities to pay an owner the difference between the fair market value and the "agricultural value" of the property in exchange for a permanent deed restriction that proscribes any use that would impair the property's agricultural viability. Participation in the APR program is competitive, and APR funding is primarily allocated to communities that have demonstrated planning support for agricultural uses through tools such as right-to-farm bylaws and a commitment to smart growth principles.[4]

Almost two thirds of the South Coast region communities along the southern section of I-495 (Bridgewater, Middleborough, Norton Raynham, Taunton, and Wareham) and roughly one-third of the communities south of I-495, furthest away from Boston, (Fall River and New Bedford and the towns of Acushnet, Dartmouth, Dighton, Fairhaven, Lakeville, Marion, Mattapoisett, Rehoboth, Rochester, Seekonk, Somerset, Swansea, and Westport) participate in the APR program. In the northern suburban communities closest to Boston (Attleboro, North Attleboro, Canton, Easton, Foxborough, Mansfield, Sharon, and Stoughton) only one community, Foxborough, participates. Dartmouth, Fairhaven, Norton, Rehoboth, Rochester, Taunton, and Westport all have used the program one or more times since 2000. Communities showing sustained participation in the program—Berkley, Dartmouth, Rehoboth, Rochester, and Westport—are semi-rural, with over 50 percent developable land and low amounts of permanently protected open space. With the exception of Westport, they also have experienced high rates of population growth since 1990. Continued participation in the APR program may allow these communities to protect important agricultural properties from suburbanization trends.

[3] Southeastern Regional Planning and Economic Development District, Regional Open Space Plan, 2008.
[4] ibid.

Regional Open Space Plan

A Regional Open Space Plan (ROSP) was developed by a committee of municipal representatives working with the Southeastern Regional Planning and Economic Development District (SRPEDD) to protect and preserve commonly shared land and resources in the Lower Taunton River Watershed.

As noted in the ROSP, these resources include some of the richest agricultural soils in the Taunton River Basin and some of the best examples of natural, aquatic, and estuarine resources in the region. For example, the riverfront lands along the Taunton River have some of the richest alluvial soils in the Commonwealth, and there are numerous farms along the river within the town of Berkley. Agriculture is the predominant land use in the towns of Berkley, Freetown, and Lakeville.[5] One strategy identified by the ROSP was to acquire and enroll farmland soils into APR programs.

Farm Viability Enhancement Program

The Farm Viability Enhancement Program is a state technical assistance program that works with farmers to provide a business plan for their operations. This program offers farmers financial assistance when they sign a short-term non-development agreement.[6]

Chapter 61A

Chapter 61A is an agricultural and horticultural land classification program designed to encourage the preservation of valuable farmland and promote active agricultural and horticultural land use in Massachusetts. It offers local tax benefits to property owners willing to make a long term commitment to farming, by allowing agricultural lands of a least 5 continuous acres to be taxed at actual use value rather than at its development potential. In exchange for these benefits, when the land is removed from farming, the city or town in which the land is located is given the right to recover some of the tax benefits and an option to purchase the property if the land is sold or used for any other purpose than raising farm products.[7]

4.11.2 EXISTING CONDITIONS

4.11.2.1 REGIONAL OVERVIEW OF EXISTING CONDITIONS

This section includes a general description of the South Coast Rail Study Area and lists the farmland soil types that may occur in the Study Area.

Study Area

The South Coast area of Massachusetts is generally considered the region of southeastern Massachusetts within southern Bristol and Plymouth Counties, bordering on Buzzards Bay or Mount Hope Bay. The farmlands Study Area includes areas that are outside existing or inactive railroad or highway corridors, where construction could disturb or displace soils used for, or potentially used for,

[5] Southeastern Regional Planning and Economic Development District, Regional Open Space Plan, 2008.
[6] ibid.
[7] Massachusetts Department of Revenue, Division of Local Services Property Tax Bureau's "Taxpayer's Guide to Classification and Taxation of Agricultural/Horticultural Land in Massachusetts" Brochure dated October 1997. Chapter 61A. (http://www.charltontrust.org/Chapter_61A_brochure.htm)

farming. Farmland soils and active farmlands were identified within portions of the proposed stations and the Attleboro Bypass.

In order to evaluate farmland soils within the South Coast Rail Study Area, the Natural Resources Conservation Service (NRCS) soils data available through MassGIS were used to create maps of the alternatives that show the farmland soils at the station sites and a 100-foot buffer from the centerline of each existing and proposed alternative.

Farmland Soil Types

There are a total of 89 soil types that have been identified in Bristol County. Eighteen of these soils are considered prime farmland soils, two are considered farmland soils of unique importance (soil unit symbols 51A and 51B), and eight are considered farmland soils of statewide importance (soil unit symbols 254C, 255A, 255B, 256A, 305C, 306B, 306C, and 311B).

The importance of farmland soils classification is that it identifies the location and extent of the most suitable land for the production of food, feed, fiber, forage, and oilseed crops. This information is useful in the management, maintenance, and productive capacity of agriculture.[8] Table 4.11-1 lists the farmland soils that are identified by the NRCS Soil Survey in Bristol County.

4.11.2.2 EXISTING CONDITIONS WITHIN THE STUDY CORRIDOR

This section lists and describes the farmland soils in areas of each project alternative that are currently undeveloped (station sites) or do not have existing transit infrastructure (rail corridors and highways). With the exception of the Attleboro Bypass, all alternatives are located along existing or abandoned right-of-ways that have been previously disturbed for transportation activities. Five of the station sites being proposed include areas that are identified as potentially important agricultural lands. The bus stations will be the same as the rail station sites. Table 4.11-2 provides a list of proposed stations and whether or not designated farmland soils are present on those sites.

Southern Triangle (Common to All Rail Alternatives)

Within the Southern Triangle study area, the rail alternatives would all utilize existing segments of the right-of-way along the New Bedford Main Line and Fall River Secondary. Because these sections of the project would not incorporate land outside the existing railroad right-of-way, the presence of farmland soils adjacent to the rail right-of-way was not investigated. All Build Alternatives would include designated farmland soils at the proposed Freetown station site, as described below.

Freetown Station Site

The approximately 18-acre Freetown Station site is partially undeveloped and partially developed with an industrial land use. The developed portion is occupied by a self-storage business. The parcels surrounding the proposed station site are mainly forested, with some residential and industrial uses.

The Freetown station site includes areas of prime farmland soils (Figure 4.11-1). Table 4.11-3 lists the soil types, farmland classification, acreage, and percent coverage that are found within the Freetown station site (prime farmland is noted in bold).

