

removed from the area. Reptile-proof fencing would be used and maintained for the duration of the Project, and the fencing would be removed when the Project is complete.

In addition to the sweeps and fencing of materials storage areas, all erosion control materials used for slope and winter stabilization would be wildlife-friendly, made from natural woven fibers (no plastic mesh products) without fixed knots and without welded plastic components. Additionally, construction personnel would receive training for recognizing black racers and to take the appropriate actions to protect them. All project personnel would understand and implement the appropriate protective actions and notifications to protect listed species.

Coordination would continue with NHFGD during the permitting process to ensure that there are no additional concerns about records of listed wildlife species.

## **4.18 Cultural Resources**

### **4.18.1 Regulatory Overview**

#### **Federal Regulations**

Archaeological and historic architectural resources are protected by federal laws, including Section 106 of the NHPA of 1966, as amended, and Section 4(f) of the Department of Transportation Act. The requirements of Section 4(f) are discussed in detail in Chapter 7, *Section 4(f) Evaluation*.

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic resources and allow the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. Before the ACHP comments on a project, the resources and effects on those resources are evaluated by the State Historic Preservation Officer (SHPO). In NH, the Director of the New Hampshire Division of Historical Resources (NHDHR) is the SHPO. A review by the SHPO is required by 36 CFR 800 (Section 106 process) and 23 CFR 771 (Section 4(f) process). Under Section 106, provisions are made by ACHP regulations (36 CFR 800) for review and input from interested consulting parties (e.g., historical societies or advocacy groups), including local governments, Native American tribes, the public, and adjacent and affected landowners.

Section 110(f) of the NHPA requires federal agencies to account for and minimize harm to any National Historic Landmark that may be directly and adversely affected by a project.

In addition to the federal requirements, state and local cultural resources regulations are relevant to the Project.

#### **State Requirements**

With the implementation of RSA 227-C:9, Directive for Cooperation in the Protection of Historic Resources, the SHPO is responsible for overseeing the identification and evaluation of cultural resources within the state relative to the work of other state agencies.

#### **Local Requirements**

The National Historic Preservation Program operates as a partnership between the federal government, states, and local communities. Program participation by local governments is

possible under the Certified Local Government Program. A community that meets requirements for enforcing appropriate state and local legislation for designating and protecting historic resources may be assigned the responsibility of reviewing and approving nominations of local resources to the NRHP and may also become eligible to apply for special matching funds. The SHPO and the Secretary of the Interior certify qualifying local governments.

The Town of Derry has been a Certified Local Government<sup>21</sup> since 1986. Town planning efforts in 1986 included a reconnaissance-level cultural resources survey of the entire town, funded by a grant from NPS and the SHPO. Historic and cultural resources continue to be included in Derry's planning efforts, including a Historic and Cultural Resources chapter in the 2010 Master Plan.

Derry has a Heritage Commission, but it does not have a local historic district. The East Derry Historic District was listed on the NRHP in 1982.

Londonderry has been a Certified Local Government since 2007. Londonderry has a Heritage/Historic District Commission with a small Historic Overlay District.

## 4.18.2 Methodology

### Archaeological Resources

#### *Area of Potential Effect*

The Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic resources, if any such resources exist. "The APE is influenced by the nature and scale of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR § 800.16(d)). The initial data collection for archaeological resources was undertaken for a 26-square mile study area to identify potential constraints. The APE for archaeological resources includes the area of ground disturbance for each alternative alignment (see Figures 3.6-1 through 3.6-12 for the footprints of each Build Alternative).

#### *Data Collection*

Pre-contact Native American and post-contact European American sites and areas of archaeological sensitivity have been identified in the study area. Archaeological sensitivity areas refer to locations which exhibit the potential for archaeological resource occurrence related to either pre-contact Native American or post-contact European American occupation or activities preserved in an archaeological context.

As outlined in Appendix K, additional documentary research was completed in 2016 using information from a variety of sources, including: previous archaeological studies conducted in the Project locale since 1999; the SHPO's state-wide site files, an inventory of previously recorded archaeological sites within or in proximity to the alternatives; the SHPO's Project review and compliance files for undertakings within the Project area that have undergone Section 106 review; the NH Old Graveyards database for any known graveyards or cemeteries within the Project alternatives; the NH State Register and NRHP files to define any significant resources within the Project area; and background information on file at Victoria Bunker, Inc.

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<sup>21</sup> The Certified Local Government program is administered jointly by NPS and the SHPOs.

## Historic Resources

### *Area of Potential Effect*

The initial identification of historic resources was undertaken in 1998 for a 26-square-mile study area. For this FEIS, a records search was conducted to determine if any additional historic resources were identified since the 2007 DEIS. In addition, an APE for Alternative A was identified and includes the parcels that abut the Alternative alignment (Figure 4.18-1 through 4.18-3).

### *Data Collection*

The historic resources assessment for the I-93 Exit 4A Interchange Study was first undertaken by Preservation Company in 1998. After delays, the Project resumed in 2005, and historic resources findings were updated. However, the Project was again delayed until the effort resumed in 2016. Adding to the complexity, the Exit 4A Project area overlaps with two other NHDOT projects: the Bedford-Manchester-Londonderry Project DPR-F-0047-(001), 11512, and the I-93 Improvement Project: Salem-Manchester 10418C. These two projects were completed during the same time period, and their APEs overlapped with each other and with the APE for Exit 4A. Therefore, some of the information and survey products created for each of these projects was used to create the historic resources assessments for the Exit 4A Project, in all of its phases.

#### 1998–2005

The initial historic resources survey for the Exit 4A Project took place from 1998–2002. Five Alternative routes (see Appendix K) were studied in the Towns. Work included survey of individual resources and historic districts. SHPO survey forms were completed for all resources that were over 50 years old (i.e., built before 1948) within the APE for each of the five alternatives.

The 1998–2002 Survey of Historic Resources was undertaken according to direction from the SHPO, using the standards for survey and forms in use at that time. Field survey in Derry produced 155 Individual Survey Forms, one Historic District Form, and a Townwide Area Form; six Individual Survey Forms were completed in Londonderry.

Prior to that effort, in 1995, Preservation Company had completed a Townwide Area Form for Londonderry as part of the Bedford-Manchester-Londonderry Project DPR-F-0047-(001), 11512. In 2001, the Londonderry survey was undertaken for the I-93 Improvement Project: Salem-Manchester. It included identification of eligible resources for the Exit 4A: Derry-Londonderry Project Area: five Individual Survey Forms and one Historic District in the APE.

#### 2007 DEIS

For the 2007 DEIS, the 2001 survey of historic resources was updated to reflect the current conditions, integrity, and eligibility of the resources that had been found eligible for the NRHP in 2002. The survey included all resources in the APE for all five Project alternatives. No resources were reevaluated in Londonderry.

#### 2018 SDEIS

For the 2018 SDEIS, the identification of historic resources required two efforts: (1) a reevaluation of all resources that were found eligible as presented in the 2007 DEIS for Build

Alternatives A, B, C, D, and F; and (2) an evaluation along the alignment for Alternative A of any resources that had now reached sufficient age to be considered for NRHP eligibility (now 50 years or older, i.e., constructed between 1955 and 1968).

Fieldwork was completed in August 2016 to update the previous surveys in Derry and Londonderry. A windshield survey was conducted to reassess the formerly eligible resources, and any changes in their integrity were noted. Updates to the survey forms were submitted to the SHPO on continuation sheets. The evaluation of resources that had not reached sufficient age to be considered for NHRP eligibility was conducted in June 2018.

