



Technical Memorandum
Orchard Meadows Residential
Development
Cranston, Rhode Island

Phase I Site Identification Archaeology Survey

September 2023
PAL No. 4613

Submitted to:
Saccoccia's Construction and Landscaping
2289 Flat River Road
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DiPrete Engineering is assisting Saccoccia's Construction and Landscaping Narragansett Partners, LLC (Saccoccia) with the planning and the development of Assessors Plat 28, Lots 20, 31, 45, and 86 for private residences in Cranston, Rhode Island (Figures 1 and 2). In a letter dated December 6, 2022, the Rhode Island Historical Preservation and Heritage Commission (RIHPHC) commented that Native American artifacts had been recovered from near the proposed development area and that the property is sensitive for containing pre-contact Native American archaeological deposits (RIHPHC to Shea, December 6, 2022). In this letter, the RIHPHC recommended that a Phase I (site identification) archaeological survey be conducted to determine if archaeological materials are present within the Project area.

Saccoccia requested that The Public Archaeology Laboratory, Inc. (PAL) conduct the recommended archaeological survey to determine if any significant archaeological deposits are within the areas of proposed construction impacts. Archaeological testing was conducted August 28–September 1, 2023, under RIHPHC archaeological permit No. 23-11 issued on August 16, 2023. This technical memorandum summarizes the results of the Phase I site identification archaeological survey, which was conducted in accordance with the RIHPHC's (2021) *Performance Standards and Guidelines for Archaeology in Rhode Island* and the Rhode Island Historic Preservation Act (Rhode Island General Law [R.I.G.L.] 42–45 *et seq.*).

Project Description

A.P. 28, Lots 20, 31, 45, and 86 encompass 25.1 acres west of Pippin Orchard Road, immediately south of where the road crosses Furnace Hill Brook. The proposed Project includes the development of four single-family homes and access drive improvements on approximately 12.2 acres (see Figure 2).

Environmental Setting

Furnace Hill Brook parallels the northern edge of the proposed development parcel. Furnace Hill Brook flows south and east to join Meshanticut Brook in the Oaklawn section of Cranston. From there, Meshanticut Brook flows south into the Pawtuxet River in Warwick's East Natick village. The

Pawtuxet then winds its way north and east and empties into the Providence River at Pawtuxet Cove in the village of Pawtuxet.

A.P. 28, Lots 20, 31, 45, and 86 are in Cranston's rocky elevated uplands at approximately 330 ft (100 m) above mean sea level. Mapped soils within the Project area are primarily are moderately well-drained Woodbridge fine sandy loams (WhA and WhB) (USDA-NRCS 2023). These soils are found on the crests and side slopes of upland hills and drumlins with 0–8% slopes (Rector 1981:45). Poorly to very poorly drained Ridebury, Whitman, and Leicester extremely stony fine sandy loams (Rf) and Rumney Fine sandy loams are along Furnace Hill Brook and an unnamed stream in the northern property limits and along an unnamed stream and associated wetland in the southwestern property limits away from the proposed development areas.

Cultural Context

Archaeologists have documented nearly 12,000 years of Native American occupation in Rhode Island and southern New England. Before about 7,000 years ago, mobile Native American peoples focused primarily on inland-based resources along major waterways. After that time, settlement focused within large interior catchment territories interlaced by a dendritic system of brooks, streams, and rivers where people hunted and collected flora and fauna. By 3,000 years ago, large populations lived in nucleated settlements along the Northeast's major rivers and coast and developed complex social ties, with language, kinship, ideology, and trade linking peoples known as the Nipmuc, Massachusetts, Wampanoag, Mohegan, Pequot, and Narragansett.

The Project area is along Furnace Hill Brook northwest of Cranston's Oaklawn section. Furnace Hill Brook flows past the Oaklawn soapstone quarry, a significant source of raw steatite used by Native Americans just west of Phenix Avenue. The Oaklawn Quarry and the margins of Furnace Hill and Meshanticut brooks were foci of pre-contact Native American occupation and resource exploitation between 3500 and 500 years ago. Known archaeological sites include small hunting camps, larger habitations, resource acquisition and processing camps, and stone bowl and stone smoking pipe manufacturing sites.

Pre-Contact Period

Archaeological evidence indicates Rhode Island's postglacial landscape was infrequently occupied during the **PaleoIndian Period (circa [ca.] 12,500–10,000 years Before Present [B.P.]**). Recovered artifacts dating to this period are limited to parallel-sided quartzite projectile points from the Twin Rivers Site at the border of Lincoln and Smithfield (Fowler 1952:8), the Bravo Battery Site in North Smithfield (Forrest 2009; Waller 2007), and surface finds of fluted points in East Providence (Rhode Island Historical Society 1936). They suggest that settlement and/or exploitation was focused along interior postglacial wetlands, glacial lakes, and riverine settings. Small PaleoIndian archaeological components were also recently identified at the Pine Swamp Site (RI 2767) in Cumberland and the Crossroads Site in North Smithfield (Flynn and Doucette 2020).

The **Early Archaic Period (10,000–8000 B.P.)** was marked by a warmer and drier climate than the PaleoIndian Period. Early Archaic occupations in southern New England are commonly known from bifurcate-base projectile point recoveries. Archaeological data from elsewhere in New England suggest that some Early Archaic peoples used a quartz lithic technology to produce "microcores" and "microliths" for use in composite tools (Forrest 1999; Jones and Forrest 2003; Robinson 1992).

Mobility, lithic preferences, sophistication in domestic structures (pit houses), and micro-blade technology differed from those during the PaleoIndian Period. There was a shift from predominantly hunting and collecting strategies to procuring and processing a range of seeds, nuts, and plants.

Early Archaic sites in northern Rhode Island include bifurcate-base projectile points from the Twin Rivers Site (Fowler 1952) and from the Butler Hospital Site (RI 929) in Providence (RIHPHC site files). An Early Archaic Kirk point was also recovered from the Elmdale Rockshelter Site in Scituate (RIHPHC site files). A few Early Archaic artifacts were recovered from the Sweet Meadow Brook Site in Warwick (Fowler 1956) and from Cedar Tree Beach in the Nausauket section of the city.