[8] U.S. Department of Agriculture, Natural Resources Conservation Service, Soils (Farmland Classification). Website accessed on February 2009. (http://soils.usda.gov/technical/handbook/contents/part622.html#ex2)

Table 4.11-1 Prime and Unique Farmland Soils in Bristol County

Soil Unit	Soil Map Unit Name	Farmland Classification
51A	Swansea muck, 0 to 1 percent slopes	Farmland of unique importance
52A	Freetown muck, 0 to 1 percent slopes	Farmland of unique importance
223A	Scio silt loam, 0 to 3 percent slopes	Prime farmland
230A	Unadilla very fine sandy loam, 0 to 3 percent slopes	Prime farmland
230B	Unadilla very fine sandy loam, 3 to 8 percent slopes	Prime farmland
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	Prime farmland
254B	Merrimac sandy loam, 3 to 8 percent slopes	Prime farmland
254C	Merrimac sandy loam, 8 to 15 percent slopes	Farmland of statewide importance
255A	Windsor loamy sand, 0 to 3 percent slopes	Farmland of statewide importance
255B	Windsor loamy sand, 3 to 8 percent slopes	Farmland of statewide importance
256A	Deerfield loamy fine sand, 0 to 5 percent slopes	Farmland of statewide importance
256B	Deerfield loamy sand, 3 to 8 percent slopes	Prime farmland
258A	Amostown fine sandy loam, 0 to 3 percent slopes	Prime farmland
260A	Sudbury fine sandy loam, 0 to 3 percent slopes	Prime farmland
260B	Sudbury fine sandy loam, 0 to 8 percent slopes	Prime farmland
275A	Agawam fine sandy loam, 0 to 3 percent slopes	Prime farmland
275B	Agawam fine sandy loam, 3 to 8 percent slopes	Prime farmland
276A	Ninigret fine sandy loam, 0 to 3 percent slopes	Prime farmland
305A	Paxton fine sandy loam, 0 to 3 percent slopes	Prime farmland
305B	Paxton fine sandy loam, 3 to 8 percent slopes	Prime farmland
305C	Paxton fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance
306B	Paxton fine sandy loam, 3 to 8 percent slopes, very stony	Farmland of statewide importance
306C	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	Farmland of statewide importance
310A	Woodbridge fine sandy loam, 0 to 3 percent slopes	Prime farmland
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	Prime farmland
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	Farmland of statewide importance
325B	Newport silt loam, 3 to 8 percent slopes	Prime farmland
345B	Pittstown silt loam, 2 to 8 percent slopes	Prime farmland

The following sections summarize the NRCS soil descriptions of the prime farmland soil found at the Freetown station site.

Merrimac Sandy Loam (254B)[9]

This soil is gently sloping, deep, and somewhat excessively drained. It is adjacent to or near large streams and rivers. Areas of this soil are irregularly shaped and range from about 4 to 75 acres. Most are about 15 acres.

[9] USDA Soil Conservation Service. 1981. Soil Survey of Bristol County, Massachusetts (Southern Part).

Table 4.11-2 Significant Farmland Soils found Within the Proposed Stations

Municipality	Station Name	Prime Farmland	Farmland of Unique Importance	Farmland of Statewide Importance
New Bedford	King's Highway	--	--	--
New Bedford	Whale's Tooth	--	--	--
Freetown	Freetown	✓	--	--
Fall River	Fall River Depot	--	--	--
Fall River	Battleship Cove	--	--	--
Easton/Stoughton	North Easton	✓	--	✓
Easton	Easton Village	--	--	--
Raynham	Raynham Place	--	--	--
Norton	Barrowsville	--	✓	✓
Taunton	Taunton (Dean Street)	--	--	--
Taunton	Downtown Taunton (GATRA)	--	--	--
Taunton	Taunton Depot	--	--	✓
Taunton	Galleria Station	--	--	--

Table 4.11-3 Freetown Station Site Soils

Soil Unit	Soil Map Unit Name	Farmland Classification	Impacted Acres	Percent Coverage
39A	Scarboro muck, 0 to 1 percent slopes	Not prime farmland	1.7	12
70A	Ridgebury sandy loam, 0 to 3 percent slopes	Not prime farmland	0.9	6
71B	Ridgebury sandy loam, 3 to 8 percent slopes, extremely stony	Not prime farmland	3.7	25
73A	Whitman loam, 0 to 3 percent slopes, extremely stony	Not prime farmland	0.5	3
254B	**Merrimac sandy loam, 3 to 8 percent slopes**	**Prime farmland**	**4.0**	**27**
260B	**Sudbury fine sandy loam, 0 to 8 percent slopes**	**Prime farmland**	**0.6**	**4**
310B	**Woodbridge fine sandy loam, 3 to 8 percent slopes**	**Prime farmland**	**2.4**	**17**
446B	Gloucester - Hinckley complex, undulating, very stony	Not prime farmland	0.8	6

This soil is suited to row crops. Droughtiness and an erosion hazard are the main limitations. Incorporating crop residue and manure into the surface layer helps to maintain or increase the organic matter content. The use of winter cover crops reduces surface runoff and helps reduce erosion.

The soil is suited to hay and pasture, especially to drought-resistant plants. The main management concern is the prevention of overgrazing, which causes surface compaction and reduces the density and hardiness of plants. Using proper stocking rates and restricted grazing during wet periods help to maintain plant densities and reduce surface compaction.

This soil is suited to trees, but droughtiness causes a high rate of seedling mortality. Reducing plant competition and planting drought-resistant tree species help to reduce seedling mortality.

Sudbury Fine Sandy Loam (260B)[10]

This soil is gently sloping, deep, and moderately well drained. It is near or adjacent to streams and rivers. Areas of this soil are irregular in shape and range from 5 to 40 acres. Most are about 10 acres.

This soil is suited to row crops. The seasonal high water table is the main limitation, and erosion is a hazard. The main management practices include using drainage, using cover crops, and incorporating crop residue and manure into the surface layer to maintain the organic matter content.

The soil is suited to hay and pasture. The main management concerns are the prevention of overgrazing, the prevention of grazing when the soil is wet, and avoiding the use of equipment when the soil is wet, all of which reduce the hardiness and density of plants and cause surface compaction.

Woodbridge Fine Sandy Loam (310B)[11]

This soil is gently sloping, deep, and moderately well drained. It is on the tops and sides of hills. Areas of this soil are irregular in shape and range from 5 to 60 acres. Most are about 30 acres.

This soil is suited to row crops. A seasonal high water table is the main limitation, and erosion is a hazard. The main management practices include using drainage, using cover crops, and incorporating crop residue and manure into the surface layer.

The soil is well suited to hay and pasture. Use of proper stocking rates, deferred grazing, pasture rotation, and restricted grazing when the soil is wet help to maintain the hardiness and density of pasture plants and prevent surface compaction.

Attleboro Alternatives

The Attleboro Alternatives (Electric and Diesel) include designated farmland soils in the Attleboro Bypass segment and at the proposed Barrowsville and Taunton Depot (formerly referred to as East Taunton North) station sites. The presence of farmland soils adjacent to the Northeast Corridor and Attleboro Secondary was not investigated because the potential construction associated with these sections of the project would only incorporate a narrow corridor of land adjacent to the existing railroad right-of-way.

Attleboro Bypass

The Attleboro Bypass would cross areas of designated farmland soils, but would not affect any active farms. The Attleboro Bypass would pass through farmland soils of statewide and unique importance, and does not include areas of prime farmland soils (Figure 4.11-2). Most of this proposed alignment would be located in undeveloped forested land that is not used for farming.

Table 4.11-4 lists the soil types, farmland classification, acreage, and percent coverage that are found within the Attleboro Bypass segment (prime farmland or farmland of statewide or unique importance are noted in bold). The acreage and percentages are based on the total area within 100 feet of the proposed track centerline (a strip of land 200 feet wide).

[10] ibid.
[11] USDA Soil Conservation Service. 1981. Soil Survey of Bristol County, Massachusetts (Southern Part).