### 4.18.3 Cultural Context

#### Pre-Contact Native American Period Context

The Derry-Londonderry area, where the Project is situated, is located within the central Merrimack River drainage, which was once a focal point for Native American settlement. Pre-contact Native American archaeological resources, ranging from large habitation sites to smaller short-term habitation or special activity sites, are present along the Merrimack River, its tributaries, and the wetlands, lakes, and ponds within the Merrimack Valley. I-93 Exit 4, located at the western extent of Derry's Broadway (NH 102), is located approximately six miles east of the Merrimack River. Known pre-contact Native American sites are located on a variety of landforms, with numerous sites occurring in proximity to the Merrimack River, tributary streams, or other landscape features (Kenyon and McDowell, 1983; Potter and Bunker, 1991; Potter and Ohl, 1992). Available evidence suggests that Native American site setting and location changed over time in response to evolving landscapes and biotic communities.

#### *Pre-Contact Native American Existence in Merrimack Valley*

##### 11,500 to 10,000 Years Before Present

Pre-contact Native American peoples first entered the Merrimack Valley during the Paleo-Indian period (11,500-10,000 years before present [BP]), a time of rapid environmental change and instability. The Merrimack River was beginning to form from the draining of a series of glacial lakes after 13,000 BP, leaving behind high sandy terraces that became the focal point of pre-contact settlement (Potter, 1994). The archaeological record for Paleo-Indian habitation in the central Merrimack Valley, while limited, clearly indicates that the area was inhabited and suggests sites are found in relation to glacial lake shore margins and outwash terraces (Bunker and Potter, 1994).

##### 10,000 to 8,000 Years BP

The Paleo-Indian cultures were replaced by, or evolved into, the cultures of the Archaic period that are well-represented in the archaeological record throughout the Merrimack drainage. The river itself meandered widely as it eroded through glacial sediments and did not stabilize in its present course until 8000 BP (Potter, 1994). The Archaic period marks the beginning of economic systems geared toward local environments during which increasingly stable settlement patterns developed around predictable, seasonally available resources including anadromous fish, game, and plant resources.

### 8,000 to 5,500 Years BP

Aside from possible Middle Archaic sites attributable to the Gulf of Maine Archaic Tradition, the Middle Archaic period (8,000-5,500 BP) is well-represented by more typical flaked-stone tool complexes in the central Merrimack Valley (Bunker, 2006). Smaller Middle Archaic sites occur in interior locations, including one site (Site #27RK69) within the study area on Ezekiel Pond in Derry, where a Neville point, stone axe, pestle, and whetstone were recovered (Proctor, 1938).

### 5,500 to 3,000 Years BP

The Late Archaic period (5,500-3,000 BP) is well-represented throughout the Merrimack drainage (Bunker and Potter, 1994). Settlement during this period followed the broad patterns established during the Middle Archaic period, and sites with both Middle and Late Archaic components are frequently encountered along the Merrimack River. Within the study area, a single Late Archaic site, located west of I-93 in Londonderry (Site #27RK107) is recorded in the archaeological site files.

### 3,000 to 500 Years BP

The beginning of the Woodland period at 3000 BP did not bring about sudden or profound shifts in Native American life in the Merrimack Valley. The transition from the Late Archaic period to the Early Woodland period (3,000-2,000 BP) is marked by the addition of ceramics to the material culture inventory, while use of some other artifact types, such as the projectile points of the Small Stem tradition, continued (Goodby, 1988). Unlike other areas of eastern North America, there is no indication of agriculture until the end of the Woodland period.

The beginning of the Late Woodland period marks a number of changes in the cultures of the Merrimack Valley that are clearly reflected in the archaeological record. There is a change in projectile point forms, as Jack's Reef points are replaced by triangular Levanna points. Ceramics gradually become more elaborate in decoration and form. Exotic lithics decreased in frequency, with a return to more locally available lithic materials. Additionally, the period marks the first appearance of maize agriculture in New England. While ceramics and projectile points from this period are encountered throughout the Merrimack Valley, including the large sites at Amoskeag Falls, many Late Woodland sites are shallow and have suffered considerable disturbance from historic plowing. Therefore, there is less known about this most recent period of pre-history than about many earlier periods. Within the study area, a single Late Woodland site, located near King Arthur Drive in Londonderry (Site #27RK106) is known from a location west of Hardy Road in Derry where a felsite Levanna point was recovered.

By 500 years ago, European travelers, explorers, surveyors, traders, soldiers, missionaries and settlers had arrived, coming into contact with the Native American occupants of the Merrimack Valley. The next centuries (1600s–1700s) were characterized by profound culture change as native peoples were displaced and populations were ravaged by warfare and disease.

### *Expectations*

People occupied the central Merrimack Valley, including the Exit 4A study area, throughout the entire pre-contact Native American period beginning circa 11,500 BP. While sites are known and expected to occur in a variety of environmental settings, they have typically been recorded in areas of well-drained soils on level or moderately sloping terrain in association with rivers,

streams, wetlands, and other surface water features. Sites may range in size and nature, reflecting their place in shifting patterns of settlement, differences in site function, or other factors. With the exception of alluvial floodplain settings, sites are expected to be shallow, and some may have suffered disturbance from historic plowing or historic and modern development. Sites within the Exit 4A study area would most likely be related to other sites within the central Merrimack drainage and are expected to reflect a larger system of settlement and economic activity practiced by pre-contact Native American period cultures.

### **Post-Contact European American Context**

Derry and Londonderry are located in the southwestern corner of Rockingham County, southeast of Manchester and north of the Massachusetts State line. Until 1827, the two towns together comprised the Town of Londonderry.

#### *Major Transportation Routes in Area*

The historical development of Derry and Londonderry is directly linked to its proximity to major industrial cities, including Manchester, Nashua, Lowell, Lawrence, and Haverhill. Major transportation routes parallel each other and run southeast/northwest. These routes include:

- Londonderry Turnpike—Built in 1806 and later rebuilt as the NH 28 Bypass
- NH 28 (Rockingham Road)—Follows a series of older roads and created as a state highway in 1915
- Mammoth Road—Built in 1831 between Lowell and Concord and passes through Londonderry
- M&L Railroad—Built in 1849 and now abandoned
- I-93 (Alan B. Shepard Highway)—Built in the 1960s with interchanges at NH Routes 28 and 102 (Exits 5 and 4, respectively)
- NH 102 (Nashua Road)—Established as a state highway between Hudson and Derry in 1915 and between Derry and Raymond in 1919

Many of the principal roads through Londonderry (including Derry) were laid out in the 1720s, including East Derry Road, the road between the current center of Londonderry and Derry Village, along East Pillsbury Road, Pond Road, Kendall and Island Pond Roads, Old Chester Road, and a road from Derry Village to the Amoskeag Falls, along what is now Old Derry Road. The section of road between what are now Derry Village and West Derry was laid out in 1737, as was a road connecting Derry Village and what would later become North Londonderry. The main east-west road through Londonderry (now Stonehenge and Litchfield Roads) was built in 1744 (Monroe and Federer, 1993; Hurd, 1892; Derry Historic Research Committee, 1977).

#### *Village Centers*

Village centers developed around these various routes and their intersections. The earliest center in the original Town of Londonderry was East Derry (Upper Village) on Hampstead Road, a very early east-west route through the region. Derry Village (Lower Village) then developed in the late 18th and early 19th centuries. It centered around mills on Beaver Brook and the Londonderry Turnpike, at the turnpike junction with roads connecting Exeter, Chester, and

Hampstead with the Merrimack River. West Derry developed on what is now NH 102 during the second half of the 19th century around the railroad depot and adjacent industries. It replaced Derry Village as the town center.

