



Chapter 5

Natural Resource Secondary Source Review for Maximum Build Alternative

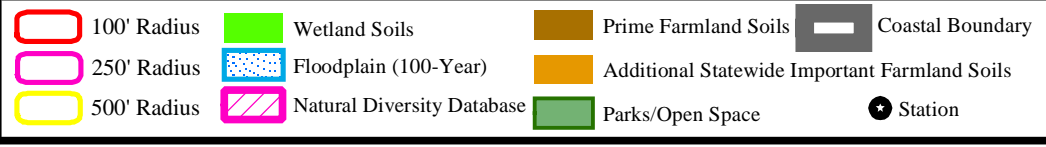
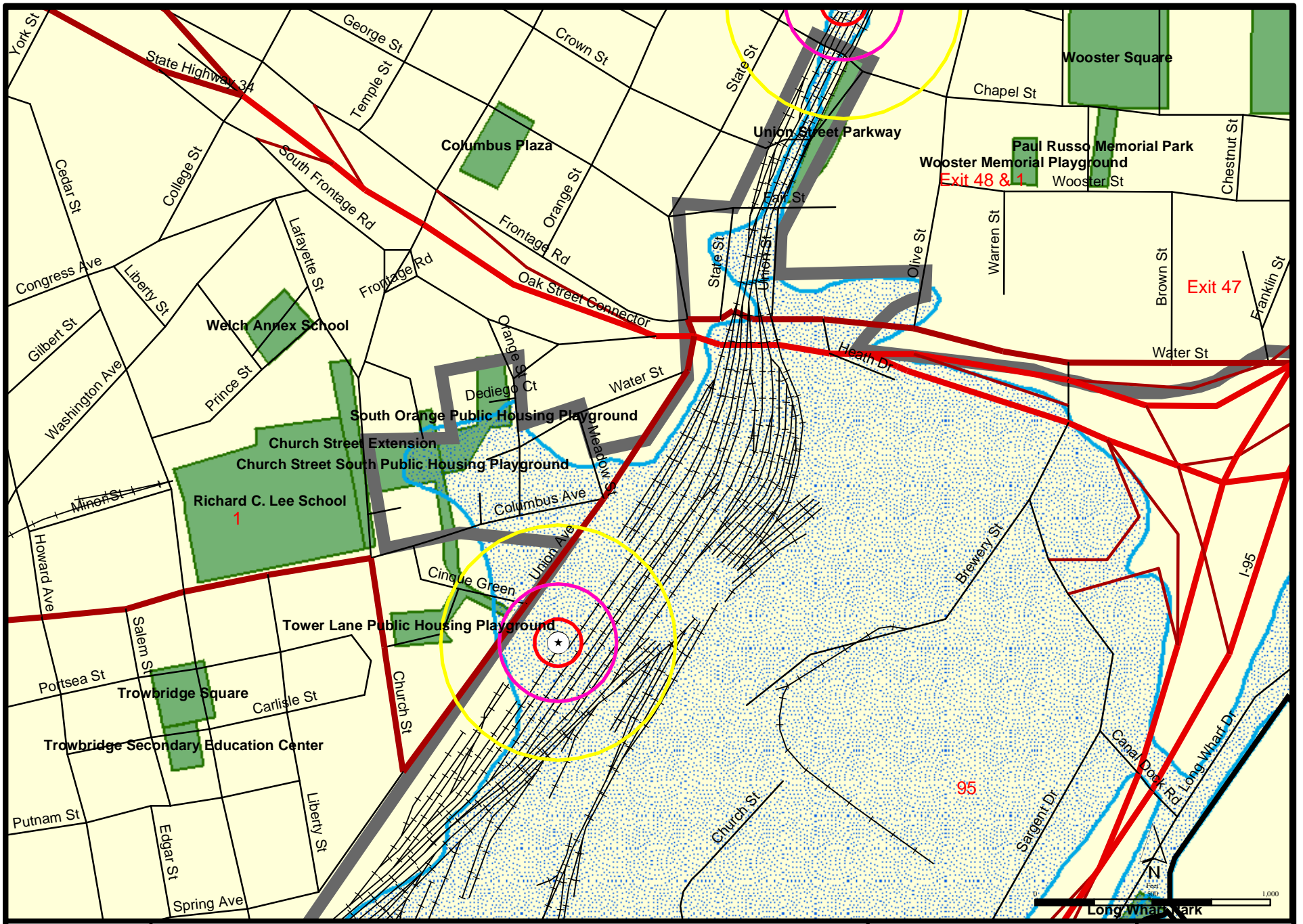
For the Maximum Build station locations in the state of Connecticut, the geographic information system (GIS) record of the *Environmental GIS Data for Connecticut, 2003 Edition* (Environmental and Geographic Information Center, Connecticut Department of Environmental Protection) data was reviewed to determine various natural resource impacts based on secondary-source mapping of the area around the subject station. Within Massachusetts, the GIS record of the MassGIS Data (most recent available data) (Office of Geographic and Environmental Information, Massachusetts Executive Office of Environmental Affairs) data was reviewed to determine various natural resource impacts based on secondary-source mapping of the area around the subject station. Impact areas were assessed using a series of radii 100 feet, 250 feet, and 500 feet surrounding the proposed location. The corresponding areas of the defined radii are: 100' = 1.44 acres; 250' = 7.43 acres; and 500' = 26.91 acres.

5.1 New Haven Union Station

GIS mapped natural resources within the defined radii for New Haven Union Station are shown in Table 5-1 and Figure 5-1.

**Table 5-1
Natural Resource Impacts (Acres) near New Haven Union Station**

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	0.72	3.76	9.78
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	0.42





New Haven Union Station and the surrounding area within the radii are located within the Connecticut Coastal Management Boundary. Improvements or redevelopment of the subject station or within the defined radii would need to be further studied for consistency with the Connecticut Coastal Management Act. Coordination would occur with the CTDEP Office of Long Island Sound Programs.

5.2 New Haven State Street Station

GIS mapped natural resources within the defined radii for New Haven State Street Station are shown in Table 5-2 and Figure 5-2. The Farmington Canal Heritage Greenway is within the 500 foot defined radii for New Haven State Street Station. Further review would need to be conducted to determine if the greenway is applicable to Section 6(f) and if there would be any direct conflicts between the improvements at the station.


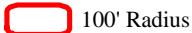
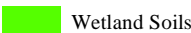
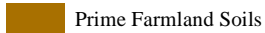
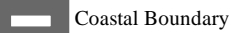
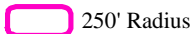
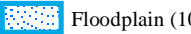
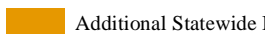