Table 4.11-4 Attleboro Bypass Soils

Soil Unit	Soil Map Unit Name	Farmland Classification	Impacted Acres	Percent Coverage
32A	Wareham loamy sand, 0 to 3 percent slopes	Not prime farmland	0.7	1
51A	**Swansea muck, 0 to 1 percent slopes**	**Farmland of unique importance**	**5.3**	**7**
52A	**Freetown muck, 0 to 1 percent slopes**	**Farmland of unique importance**	**5.5**	**8**
71A	Ridgebury sandy loam, 0 to 3 percent slopes, extremely stony	Not prime farmland	2.7	4
71B	Ridgebury sandy loam, 3 to 8 percent slopes, extremely stony	Not prime farmland	1.0	1
73A	Whitman loam, 0 to 3 percent slopes, extremely stony	Not prime farmland	11.2	16
245A	Hinckley sandy loam, 0 to 3 percent slopes	Not prime farmland	0.7	1
245B	Hinckley sandy loam, 3 to 8 percent slopes	Not prime farmland	9.6	13
256A	**Deerfield loamy fine sand, 0 to 5 percent slopes**	**Farmland of statewide importance**	**6.3**	**9**
306B	**Paxton fine sandy loam, 3 to 8 percent slopes, very stony**	**Farmland of statewide importance**	**6.4**	**9**
307B	Paxton fine sandy loam, 3 to 8 percent slopes, extremely stony	Not prime farmland	3.2	4
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	Not prime farmland	4.6	6
311B	**Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony**	**Farmland of statewide importance**	**3.2**	**4**
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	Not prime farmland	4.6	6
651	Udorthents, smoothed	Not prime farmland	1.3	2
902B	Charlton - Paxton fine sandy loams, 0 to 8 percent slopes, extremely stony	Not prime farmland	5.7	8

The following sections summarize the NRCS soil descriptions of the prime farmland soil and soils of statewide importance found along the Attleboro Bypass segment.

Swansea Muck, 0 to 1 Percent Slopes (51A)[12]

These soils are nearly level and very poorly drained. They consist of deposits of organic material in depressions. The mapped areas range from 5 to 100 acres in size.

The soils are not suited to cultivated crops, hay, and pasture. They have a high water table. The soils are not suited to commercial trees because of the high water table. Some areas of soil support stands of Atlantic white cedar.

Prime farmland classification appears to be associated with soil units of Swansea coarse sand that are associated with cranberry production.

Freetown Muck (52A)

These soils are nearly level and very poorly drained. They consist of deposits of organic material in depressions. The mapped areas range from 5 to 500 acres in size.

[12] USDA Soil Conservation Service. 1978. Soil Survey of Bristol County, Massachusetts (Northern Part).

Permeability is moderate to rapid, and available water capacity is high. The root zone is restricted by a high water table that is at or near the surface more than 9 months of the year. Soil reaction ranges from extremely acid to strongly acid.

The soils are not suited to cultivated crops, hay or pasture. They have a high water table. The soils are not suited to commercial hardwood trees because of the high water table. They are suited to Atlantic white cedar.

Prime farmland classification appears to be associated with soil units of Freetown coarse sand that are associated with cranberry production.

Deerfield Loamy Fine Sand (256A)[13]

This soil is deep, nearly level and gently sloping, and moderately well drained. It is on outwash plains. Slopes are smooth or gently undulating and are 100 to 600 feet long. They are generally less than 3 percent but range to 6 percent in some places. The mapped areas are irregular in shape and are 5 to 40 acres in size.

This soil has fair to poor potential for farming. The soil has good potential for trees and fair potential for open land wildlife habitat. Most acreage is wooded. Some acreage is farmed.

The soil has limited suitability for farming because of the restricted root zone and low available water capacity. The seasonal high water table is the major concern of management. Fertilizer nutrients are quickly leached away by rapidly percolating water. The hazard of erosion is slight. Conservation management includes frequent irrigation and application of fertilizer, addition of organic matter to the plow layer, and use of cover crops.

Paxton Very Stony Fine Sandy Loam (306B)[14]

This soil is deep, nearly level and gently sloping, and well drained. It is generally on the tops and upper side slopes of drumloids. Slopes are smooth and slightly convex and are generally 100 to 300 feet long. Stones are scattered over the surface 20 to 50 feet apart. The mapped areas are oval or irregular in shape and are 20 to 80 acres in size.

This soil has poor potential for farming. It is mainly in unimproved pasture. The soil has good potential for trees and for woodland wildlife habitat. Most acreage is in woodland. The soil is unsuited to cultivated crops because of stones on the surface. Proper stocking rates, deferred grazing, and pasture rotation are management practices that help to maintain desirable pasture plants. The soil is well suited to trees. Productivity is moderate. Important tree species are red oak and eastern white pine.

Prime farmland classification appears to be associated with soil units of the Paxton Series that do not contain significant amounts of stone deposits and are suitable for cropping.

[13] USDA Soil Conservation Service. 1978. Soil Survey of Bristol County, Massachusetts (Northern Part).
[14] ibid.

Woodbridge Very Stony Fine Sandy Loam (311B)[15]

This soil is deep, nearly level and gently sloping, and moderately well drained. It is in irregularly shaped areas on hills and is on broad flats at lower elevations. Slopes are generally smooth and slightly concave and are generally 100 to 500 feet long. The mapped areas range from 5 to 50 acres in size. Stones are scattered over the surface 20 to 50 feet apart.

Permeability is moderate or moderately rapid in the subsoil, and slow or moderately slow in the substratum. Available water capacity is moderate. The root zone extends to a depth of about 30 inches, below which root growth is restricted by the very firm substratum. Reaction ranges from medium acid to very strongly acid. A high water table is within a depth of 3 feet in winter and spring.

This soil has poor potential for farming. It is mainly in unimproved pasture. It has poor potential for urban use and for sanitary waste disposal facilities. The soil has good potential for trees and fair potential for woodland wildlife habitat. Most acreage is in woodland. The soil is unsuited to cultivated crops because of stones on the surface. Proper stocking rates, deferred grazing, and pasture rotation are management practices that help to maintain desirable pasture plants. The soil is well suited to trees. Productivity is moderate. Important tree species are eastern white pine and northern red oak.

Prime farmland classification appears to be associated with soil units of the Paxton Series that do not contain significant amounts of stone deposits and are suitable for cropping.

Barrowsville Station Site

The Barrowsville station site is located on South Worcester Street in Norton. This approximately seven-acre site is near the former train station. The proposed site is predominantly undeveloped, with more than half of the site cleared and the remaining areas forested. A portion of the site is previously developed. Adjacent land uses include residential parcels to the east and north, with mixed-use parcels to the south, and undeveloped parcels to the west.

The Barrowsville station site includes areas of unique farmland soils and farmland soils of statewide importance (Figure 4.11-3). Table 4.11-5 lists the soil types, farmland classification, acreage, and percent coverage that are found within the Barrowsville station site.

Table 4.11-5 Barrowsville Station Site Soils

Soil Unit	Soil Map Unit Name	Farmland Classification	Impacted Acres	Percent Coverage
51A	**Swansea muck, 0 to 1 percent slopes**	**Farmland of unique importance**	**0.3**	**3**
245B	Hinckley sandy loam, 3 to 8 percent slopes	Not prime farmland	6.3	67
256A	**Deerfield loamy fine sand, 0 to 5 percent slopes**	**Farmland of statewide importance**	**2.8**	**30**

Swansea muck (51A) and Deerfield loamy fine sand (256A) were previously described for the Attleboro Bypass.

[15] USDA Soil Conservation Service. 1978. Soil Survey of Bristol County, Massachusetts (Northern Part).

Taunton Depot Station Site

The Taunton Depot station site is located at the rear of Target Plaza on Route 140. Although the site is currently undeveloped, half the site has been cleared while the other half remains forested. The 14-acre site is primarily surrounded by forest and undeveloped parcels to the north, west, and south. Target Plaza, east of the proposed station site, is a relatively new retail site that includes Target, Home Depot, and other stores.

The Taunton Depot station site includes areas of farmland soils of statewide importance (Figure 4.11-4). Table 4.11-6 lists the soil types, farmland classification, acreage, and percent coverage that are found within this station site (prime farmlands and farmlands of statewide or unique importance are shown in bold).