Londonderry, the present town center, was established in the early 19th century at the intersection of Mammoth and East and West Pillsbury Roads. The largest village within Londonderry is North Londonderry, which developed in the late 19th century in the northwest corner of the study area. Between West Derry and North Londonderry, a secondary railroad depot developed at Wilson's Crossing on the north side of NH 28, just east of I-93 Exit 5. The area shown as Londonderry Post Office on late 19th century maps developed around the intersection of Mammoth (NH 128) and Nashua Roads (NH 102) as a cluster of several residences, a tavern, and a store and post office. Crowell's Corner is a small population center around the five-corner intersection of Mammoth Road (NH 128), South Litchfield, Stonehenge, and Bartley Hill Roads (Monroe and Federer, 1995).

The Town of Londonderry began constructing the necessary public buildings immediately following settlement. A meeting house was built between 1720 and 1722 and stood just north of the present First Parish Church in East Derry. The first schoolhouse was constructed in 1723 (Historical Booklet Committee, 1969; Hurd, 1882).

#### *Town of Derry Formation*

In 1827, due to the size of the town and its population, the original Town of Londonderry was divided in half. The eastern part, although it was the older section of town, received a new name when it was incorporated as Derry on July 2, 1827. The western half retained the name Londonderry. Derry received three-fifths of the valuation of the old town and three-fifths of the population (Hurd, 1892). In size, Derry was 22,600 acres and Londonderry 25,870 acres. In August of 1827, the name of the old post office was changed to Derry (Hurd, 1892). As of 1830, Londonderry had a population of 1,467, while Derry had 2,178 (U.S. Census Bureau, 1909).

#### *Historical Development of Londonderry and Derry*

The historical development of Londonderry, and later Derry, was driven by several factors, such as early industrial growth (i.e., sawmills) in the early 18th century; farming, which focused on delivering fresh produce and dairy to urban markets in the late 19th century, including apple orchards; electric railways constructed in 1896 (Chester to Derry) and 1907 (Derry to Manchester), which promoted summer tourism and allowed more convenient commuting; and post-World War II development, which led to a period of high population growth in Londonderry and Derry that was sustained until the early 1990s.

### **4.18.4 Affected Environment**

#### **Archaeological Resources**

A Phase I-A Archaeological Survey was conducted in 1999 for the Project (Goodby, 1999). The survey used a 26-square mile study area and identified three types of locations: previously recorded pre-contact Native American sites (PCNA); areas of pre-contact Native American archaeological sensitivity; and post-contact European American sites (PCEA). A total of 5 previously recorded PCNA sites, 13 areas of pre-contact Native American archaeological

sensitivity, and 10 previously recorded PCEA archaeological sites were identified within the overall study area (Table 4.18-1).

**Table 4.18-1. Archaeological Resources within the Study Area**

Identification Number	Constraint	Description
27-RK-0021	Previously Recorded PCEA Site	Aiken's Sawmill Site, 18 <sup>th</sup> –19th century mill complex
27-RK-0039	Previously Recorded PCEA Site	Adams Farmstead Complex, a 19th century farm site
27-RK-0040	Previously Recorded PCEA Site	Mammoth Road Foundation, a 19th century house site
27-RK-0045	Previously Recorded PCEA A Site	F. Griffin cellar hole, a 19th century fieldstone site
27-RK-0046	Previously Recorded PCEA Site	W. Plumer Foundation, a 19th century house site
27-RK-0050	Previously Recorded PCEA A Site	Bailey Farm Complex, a 19th century farm site
27-RK-0068	Previously Recorded PCEA Site	Original settlement of Londonderry by Scotch-Irish immigrants
27-RK-0079	Previously Recorded PCEA Site	Piskorski Site, a 19th century house/farm site
27-RK-103	Previously Recorded PCEA A Site	Historic foundation, brick-lined well, and stone walls
Unconfirmed Lead	Previously Recorded PCEA Site	A colonial period dugout canoe recovered from Beaver Lake in 1972
27-RK-0069	Previously Recorded NA Site	Prehistoric site on Ezekiel Pond includes Middle Archaic Neville Point
270RK-0106	Previously Recorded PCNA Site	Viner Site, location of the find of a Late Woodland Levanna point
27-RK-0107	Previously Recorded PCNA Site	"Eric's site", location of the find of a Late Archaic Brewerton point
27-RK-0355	Previously Recorded PCNA Site	Nisula Site, with alleged inscriptions, rock carvings, and flaked stone tools
Unconfirmed Lead	Previously Recorded PCNA Site	Native American dugout canoe recovered from Scobie Pond in 1936
P1	Area of PCNA Sensitivity	Ezekiel Pond, including all pond margins and the location of site 27RK69
P2	Area of PCNA Sensitivity	Unnamed stream draining Ezekiel Pond
P3	Area of PCNA Sensitivity	Beaver Brook and associated wetlands and larger tributaries; includes large area of wetlands southwest of Derry Village
P4	Area of PCNA Sensitivity	Tops of knolls and margins of adjacent wetlands

Identification Number	Constraint	Description
P5	Area of PCNA Sensitivity	Area near the southwest shore of Beaver Lake, adjacent to prehistoric site NH 45-7
P6	Area of PCNA Sensitivity	Northwestern shore of Beaver Lake; area has been extensively disturbed by the construction of lakefront cottages, but intact portions remain
P7	Area of PCNA Sensitivity	Unnamed stream flowing into Beaver Lake
P8	Area of PCNA Sensitivity	Horn's Pond; extensive disturbance is associated with roadways and railroad grades and only north and northwestern banks exhibit sensitivity.
P9	Area of PCNA Sensitivity	Horn's Pond; undisturbed portions between Lower Shields Pond and the confluence with Beaver Brook.
P10	Area of PCNA Sensitivity	Shields Brook; undisturbed portions between Lower Shields Pond and the confluence with Beaver Brook.
P11	Area of PCNA Sensitivity	Lower Shields Pond; pond is surrounded by wetlands, and a small cedar swamp is present on the northern shore. Extensive disturbance on the western shore is associated with the electrical transmission corridor.
P12	Area of PCNA Sensitivity	Scobie Pond; area of sensitivity includes an unnamed drainage connecting Scobie Pond and Shields Brook.
P13	Area of PCNA Sensitivity	Little Cohas Brook; area includes the headwaters of the brook and associated wetlands.

The 2016 research revealed no new recorded pre-contact Native American archaeological resources potentially impacted by Alternatives A, B, C, D, or F. Known archaeological sites and areas recognized as sensitive for archaeological resources in the Phase IA study (Goodby, 1999) continue to be considered sensitive. Specifically, two areas of pre-contact Native American archaeological sensitivity are crossed by the preferred alternative: (1) sensitive area P7 across the eastern extent of Tsienneto Road, in the vicinity of Jeff Lane; and (2) sensitive area P6 crossed by improvements to NH 102 at the approach to the intersection with Tsienneto Road. During the Section 106 consultation for the 2007 DEIS, the SHPO concurred that a Phase IB evaluation of these sensitive areas should occur during final design. If Alternatives C, D, or F were selected, additional archaeological studies would be required for the crossing of archaeologically sensitive areas P10 and P3.

In 2019, a potential historic-era archaeologically sensitive area (stone foundation and culvert) was identified at 30 Tsienneto Road. This site will also be evaluated through a Phase IB study during final design. The preferred alternative will avoid impacts to the stone culvert.

## Historic Resources

### 1998–2005

The 1998–2002 Survey of Historic Resources in Derry produced 155 Individual Survey Forms, one Historic District Form, and a Townwide Area Form; six Individual Survey Forms were completed in Londonderry.