Human populations in southern New England increased during the **Middle Archaic Period (8000–5000 B.P.)**, and identified sites reflect the adoption of a more diversified subsistence strategy that included hunting, foraging, fishing, shellfishing, and communal seasonal gatherings to harvest anadromous fish. Site locations include semi-permanent base camps and seasonal upland and riverine camps. This wide variety of site locations suggest that Middle Archaic groups were operating within a system of planned seasonal movements.

Neville, Neville-Variant, Stark, and Merrimack style projectile points are hallmarks of southern New England Middle Archaic occupations (Dincauze 1976; Dincauze and Mulholland 1977). Middle Archaic projectile points in Rhode Island were commonly made from quartzites and non-local rhyolites and suggest a settlement system of small, limited-duration logistical camps (Waller and Leveillee 2002). Neville-like projectile points have been recovered from the Oxford Pike Site in North Smithfield (Dalton and Leveillee 1991), the Millers River East Site (Waller and Horn 2020) and Pine Swamp Sites in Cumberland (Flynn and Doucette 2020), and from the Twin Rivers Site, which contained a substantial deposit of Stark and Neville-like projectile points, scrapers, knives, a perforator, and a hammerstone—all from reported Middle Archaic contexts (Fowler 1952). The Elmdale Rockshelter in Scituate, the Ponagansett Rockshelter in Foster, and the Rattlesnake Rockshelter in West Greenwich contain evidence of Middle Archaic and later occupations. The location of many of Rhode Island’s documented Middle Archaic sites indicates a strong settlement and subsistence focus within the region’s interior wetlands.

The **Late Archaic Period (5000–3000 B.P.)** is associated with the Laurentian, Small Stemmed, and Susquehanna cultural traditions. The Laurentian tradition is the earliest expression of the Late Archaic Period in New England. Associated artifacts include woodworking tools (hones and adzes), ground slate points and knives, ulus, simple bannerstones, and broad-bladed and side-notched Vosburg, Otter Creek, and Brewerton type projectile points (Ritchie 1980:79).

Laurentian components are typically smaller than those of the later traditions of the period, generally contain only a few artifacts, and have a narrow range of tool types. The assemblages appear to reflect short stays by peoples targeting specific resources. Brewerton and Vosburg points have been recovered from rockshelters in northern and western Rhode Island such as the Sheep Rockshelter in Scituate and the Ponagansett Rockshelter in Foster. Other sites in northern Rhode Island with documented Laurentian components include the Twin Rivers Site in Lincoln and Site RI 866 in Cumberland. Artifacts morphologically similar to the Vosburg style were recovered from the Furnace Hill Brook (Waddicor and Mitchell 1969) and Phenix Avenue (RI 2050) (Waller and Leveillee 1998) sites in Cranston. A Phase I survey by the Public Archaeology Survey Team in western Cranston identified 14 pre-contact (mainly Late Archaic) sites, and Laurentian style projectile points have also been recovered at the Greenwich Cove Site along the southern banks of Greenwich Cove (Bernstein

1993) and the Ives Bluff Site in Warwick (Waller and Leveillee 1999).

The Small Stemmed settlement system consisted of large base camps along well-drained stream, pond, and interior wetland margins and small resource acquisition and processing sites that targeted specific resources (McBride 1984; Waller and Leveillee 2002). Small Stemmed tradition occupations in the Northeast are identified by Squibnocket Stemmed, Squibnocket Triangle, Wading River, and other small or narrow stemmed projectile points. These points in Rhode Island are commonly manufactured of quartz and Narragansett Basin argillite. Small Stemmed tradition sites in Rhode Island include a Squibnocket complex from the Fry Brook and Double F sites in East Greenwich and the Maskerchugg and the Elkhound sites in Warwick. Small Stemmed points were also recovered from site RI 614 on Pippin Orchard Road and RI 1911 on Scituate Avenue. PAL also recovered a Small Stemmed Point from the Buttonwoods section of Warwick (Ingham and Leveillee 2004).

The **Transitional Archaic Period (3600–2500 B.P.)** bridges the Late Archaic and Early Woodland periods and is recognized by Susquehanna tradition cultural materials. The settlement pattern was coastal or riverine oriented with a subsistence base that targeted riverine or estuarine flora and fauna, e.g., fish, nuts, and small- to medium-sized mammals (Pagoulatos 1988). Susquehanna Tradition chipped-stone tools were commonly manufactured of regionally available rhyolites, quartzite, and non-local cherts. Steatite (soapstone) bowl manufacture and use peaked between 3400 and 2900 B.P. (Sassaman 1999). Documented soapstone quarries include the Oaklawn Steatite Quarry in Cranston, the Manton Avenue Quarry in Providence, and the Ochee Springs Steatite Quarry in Johnston. Transitional Archaic archaeological sites are common near steatite quarries such as the Church Brook Rockshelter (RI 48), Furnace Hill Brook (RI 49), and Phenix Avenue (RI 2050) sites near the Oaklawn Quarry in Cranston. Susquehanna artifacts have also been recovered from RI 53 and RI 54 at the intersection of Scituate Avenue and Pippin Orchard Road and from RI 610 on Kimberly Lane and RI 583, RI 584, RI 585 along Furnace Hill Brook on Phenix Avenue in Cranston.

The Woodland Period involved a transition to a more sedentary way of life. Settlement intensified along the estuary margins of Narragansett Bay and Rhode Island's south coast as coastal inundation decreased and shorelines stabilized. Radiocarbon dates from the Greenwich Cove Site shell midden indicate shellfish exploitation had intensified around Narragansett Bay by the **Early Woodland Period (3000–2000 B.P.)** (Bernstein 1993).

Middle Woodland Period (2000–1000 B.P.) site distribution suggests a continued focus on coastal or riverine ecosystems in southern New England. Middle Woodland sites include small hunting camps and larger residential habitations. Traditional models of Native American settlement and resource exploitation hold that the introduction, adoption, and intensification of horticulture altered the preexisting pattern of hunting and gathering as the primary subsistence activity. Temporally diagnostic Middle Woodland artifacts include Jack's Reef and Fox Creek type projectile points and rocker and dentate-stamped ceramics.