Table 5-2
Natural Resource Impacts (Acres) near New Haven State Street Station

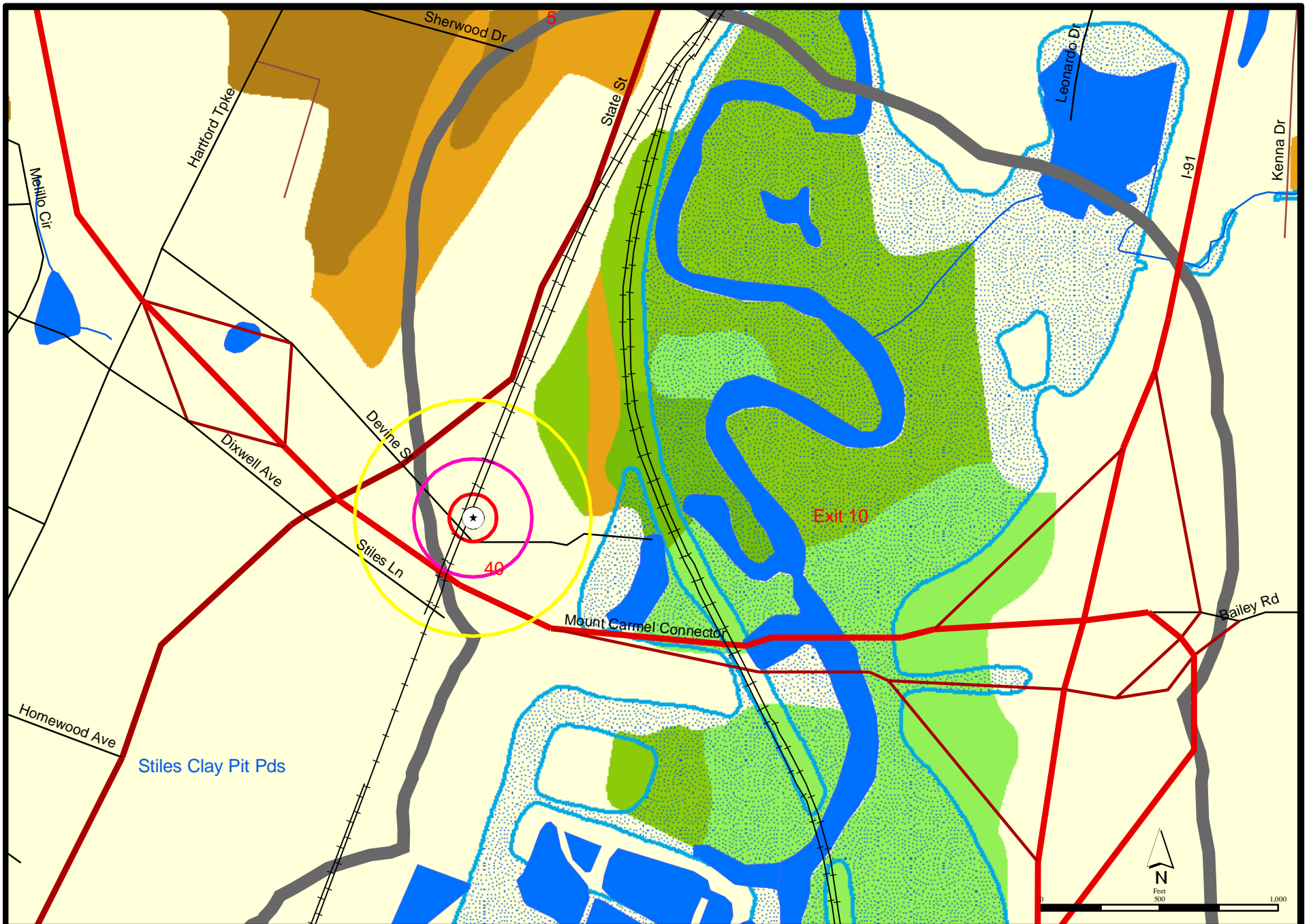
Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	0.24	0.47	0.32
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	0.02	0.53

5.3 North Haven / Hamden Station

GIS mapped natural resources within the defined radii for North Haven / Hamden Station are shown in Table 5-3 and Figure 5-3 . A convergence of natural resources occurs within the eastern portion of the defined radii that are primarily associated with Quinnipiac River, which is approximately 1,110 feet east from the station. Within 500 feet are small areas of wetland/farmland soils.



 FITZGERALD & HALLIDAY, INC. Planning Consultants 72 Cedar Street, Hartford, Connecticut 06106 (860) 247-7200 www.fhplan.com	 100' Radius	 Wetland Soils	 Prime Farmland Soils	 Coastal Boundary	New Haven, Hartford, Springfield Commuter Rail Natural Resources Review	NEW HAVEN STATE STREET STATION Figure 5-2
	 250' Radius	 Floodplain (100-Year)	 Additional Statewide Important Farmland Soils	 Parks/Open Space		



	100' Radius		Wetland Soils		Prime Farmland Soils		Coastal Boundary
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils		Station
	500' Radius		Natural Diversity Database		Parks/Open Space		



**Table 5-3
Natural Resource Impacts (Acres) near North Haven / Hamden Station**

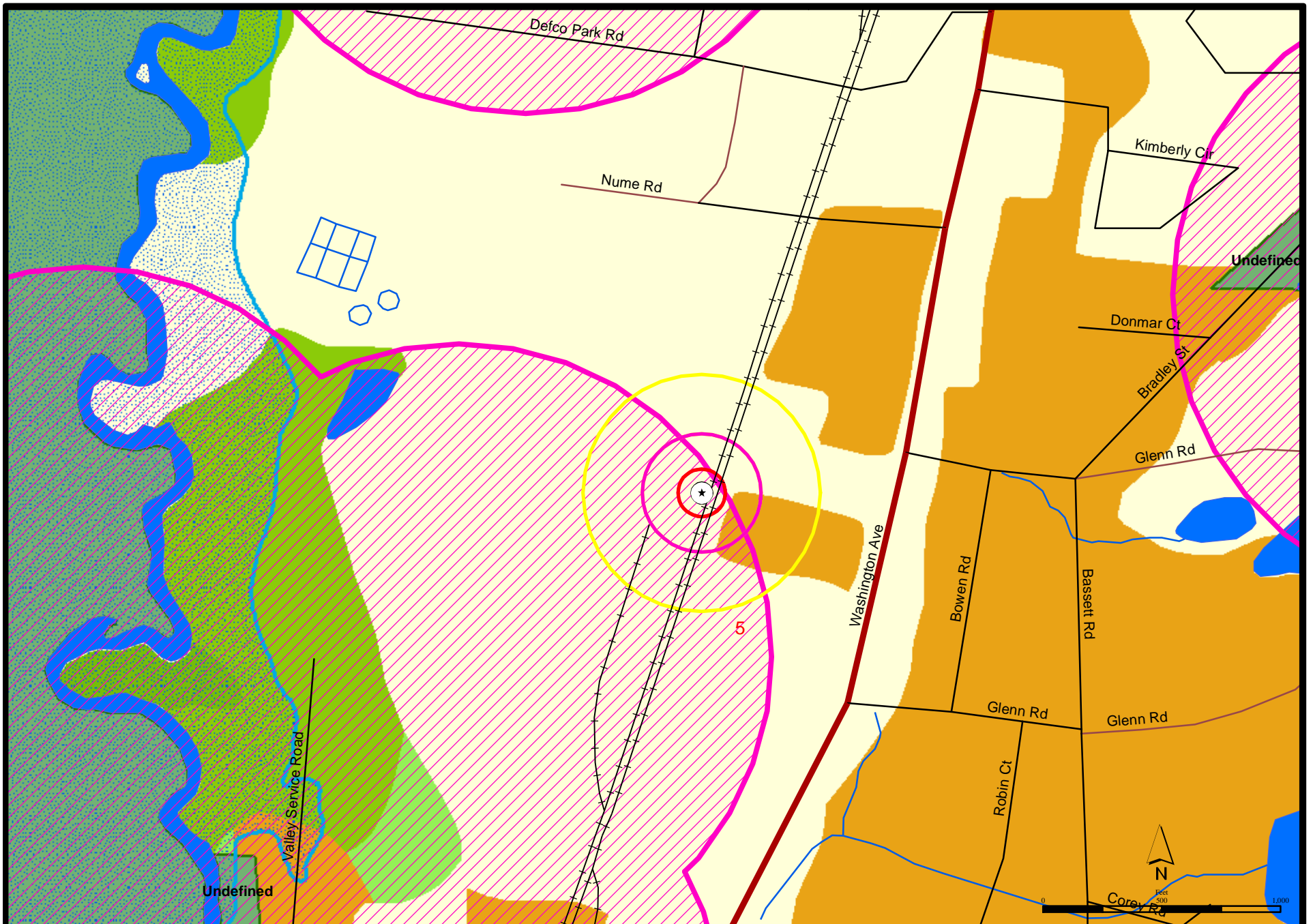
Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	0.73
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDDB	None	None	None
Farmland Soils	None	None	0.77 (non-prime farm soils)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None

5.4 Wharton Brook Station

GIS mapped natural resources within the defined radii for Wharton Brook Station are shown in Table 5-4 and Figure 5-4.

**Table 5-4
Natural Resource Impacts (Acres) near Wharton Brook Station**

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDDB	Yes	Yes	Yes
Farmland Soils	None	0.62 (non-prime farm soils)	1.93 (non-prime farm soils)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None



	100' Radius		Wetland Soils		Prime Farmland Soils		Station
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils		
	500' Radius		Natural Diversity Database		Parks/Open Space		



A Natural Diversity Database (NDDB) record documenting a historic presence of threatened, endangered, or special concern species encompasses the station. However, the record only shows an area of concern, but does not indicate what species occurs or its status. Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. Due to the ambiguous NDDB record, coordination with Connecticut NDDB regarding the status and/or presence of any threatened, endangered, and/or special concern species might be necessary during the NEPA/CEPA process to further evaluate NDDB impacts.