The 2001 Londonderry survey included identification of eligible resources for the Exit 4A: Derry-Londonderry Project Area: five Individual Survey Forms and one Historic District in the APE (see Table 4.18-2).

FHWA, in consultation with NHDOT and the SHPO, determined which resources were eligible for the NRHP in 2002 (see Table 4.18-2 and Figures 4.18-4 and 4.18-5).

### 2007 DEIS

Resources within the study area were reviewed in March and December 2006 and April 2007. The SHPO recommended that four of the 26 eligible resources in Derry had changed to such a degree that they were no longer eligible for the NRHP. One historic district was determined eligible, and a preliminary determination of eligibility was made for two additional districts in Derry with the condition that further investigation would be required if they were to be affected (see Table 4.18-2).

### 2018 SDEIS

For the 2018 SDEIS, all resources that were found eligible as presented in the 2007 DEIS for Build Alternatives A, B, C, D, and F were reevaluated. Table 4.18-2 presents the formerly eligible resources and identifies any changes in integrity. The SHPO determination of eligibility committee reviewed these submissions and concurred with FHWA's determination that three resources in Derry and two resources in Londonderry no longer retained sufficient integrity to meet the standards of eligibility for the NRHP. The remaining resources retained integrity and eligibility.<sup>22</sup> In addition, since the 2007 DEIS was published, the former M&L Railroad was determined eligible for the NRHP in 2009.

Resources along the alignment for Alternative A that had now reached sufficient age to be considered for NRHP eligibility (now 50 years or older, i.e., constructed between 1955 and 1968) were evaluated. Nineteen resources, all in Derry, were identified (see Table 4.18-3).

A total of 19 resources lie in Derry along the alignment for Alternative A that are now 50 years old; there are none in Londonderry. Several of the individual resources are found in residential areas and neighborhoods with potential eligibility as historic districts. Franklin Terrace is a neighborhood south of Folsom Road that evolved over a period of time and is not necessarily a planned development. Barkland Acres, the residential development on the north side of Tsienneto Road, was laid out with a particular design intent for the plan of the roads and lots. The resources were developed in a condensed time period and share a fairly consistent style of house and lot. Based on coordination with NHDHR, six resources were surveyed in June 2018. Five individual survey forms and one area survey form were prepared, and NHDHR concurred on July 12, 2018, that, of the six resources surveyed, only 3 Manchester Road is considered eligible (see Appendix K).

Based on a records search conducted in February 2019, no additional historic resources have been identified along any of the Build Alternative alignments.

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<sup>22</sup> In Londonderry, one property (LON0105, 117 Rockingham Road) became eligible in 2005 once it reached the 50-year benchmark for age. A second property, 118 Rockingham Road (LON0107), was determined ineligible in 2005 because of age but should be reevaluated for eligibility if it were to be affected in the future (see Table 4.18-2).

**Table 4.18-2. Historic Resources within the 2007 DEIS Study Area**

Survey #	Street Address	Map-Lot	Acreage	2002 Determined Eligible	2005 Retained Integrity/ Eligibility?	2016 Retained Integrity/ Eligibility?	2016 Changes Noted in Windshield Survey
DER0025	80 West Broadway	26-042	0.44	Eligible Individually (C)	No longer eligible	--	Synthetic siding, replacement windows and doors, change to commercial use (2005)
DER0029	49 West Broadway	26-114	0.50	Eligible Individually (C)	Yes	Yes	No changes
DER0036	60-62 West Broadway	26-146	1.64	Eligible Individually (C)	Yes	No longer eligible	Vinyl siding has been added to the exterior, windows have been replaced with vinyl replacement windows in a different configuration (3/1 instead of 2/1). No other changes.
DER0038	52-54 West Broadway	26-145	0.25	Eligible Individually (C)	No longer eligible	--	Synthetic siding, replacement windows and doors (2005)
DER0044	31 West Broadway	29-141	0.26	Eligible Individually (A, C)	Yes	Yes	Windows have been replaced with combination of fixed and awning, changing the earlier double-hung style. No other changes.
DER0047	32 West Broadway	29-195	0.26	Eligible Individually (A)	Yes	Yes	Use has changed to a restaurant, windows and garage doors have been replaced, awning installed. Retains sufficient form and integrity to remain eligible.
DER0048	29 West Broadway	29-189	0.47	NR listed (A)	Yes	Yes	No changes
DER0052	Manning Street	30-051	0.72	More Information Requested	--	--	
DER0054	1 East Broadway	30-022	0.19	Eligible Individually (A)	Yes	Yes	No changes
DER0055	8 East Broadway	30-053	0.06	Eligible Individually (C)	Yes	Yes	No changes

Survey #	Street Address	Map-Lot	Acreage	2002 Determined Eligible	2005 Retained Integrity/ Eligibility?	2016 Retained Integrity/ Eligibility?	2016 Changes Noted in Windshield Survey
DER0062	20 East Broadway	30-059	1.26	Eligible Individually (A, C)	Yes	Yes	No changes; more information needed if the area is impacted.
DER0070	44 East Broadway	30-075	0.69	Eligible Individually (C)	Yes	Yes	Vinyl siding added to the exterior, accessibility ramp added to front entrance. No other changes.
DER0073	48 East Broadway	30-101	1.18	Eligible Individually (A, C)	Yes	No longer eligible	Building was demolished 2005, replaced by a pharmacy.
DER0075	52 East Broadway	30-103	0.59	More Information Requested	--	--	
DER0078	58 East Broadway	30-105	0.31	Eligible Individually (A, C)	Yes	Yes	Entry doors and sidelights have been replaced. No other changes.
DER0080	63 East Broadway	30-206	0.55	Eligible Individually (A, C)	Yes	Yes	No changes
DER0083	69 East Broadway	30-210	0.39	Eligible Individually (C)	Yes	No longer eligible	Vinyl siding added to the exterior, wood brackets and details removed, new vinyl replacement windows, new front porch constructed.
DER0084	71 East Broadway	30-209	0.47	More Information Requested	--	--	
DER0085	72 East Broadway	32-105	0.88	Eligible Individually (C)	Yes	Yes	No changes
DER0089	80 East Broadway	32-099	0.43	More Information Requested	--	--	
DER0090	81 East Broadway	32-079	0.40	Eligible Individually (C)	Yes	Yes	Vinyl replacement windows have been added. No other changes.
DER0099	98 East Broadway	32-065	0.38	Eligible Individually (C)	Yes	Yes	New metal picket fence with granite posts has replaced wood fence. No other changes.

Survey #	Street Address	Map-Lot	Acreage	2002 Determined Eligible	2005 Retained Integrity/ Eligibility?	2016 Retained Integrity/ Eligibility?	2016 Changes Noted in Windshield Survey
DER0100	102 East Broadway	32-063	0.53	Eligible Individually (C)	Yes	Yes	Upper story windows replaced. No other changes.
DER0102	116 East Broadway	33-014	1.16	Eligible Individually (B)	Yes	Yes	Attached garage in rear has been redesigned, new construction Carriage House style building added in rear. No longer single family use. No other changes.
DER0114	70 Chester Road	55-018	0.42	Eligible Individually (C)	No longer eligible	--	Synthetic siding, change in windows and exterior details (2005)
DER0121	101 English Range Road	08-045	2.0	More Information Requested	--	--	
DER0129	102 Chester Road	12-014	3.0	More Information Requested	--	--	
DER0132	120 Chester Road	12-023	13.77	Eligible Individually (A)	Yes	Yes	No changes
DER0134	76 Tsienneto Road	08-041-001	1.52	Eligible Individually (C)	Yes	Yes	Metal roof added to main house. No other changes.
DER0135	72 Tsienneto Road	55-008	1.05	Eligible Individually (C)	Yes	Yes	No changes
DER0141	104 East Broadway	32-064	0.42	Eligible Individually (C)	Yes	Yes	Bay window has been modified and replaced. No other changes.
DER0150	55 Route 28 Bypass	08-096	2.2	Eligible Individually (C)	No longer eligible	--	Building demolished (2005)
DER0161	North High Street and Franklin Street Ext.	31-014	12.5	More Information Requested	--	--	Building demolished (circa 2002)
DER0164	131 Chester Road	12-022	4.62	More Information Requested	--	--	