Early and Middle Woodland components are documented within Rhode Island's interior but are more common along the coast. Small Early Woodland archaeological deposits have been reported from the Elmdale and Sheep Rockshelters, which contained Lagoon-type projectile points. Middle Woodland sites in the upland interior are similarly infrequent and are generally small in nature. Interior Middle Woodland occupations have been documented at the Walker Point Bluff Site in East Providence and the Elmdale Rockshelter. Jack's Reef projectile points have been recovered at the Furnace Hill Brook and Phenix Avenue sites in Cranston.

Larger populations and decreased communal mobility contributed to the development of tribal territories and increasing social complexity by the **Late Woodland Period (1000–450 B.P.)** (Mullholland 1988). Late Woodland sites are common in coastal environments, around interior freshwater ponds and wetlands, and next to large tributary streams and rivers. Occupations included specialized exploitation sites (e.g., shell middens, hunting and processing camps, and lithic workshops), small domestic sites, and larger hamlets or villages. Late Woodland artifacts include triangular Madison and Levanna type projectile points and cord-wrapped, stick-impressed, and incised ceramics. Diagnostic Levanna projectile points were most often manufactured of quartz and argillite, and maize horticulture became more important during this period.

Late Woodland occupations have been identified along the Big and Flat rivers, at the Oaklawn Quarry in Cranston, along the shores of Ponaganset Lake and Tarbox Pond, and within the Wickaboxet State Forest in Kent County. The Furnace Hill Brook and the Cedar Tree Beach sites contained numerous Levanna point types (Leveillee 2003); the Hemlock Avenue Site in Warwick yielded a quartz Levanna projectile point perform (Ingham and Leveillee 2004); and the Church Brook Rock Shelter No. 1 in Cranston contained Levanna points (Waddicor and Mitchell 1969). Coastal settlements were likely occupied year-round, with sites such as Greenwich Cove, Hoskins Park, Lambert Farm, South Wind, Sweet Meadow Brook, and Salt Pond in Narragansett (Waller et al. 2019) containing evidence of extensive shellfish exploitation. Domesticated cultigens have been found along the coast at sites in Warwick (Leveillee 2010), Narragansett (Leveillee et al. 2006; Waller 2000; Waller et al. 2019), and in the interior at the Phenix Avenue Site (Waller and Leveillee 1998).

Post-Contact Period – Cranston

The first colonial settlement in Rhode Island followed the banishment of Roger Williams from the Massachusetts Bay Colony in 1635. Williams and a few of his followers acquired the lands near the headwaters of Narragansett Bay from the Narragansett sachems Canonicus and Miantonomo in 1636 and called their settlement “Providence.” The newly founded Providence settlement accepted anyone fleeing religious persecution.

On October 8, 1638, Roger Williams and 13 proprietors agreed that “... the meadow ground at Pawtuxet boundary upon the fresh river upon both sides is to be impropriated unto these thirteen persons, being now incorporate into our town of Providence, viz., Ezekiel Holliman, Francis Weston, Richard Waterman, Thomas James, William Arnold, Stukeley Wescott, and to be equally divided among them, and every man to an equal proportion . . . [for] . . . the sum of twenty pounds” each (cited in Tanzi 1953:17). Portions of the lands conveyed by the “grand purchase of Providence” and the “Pawtuxet purchase” of 1638 included present-day Cranston (Clauson 1904:6).

From the outset, the settlers of the of Pawtuxet lands found themselves at odds with the Providence residents over ownership of the Pawtuxet lands (RIHPC 1980). Roger Williams contended that the Pawtuxet purchase was only a few square miles, while Providence’s William Harris insisted the Pawtuxet purchase extended 20 miles inland from Pawtuxet Falls and the river’s mouth (RIHPC 1980). Conflict over the Pawtuxet lands would remain unresolved until February 11, 1715 (Tanzi 1953).

Early settlement in Cranston first occurred along the banks of its rivers and streams, most notably near Pawtuxet falls and along the Pocasset River. William Arnold is credited with the first settlement at Pawtuxet. He arrived with his sons Benedict (who would be elected Rhode Island’s first governor)

and Thomas ca. 1640 and settled near present-day Eddy Street (Bayles 1891:749; RIHPC 1980). Early settlers began clearing the land for agriculture, and sawmills and gristmills were established along local rivers.

In 1637, Samuel Gorton arrived at Boston from England. Like Williams, Gorton was banished from the Massachusetts Bay and Plymouth colonies and left for Rhode Island. Gorton and 11 of his followers moved to the Pawtuxet lands near present-day Roger Williams Park in 1642 (Tanzi 1953:22), where the outspoken Gorton sided with the Providence proprietors. William Arnold, Benedict Arnold, Robert Cole, and William Carpenter of Pawtuxet were forced to submit their lands to the Massachusetts Bay Colony, which forced Gorton from Pawtuxet. The Pawtuxet settlement remained part of Massachusetts Bay until the settlers petitioned for their discharge from the colony in 1658 (Clauson 1904).

Growing tensions between English colonists and Native Americans erupted into armed conflict with King Philip's War (1675–1676) (Leach 1958). Captain Arthur Fenner, along with his son Major Thomas Fenner, served as officers for the United Colonies during the war. Captain Fenner began building his estate ca. 1654 and eventually increased his property to about 500 acres in Cranston, Johnston, and Providence. In 1676, he erected “a strongly constructed log house” (known as the Old Fenner Castle) on the Cranston side of Simmonsville to resist Indian assault. During the war, Toleration Harris, son of William Harris, was executed at his mill despite the nearby garrison refuge (Bayles 1891:750). King Philip's War eventually ended with Philip's death on the morning of August 12, 1676.

Cranston's interior development occurred gradually through the eighteenth century as settlers and early colonists continued to push farther west in pursuit of farmlands. Residents petitioned the Rhode Island General Assembly for incorporation as a township, which was granted on June 14, 1754. The newly incorporated town was named Cranston for Samuel Cranston, Rhode Island governor from 1698 to 1727 (Bayles 1891).