Table 4.11-6 Taunton Depot Station Site Soils

Soil Unit	Soil Map Unit Name	Farmland Classification	Impacted Acres	Percent Coverage
9A	Birdsall silt loam, 0 to 3 percent slopes	Not prime farmland	3.7	18
43A	Scarboro mucky loamy fine sand, 0 to 3 percent slopes	Not prime farmland	0.4	2
71B	Ridgebury sandy loam, 3 to 8 percent slopes, extremely stony	Not prime farmland	0.9	4
73A	Whitman loam, 0 to 3 percent slopes, extremely stony	Not prime farmland	0.5	3
245B	Hinckley sandy loam, 3 to 8 percent slopes	Not prime farmland	6.6	32
256A	**Deerfield loamy fine sand, 0 to 5 percent slopes**	**Farmland of statewide importance**	**7.1**	**35**
409B	Charlton - Paxton fine sandy loams, 3 to 8 percent slopes	Not prime farmland	1.1	6

Deerfield loamy fine sand (256A) was previously described for the Attleboro Bypass.

Stoughton Alternatives

Because the New Bedford Main Line, Stoughton Line, and Whittenton Branch sections of the alternative would not incorporate land outside of the existing railroad right-of-way, the presence of farmland soils adjacent to the rail right-of-way was not investigated. Also, the out-of-service alignment along the Stoughton Line does not require soil analysis because it does not impact natural potentially farmland soils. The Stoughton Alternative includes farmland soils at the proposed Taunton Depot station site, as previously discussed, and at the North Easton station site. Neither of these sites is currently farmed.

North Easton Station Site

The North Easton station site is located off Route 138 in Easton. The proposed station site is adjacent to an approximately 10-acre retail plaza anchored by a Roche Brothers supermarket, which includes commercial and offices uses. The station site is currently undeveloped; although some of the site has been cleared, the majority remains forested. New medical buildings have recently been constructed and two additional buildings are planned on the larger site. The North Easton station site is surrounded by forest and undeveloped land.

The North Easton station site includes areas of prime farmland soils and farmland soils of statewide importance (Figure 4.11-5). Table 4.11-7 lists the soil types, farmland classification, acreage, and percent coverage that are found within the North Easton station site.

Table 4.11-7 North Easton Station Site Soils

Soil Unit	Soil Map Unit Name	Farmland Classification	Impacted Acres	Percent Coverage
73A	Whitman loam, 0 to 3 percent slopes, extremely stony	Not prime farmland	0.1	1
245C	Hinckley sandy loam, 8 to 15 percent slopes	Not prime farmland	0.2	3
254B	**Merrimac sandy loam, 3 to 8 percent slopes**	**Prime farmland**	**3.3**	**57**
306C	**Paxton fine sandy loam, 8 to 15 percent slopes, very stony**	**Farmland of statewide importance**	**0.9**	**15**
310B	**Woodbridge fine sandy loam, 3 to 8 percent slopes**	**Prime farmland**	**1.5**	**25**

Merrimac sandy loam (254B) and Woodbridge fine sandy loam (310B) were previously described in for the Attleboro Bypass (Section 4.11.2.2.2). The following sections summarize the NRCS soil descriptions of the other prime farmland soils found at the North Easton station site.

Paxton Very Stony Fine Sandy Loam (306C)[16]

This soil is deep, moderately sloping, and well drained. It is generally on side slopes of drumloids. Slopes are smooth and convex, and are generally 200 to 400 feet long. Stones are scattered over the surface 20 to 50 feet apart. The mapped areas are irregularly shaped and are 10 to 40 acres in size.

Permeability is moderate or moderately rapid in the subsoil and moderately slow or slow in the substratum. The available water capacity is moderate. The root zone extends to a depth of about 27 inches. Root growth is hampered by the very firm substratum. Reaction is very strongly acid to slightly acid. A seasonal high water table is perched above the substratum for brief periods in winter and spring. This soil is poorly suited to farming. It is mainly in unimproved pasture. This soil has good potential for trees and for woodland wildlife habitat. Most acreage is in woodland. The soil is not suited to cultivated crops because of stones on the surface. Proper stocking rates, deferred grazing, and pasture rotation are management practices that help to maintain desirable pasture plants. The soil is well suited to trees. Productivity is moderate. Important tree species are northern red oak and eastern white pine.

Prime farmland classification appears to be associated with soil units of the Paxton Series that do not contain significant amounts of stone deposits and are suitable for cropping.

Taunton Depot Station Site

The Taunton Depot station site includes areas of farmland soils of statewide importance (see Figure 4.11-4). The land use and farmland soils at this station site were previously described in the Attleboro Alternatives section.

[16] USDA Soil Conservation Service. 1978. Soil Survey of Bristol County, Massachusetts (Northern Part).

Rapid Bus Alternative

Because the Route 24 and I-93 sections of the alternative would not incorporate land outside of the existing highway right-of-way, the presence of farmland soils within or adjacent to the right-of-way was not investigated. With the exception of the Freetown station site, none of the other stations included in the Rapid Bus Alternative include areas of designated farmland soils or active farming.

Layover Facilities Study Areas

Five potential rail layover facilities and one mid-day bus layover facility have been identified and evaluated for mapped areas of designated farmland soils. No designated farmland soils are present at the Church Street or Wamsutta Street layover sites in New Bedford, at either of the Weaver's Cove sites in Freetown, or at the Logan Express Park-and-Ride site in Braintree. A portion of the ISP layover site in Freetown includes designated farmland soils. No sites have been identified for the mid-day rail layover facility at this time. Farmland soils at this facility will be evaluated when a location is selected.

The ISP layover site (Figure 4.11-6) is located on the Fall River Secondary in Freetown and would serve all rail alternatives. The site is bounded to the north by South Main Street, to the east by the Fall River Secondary and the ISP industrial facility, and to the south and west by the Taunton River. The approximately 16-acre site is currently undeveloped and largely forested. A portion of the site has been cleared and may have been farmed in the past but is currently not in agricultural production. Mapped areas of designated farmland soils that would be impacted by the development of this facility (5.3 acres of Prime Farmland, 0.1 acres of Farmland of Statewide Importance) are shown on Figure 4.11-4. Table 4.11-8 lists the soil types, farmland classification, acreage, and percent coverage that are found within the ISP Layover site.

Table 4.11-8 Proposed ISP Layover Site Soils

Soil Unit	Soil Name	Farmland Classification	Acres	Percent Coverage
242C	Hinckley gravelly sandy loam, 8 to 15 percent slopes	Not prime farmland	4.3	27
242D	Hinckley gravelly sandy loam, 15 to 25 percent slopes	Not prime farmland	2.8	18
254B	**Merrimac sandy loam, 3 to 8 percent slopes**	**Prime farmland**	**2.5**	**16**
276A	Ninigret fine sandy loam, 0 to 3 percent slopes	Not prime farmland	< 0.1	< 1
305C	**Paxton fine sandy loam, 8 to 15 percent slopes**	**Farmland of statewide importance**	**2.5**	**16**
306C	**Paxton fine sandy loam, 8 to 15 percent slopes, very stony**	**Farmland of statewide importance**	**0.1**	**1**
306D	Paxton fine sandy loam, 15 to 25 percent slopes, very stony	Not prime farmland	0.7	4
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	Not prime farmland	3.1	19

Mapped areas of designated farmland soils at the ISP Layover Site are shown on Figure 4.11-6.