Survey #	Street Address	Map-Lot	Acreage	2002 Determined Eligible	2005 Retained Integrity/ Eligibility?	2016 Retained Integrity/ Eligibility?	2016 Changes Noted in Windshield Survey
DER0165	124 Chester Road	12-024	19.0	More Information Requested	--	--	
Area DV	126 East Broadway	37-009	0.96	Contributing to NR-eligible district	Yes	Yes	Vinyl siding has been added, vinyl replacement windows on upper floor, gutters added.
Area DV	128 East Broadway	37-010	0.49	Contributing to NR-eligible district	Yes	Yes	New driveway in front, new front porch with accessibility ramp, gutter added to first floor roofline.
Area DV	130 East Broadway	37-030	0.24	Contributing to NR-eligible district	Yes	Yes	Vinyl replacement windows have been added to the second floor. No other changes.
Area DV	130½ East Broadway	37-031	0.21	Contributing to NR-eligible district	Yes	Yes	No changes
Area DV	132 East Broadway	37-032	0.55	Contributing to NR-eligible district	Yes	Yes	Synthetic shutters added to more of the windows.
Area DV	East Broadway, Chester Road, North and South Main Street	--	80	Eligible as a District (A)	Yes	Yes	
Area B	NH 102/Broadway	--	--	More Information Requested	--	--	District may be eligible.
Area BI	Birch Street	--	--	No determination made	--	--	District may be eligible.
None yet	7 South Range Road	02-146	16.16	Survey to be completed	--	--	
Area LON-WO	Pillsbury Road	Map 10	196.003	Eligible as a District (A, B) <sup>a</sup>	N/A	No longer eligible	Buildings have been mostly abandoned and are dilapidated, the sites are overgrown, but none had been demolished as of August 2016.

Survey #	Street Address	Map-Lot	Acreage	2002 Determined Eligible	2005 Retained Integrity/ Eligibility?	2016 Retained Integrity/ Eligibility?	2016 Changes Noted in Windshield Survey
LON0100	15 Appletree Lane	10/41-1	5.0	Contributing to NR-eligible district (A)	N/A	Yes	Building uninhabited and overgrown, no changes.
LON0103	99 Rockingham Road	16/43	8.26	Eligible Individually (C) <sup>a</sup>	N/A	No longer eligible	Queen Anne style turned posts added to overhanging eave on façade, changing feeling and design.
LON0105	117 Rockingham Road	16/88	1.50	Eligible Individually (C as of 2005) <sup>a</sup>	N/A	Yes	No changes noted
LON0107	118 Rockingham Road	16/82	1.84	Not Eligible (Age)	N/A	--	No changes noted, should be re-evaluated if there are potential impacts now that the age threshold has been reached.
LON0114	79 Stonehenge Road (corner of Perkins Rd)	13/21, 22	114.39	Eligible Individually (A, C) <sup>a</sup>	N/A	Yes	New storm doors added, no other changes.
LON0116	Ash Street over I-93	10/00	Bridge footprint/ approaches	Eligible Individually (2003) (C, E) <sup>a</sup>	N/A	Yes	No changes
LON0117	113 Rockingham Road	16/93	1.40	Eligible Individually (C) <sup>a</sup>	N/A	Yes	No changes noted
MLT-MLRR	Manchester & Lawrence Railroad	NH/MA State Line to Manchester Airport		Not evaluated	N/A	Yes (A, C)	Determined eligible in 2009

<sup>a</sup> Survey forms completed for the I-93 widening project.

**Table 4.18-3. List of Resources on Alternative A Dating 1958-1968**

Street Address	Map-Lot	Estimated Construction Date	Description/Notes on Integrity	Individual Survey Forms Completed	2018 Determined Eligible
11 Madden Road	31/12	1958	Ranch, vinyl siding and shutters	Yes	No
2.5 Folsom Road	35/08/A	1967	Mobile home in rear of 4 Folsom Rd	No	--
7 Folsom Road	35/49	1959	Ranch, vinyl siding and shutters	No	--
9 Folsom Road	35/41	1957	Ranch, front portico a later addition, vinyl siding and shutters	No	--
12 Folsom Road	35/12	1959	Raised ranch with underground garage, vinyl siding and shutters	Yes	No
16 Folsom Road	35/13	1961	Garrison (2 <sup>nd</sup> story recently added) with cabin/bathhouse, recent freestanding garage in rear, vinyl siding and shutters	No	--
20 Manchester Avenue	35/48	1966	Midcentury Cape with attached garage, vinyl siding and shutters	No	--
3 Manchester Road	08/269	1960	Large industrial building, former shoe factory, currently Fireye, Inc.	Yes	Yes
50 No. Main Street	08/73/1	circa 1962	Car dealership, significantly renovated and enlarged circa 1990 and 2000.	No	--
1 Horseshoe Drive	54/94	1965	Raised ranch with underground garage, vinyl siding and windows	No	--
60 Tsienneto Road	54/95	1966	Ranch with full dormer on façade, underground garage	No	--
64 Tsienneto Road	54/97	1966	Raised ranch with underground garage	No	--
66 Tsienneto Road	54/98	1965	Raised ranch with underground garage, vinyl siding and shutters	No	--
83 Tsienneto Road	55/13	1960	Ranch, vinyl siding, pool added circa 1970	No	--

Street Address	Map-Lot	Estimated Construction Date	Description/Notes on Integrity	Individual Survey Forms Completed	2018 Determined Eligible
84 Tsienneto Road	08/42/1	1960	Ranch, garage added circa 1980, vinyl siding	No	--
91 Chester Road	55/44	1959	Mobile home	No	--
80 Chester Road	55/11/1	circa 1968	Garage/auto repair shop	Yes	No
2 Ferland Drive	31/15	1967	Ranch, vinyl siding and replacement windows (date unknown)	Yes	No
Folsom Road, Franklin Street and Crystal Avenue	--	Prior to circa 1968	Potential Franklin Terrace historic area does not have the spatial organization it acquired during the historic period due to subsequent construction.	Yes	No

*Individual Resources and Historic Districts Found Eligible for the National Register of Historic Places*

The following section describes the resources that have been found eligible for the NRHP and are still National Register eligible in 2018. They are identified by their historic name and NHDHR survey number. Changes to their integrity that were recorded in the windshield survey are noted in Table 4.18-2.

**Manchester & Lawrence Railroad Historic District (MLT-MLRR):** The segment of the former Manchester & Lawrence (M&L) Railroad Historic District that is eligible for the NRHP extends from the New Hampshire state line in Salem to the Manchester airport in Londonderry. The M&L Railroad was determined eligible for the NRHP in 2009. It is significant under Criterion A for its contribution to the history and development of the five communities that it passed through and under Criterion C for its significance of railroad engineering and architecture. The period of significance is 1849–1968, which extends from the railroad’s opening in 1849 to the 50-year cutoff date for eligibility.