With increased settlement came roadway improvements, including what is the current Plainfield Pike, Cranston Street, and Pontiac and Scituate avenues, which linked the town's interior farmlands with the commercial center of Providence (RIHPC 1980). Cranston's permanent population had reached 1,861 by 1744, with agriculture constituting the predominant economic activity (Clauson 1904). Cranston's farms produced hay, corn, rye, oats, barley, potatoes, and small vegetables (Bayles 1891:747). Early attempts at industry included a distillery in the seventeenth century, iron ore extraction for the manufacture of cannons in 1767 along Furnace Hill Brook, a potash lot in 1780 along the Pocasset River. The local population decreased to 1701 with the outbreak and uncertainty associated with the American Revolutionary War (Tanzi 1953:82). Cranston contributed to the war effort by providing wood, fuel, and food to the soldiers at Pawtuxet.

With the success of the textile industry in Pawtucket, Cranston was positioned to take advantage of new economic opportunities at the start of the nineteenth century and boasted seven cotton and three woolen factories, a gin distillery, and six grain mills by 1820 (Clauson 1904:31). Among the more important textile mills were the Cranston Print Works, the Rhode Island Print Works, the Bellefonte Manufacturing Company, and the Cranston Woolen Company (RIHPC 1980). Steady and reliable work compelled many individuals to settle near the mills and attracted immigrant workers. Villages such as Fiskville, Bellefonte, Pawtuxet, and Spragueville began to develop around the mills and eventually became self-sufficient communities.

The milling successes necessitated transportation improvements. Completion of the Providence and Stonington Railroad (1837) through eastern sections of the town and the Hartford, Providence, and Fishkill rail line (1852) through the center of the town linked Cranston's raw materials and finished goods to the large markets of Hartford, Providence, Boston, and New York (RIHPC 1980). An electrified trolley line was established in the late nineteenth century. The improved access afforded by the railroads and Cranston's proximity to the Providence area stimulated suburban developments such as Oaklawn and Auburn (RIHPC 1980).

Eastern Cranston evolved into a densely populated area, while western Cranston retained its agricultural character with rich soils for cultivation and grazing. The growth of the mills and localized industrial sectors contributed to an increased demand for fresh produce. In addition to grains and vegetables, Cranston's rolling hills proved excellent for fruit cultivation, with several orchards, including Pippin Orchard.

The State of Rhode Island began to institutionalize its social services in the late nineteenth century and acquired the Howard Farm at present-day Sockanosset. The site eventually supported various state institutions that included the state workhouse and house of correction (1868), State Asylum (1870), and Almshouse (1869). Two reservoirs were also constructed. Before construction of the Sockanosset Training School, the Sockanosset Cross Road area hosted two important industries: the Cranston Coal Mine and the Sockanosset Facing Co. The mine was open until 1959 and closed with the construction of the Garden City Shopping Center (Chase 1992). The Sockanosset Facing Company mined and produced natural graphite. The coal and graphite mining operations were extremely invasive operations that completely terraformed the landscape.

Despite Cranston's residential and economic growth, the town's size decreased as portions were ceded to Providence in 1868, 1873, 1887, and 1892. The improved transportation network, increased immigration, and the exodus of many of Providence's residents to Cranston contributed to a population boom during the late nineteenth and early twentieth centuries with economic and domestic growth.

At the turn of the twentieth century, Cranston was the second largest town in the state (Tanzi 1953:158) and was incorporated as a city in 1910. Cranston's large population felt the effect of the great Influenza epidemic of 1916. The city rebounded after World War I and began a series of public works projects, including sidewalk construction, the development of a parks program, and the installation of a sewer system.

The increasing number of privately owned automobiles accelerated the spread of suburban development with the construction of Routes 37, 95, and 295 through eastern and central portions of the city. Currently, the city's eastern half is densely settled, while western portions are less developed.

Methods and Results

The Phase I site identification survey for the Orchard Meadows Development included background research and archaeological fieldwork.

Background Research

PAL reviewed historical maps, 1939–2020 aerial photographs, histories of Cranston, and the results of previous archaeological research, including those described above. State site files record 5 pre-contact archaeological sites (RI 52, RI 114, RI 613, RI 614, and RI 1912) dating to the Early Archaic through Middle Woodland periods and three post contact sites (Locus 4 [RI 1920], Locus 5 [RI 1921], and the Orchard Valley Rock Piles site [RI 2392]) within one-half mile of the proposed development area. The Sarle Burial Lot (CR016) and is on A.P. 28, Lot 10 within the Project area, and the Roberts-Mathewson Burial (CR013) and Knight (CR525) historical graveyards are less than 0.5 mile from the properties on Pippin Orchard Road and north of Laten Knight Road, respectively. The Sarle Lot includes 65 marked interments dating to 1819–1921; the Julia A. Knight lot includes 21 marked graves dating to 1836–1971; and there is no record of interments for the Knight Lot.

The property is east of the “Mrs. P. King” property in 1870 and on the Edw. S. Lewis farm in 1895 (see Beers 1970 and Everts and Richards 1895) (Figures 3 and 4). Historical aerial photographs show the parcels were included within an agricultural field system since 1939 (Figure 5). An orchard or nursery was south of the parcels between 1939 – 1972 with clearing for the current transmission easement sometime between 1952 and 1962 being the only significant change to the project area (Figure 6).

Subsurface Testing

A.P. 28, Lots 20, 31, 45, and 86 lie west of Pippin Orchard Road and south of a private drive that connects the road to the house at 1489 Pippin Orchard Road (Figure 7). The Project area consists of two fallow agricultural fields bordered by strips of young mixed deciduous and conifer woodland. PAL excavated thirty-eight 50-x-50-centimeter (cm) test pits within the proposed construction footprint (Figure 8). Test pits were organized in two 30-x-30-m sampling blocks (BK-01 and BK-02) and along one linear test pit transect (Transect A) placed along a portion of the proposed new roadway access from Pippin Orchard Road (see Figure 8). The two sampling blocks and the test pit transect were supplemented by a single sampling array (AR-01). The sampling blocks contained thirteen 50-x-50-cm test pits in a staggered grid pattern at offset distances of approximately 35 ft (10.6 m). Transect testing involved the excavation of eight 50-x-50-cm test pits placed at a 10-m interval along the transect line. The Sampling array involved the excavation of a 50-x-50-cm test at each of the cardinal directions (magnetic) 2.5 m from test pit BK-01-CSW.