5.5 Wallingford Station

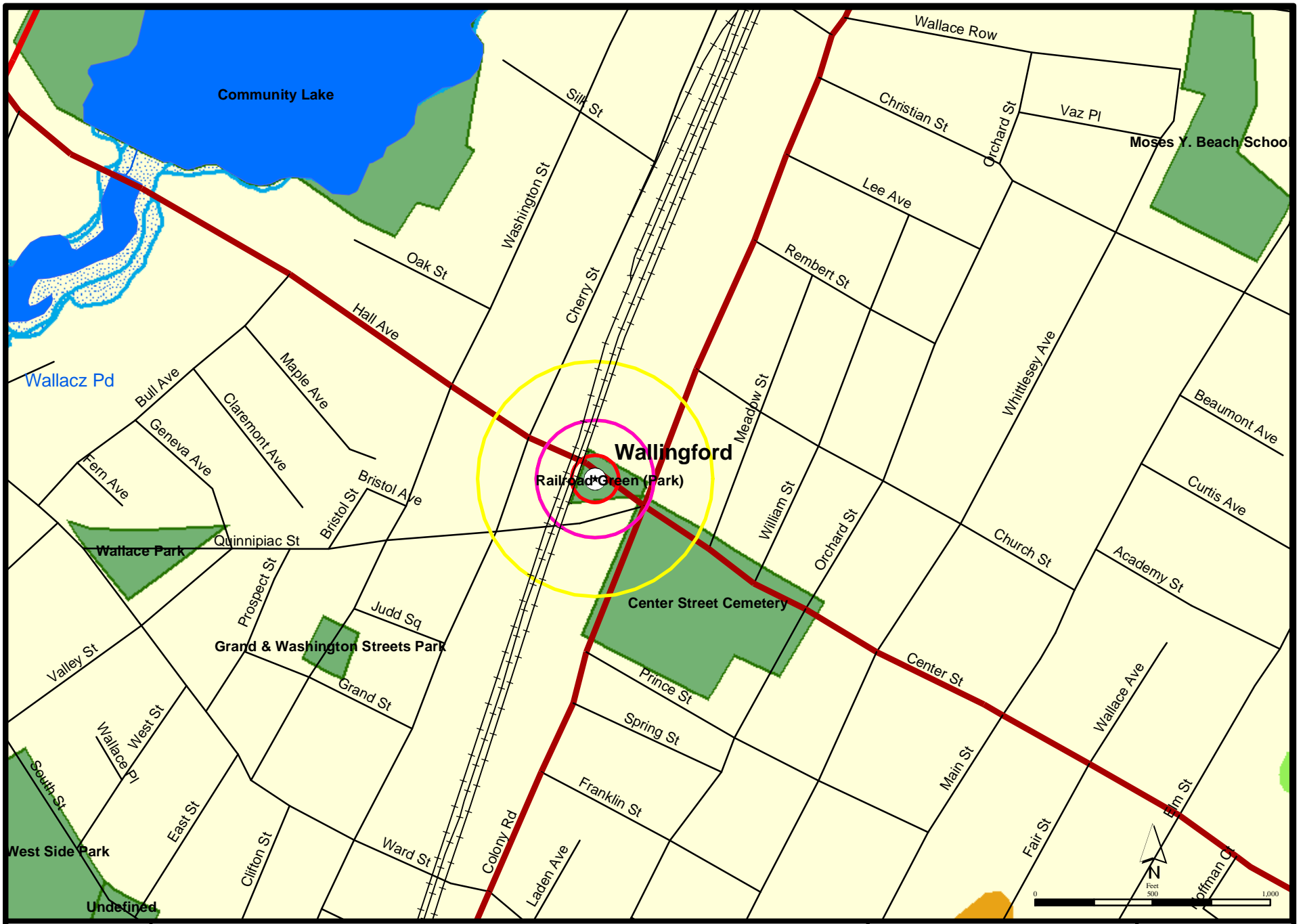
GIS mapped natural resources within the defined radii for Wallingford Station are shown in Table 5-5 and Figure 5-5. This station is located on the Railroad Green Park. Within 500 feet and southeast of the subject station is Center Street Cemetery.

Table 5-5
Natural Resource Impacts (Acres) near Wallingford Station











Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	0.63	0.31	2.11

5.6 Meriden Station

GIS mapped natural resources within the defined radii for Meriden Station are shown in Table 5-6 and Figure 5-6. Floodplains (100-year) associated with Harbor Brook occur within all radii.




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	100' Radius		Wetland Soils		Prime Farmland Soils
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils
	500' Radius		Natural Diversity Database		Parks/Open Space
					Station