Derry Resources (Arranged Geographically West to East)

**Broadway Historic District (Area B).** This large area, also known as West Derry or Derry Depot, was identified in 1998 as a potentially eligible historic district by FHWA, in consultation with NHDOT and the SHPO. However, no formal determination of eligibility has ever been made for this district. The potential district extends along Broadway, from High Street on the north side and Fordway Street on the south side and continues east past Hood Road.

**Benson/Warren House (DER0029).** The Benson/Warren House is individually eligible for the NRHP under Criterion C as “an excellent typical and well-preserved example of a popular local house type of the early 1900s...among the most intact...” The eligible boundary is set to the

0.50-acre parcel where the house is located. This resource is located within the potentially eligible Broadway Historic District.

**Veterans Memorial Building (DER0044).** Located on the corner of West Broadway and Maple, the Veteran’s Memorial Building was constructed by the Town of Derry in 1928 as a memorial to the veterans of World War I. This building “incorporates all the key hallmarks of the (Classical Revival) style in a relatively modest structure, and it has a high degree of integrity.” This property is individually eligible for the NRHP under Criteria A and C. The 0.26-acre parcel that the building is set on is the eligible boundary. This resource is located within the potentially eligible Broadway Historic District.

**Central Fire Station (DER0047).** The Central Fire station is individually eligible for the NRHP under Criterion A for its associations with firefighting in Derry during the first half of the 20<sup>th</sup> century, even though the current building has changed functions to now house a restaurant. The eligible boundary is the 0.26-acre parcel limits of the fire station. This resource is located within the potentially eligible Broadway Historic District.

**Adams Memorial Building (DER0048).** The property was listed in the NRHP on January 11, 1982. “It is significant in the areas of community planning, law, politics and government, social/humanitarian, and theater.” This property is individually eligible for the NRHP under Criterion A. The eligible boundary is the 0.47-acre parcel limits. This resource is located within the potentially eligible Broadway Historic District.

**Derry Railroad Depot (DER0054).** Located at 1 East Broadway, the Derry Railroad Depot is individually eligible for the NHRP under Criterion A due to the strength of its design, association and massing. The eligible boundary is the 0.19-acre parcel limit. This resource is located within the potentially eligible Broadway Historic District.

**East Broadway (DER0055).** This property is individually eligible for the NRHP under Criterion C. The 0.06-acre parcel that the building is set on is the eligible boundary. This resource is located within the potentially eligible Broadway Historic District.

**First National Bank (DER0062).** The First National Bank, located at 20 East Broadway, “retains sufficient integrity to be eligible for the NRHP both for its architectural and historical significance within the village of Derry Depot. Its massing and corner siting make it a particularly prominent anchor in the village.” This property is individually eligible for the NRHP under Criterion A and C. The 1.26-acre parcel of this site is the eligible boundary. This resource is located within the potentially eligible Broadway Historic District.

**First Baptist Church (DER0070).** The First Baptist Church, built on the corner of East Broadway and Crystal Avenue in 1884, is individually eligible for the NRHP under Criterion C. The church building “has a high degree of integrity of design, materials, workmanship and feeling.” The 0.667-acre lot boundary is the eligible limit for this resource. This resource is located within the potentially eligible Broadway Historic District.

**Masonic Temple (DER0078).** The Masonic Temple, located at 58 East Broadway, is individually eligible for the NRHP under Criterion A and C. It “retains sufficient integrity to be eligible for the NRHP for its historical role as the clubhouse of an influential fraternal organization in Derry and for its architectural significance as a type of construction (Masonic remodeling of a residential building).” The eligible boundary encompasses the 0.31-acre parcel

on which the temple is located. This resource is located within the potentially eligible Broadway Historic District.

**St. Luke's Methodist Episcopal Church (DER0080).** Located at 63 East Broadway, St. Luke's Methodist Church is the result of multiple building campaigns. The "property retains sufficient integrity for the post-1894 period to be eligible for the NRHP under Criteria A and C for its architectural significance as a Queen Anne style building." The 0.55-acre parcel limits are the eligible bounds. This resource is located within the potentially eligible Broadway Historic District.

**Greenough House (DER0085).** The Greenough House, on the corner of East Broadway and Boyd Road, is a large Colonial Revival style house with matching carriage barn, built circa 1896. The property is individually eligible for the NRHP under Criterion C "as the most intact and fully developed example of the style and period in Derry." The eligible boundary is the 0.88-acre parcel. This resource is located within the potentially eligible Broadway Historic District.

**Abbott/Cutlip House (DER0090).** The Abbott/Cutlip House, located at 81 East Broadway, is individually eligible for the NRHP under Criterion C. It is a "relatively early example" of the Bungalow style architecture "which was very popular in Derry, particularly in West Derry." The eligible boundary is the 0.40-acre parcel. This resource is located within the potentially eligible Broadway Historic District.

**Arthur Greenough House (DER0099).** Built circa 1910, the Arthur Greenough House is individually eligible for the NRHP under Criterion C as "an excellent, well-preserved example of the Colonial Revival style." The eligible boundary is encompassed by the 0.38-acre parcel. This resource is located within the potentially eligible Broadway Historic District.

**Proctor House (DER0100).** The Proctor House, built circa 1911, is set back from the north side of East Broadway (102 East Broadway), on the west edge of the village of East Derry. This building is individually eligible for the NRHP under Criterion C, as "a very good example of a large Colonial Revival residence, reflecting a significant period of building in Derry at the height of growth and prosperity." The eligible boundary is the 0.53-acre parcel limits. This resource is located within the potentially eligible Broadway Historic District.

**Birch Street Residential Historic District (Area BI).** This potential district, located immediately south of NH 102 along Birch Street (NH 28), was reviewed for a separate NHDOT project in the area. The area was preliminary determined eligible for the NHRP under Criterion C; however, no formal determination of eligibility has ever been made for this district. This potential district covers 20 resources and contains 16 buildings along both sides of Birch Street and is considered a subcomponent of a larger residential district within the "multiple resource district" associated with NH 102. The boundaries extend from south of NH 102 to the north and South Avenue to the south.

**Gilbert and Helen Hood House (DER0102).** The Gilbert and Helen Hood House is located at 116 East Broadway. The house, built circa 1892, is individually eligible under Criterion A and B for its associations with the roles of the Hood family (Gilbert was one of the sons of the founder of H.P. Hood Dairy) in the community and with Helen D. Hood (philanthropy and involvement with civic groups). The eligible boundary is set to the limits of this 0.16-acre parcel.

**Derry Village Historic District (Area DV).** This district was found eligible for the NRHP under Criterion A for documenting the development and prosperity of the village as a center of

transportation, commerce, and education in Derry throughout the 19<sup>th</sup> century and into the 20<sup>th</sup>. The village contains approximately 70 resources, including 18<sup>th</sup>, 19<sup>th</sup>, and early 20<sup>th</sup> century residences; commercial and industrial properties; and Pinkerton Academy. The modern focal point of the village is the traffic circle, built in 1937, that bisects the area and affects its integrity to some degree. The district extends along NH 102 (East Broadway and Chester Road). It includes portions of East Derry Road, South Main Street (NH 28), North Main Street (NH 28 Bypass), Pinkerton Street, Crescent Street, and other side streets.

**J&F Farms (DER0132).** This property, located at 120 Chester Road, has been the site of an active farm since the 19th century. A farmhouse was constructed on the property in 1918 to replace the original house that burned during World War I. The farm has been owned by the Ferdinando family since 1944. The property is individually eligible for the NRHP under both Criterion A and C. “The active participation of the Ferdinando family members has been an important element in the continued success of J&F Farms, and this property is the visible and physical place that embraces the family history and its business growth, linking both to the land and buildings.” The eligible limit is the 13.77 acres make up the parcel’s boundary.