4.11.2.3 SUMMARY OF EXISTING CONDITIONS

The Build Alternatives that are being evaluated would be constructed almost entirely within the footprint of existing or out-of-service transportation corridors. As a result, there are no active farms or undisturbed farmland soils associated with the rail or highway corridors included in these alternatives.

Designated farmland soils do occur within the Attleboro Alternative (proposed Attleboro Bypass rail segment), and at some proposed station and layover sites.

Most of the station sites would be located within developed and urbanized areas. Five station sites have farmland soils present: Freetown, Taunton Depot, Barrowsville, and North Easton. One layover site, ISP, has farmland soils present. None of these sites are currently being farmed. Alternatives that include sites with designated farmland soils include the following:

- Freetown Station Site – all Build Alternatives
- Taunton Depot Station Site – Attleboro and Stoughton Alternatives
- Barrowsville Station Site – Attleboro Alternatives
- North Easton Station Site – Stoughton Alternatives
- ISP Layover Facility – All rail alternatives

None of the above sites are currently farmed, part of an active farm, or adjacent to an active farm, and are not anticipated to be included in an Agricultural Preservation Restriction program or Chapter 61A program.

4.11.3 ANALYSIS OF IMPACTS

4.11.3.1 INTRODUCTION

This Section evaluates the specific impacts of each of the proposed alternatives to designated areas of mapped farmland soils. It explains the methodology for evaluating direct and indirect impacts to farmland soils, identifies specific locations where impacts to farmland soils would occur under each alternative, summarizes the impacts that would be anticipated under each alternative, and also discusses regulatory compliance measures that would be required once a preferred alternative is selected.

4.11.3.2 IMPACT ASSESSMENT METHODOLOGY

Method for Assessing Direct Impacts

Direct impacts are losses that involve open or forested lands, including active farmland, that include designated farmland soils. Direct impacts to farmland soils were calculated using GIS software to overlay the project limits of work on soil units mapped by the available NRCS soil survey as prime farmland, unique farmland, or farmland soils of statewide importance (farmland soils). Activities proposed within soil map units designated as farmland soils that have been previously converted to transportation corridors (road or railroad) or other irretrievable uses were considered to be previously impacted and were ignored for the purposes of this assessment.

The ultimate determination of the severity of a farmland impact is characterized by the total score calculated using the U.S. Department of Agriculture's Farmland Conversion Impact Rating forms AD-1006 (for site impacts) and CPA-106 (for corridor-type impacts). These forms must be completed cooperatively with the NRCS. The forms assess the severity of a farmland impact on a scale of 260 points, with 160 points determined by a site assessment and 100 points determined by the NRCS itself. A score of less than 160 is considered negligible and requires no further analysis. A score between 160 and 200 indicates potential impacts, and the project should consider measures to minimize farmland impacts. A score of 200 or higher indicates a significant impact.

For the purpose of this evaluation, it was conservatively assumed that the NRCS would assign the maximum relative value of 100 for Part V of the Farmland Conversion Impact Rating. This would provide maximum impact ratings between 120 and 131 at the station sites and layover facilities and 141 for the Attleboro Bypass corridor. None of the calculated ratings exceed 200, therefore the impacts would not be considered significant by the NRCS. Draft Farmland Conversion Impact Rating Forms AD-1006 and CPA-106 are provided in Attachment A. After an alternative has been selected for advancement to the Final Environmental Impact Report, forms describing impacts to farmland soils associated with that alternative will be submitted to the NRCS for completion.

Draft forms for sites and corridor segments that would potentially impact more than two acres of mapped farmland soils were completed in order to determine the severity of impact. Copies of these forms are included in Appendix 4.11-A.

Method for Assessing Indirect Impacts

Indirect impacts are consequences that occur as the result of an action's direct impact. Indirect impacts, as defined on NRCS Forms AD-1006 and CPA-106, may include reducing or eliminating access to farmland, reducing farmland to a size or configuration that is no longer viable, effects on local farm support services and industries, and proximity to improvements such as water and sewer lines. Indirect impacts were evaluated considering the direct impacts to the farmland, the criteria used in the farmland rating for Form AD-1006 and Form CPA-106, as well as subsequent development or development pressure that may result from the direct impacts.

4.11.3.3 IMPACTS OF ALTERNATIVES BY ELEMENT

This section evaluates the potential impacts to farmland soils associated with the project alternatives that are being advanced for consideration. These alternatives include the No-Build Alternative (Enhanced Bus), Attleboro Alternatives (Electric and Diesel), Stoughton Alternatives (Electric and Diesel), Whittenton Alternatives (Electric and Diesel), and the Rapid Bus Alternative.

No-Build (Enhanced Bus) Alternative

The No-Build Alternative (Enhanced Bus) would consist of enhancing current bus service along existing roads and highways. Three existing park-and-ride facilities would be modified as part of the No-Build Alternative:

- West Bridgewater Park-and-Ride, located near the southwest corner of the intersection of Routes 106 and 24;
- Mount Pleasant Street Park-and-Ride, located on the northwest corner of the intersection of King's Highway and Route 140 in New Bedford;
- Galleria Park-and-Ride, located adjacent to the Silver City Galleria shopping mall in Taunton.

None of these sites are within mapped areas of designated farmland soils. Under the No-Build Alternative, minor modifications are proposed to these existing parking lots that would not disturb additional land. No impacts to farmland soils are anticipated under the No-Build Alternative.

Southern Triangle (Common to All Rail Alternatives)

All rail alternatives would use existing segments of the railroad right-of-way along the New Bedford Main Line and Fall River Secondary (together referred to as the Southern Triangle). Because these

sections of the project would not incorporate land outside of existing and active railroad right-of-ways, the presence of farmland soils along these corridors was not investigated. All Build Alternatives include impacts to designated farmland soils at the proposed Freetown station site, adjacent to the Fall River Secondary in Freetown.

Attleboro Electric Alternative

The Northeast Corridor and Attleboro Secondary portions of this alternative are active rail corridors that were previously developed. Minor temporary and permanent impacts may occur within sliver takings immediately adjacent to the right-of-way as necessary for track reconstruction and minor re-alignment of track segments in certain areas. None of these areas are actively farmed or would constitute farmable land by themselves and were not evaluated separately. The Attleboro Bypass segment of this alternative would consists of the development of a new rail corridor through undeveloped land that includes mapped areas of designated farmland soils. Under the Attleboro Electric Alternative, minor alteration of mapped areas of designated farmland soils (each less than one acre) would occur at three of the eight traction power stations that would be located adjacent to the existing right-of-way. Impacts associated with the Attleboro Bypass and traction power stations are identified below. The Barrowsville and Taunton Depot station sites proposed as part of this alternative would impact mapped areas of designated farmland soils. The Barrowsville station site is located adjacent to the Attleboro Secondary in Norton. The Taunton Depot station site is located adjacent to the New Bedford Main Line in Taunton. Impacts at proposed station sites are described in Section 4.11.3.3.10.

Attleboro Bypass Rail Segment of the Attleboro Electric Alternative

The Attleboro Bypass is the only portion of the Attleboro Alternative that includes the development of a new rail corridor through undeveloped land that includes mapped areas of designated farmland soils. Although the Attleboro Bypass would cross mapped areas of designated farmland soils, it would not affect any active farms. The farmland soils that would be impacted include Swansea muck and Freetown muck (soils of unique importance) and Deerfield loamy fine sand, Paxton fine sandy loam, and Woodbridge fine sandy loam (soils of statewide importance). No areas mapped as prime farmland soils would be impacted. The alignment of the proposed rail corridor runs through wooded upland and wetland areas adjacent to developed residential areas and to a utility corridor. The vegetation of the utility corridor is managed to maintain a shrub-scrub community, while the adjacent areas are predominantly second growth forest. No active farms are adjacent to the proposed rail corridor.