**New Haven, Hartford, Springfield
 Commuter Rail**
 Natural Resources Review

**WALLINGFORD
 STATION**
 Figure 5-5

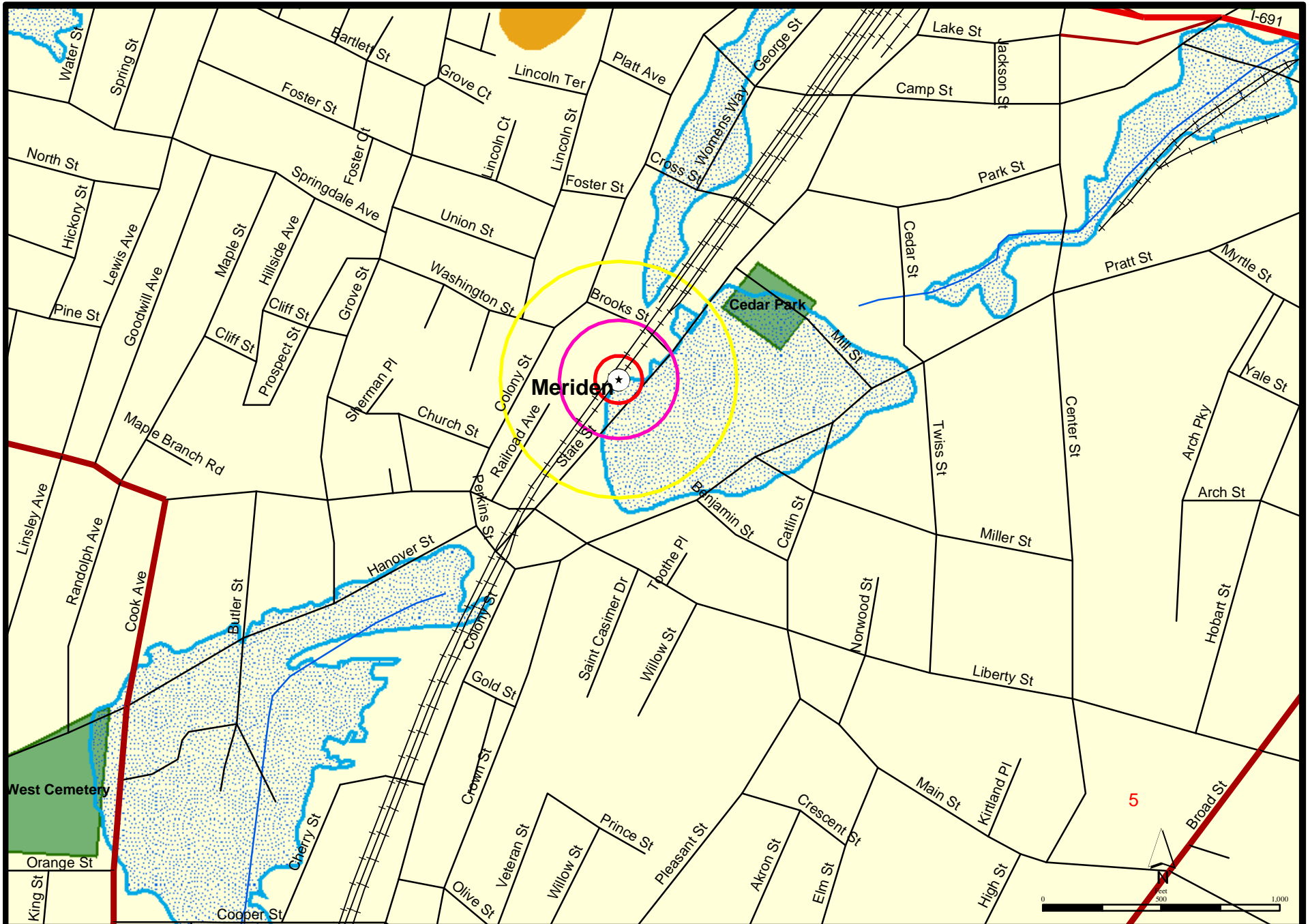




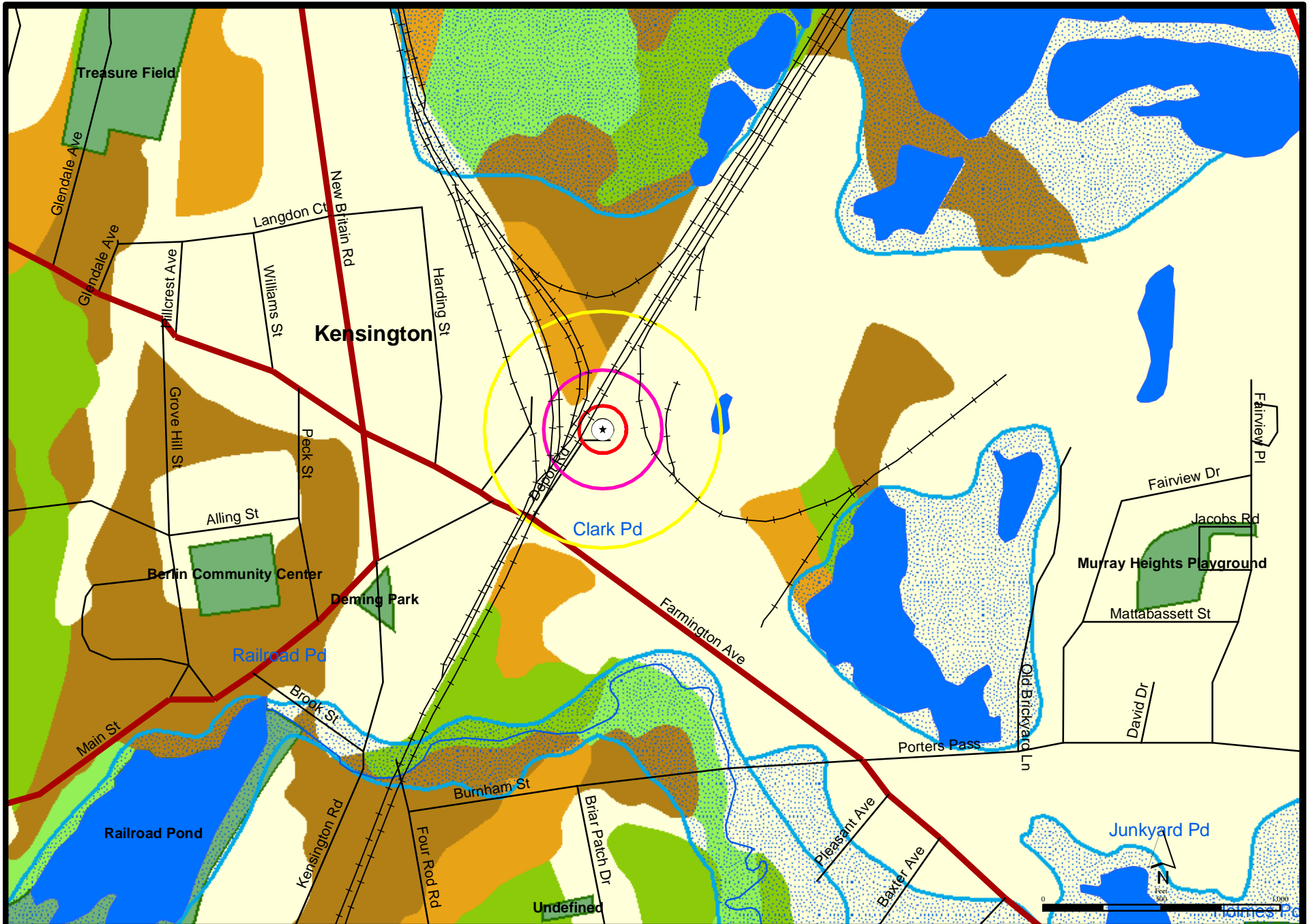
Table 5-6
Natural Resource Impacts (Acres) near Meriden Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	0.26	1.38	5.19
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None









Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. Impacts on floodplains would be studied further in the NEPA/CEPA process and Floodplain Management Certification would need to be submitted to CTDEP for activities within or affecting floodplain areas prior to construction. Station construction within floodplain areas should not decrease flood storage capacity, should be constructed at or above the base flood elevation (BFE), and stormwater management will need to consider floodplain impacts. There is no regulated floodway within the defined radii at this location.

5.7 Berlin Station

GIS mapped natural resources within the defined radii for Berlin Station are shown in Figure 5-7 and Table 5-7. Small areas of farmland soils occur within the 250 and 500 radii.




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	100' Radius		Wetland Soils		Prime Farmland Soils
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils
	500' Radius		Natural Diversity Database		Parks/Open Space
					Station

**New Haven, Hartford, Springfield
 Commuter Rail**
 Natural Resources Review

**BERLIN
 STATION**
 Figure 5-7



**Table 5-7
Natural Resource Impacts (Acres) near Berlin Station**

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	0.28 (Non-prime)	0.35 (Prime) 1.33 (Non-prime)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None

5.8 Newington Station











GIS mapped natural resources within the defined radii for Newington Station are shown in Table 5-8 and Figure 5-8. The 100-year floodplain occurs within 100 feet from the proposed station location. Within 500 feet, wetland soils associated with Piper Brook are present. To the southeast is DEP Flood Control Property (South Branch Park River Flood Control, Piper and Mill Brooks).

**Table 5-8
Natural Resource Impacts (Acres) near Newington Station**

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	1.22	5.44
Wetland Soils	None	0.43	4.25
Streams & Intermittent Streams	None	None	Yes
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	0.43 (Non-prime)	0.43 (Prime) 4.25 (Non-prime)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	0.11	1.91




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 100' Radius	 Wetland Soils	 Prime Farmland Soils
 250' Radius	 Floodplain (100-Year)	 Additional Statewide Important Farmland Soils
 500' Radius	 Natural Diversity Database	 Parks/Open Space
		 Station

**New Haven, Hartford, Springfield
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**NEWINGTON
 STATION**
 Figure 5-8



Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. The following are potential issues that would need to be further evaluated under the NEPA/CEPA process:

- Impacts on floodplains would be studied further in the NEPA/CEPA process and Floodplain Management Certification would need to be submitted to CTDEP for activities within or affecting floodplain areas prior to construction. Station construction within floodplain areas should not decrease flood storage capacity, should be constructed at or above the base flood elevation (BFE), and stormwater management will need to consider floodplain impacts. There is no regulated floodway within the defined radii at this location.
- Impacts upon jurisdictional inland wetlands and watercourses that cannot be avoided would need to be minimized and then mitigated (through replacement elsewhere, in the case of wetlands) in at least a 1:1 ratio. The US Army Corps of Engineers and CTDEP might require other mitigation measures as part of the NEPA/CEPA and permitting processes.