Test pits were excavated by shovel in arbitrary 10-cm levels to C horizon subsoils (48-93 cm below surface [cmbs]; mean = 62.4 cmbs; median = 63.5 cmbs), unless impeded by large rocks. Excavated soils were screened through ¼-inch hardware cloth onto synthetic tarpaulins to recover any cultural material. Soil profiles, including depths of soil strata, colors, and textures, were recorded for each test pit on standard PAL Test Pit Profile forms and their locations were recorded using a Trimble submeter Global Positioning System (GPS) handheld receiver. All test pits were filled, and the ground surface was restored to its original contour following excavation.

Soils across the development area are largely intact appearing as a very dark grayish brown (10YR 3/2) plowed A horizon underlain by dark yellowish brown (10YR 4/6) to yellowish brown (10YR 5/6) B₁ horizon subsoils in nine test pits and yellowish brown (10YR 5/4) B₂ horizon subsoils that had been truncated by years of repeated agricultural tilling in 27 test pits (Figure 9). A light yellow (2.5Y 6/3) to light olive brown (2.5Y 5/3) C horizon underlaid the B horizon. Redeposited A, B, and

C horizon subsoils were sandwiched between the plow zone and C horizon in test pits BK-01-WE and BK-01-S. Project area soils consist of silty sands with variable amounts of gravel.

A total of 40 pieces of cultural material were recovered from 16 of the test pits excavated within the proposed development area: 2 pre-contact, 36 post-contact, and 2 unassigned. One quartz flake was recovered from plowed A horizon topsoils in test pit BK-01-CSW. Close interval testing around this test pit using Array 01 yielded an additional quartz flake from the plow zone in test pit AR-01-270. Low densities of post-contact materials including creamware, pearlware, whiteware, and porcelain ceramic sherds; glass bottle and container shards; and an iron nail were recovered from the plow zone in 14 test pits.

Discussion and Recommendations

Despite the documentation of several pre-contact Native American archaeological sites near the proposed Orchard Meadows development area, subsurface archaeological testing yielded only two quartz flakes from a highly localized area in the east half of A.P. 28, Lot 45. This diffuse deposit of only two quartz flakes lacks integrity and similar deposits are ubiquitous in Rhode Island and Narragansett Indian Country.

Post-contact cultural materials recovered from the plow zone at the site mostly date to the late-eighteenth through twentieth centuries and are likely associated with the Edward Lewis homestead and farm depicted on the 1895 (Everts and Richards) map of Cranston (see Figure 4). The materials were widely scattered and represent incidental or inadvertent discards into historic farm fields that were further distributed and disturbed by agricultural tilling into the twenty-first-century.

Pre-contact Native American cultural materials from the Orchard Meadows development area have little potential to provide new information about Native American settlement and resource use along Furnace Hill Brook and the Pawtuxet River Drainage. The recovered post-contact cultural materials are not consistent with significant buried archaeological deposits but represent incidental inclusions into nineteenth- to twenty-first-century farm fields. **PAL recommends all of the archaeological materials recovered from the Orchard Meadows development area as not eligible for listing in the National Register and no additional archaeological investigations as depicted on DiPrete Engineering Master Plan Submission Orchard Meadows dated November 8, 2022 (see Figure 2).** Supplemental archaeological testing may be necessary if future Project plans are revised to impact areas that have not been subjected to systematic Phase I archaeological testing.

References Cited

- Bayles, Richard M.
1891 *History of Providence County, Rhode Island*. Providence, RI.
- Beers, D. G., and Company
1870 *Atlas of the State of Rhode Island and Providence Plantations*. D. G. Beers and Company, Philadelphia, PA.
- Bernstein, David J.
1993 *Prehistoric Subsistence on the Southern New England Coast: The Record from Narragansett Bay*. Academic Press, Inc., Boston, MA.

- Chase, Harry B
1992 Graphitic Coal Mines in Rhode Island and Massachusetts. Manuscript on file at The Public Archaeology Laboratory, Inc., Pawtucket, RI.
- Clauson, J. Earl
1904 *Cranston: A Historical Sketch*. T. S. Hammond, Providence, RI.
- Dalton, Ronald, and Alan Leveillee
1991 *Phase I Archaeological Reconnaissance Survey of the Proposed Providence Gas Project Corridor in Burrillville, North Smithfield, Smithfield, Johnston and Cranston, RI*. The Public Archaeology Laboratory, Inc. Report No. 345. Submitted to Tennessee Gas Pipeline, Houston, TX.
- Dincauze, Dena F.
1976 *The Neville Site: 8,000 Years at Amoskeag, Manchester, New Hampshire*. Peabody Museum Monographs 4. Harvard University, Cambridge, MA.
- Dincauze, Dena F., and Mitchell Mulholland
1977 Early and Middle Archaic Site Distributions and Habitats in Southern New England. *Annals of the New York Academy of Sciences* 288:439–456.
- Everts and Richards
1895 Town of Cranston, Washington County, Rhode Island. *New Topographical Atlas Surveys, Southern Rhode Island*. On file Rhode Island Historical Society Library, Providence, RI.
- Flynn, Erin, and Dianna L. Doucette
2020 *Phase II Site Examinations Pine Swamp, Pine Swamp Quarry, Louise Street Locus 2, Crossroads, and Dancing Woodchuck Sites, The Narragansett Electric Company Lines 315, 327, 303, and 3520 Refurbishment Project, Cumberland, Woonsocket, and North Smithfield, Rhode Island*. The Public Archaeology Laboratory, Inc. Report No. 3406, Submitted to National Grid, Waltham, MA.
- Forrest, Daniel
1999 Beyond Presence and Absence: Establishing Diversity in Connecticut's Early Holocene Archaeological Record. *Bulletin of the Archaeological Society of Connecticut* 62:79–100.

2009 Final Technical Report *Phase II Site Examinations Bravo and Nike Sites Bravo Battery 103rd Field Artillery Facility, North Smithfield, Rhode Island*. Archaeological and Historical Services, Inc. Report prepared for the Department of the Army and Air Force, National Guard Bureau, Providence, RI.
- Fowler, William S.
1952 Twin Rivers: Four-Culture Sequence at a Rhode Island Site. *Bulletin of the Massachusetts Archaeological Society* 14:1–18.