Table 4.11-9 lists the potential impacts to designated farmland soils within the Attleboro Bypass segment of this alternative. Figure 4.11-2 illustrates the impacts to mapped areas of designated farmland soils within the Attleboro Bypass.

Table 4.11-9 Impacts to Designated Farmland Soils – Attleboro Bypass

Farmland Soil Classification	Impact (ac)
Farmland of unique importance	3.1
Farmland of statewide importance	4.0
Total	**7.1**

In accordance with the assessment procedure outlined on USDA Form CPA-106 (Farmland Conversion Impact Rating for Corridor Type Projects), the site scores 141 out of a total of 260 points. This low score

indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA. A draft copy of this form is included in Appendix 4.11-A.

Traction Power Stations

Traction power stations are small facilities (each approximately one acre or less) that are required at periodic intervals along an electrified rail corridor in order to provide connections to the electricity grid. Three of the eight traction power stations associated with the Attleboro Electric Alternative are located on sites that include mapped areas of designated farmland soils. Estimated impacts to these soils are identified in Table 4.11-10.

Table 4.11-10 Impacts to Designated Farmland Soils – Attleboro Electric Alternative Traction Power Stations

Municipality	Station Name	Prime Farmland	Farmland of Unique Importance	Farmland of Statewide Importance
Norton	Attleboro PS-1	--	--	0.1
Berkley	Attleboro PS-2	0.2	--	--
Taunton	Attleboro TPSS-1	--	--	0.8
	Total	**0.2**	**--**	**0.9**

Figures 4.11-7, 4.11-8, and 4.11-9 illustrate the areas of mapped farmland soils that would be impacted by these traction power stations. Because all of the proposed traction power stations are less than two acres in size, drafts of Form AD-1006 were not completed for these locations.

Attleboro Diesel Alternative

Impacts to designated farmland soils for the Attleboro Diesel Alternative are the same as the Attleboro Bypass impacts identified in Table 4.11-10 of the Attleboro Electric Alternative. The diesel alternative does not require traction power substations and would therefore result in 1.1 acres less impact than the Attleboro Electric Alternative. Figure 4.11-2 illustrates the impacts to mapped areas of designated farmland soils within the Attleboro Bypass.

Stoughton Electric Alternative

The alignment of the proposed Stoughton Alternative follows a previously developed railroad corridor. Although the rail corridor has been abandoned, the prior alteration of soils and placement of fill materials results in the corridor not being available for farming activities. Minor temporary and permanent impacts may occur within sliver takings immediately adjacent the right-of-way during track reconstruction and re-alignment; however, none of these areas are actively farmed or would constitute farmable land by themselves. The North Easton station site proposed as part of this alternative would impact mapped areas of designated farmland soils. This station site is located adjacent to the rail corridor in Easton and Stoughton. Impacts at proposed station sites are described in Section 4.11.3.3.10.

Under the Stoughton Electric Alternative, alteration of mapped areas of designated farmland soils would occur at traction power stations located adjacent to the existing right-of-way and constitute the impact to farmland soils associated with this alternative. Four of the ten traction power stations associated with

the electric alternative are located on sites that include mapped areas of designated farmland soils. These impacts are identified in Table 4.11-11.

Table 4.11-11 Impacts to Designated Farmland Soils – Stoughton Alternative Traction Power Stations

Municipality	Station Name	Prime Farmland	Farmland of Unique Importance	Farmland of Statewide Importance
Stoughton	Stoughton PS-1	0.3	--	--
Canton	Stoughton SWS-2	0.4	--	--
Easton	Stoughton TPSS-1	0.6	--	0.5
New Bedford	Stoughton TPSS-2	0.8	--	--
	Total	**2.1**	**--**	**0.5**

Traction Power Station TPSS-1 is located within the Hockomock Swamp ACEC. Construction at this site would alter a total of 1.1 acres of designated farmland soils: 0.6 acre of Ninigret fine sandy loam, 0 to 3 percent slopes, a soil designated as a Prime Farmland Soil, and 0.5 acre of Windsor loamy sand, 3 to 8 percent slopes, a soil designated as a Farmland Soil of Statewide Importance.

Figures 4.11-10, 4.11-11, 4.11-12, and 4.11-13 illustrate the areas of mapped farmland soils that would be impacted by these traction power stations. Because all of the proposed traction power stations are less than two acres in size, drafts of Form AD-1006 were not completed for these locations.

Stoughton Diesel Alternative

Impacts to mapped areas of designated farmland soils for the Stoughton Diesel Alternative are limited to any minor sliver takings along the existing railroad corridor. The diesel alternative involves 2.6 acres less impact than the electric alternative because no traction power stations are proposed under the diesel alternative.

Whittenton Electric Alternative

The alignment of the proposed Whittenton Electric Alternative follows previously developed railroad corridors along the Attleboro Secondary, Whittenton Branch, and Stoughton Line. Although the Whittenton Branch and portions of the Stoughton Line have been abandoned, the prior alteration of soils and placement of fill materials results in the corridor not being available for farming activities. Minor temporary and permanent impacts may occur within sliver takings immediately adjacent the right-of-way during track reconstruction and re-alignment; however, none of these areas are actively farmed or would constitute farmable land. The North Easton and Taunton Depot station sites proposed as part of this alternative would impact mapped areas of designated farmland soils. The North Easton station site is located adjacent to the rail corridor in Easton and Stoughton. The Taunton Depot station site is located adjacent to the New Bedford Main Line in Taunton. Impacts at proposed station sites are described in the section on Stations.

Under the Whittenton Electric Alternative, alteration of mapped areas of designated farmland soils would occur at 10 traction power stations located adjacent to the existing right-of-way and constitute the impact to farmland soils associated with this alternative. With one exception (PS-2), the traction power stations associated with the Whittenton Electric Alternative are the same as those in the

Stoughton Electric Alternative and result in the same impacts presented in Table 4.11-11. The location of Whittenton Electric Alternative traction power station PS-2 does not include mapped areas of designated farmland soils. Figures 4.11-10, 4.11-11, 4.11-12, and 4.11-13 illustrate the areas of mapped farmland soils that would be impacted by these traction power stations. Because all of the proposed traction power stations are less than two acres in size, drafts of Form AD-1006 were not completed for these locations.

Whittenton Diesel Alternative

Impacts to mapped areas of designated farmland soils for the Whittenton Diesel Alternative are limited to any minor sliver takings along the existing railroad corridor. The diesel alternative involves 2.6 acres less impact than the electric alternative because no traction power stations are proposed under the diesel alternative.

Rapid Bus Alternative

With the exception of alterations at two interchanges, the Route 24 and I-93 sections of the Rapid Bus alternative would not incorporate undeveloped land outside of the existing highway right-of-way. A sliver taking along the off-ramp at the Route 24 / Route 104 interchange in Bridgewater would impact approximately 0.2 acres of land outside of the existing right-of-way. This area is not mapped as a designated farmland soil. At the Route 24 / Route 44 interchange in Raynham, reconfiguration of the off-ramps will impact approximately 2.7 acres of farmland soils of statewide importance (Paxton fine sandy loam, 3 to 8 percent slopes and Paxton fine sandy loam, 8 to 15 percent slopes).

Table 4.11-12 lists the potential impacts to designated farmland soils at the Route 24 / Route 44 interchange. Figure 4.11-14 illustrates the impacts to mapped areas of designated farmland soils at this location.