**Palmer Homestead (DER0134).** The Palmer Homestead, located at 76 Tsienneto Road, is individually eligible for the NRHP under Criterion C. The property contains “an intact mid-19th century farm complex (circa 1840), including Greek Revival style house, carriage shed, New England barn, milk house and garage.” The eligible boundary for this property is the 1.52-acre parcel.

**E.F. Adams House (DER0135).** The E.F. Adams House, located at 72 Tsienneto Road, is individually eligible for the NRHP under Criterion C “as an example of the Greek Revival style, in the wide gable front form...distinctive for its fully pedimented gable end.” The 1.05-acre parcel encompasses the eligible boundary of this resource.

**Amedee Cote House (DER0141).** A ranch house built circa 1947 at 104 East Broadway, the Amedee Cote House is individually eligible for the NRHP under Criterion C “as an early and fully developed example of the ranch house type. This house is also notable for its use of ‘Perma-Stone’, manufactured by NH Perma-stone Company in Londonderry.” The limit of the eligible boundary is set to the 0.42-acre parcel. After this inventory work was completed, a group of Perma-stone ranch houses was identified in Londonderry. Any further research on this property should also consider the graphic and bibliographic material developed in the study of the Londonderry houses, as possible connections may exist.

#### Londonderry Resources

**The Gearty House (LON0105).** Located on the west side of Rockingham Road (117 Rockingham Road), this house was reviewed during the I-93 widening project to be of such exceptional significance that it is eligible for the NRHP under Criterion C and Criterion Exception G (because it was less than 50 years old when surveyed) as a well-defined example of ranch style form. The eligible boundary covers the entire 1.5-acre Gearty House lot.

**Reed Paige Clark Homestead (LON0114).** Reviewed under the I-93 widening project, this property located on the west side of I-93 (79 Stonehenge Road) was found to be individually eligible for the NRHP (under Criterion A and C) “both for its significant agricultural history and as an extremely well preserved example of connected farm architecture, executed in stone and in the Greek Revival style.”

**The Robert J. Prowse Memorial Bridge (LON0116).** This bridge was found eligible for the NRHP under Criterion C through Criterion Exception G for its importance in the history of NH bridge engineering. The bridge carries Ash Street/Pillsbury Road over I-93 between Exits 4 and 5. Only four steel rigid frame bridges have been identified in NH. This structure was designed as early as 1958 and built circa 1962. The eligible boundaries for the Robert J. Prowse Bridge are limited to the bridge footprint. This bridge has been removed.

**The Moody House (LON0117).** Built circa 1952 at 113 Rockingham Road, this house was reviewed during the I-93 widening project and found individually eligible for the NRHP under Criterion C as a well-defined and extremely well-preserved example of the Ranch style and form, as its period landscaping and setting remain. Even its period landscaping and setting are intact. The eligible boundary covers the entire 1.4-acre lot.

**3 Manchester Road (DER0196).** Originally the building for the Knapp Brothers Shoe Manufacturing Company, 3 Manchester Road, is individually eligible for the NRHP under Criterion A for its associations with shoe manufacturing in Derry and under Criterion C for its architecture as a representative example of a mid-twentieth century manufacturing and office building in the modernist style that employs tilt-up construction, a common construction method of the period for industrial buildings. The property's eligible boundary would include the entire 8.97-acre tax parcel as it is the remaining portion of the original approximately 9.38-acre parcel acquired by the Derry Realty Corporation in 1959 and developed with the current building, occupied initially by the Knapp Brothers Shoe Manufacturing Corporation.

## 4.18.5 Environmental Consequences

### Archaeological Resources

#### *No Build Alternative*

The No Build Alternative would not result in new construction; therefore, no impacts on archaeological resources would occur.

#### *Build Alternatives*

The findings of the archaeological resources review indicate that none of the proposed Build Alternatives would have an adverse effect on known archaeological resources. However, there are two areas of pre-contact Native American archaeological sensitivity crossed by the preferred alternative: (1) sensitive area P7 across the eastern extent of Tsienneto Road, in the vicinity of Jeff Lane; and (2) sensitive area P6 crossed by improvements to NH 102 at the approach to the intersection with Tsienneto Road. In addition, one historic-era archaeologically sensitive area has been identified at 30 Tsienneto Road. Therefore, to mitigate for potential impacts to areas of archaeological sensitivity, Phase IB archaeological testing will be conducted at these three locations during final design (see Section 4.18.6).

If Alternatives C, D, or F were selected, additional archaeological studies would be required for the crossing of archaeologically sensitive areas P10 and P3.

## Historic Resources

### *No Build Alternative*

The No Build Alternative would not affect any identified historical resources because no construction would occur under this Alternative.

### *Build Alternatives*

The five Build Alternatives were reviewed to determine whether or not they impact any known historical resources, and the results are summarized in the following subsections. For the preferred alternative only, updated effects tables are provided in Appendix K. Effects tables were not prepared for Alternatives B-F; the evaluation of impacts for those alternatives relies on the effects determinations made at the time of the 2007 DEIS. Updated effects tables for all alternatives are not required for the Section 106 process, and the previously developed information on the impacts of Alternatives B-F provides sufficient detail to make comparisons between the alternatives with respect to cultural resource impacts under NEPA. The overall approach to the cultural resource data updates for the SDEIS was presented to and agreed on with NHDHR in 2016 (February 11, 2016, agency meeting on SDEIS scope of work). Section 4(f) historic resource impacts are addressed in Chapter 7.

#### Alternative A

Effects tables were prepared for the following historic resources: Palmer Homestead, 76 Tsienneto Road (DER0134); E.F. Adams House, 72 Tsienneto Road (DER0135), Knapp Brothers Shoe Manufacturing, 3 Manchester Road (DER0196); and Manchester & Lawrence Railroad Historic District (MLT-MLRR). An adverse effects memorandum was provided for these resources on August 8, 2019 (Appendix K)

**Palmer Homestead:** Construction of the preferred alternative would be confined to the front (southern) edge of the property along Tsienneto Road, and there would be no change in use. There is a short stone wall on the western front edge of the property that would not be impacted because the fill slope would tie in on the street side of the wall. While the stone wall would be temporarily impacted during construction, it will be reconstructed in accordance with NHDOT's 2017 Stone Wall Policy.<sup>23</sup> The policy calls for stone walls to be rebuilt “ ‘in kind’ with careful duplication of blending of existing stones and additional stones, and duplication of special features of the original wall, such as lintels, gate posts, openings, copings, markers, etc.” The Project would introduce a slight increase in noise from an increase in traffic, but this would not diminish the integrity of the design, materials, and workmanship, which are contributing features of the property under Criterion C. NHDHR concurs with the finding of No Adverse Effect (Appendix K).

**E.F. Adams House:** Construction of the preferred alternative would be confined to the front (southeastern) edge of the property along Tsienneto Road and the side (southwestern) edge along Scenic Drive. There would be no change in use, and the proposed back of sidewalk would be in the approximate same location as the existing back of sidewalk. The roadway grade would be lowered in this area resulting in the need to construct a 1- to 3-foot high retaining wall along the

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<sup>23</sup> <https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/StonewallGuidelinesFinalApril2017.pdf>.

frontage beginning at the driveway at minimal height to the east where it would be at maximum height. At the corner of Tsienneto Road and Scenic Drive, a triangular section of brush would be removed to provide safe sight distance. To avoid any impact to the integrity of the setting, NHDOT would coordinate with the property owner to plant new vegetation screening. The Project would introduce imperceptible audible elements with the increase in traffic, but this would not diminish the integrity of the design, materials, and workmanship, which are contributing features of the property under Criterion C. NHDHR concurs with the finding of No Adverse Effect (Appendix K).