- 1956 Sweet Meadow Brook, A Pottery Site in Rhode Island. *Bulletin of the Massachusetts Archaeological Society* 18:1–23.
- Ingham, Donna, and Alan Leveillee
2004 *Phase I(c) Intensive Archaeological Survey, Old Buttonwoods Sewer Project Area, Warwick, Rhode Island*. The Public Archaeology Laboratory, Inc. Report No. 1468.01. Submitted to BETA Group, Inc., Lincoln, RI.
- Jones, Brian D., and Daniel T. Forrest
2003 Life in a Postglacial Landscape: Settlement-Subsistence Change during the Pleistocene-Holocene Transition in Southern New England. In *Geoarchaeology of Landscapes in the Glaciated Northeast*, edited by David L. Cromeens and John P. Hart, pp. 75–89. New York State Museum Bulletin 497, The University of the State of New York, Albany, NY.
- Leach, Douglas Edward
1958 *Flintlock and Tomahawk: New England in King Philip's War*. W. W. Norton, New York, NY.
- Leveillee, Alan
2003 Evidence for Submerged Prehistoric Sites in Greenwich Bay, Rhode Island. Paper presented at the 64th Annual meeting of the Massachusetts Archaeological Society, Middleboro, MA.

2010 Archaeology in the Coastal Suburbs: The Cove Terrace Site, Warwick, Rhode Island. *Bulletin of the Massachusetts Archaeological Society* 71(2):67–77.
- Leveillee, Alan, Joseph Waller, Jr., and Donna Ingham
2006 Dispersed Villages in Late Woodland Period South-Coastal Rhode Island. *Archaeology of Eastern North America* 36:71–89.
- McBride, Kevin A.
1984 Prehistory of the Lower Connecticut River Valley. Unpublished Ph.D. dissertation, Department of Anthropology, University of Connecticut, Storrs, CT.
- Mulholland, Mitchell T.
1988 Territoriality and Horticulture: A Perspective for Prehistoric Southern New England. In *Holocene Human Ecology in Northeastern North America*, edited by George P. Nicholas, pp. 137–164. Plenum Press, New York, NY.
- Pagoulatos, Peter
1988 Terminal Archaic Settlement and Subsistence in the Connecticut River Valley. *Man in the Northeast* 35:71–94.
- Rector, Dean D.
1981 *Soil Survey of Rhode Island*. U.S. Department of Agriculture, Soil Conservation Service. U.S. Government Printing Office, Washington, D.C.

Rhode Island Historical Preservation Commission (RIHPC)

- 1980 *Statewide Historical Preservation Report P-C-1: Cranston, Rhode Island*. Rhode Island Historical Preservation Commission, Providence, RI.

Rhode Island Historical Preservation & Heritage Commission (RIHPHC)

- 2021 *Performance Standards and Guidelines for Archaeology in Rhode Island*. The Rhode Island Historical Preservation & Heritage Commission, Providence, RI.

Rhode Island Historical Society

- 1936 A Folsom Point Found in East Providence. *Rhode Island Historical Society Collections* 29(3):91.

Ritchie, William A.

- 1980 *The Archaeology of New York State*. Harbor Hill Books, Harrison, NY.

Robinson, Brian S.

- 1992 Early and Middle Archaic Period Occupation in the Gulf of Maine Region: Mortuary and Technological Patterning. In *Early Holocene Occupation in Northern New England*, edited by Brian S. Robinson, James B. Petersen, and Ann K. Robinson, pp. 63–116. Occasional Publications in Maine Archaeology No. 9, Maine Historic Preservation Commission, Augusta, ME.

Sassaman, Kenneth E.

- 1999 A Southeastern Perspective of Soapstone Vessel Technology in the Northeast. In *The Archaeological Northeast*, edited by Mary Ann Levine, Kenneth E. Sassaman, and Michael S. Nassaney, pp. 75–96. Bergin & Garvey, Westport, CT.

Tanzi, Frank

- 1953 *A History of Cranston, Rhode Island*. Unpublished Master's of Education thesis, Boston University, Boston, MA.

United States Department of Agriculture-Natural Resources Conservation Service (USDA–NRCS)

- 2023 USDA Web Soil Survey Website, <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>, accessed September 8, 2023.

Waddicor, Arthur, and Morris Mitchell

- 1969 Furnace Hill Brook Site: A Salvage Dig. *Bulletin of the Massachusetts Archaeological Society* 30(2).

Waller, Jr., Joseph N.

- 2000 Late Woodland Settlement and Subsistence in Southern New England Revisited: The Evidence from Coastal Rhode Island. *North American Archaeologist* 21(2): 139–153.

- 2007 *Phase I(c) Intensive Archaeological Survey Bravo Battery, 103D Field Artillery Facility, North Smithfield, Rhode Island.* The Public Archaeology Laboratory, Inc. Report No. 2136. Submitted to the Department of the Army and Air Force, National Guard Bureau, Providence, RI.
- Waller, Jr., Joseph N. and Jessica Horn
2020 *Phase I Archaeological Survey National Grid Line V148S Asset Condition Refurbishment Project, Lincoln and Cumberland, Rhode Island.* The Public Archaeology Laboratory, Inc. Report No. 3773-1, Submitted to National Grid, Waltham, MA.
- Waller, Joseph N., and Alan Leveillee
1998 Archaeological Investigations at Site RI 2050 in Cranston, Rhode Island: A Native American Steatite Processing Site. *Bulletin of the Archaeological Society of Connecticut* 61:3–16.
- 1999 *Site Verification, Evaluation, and Cultural Resource Management within RI 196, Archaeology of the Ives Bluff Condominium Project, Warwick, Rhode Island.* The Public Archaeology Laboratory, Inc. Report No. 995. Submitted to Philip Ryan Homes c/o Peter Rotelli, Esquire, Providence, RI.
- 2002 Archaic Period Land Use and Settlement in the Pawcatuck River Watershed of South-Central Rhode Island. *Northeast Anthropology* 63:71–82.
- Waller, Jr. Joseph N., Alan Leveillee, and Daniel Forrest
2019 Villages and Maize: Native American Settlement and Subsistence Along the Southern Rhode Island Coast – Phase III Data Recovery Archaeological Investigations of the Salt Pond Site (RI 110), Narragansett Rhode Island. *RIDOT Archaeology Series No. 185.* The Public Archaeology Laboratory, Inc. Submitted to the Rhode Island Department of Transportation, Providence, Rhode Island.