5.9 Hartford Station

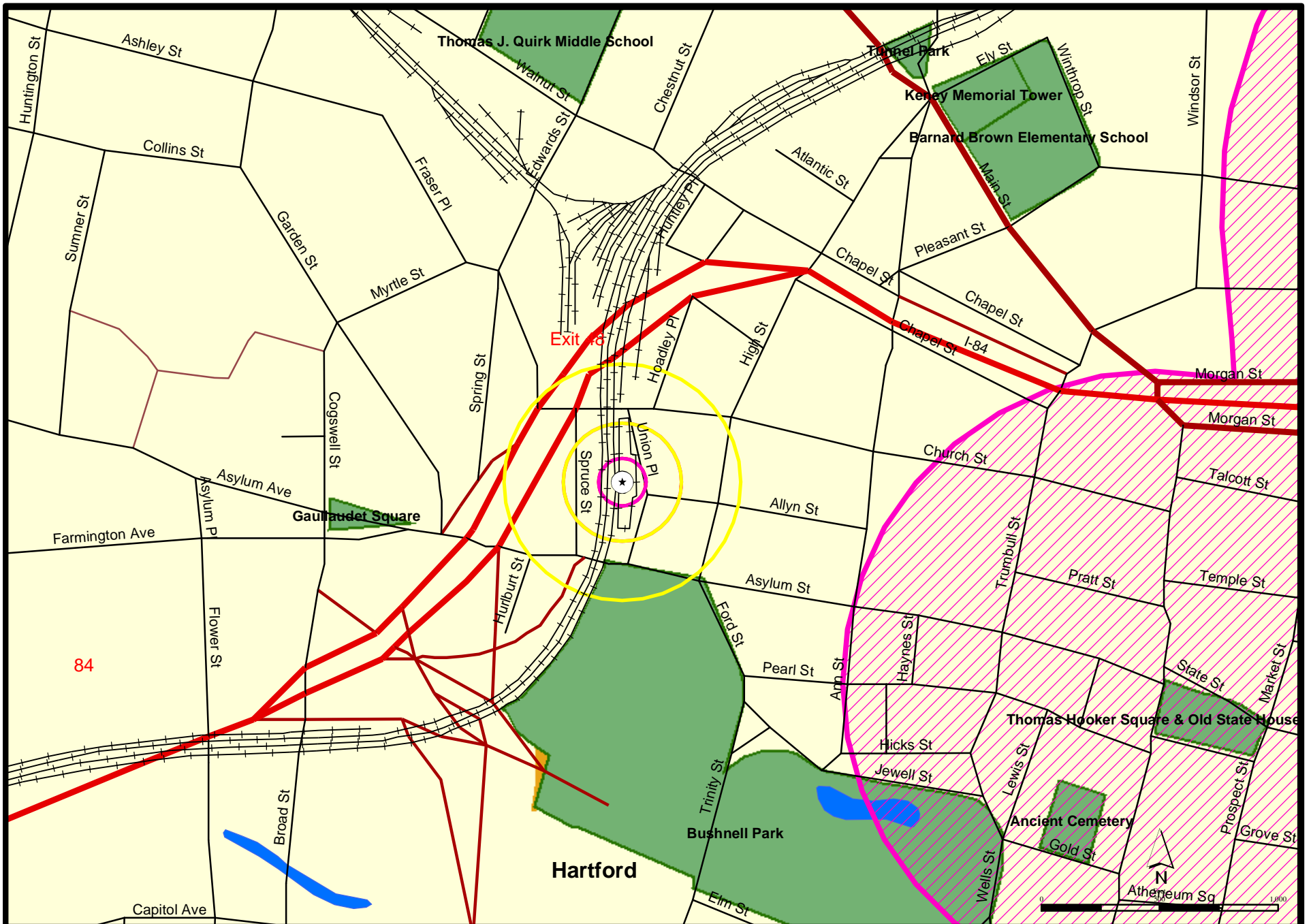
GIS mapped natural resources within the defined radii for Hartford Union Station are shown in Table 5-9 and Figure 5-9. Bushnell Park is within 500 feet of Union Station.

Table 5-9
Natural Resource Impacts (Acres) near Hartford Union Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	None	None	None
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	1.08

5.10 North Meadows Station

There are no GIS mapped natural resources within the defined radii for North Meadows Station.





5.11 Windsor Station

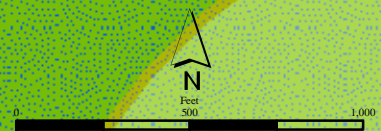
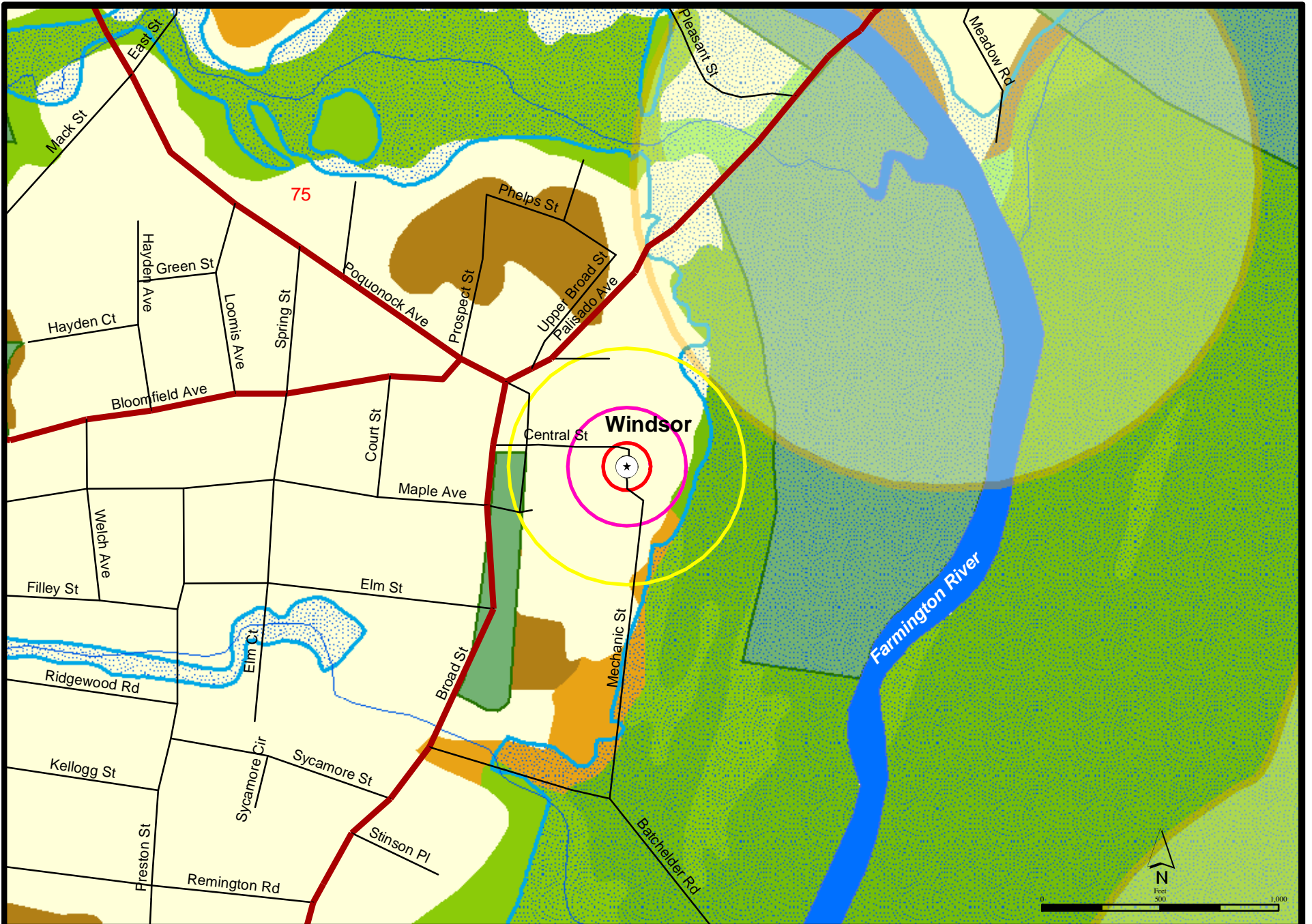
GIS mapped natural resources within the defined radii for Windsor Station are shown in Table 5-10 and Figure 5-10.

Table 5-10
Natural Resource Impacts (Acres) near Windsor Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	3.38
Wetland Soils	None	0.07	3.56
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDDB	None	None	None
Farmland Soils	None	0.07 (Prime)	3.23 (Prime) 0.89 (Non-prime)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	0.30

No GIS mapped natural resources occur within 100 feet of the Windsor Station. Within 250 feet, very small amounts of wetland soils and prime farmland soils occur. Within 500 feet are larger areas of wetland/farmland soils, as well as, floodplains, and an area of designated open space/parkland associated with Farmington River, which is located approximately 1,500 feet east of the station. To the southwest within 500 feet is the Windsor Town Green.

Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, there are few resources in immediate proximity to the existing station that would be need to be further evaluated under the NEPA/CEPA process. If it is determined that station expansion is necessary and impacts went further into the 250 or 500-foot radii areas or greater, it might be necessary to address impacts on these resources at that time.




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	100' Radius		Wetland Soils		Prime Farmland Soils
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils
	500' Radius		Natural Diversity Database		Parks/Open Space
					Station

**New Haven, Hartford, Springfield
 Commuter Rail**
 Natural Resources Review

**WINDSOR
 STATION**
 Figure 5-10



5.12 Windsor Locks Station

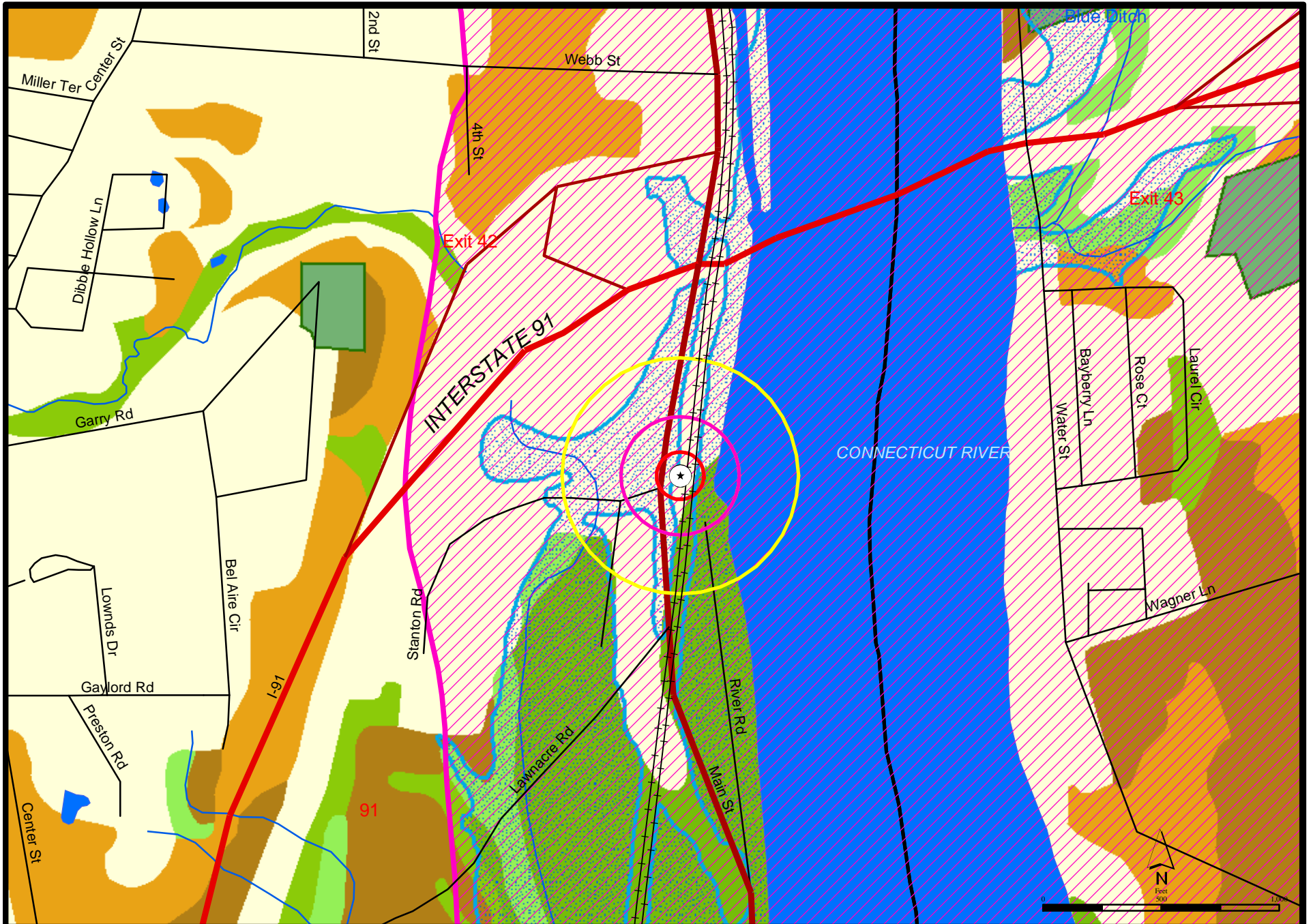
GIS mapped natural resources within the defined radii for Windsor Locks Station are shown in Table 5-11 and Figure 5-11. Within 100 feet of the Windsor Locks Station there are floodplains and small amounts of wetland and prime farmland soils. A Natural Diversity Database (NDDB) record documenting a historic presence of threatened, endangered, or special concern species that envelops the entire Connecticut River corridor encompasses the station. However, the record only shows an area of concern, but does not indicate what species occurs or its status.

Within 250 feet, there are greater areas of floodplains, wetland/prime farmland soils, and a portion of the Connecticut River, which is located approximately 130 feet east of the station. Within 500 feet, there are larger areas of these resources, and to the west is Dibble Hollow Brook. There are no aquifer protection areas or parks/open space proximate to the site. The NDDB area encompasses all radii.

Table 5-11
Natural Resource Impacts (Acres) near Windsor Locks Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	0.32	3.05	10.12
Wetland Soils	0.09	0.79	1.89
Streams & Intermittent Streams	None	None	Yes
Water (includes large rivers)	None	0.49	4.16
NDDB	Yes	Yes	Yes
Farmland Soils	0.18	0.80 (Prime)	1.83 (Prime)
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None

Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. The following are potential issues that would need to be further evaluated under the NEPA/CEPA process:



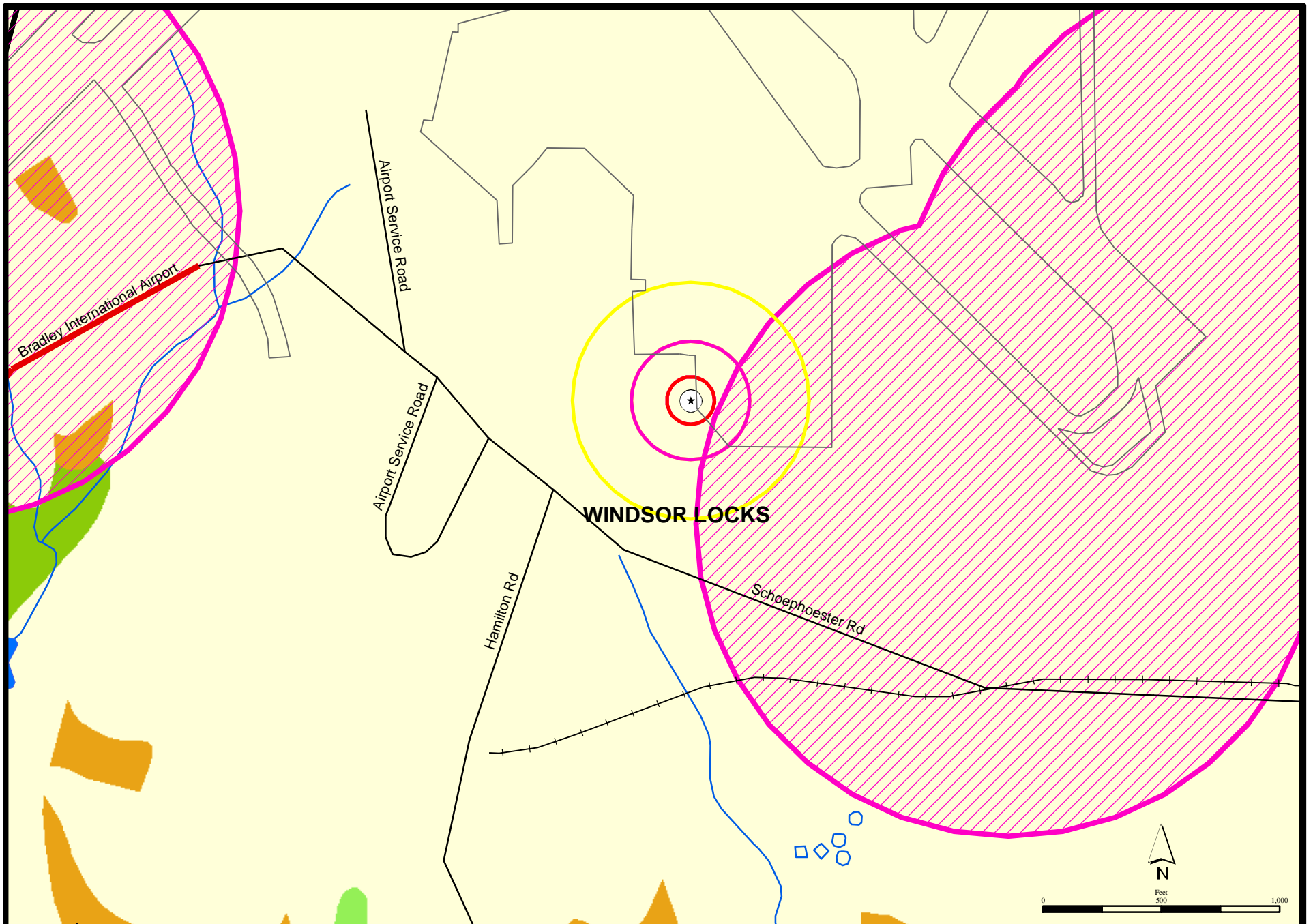






- Impacts on floodplains would be studied further in the NEPA/CEPA process and Floodplain Management Certification would need to be submitted to CTDEP for activities within or affecting floodplain areas prior to construction. Station construction within floodplain areas should not decrease flood storage capacity, should be constructed at or above the base flood elevation (BFE), and stormwater management will need to consider floodplain impacts. There is no regulated floodway within the defined radii at this location. According to CTDEP's Stream Channel Encroachment Lines List, encroachment lines exist along the reach of Connecticut River within Windsor Locks. Therefore, a review of the CTDEP encroachment line maps would need to be performed.
- Impacts upon jurisdictional inland wetlands and watercourses that cannot be avoided would need to be minimized and then mitigated (through replacement elsewhere, in the case of wetlands) in at least a 1:1 ratio. The US Army Corps of Engineers and CTDEP might require other mitigation measures as part of the NEPA/CEPA and permitting processes.
- Due to the ambiguous NDDDB record, coordination with Connecticut NDDDB regarding the status and/or presence of any threatened, endangered, and/or special concern species might be necessary during the NEPA/CEPA process to further evaluate NDDDB impacts.

5.13 Bradley International Airport Station

GIS mapped natural resources within the defined radii for Bradley International Airport Station are shown in Figure 5-12 and Table 5-12.

A Natural Diversity Database (NDDDB) record documenting a historic presence of threatened, endangered, or special concern species that envelops the entire Connecticut River corridor encompasses the station. However, the record only shows an area of concern, but does not indicate what species occurs or its status. Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. Due to the ambiguous NDDDB record, coordination with Connecticut NDDDB regarding the status and/or presence of any threatened, endangered, and/or special concern species might be necessary during the NEPA/CEPA process to further evaluate NDDDB impacts.



 FTZGERALD & HALLIDAY, INC. Planning Consultants 72 Cedar Street, Hartford, Connecticut 06106 (860) 247-7200 www.fhplan.com	 100' Radius	 Wetland Soils	 Prime Farmland Soils	New Haven, Hartford, Springfield Commuter Rail	BRADLEY AIRPORT STATION
	 250' Radius	 Floodplain (100-Year)	 Additional Statewide Important Farmland Soils		
	 500' Radius	 Natural Diversity Database	 Parks/Open Space		
			 Station		



**Table 5-12
Natural Resource Impacts (Acres) near Bradley International Airport Station**

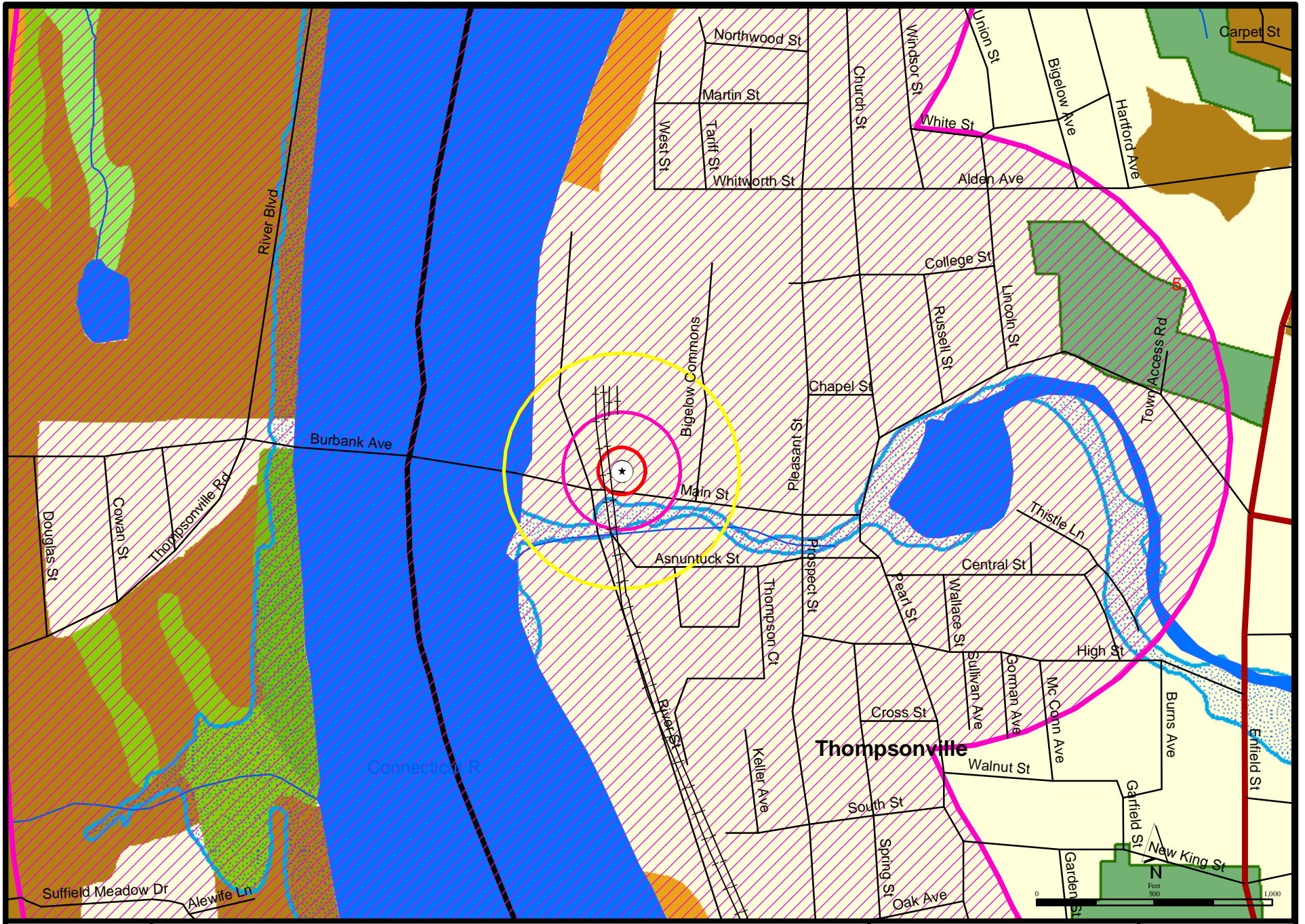
Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
NDDB	Yes	Yes	Yes
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None

5.14 Enfield Station











GIS mapped natural resources within the defined radii for Enfield Station are shown in Table 5-13 and Figure 5-13. There is a state-designated Greenway within all radii. The 100-year floodplain associated with freshwater Brook occurs within 500 feet of the proposed station.