Table 4.11-12 Impacts to Designated Farmland Soils – Rapid Bus Alternative

Farmland Soil Classification	Impact (ac)
Farmland of statewide importance	2.7
Total	**2.7**

These impacts occur along the existing roadway corridor and do not impact land that is actively farmed. The roadways that are proposed to be modified under this alternative are limited-access highways that do not permit access to farm vehicles. Any active farm parcels adjacent to this alternative are already blocked from property access by the limited access nature of the highway corridor.

In accordance with the assessment procedure outlined on USDA Form CPA-106 (Farmland Conversion Impact Rating for Corridor Type Projects), the site scores 141 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA. A draft copy of this form is included in Appendix 4.11-A.

With the exception of the Freetown station site, none of the other stations included in the Rapid Bus Alternative include areas of designated farmland soils or active farming. Impacts at proposed station sites are described in the section on Stations.

Stations

Four proposed station sites are located in areas with mapped farmland soils. These station sites include Barrowsville, Freetown, North Easton, and Taunton Depot. Table 4.11-13 identifies proposed station sites that include impacts to designated farmland soils.

Table 4.11-13 Impacts to Designated Farmland Soils – Proposed Station Sites

Station Name	Municipality	Prime Farmland	Farmland of Unique Importance	Farmland of Statewide Importance
Barrowsville	Norton	--	0.2	0.4
Freetown	Freetown	3.0	--	--
North Easton	Easton & Stoughton	6.9	--	0.4
Taunton Depot	Taunton	--	--	5.7

Drafts of AD-1006 (Farmland Conversion Impact Rating) forms for each station site are included in Appendix 4.11-A.

Barrowsville Station

The Barrowsville station site is located on South Worcester Street in Norton and would serve the Attleboro Electric and Diesel Alternatives. This approximately seven-acre site is located near the former train station on the Attleboro Secondary. The South Worcester Street frontage of the site has been developed for commercial use. The remainder of the site is undeveloped; although much of site has been cleared of trees, it does not appear to be in agricultural production. Adjacent land uses include residential parcels to the east and north, with mixed-use parcels to the south, and undeveloped parcels to the west.

This site includes areas of unique farmland soils and farmland soils of statewide importance. Mapped areas of designated farmland soils that would be impacted by the development of this station site (0.6 acres) are shown on Figure 4.11-3. In accordance with the assessment procedure outlined on USDA Form AD-1006 (Farmland Conversion Impact Rating), the site scores 131 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA.

Freetown Station

The Freetown station site is located on South Main Street in Freetown and would serve all of the build alternatives. The South Main Street frontage of the site has been developed for industrial use as a self-storage facility and cellular phone tower. The remainder of the approximately 18-acre site has been cleared of trees, but does not appear to be in agricultural production. Parcels surrounding the proposed station site are mainly forested, with some residential and industrial uses.

The Freetown station site includes areas of prime farmland soils. Mapped areas of designated farmland soils that would be impacted by the development of this station site (3.0 acres) are shown on Figure 4.11-1. In accordance with the assessment procedure outlined on USDA Form AD-1006, the site scores 128 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA.

North Easton Station

The North Easton station site is located off Route 138 in Easton and would serve the Stoughton and Whittenton Alternatives. The proposed station site is approximately 8.8 acres in size and is adjacent to a 10-acre retail development that is anchored by a Roche Brothers supermarket. The station site is currently undeveloped and mostly forested. Although some of the site has been cleared, it does not appear to be in agricultural production. New medical buildings have recently been constructed and two additional buildings are planned on the larger site. Other than the commercial and offices uses at the shopping plaza, the site is surrounded by forest and undeveloped land.

The North Easton station site includes areas of prime farmland soils and farmland soils of statewide importance. Mapped areas of designated farmland soils that would be impacted by the development of this station site (7.3 acres) are shown on Figure 4.11-5. In accordance with the assessment procedure outlined on USDA Form AD-1006, the site scores 134 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA.

Taunton Depot Station

The Taunton Depot station site is located at the rear of Target Plaza on Route 140 and would serve the Attleboro and Whittenton alternatives. Although the site is currently undeveloped, roughly half the site has been cleared of trees. The approximately 14-acre site is primarily surrounded by forest and undeveloped parcels to the north, west, and south. Target Plaza, east of the proposed station site, is a retail site that includes Target, Home Depot, and other stores.

The Taunton Depot station site includes areas of farmland soils of statewide importance. Mapped areas of designated farmland soils that would be impacted by the development of this station site (5.7 acres) are shown on Figure 4.11-4. In accordance with the assessment procedure outlined on USDA Form AD-1006, the site scores 120 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA.

Layover Facilities

Five potential rail layover facilities have been identified and evaluated for potential impacts to mapped areas of designated farmland soils. No designated farmland soils are present at the Church Street or Wamsutta Street layover sites in New Bedford, or at the Weaver's Cove East or Weaver's Cove West sites in Fall River and Freetown. A portion of the ISP layover site in Freetown includes designated farmland soils. Potential impacts to farmland soils at this site are described below.

One mid-day rail layover facility is planned for the Boston area, but alternative sites have not been selected. Potential impacts to farmland soils at this facility will be evaluated when a location is selected. However, it is expected that this facility would not impact farmland soils because it will be in or near an already developed area, and is likely not to be within an area used for agriculture.

A midday bus layover facility would be required for the Rapid Bus Alternative. It is the current location of an existing park-and-ride lot for the Logan Express service offered by Massport. No changes to existing site conditions are required for the layover facility. The proposed site is entirely within previously developed land and would not impact any mapped areas of designated farmland soils.

The ISP layover site is located on the Fall River Secondary in Freetown and would serve all rail alternatives. The site is bounded to the north by South Main Street, to the east by the Fall River Secondary and the ISP industrial facility, and to the south and west by the Taunton River. The approximately 16-acre site is currently undeveloped and largely forested. A portion of the site has been cleared and may have been farmed in the past but is currently not in agricultural production. Mapped areas of designated farmland soils that would be impacted by the development of this facility (2.5 acres of prime farmland, 2.6 acres of farmland of statewide importance) are shown on Figure 4.11-6.

In accordance with the assessment procedure outlined on USDA Form AD-1006, the site scores 127 out of a total of 260 points. This low score indicates that the site has relatively low agricultural value and the conversion of the site would be consistent with the FPPA.

4.11.3.4 SUMMARY OF IMPACTS BY ALTERNATIVE

This section summarizes the potential impacts to mapped areas of designated farmland soils for each of the alternatives. The selection of the Fall River Secondary overnight and Boston mid-day layover facilities has not been made at this time. If the Freetown ISP layover site is selected, 5.1 acres of additional impact to farmland soil would be added to each of the rail alternatives. No information is currently available about potential impacts to farmland soils at the mid-day layover facility. Based on the conservative assessment used to complete the NRCS forms, no significant impacts are anticipated for designated farmland soils that would be altered by this project. Table 4.11-14 summarizes the impacts for each alternative prior to the addition of layover facility impacts.

Table 4.11-14 Impacts to Designated Farmland Soils by Alternative (acres)

Alternative	Southern Triangle	Northern Element	Stations	Total
No-Build / Enhanced Bus Alternative	--	--	--	0
Attleboro Electric Alternative	--	8.2	9.3	17.5
Attleboro Diesel Alternative	--	7.1	9.3	16.4
Stoughton Electric Alternative	--	2.6	10.3	12.9
Stoughton Diesel Alternative	--	--	10.3	10.3
Whittenton Electric Alternative	--	2.6	16.0	18.6
Whittenton Diesel Alternative	--	--	16.0	16.0
Rapid Bus Alternative	--	2.7	3.0	5.7

Attleboro Electric Alternative

The Attleboro Electric Alternative would result in impacts to 17.5 acres of designated farmland soils, the second largest impact to farmland soils of all of the alternatives. The largest single component of this impact occurs as a result of development of the Attleboro Bypass (7.1 acres). The remaining impacts occur as a result of the traction power stations associated with electrification of the Attleboro

Secondary between Cotley Junction and the Northeast Corridor, and development of the Barrowsville, Freetown, and Taunton Depot station sites.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the Farmland Protection Policy Act, (FPPA) and that mitigation for these losses would not be required.