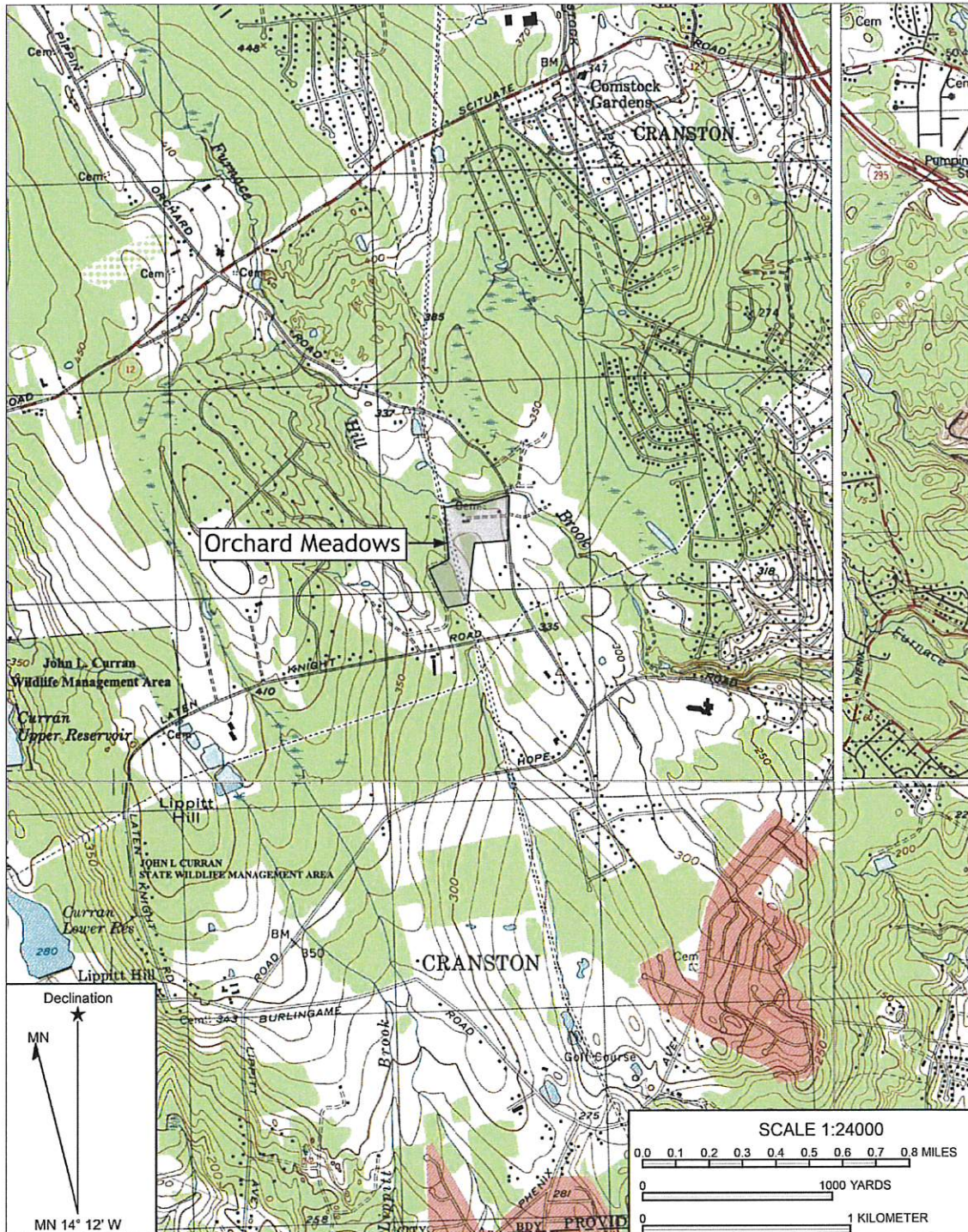


Figure 1. The Orchard Meadows development area on the North Scituate, RI, USGS topographic quadrangle.