**Knapp Brothers Shoe Manufacturing:** Construction of the preferred alternative would be confined to the frontage of the property that abuts Tsienneto Road and Manchester Road (NH 28), and there would be no change in use. There are no historic physical features within the edge of the property, and vegetation removal would not impact any landscaping that dates to the period of significance. A few bushes would need to be removed. The flagpole would not be impacted. The Project would introduce audible elements with the increase in traffic, but this would not diminish the integrity of feeling and association as a mid-twentieth-century manufacturing and office space, which are contributing features of the property under Criterion A. NHDHR concurs with the finding of No Adverse Effect (Appendix K).

**Manchester & Lawrence Railroad Historic District:** Construction of the preferred alternative would be within the ROW of the former railroad to expand the width of North High Street and create a new intersection with Madden Road at the proposed connector road as well as to accommodate a future proposed continuation of the Derry Rail Trail by others with an underpass under Madden Road rather than allowing an at-grade crossing. There is no existing railway hardware in this section because the rails and ties were removed in the late twentieth century.

There would be no change in use because the rail line has been abandoned, is privately owned, and is presently unused. The existing Derry Rail Trail terminates at its existing intersection with the Hood Park parking lot near Rollins Street, about 1,860 feet to the south of the intersection between the railroad ROW and North High Street. As part of the Project, accommodation for a possible future expansion of the Rail Trail by others would be facilitated by the construction of an underpass under Madden Road and provision of a 900-foot paved path connection to the former railroad ROW north of Madden Road to allow the future proposed trail to cross under Madden Road and back to the former railroad ROW about 300 feet north of Madden Road. No historic physical features relating to the railroad historic district are within the area of construction for the Project. The Project would introduce audible elements with the increase in traffic, but this would not diminish the integrity of the railroad historic district as a whole. However, applying the criteria of effect at 36 CFR 800.5, FHWA has determined that the Project would have an adverse effect on M&L Railroad Historic District due to the modern intrusion within the NRHP boundary of the rail corridor and subsequent realignment of the historic corridor. NHDHR concurs with the finding of Adverse Effect (Appendix K).

Chapter 7 of this FEIS contains a complete Section 4(f) evaluation for historic resources.

### Alternative B

Similar to Alternative A, construction of Alternative B would affect the M&L Railroad Historic District. Effects would be similar to those described under Alternative A. Alternative B would have no effect on any other known historic resources in the study area.

### Alternative C

As discussed in the 2007 DEIS, it was determined that the west side of the Alternative C interchange would have an adverse effect to the Reed Paige Clark Homestead resources (LON0114) located immediately west of the I-93 corridor and south of Stonehenge Road) (see Figure 4.18-4). The adverse effect on the property would be for both the need to acquire land to build the Northern Interchange [specifically the associated former potato field (Londonderry Map 13/Lot 20)] and also the visual impact a major raised interchange would have on the Reed Paige Clark Homestead (Londonderry Tax Map 13/Lot 21) located on the north side of Stonehenge Road. The total estimated property taking on Lot 20 required for the ROW for the Alternative C interchange would be approximately 2.4 acres. Of this, approximately 1.4 acres would be located within the roadway footprint. Other than the Reed Paige Clark Homestead resources, no other known historic resources would be affected by Alternative C.

### Alternative D

Similar to Alternative C, construction of the new Alternative D Interchange would require identical impacts on the same two Reed Paige Clark Homestead resources (Lots 20 and 21), resulting in an adverse effect. The adverse effect on these resources would be for both the need to acquire land to build the Northern Interchange and also the visual impact a major raised interchange would have on the Reed Paige Clark Homestead located on the north side of Stonehenge Road. Alternative D would also affect Palmer Homestead, E.F. Adams House, and Knapp Brothers Shoe Manufacturing as described under Alternative A.

### Alternative F

As discussed in the 2007 DEIS, it was determined that Alternative F would have an adverse effect on the potentially eligible Broadway Historic District (Area B) located along NH 102. This district covers 102 properties and contains 89 buildings with mixed uses, from residential to commercial business. The intensification of east-west traffic through the potential historic district could damage its historic and architectural character, and removal of 110 on-street parking spaces on NH 102/Broadway through downtown Derry would have a detrimental impact to the local businesses within the potentially eligible historic district. This economic impact would not support the Project's purpose and need of improving economic benefits within the Town and could make the historic resources in the downtown area more vulnerable to falling in disrepair or demolition and replacement with new buildings. As noted in the Cultural Resource Memorandum of Effect for Alternative F (Appendix K), if Alternative F were selected as the preferred alternative, additional investigations would need to be conducted to determine effects to the potentially eligible Broadway Historic District as well as potential effects to individually eligible properties within the district.

Alternative F would extend alongside the Derry Village Historic District and near the Birch Street Historic District but would have no adverse effect on these resources. The Alternative would also traverse adjacent to one NRHP individually eligible property along NH 102 (Gilbert and Helen Hood House, DER0102), with no effect to the property.

## **4.18.6 Mitigation**

An MOA between FHWA, NHDOT, NHDES, and the Town of Derry addressing the preferred alternative and subsequent mitigation has been executed (Appendix K).

As previously noted, to mitigate for potential impacts to the two areas of pre-contact Native American archaeological sensitivity and one area of historic-era archaeological sensitivity, Phase IB archaeological testing will be conducted during final design. Also, any investigations determined necessary based on the Phase IB (e.g., Phase II, Phase III) will be conducted. FHWA and NHDHR will be consulting throughout all necessary phases of archaeology. If National Register eligible sites are identified and potentially impacted, NHDOT will ensure that an Archaeological Discovery Plan is completed. This plan will be written by the archaeologist on the Project and will outline the steps for both the archaeologist and contractor pertaining to the sites.

Stonewall assessments, per the NHDOT Stonewall Policy, will be completed on all stonewall segments within the APE that may be impacted. Treatments options per the policy will be coordinated with the Town and any affected property owners.

Mitigation measures for the M&L Railroad Historic District include the following:

- Encourage preservation of the rail corridor by constructing an underpass and 900-foot path (Figure 7.5-1). This will enable trail construction to the north as part of a separate future project by others, which in turn will help protect more of the historic district from other development.
- **Interpretive Signage** – NHDOT will work with the Town and the Derry Heritage Commission to develop an interpretive panel that will focus on the history of the Manchester-Lawrence Railroad and its association to the Town of Derry. The panel’s content and material will be prepared by a 36 CFR 61-qualified architectural historian. The SHPO will be provided an opportunity to review one draft of the panel’s content with a review period of 30 days. Upon approval of the panel, it will be fabricated and installed at a location to be determined in consultation with the Town of Derry, preferably along the rail trail near the new crossing. Digital copies of the panel will be provided to NHDOT and the Town of Derry.
- **Rail Trail Underpass Aesthetic Treatment** – NHDOT and its consultant will work with the Town of Derry on the aesthetic treatment to the newly constructed underpass headwalls. The concrete will be stamped with a faux-stone design that will be chosen in consultation with the Town. The style of lighting will be chosen in consultation with the Town.

#### 4.19 Parks, Recreation, and Conservation Lands

Potential impacts of USDOT-funded projects on publicly owned parks and recreation areas, waterfowl and wildlife refuges, and privately or publicly owned historic resources must be addressed under the Section 4(f) provision of the Department of Transportation Act as amended by the Federal-Aid Highway Act of 1968 (Public Law 90-495, 49 USC 1653). Under Section 4(f), the Secretary of Transportation shall not approve any program or project that “requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance as so determined by federal, state, or officials having jurisdiction thereof, or any land from a historic site of national, State or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the