Attleboro Diesel Alternative

The Attleboro Diesel Alternative would result in 16.4 acres of impact to designated farmland soils. This impact is slightly less than the electrification alternative because there are no traction power stations required along the Attleboro Secondary under the diesel alternative. The remaining impacts occur due to development of the new Attleboro Bypass corridor and development of the Barrowsville, Freetown, and Taunton Depot station sites.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the FPPA, and that mitigation for these losses would not be required.

Stoughton Electric Alternative

The Stoughton Electric Alternative would result in impacts to 12.9 acres of designated farmland soils. Much of this impact occurs as a result of development of the North Easton station site (7.3 acres). The remaining impacts occur as a result of the traction power stations associated with the electrification of the Stoughton Line and the development of the Freetown station site. One of the traction power stations (TPSS-1) is located within the Hockomock Swamp ACEC and would impact 1.1 acres of designated farmland soils.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the FPPA, and that mitigation for these losses would not be required.

Stoughton Diesel Alternative

The Stoughton Diesel Alternative would result in impacts to 10.3 acres of designated farmland soils. This impact is slightly less than the electrification alternative because there are no traction power stations required along the Stoughton Line under the diesel alternative. The remaining impacts occur due to development of the North Easton and Freetown station sites.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the FPPA, and that mitigation for these losses would not be required.

Whittenton Electric Alternative

The Whittenton Electric Alternative would result in impacts to 18.6 acres of designated farmland soils, the largest impact to farmland soils of all of the alternatives. Much of this impact occurs as a result of development of the North Easton and Taunton Depot station sites (7.3 and 5.7 acres, respectively). The remaining impacts occur as a result of the traction power stations associated with the electrification of

the Stoughton Line and the development of the Freetown station site. One of the traction power stations (TPSS-1) is located within the Hockomock Swamp ACEC and would impact 1.1 acres of designated farmland soils.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the FPPA, and that mitigation for these losses would not be required.

Whittenton Diesel Alternative

The Whittenton Diesel alternative would result in impacts to 16.0 acres of designated farmland soils. This impact is 2.6 acres less than for the Whittenton Electric Alternative, because no traction power stations would be required for the diesel alternative.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the Farmland Protection Policy Act, and that mitigation for these losses would not be required.

Rapid Bus Alternative

The Rapid Bus Alternative would result in the least amount of impact to farmland soils. The 5.7 acres of impact identified with this alternative occur due to the development of the Freetown station site and the reconfiguration of the Route 24 / Route 44 interchange.

Using the USDA scoring system, the impacts to farmland soils along this alternative all received low scores. Such scores indicate that these impacts would not be considered significant under the FPPA, and that mitigation for these losses would not be required.

4.11.3.5 REGULATORY COMPLIANCE

Farmland Protection Policy Act

The FPPA, P.L. 9798, authorizes the USDA to develop criteria to identify the effects of federal programs on the conversion of farmland to non-agricultural uses. If it is determined that farmland conversion may involve land protected under the FPPA, formal coordination is required per 7 Code of Federal Regulations (CFR) Part 658. The NRCS reviews potential impacts to farmland to determine if the land qualifies as prime or unique farmland or farmland of statewide importance. Forms AD-1006 and CPA-106, which outline direct and indirect impacts to farmland and assign an impact rating at each location, would be submitted by the project for review and scoring by the NRCS. Impacts with scores less than 160 are considered insignificant, between 161 and 200 potentially adverse, and scores over 200 are considered potentially significant. Scores over 160 may require the project to further assess the implications of the proposed action on the farmland and potentially consider alternatives to further minimize or avoid farmland losses. During the environmental review process, agencies having jurisdiction or special use expertise may provide a letter which may include recommended measures to mitigate project effects.

The NRCS has not been requested to complete a Farmland Conversion Impact Rating for any of the South Coast Rail project alternatives at this time because the impacts are not expected to be significant. Drafts of the NRCS Farmland Conversion Impact Rating Forms AD-1006 and CPA-106 have been

prepared for sites larger than two acres where designed farmland soils may be impacted. These forms are included in Appendix 4.11-A. Subject to comments from agencies with jurisdiction or special use expertise concerning important farmland, mitigation measures may be developed as appropriate.

Massachusetts Executive Order 193

Executive Order 193 (EO 193) directs state agencies to avoid conversion of agricultural lands to non-agricultural uses. Three criteria are evaluated to determine if a parcel is considered agricultural land for purposes of EO 193:

- the presence of soil types capable of supporting or contributing to present or potential commercial agriculture
- current and historic use for agriculture, and
- absence of non-farm development

Impacts to mapped areas of farmland soils were evaluated where conversion of previously undeveloped land is proposed under each alternative. Although thirteen sites are located within mapped areas of farmland soils, none are currently in agricultural production. All non-corridor sites are adjacent to existing rail corridors and public roadways and are located in areas that are at least partially developed and are therefore less suitable for conversion to agricultural usage. The Attleboro Bypass (part of the Attleboro Alternative) is the only component of the alternatives where a new corridor would be developed on previously undeveloped land. The alignment of the proposed Attleboro Bypass parallels an existing utility line corridor that constrains access to mapped farmland soils. The area that would be occupied by the Attleboro Bypass corridor is also constrained by nearby housing developments and roadway crossings that segment the mapped soil units into small pieces, further limiting the suitability of the Attleboro Bypass corridor land for agricultural activities. The parcels impacted by the Attleboro Alternative would not qualify as agricultural land for purposes of EO 193 because they are not in current or recent agricultural use and are adjacent to non-farm development.

Massachusetts Environmental Policy Act/National Environmental Policy Act

The Massachusetts Environmental Policy Act (MEPA) through the Executive Office of Energy and Environmental Affairs requires that state agencies study the environmental consequences of their actions. This mechanism allows the Massachusetts Department of Agricultural Resources to participate in the review of projects that may detrimentally impact state-owned and privately owned agricultural lands. The National Environmental Policy Act (NEPA) similarly identifies impacts to farmland soils as requiring investigation during the environmental review process.

Under the MEPA regulatory thresholds published at 301 CMR 11.03(1) (b) (4), the "*conversion of land in active agricultural use to nonagricultural use, provided the land includes soils classified as prime, state-important or unique by the United States Department of Agriculture, unless the Project is accessory to active agricultural use or consists solely of one single family dwelling"* is a threshold that would require that the project undergo MEPA review.[17]

[17] Massachusetts Environmental Policy Act (301 CMR 11.00: MEPA Regulations)

The Secretary's Certificate on the Environmental Notification Form (ENF)[18] requested review of agricultural lands that may be impacted by the South Coast Rail project. As discussed previously in this Chapter, none of the sites that impact farmland soils resulted in a score greater than 160 on Form AD-1006 or CPA-106. These findings indicate that none of the South Coast Rail alternatives would have a detrimental impact on agricultural lands nor would they convert land from active agricultural use to nonagricultural use.

[18] Executive Office of Transportation and Public Works, South Coast Rail Environmental Notification Form, November 2008.