**Table 5-13
Natural Resource Impacts (Acres) near Enfield Station**

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year)	None	0.62	1.01
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	Yes
Water (includes large rivers)	None	None	None
NDDB	Yes	Yes	Yes
Farmland Soils	None	None	None
Aquifer Protection Area	None	None	None
Parks/Open Space	None	None	None




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	100' Radius		Wetland Soils		Prime Farmland Soils
	250' Radius		Floodplain (100-Year)		Additional Statewide Important Farmland Soils
	500' Radius		Natural Diversity Database		Parks/Open Space
					Station

**New Haven, Hartford, Springfield
 Commuter Rail**
 Natural Resources Review

**ENFIELD
 STATION**
 Figure 5-13



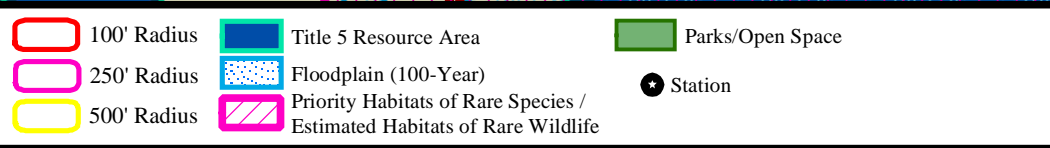
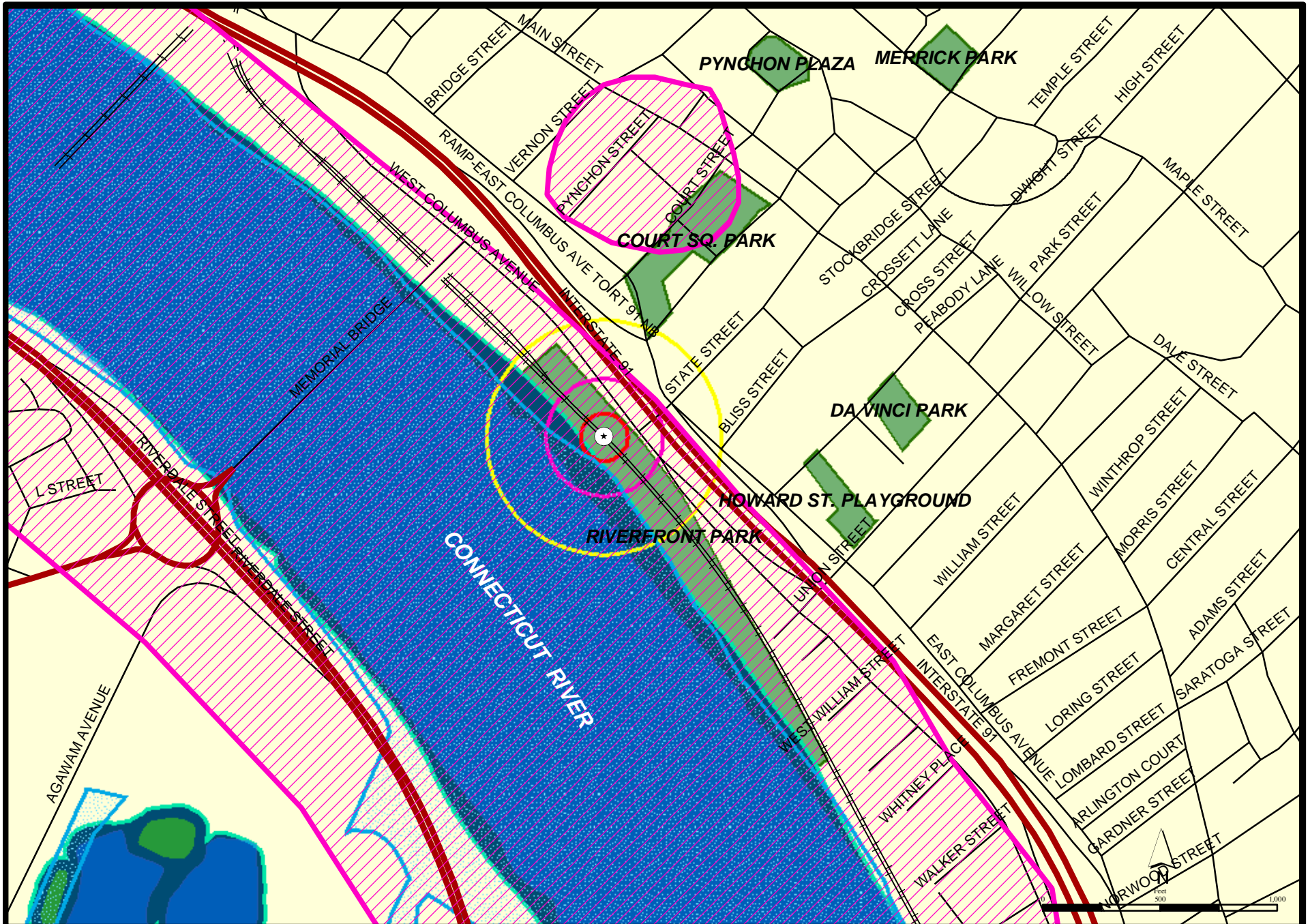
A Natural Diversity Database (NDDDB) record documenting a historic presence of threatened, endangered, or special concern species that envelops the entire Connecticut River corridor encompasses the station. However, the record only shows an area of concern, but does not indicate what species occurs or its status. Based upon these GIS records, if this station was to be expanded or otherwise reconstructed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. Due to the ambiguous NDDDB record, coordination with Connecticut NDDDB regarding the status and/or presence of any threatened, endangered, and/or special concern species might be necessary during the NEPA/CEPA process to further evaluate NDDDB impacts.

5.15 Springfield State Street Station

GIS mapped natural resources within the defined radii for Springfield State Street Station are shown in Table 5-14 and Figure 5-14. The proposed station is located on the Riverfront Park and is approximately 160 feet east of Connecticut River. Within the 100 foot radius, there are Priority Habitats of Rare Species (PHRS) / Estimated Habitats of Rare Wildlife (EHRW), a designated medium yield aquifer, and Title 5 Resource Area. Within 250 feet are floodplains, including a regulated floodway, Connecticut River, PHRS/EHRW, Title 5 Resource Area, medium yield aquifer, and the Riverfront Park. These same resources increase in area within the 500 foot radius.

Table 5-14
Natural Resource Impacts (Acres) near Springfield State Street Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year) & Floodway	None	0.98	5.07
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	0.14	4.04
Priority Habitats of Rare Species / Estimated Habitats of Rare Wildlife	1.44	7.43	10.07
Title 5 Resource Area	0.04	1.32	5.67
Aquifer (Areas of high and medium yield)	1.44 (med yield)	6.93 (med yield)	22.12 (med yield)
Parks/Open Space	1.44	1.98	2.54





Based upon these GIS records, if this station is to be proposed under any of the alternatives, efforts should be made first to avoid, then minimize, and then mitigate impacts to these areas. The following are potential issues that would need to be further evaluated under the NEPA/MEPA process:

- Station construction within floodplain areas should not decrease flood storage capacity, should be constructed at or above the base flood elevation (BFE), and stormwater management will need to consider floodplain impacts.
- Due to the ambiguous PHRS/EHRW record, coordination with the Massachusetts Natural Heritage & Endangered Species Program regarding the status and/or presence of any rare species that use the habitats or important state-listed wildlife might be necessary during the NEPA/MEPA process to further evaluate any potential impacts.
- Any potential impacts to wetlands, watercourses, and floodplains fall under the Wetlands Protection Act. The US Army Corps of Engineers, US Fish and Wildlife Service, and MADEP might require other mitigation measures as part of the NEPA/MEPA and permitting processes.

5.16 Springfield Union Station

GIS mapped natural resources within the defined radii for Springfield Union Station are shown in Table 5-15 and Figure 5-15. There is a mapped medium yield aquifer area, which encompasses all radii.

Table 5-15
Natural Resource Impacts (Acres) near Springfield Union Station

Natural Resource	100 ft Radius	250 ft Radius	500 ft Radius
Floodplain (100-year) & Floodway	None	None	None
Wetland Soils	None	None	None
Streams & Intermittent Streams	None	None	None
Water (includes large rivers)	None	None	None
Priority Habitats of Rare Species / Estimated Habitats of Rare Wildlife	None	None	None
Title 5 Resource Area	None	None	None
Aquifer (Areas of high and medium yield)	1.44 (med yield)	6.93 (med yield)	22.12 (med yield)
Parks/Open Space	None	None	None