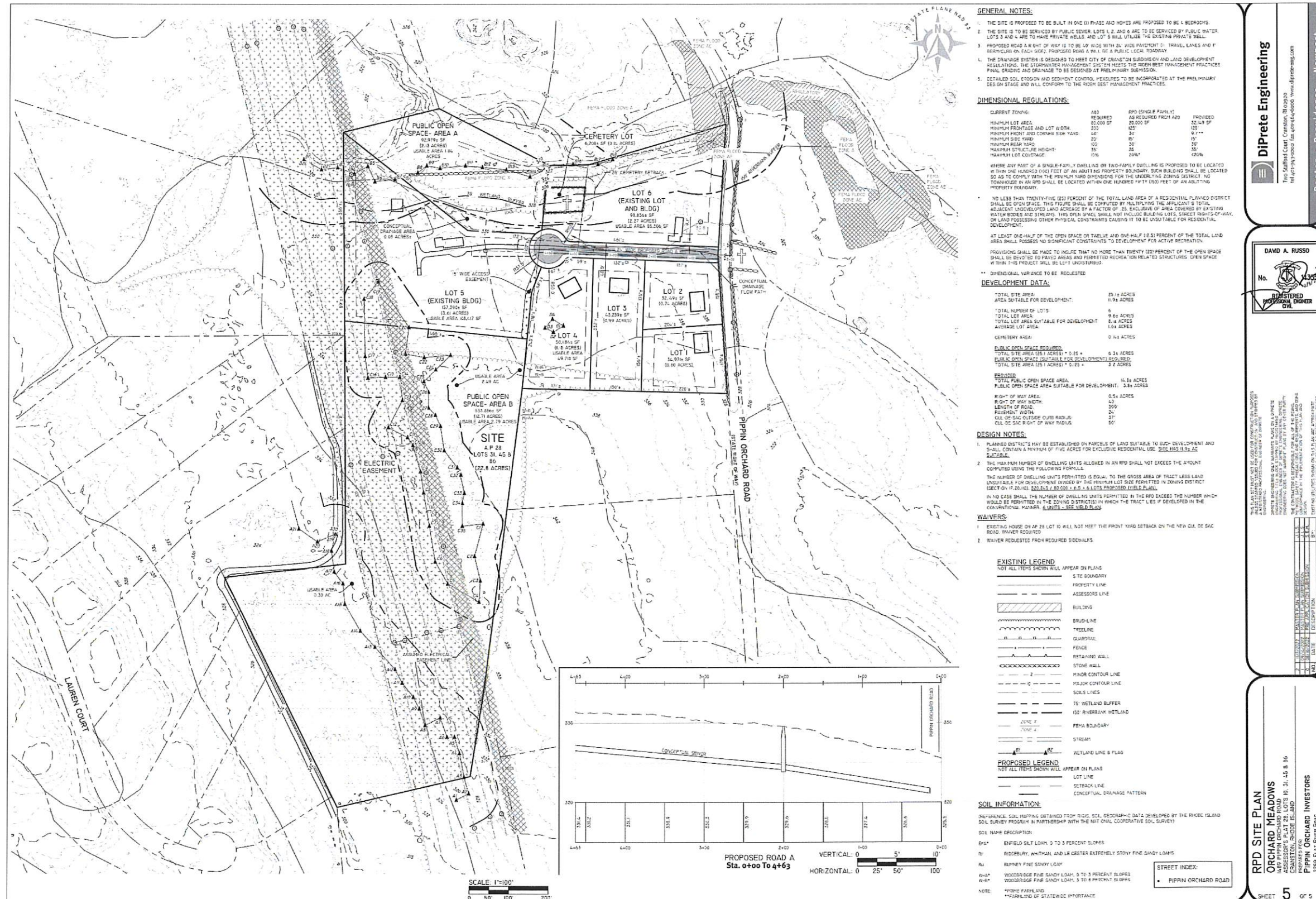


Figure 2. The Orchard Meadows site layout, master plan submission (November 8, 2022).

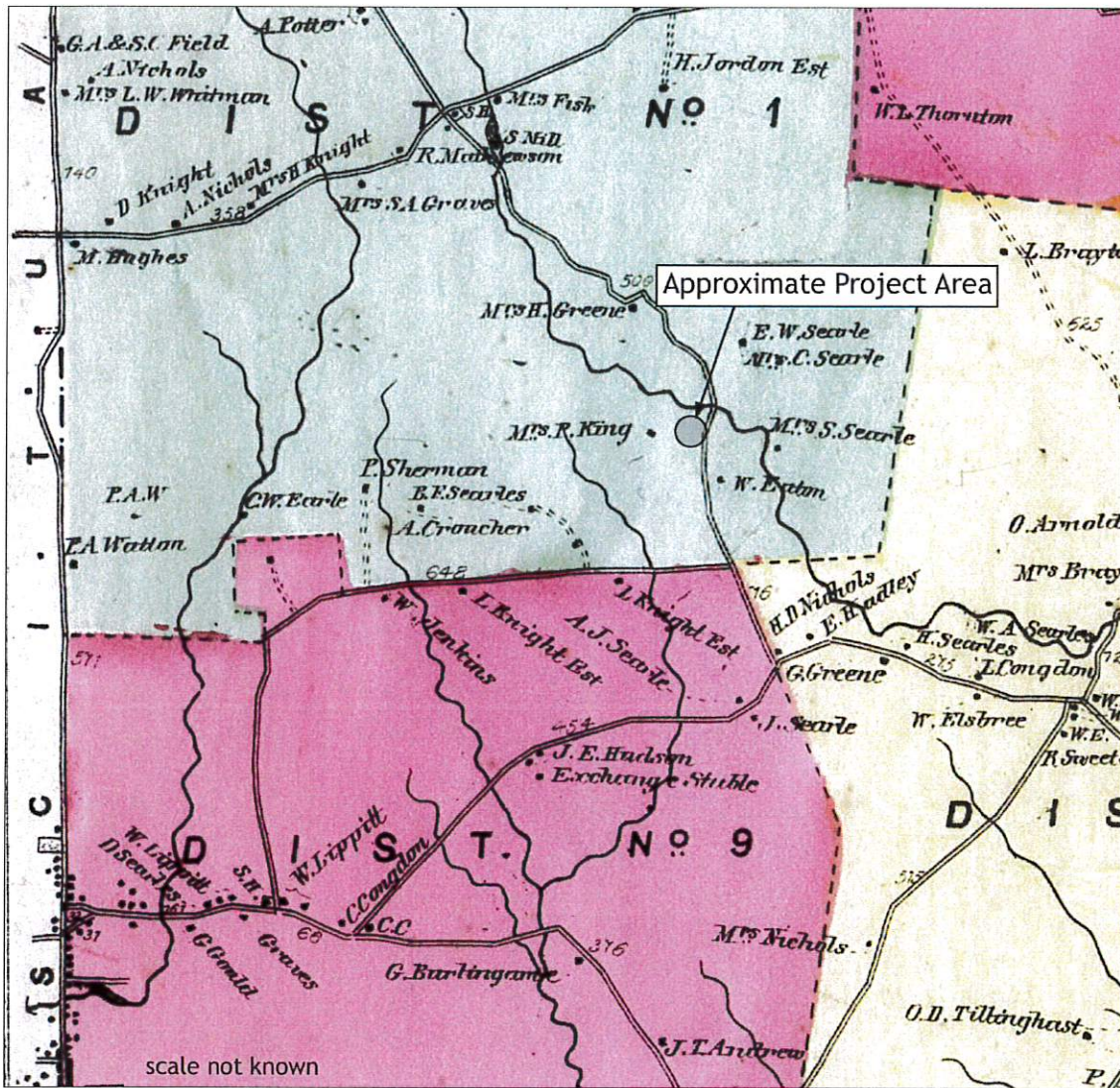


Figure 3. Detail of the 1870 (Beers) map of Cranston showing approximate location of Orchard Meadows Development Area.

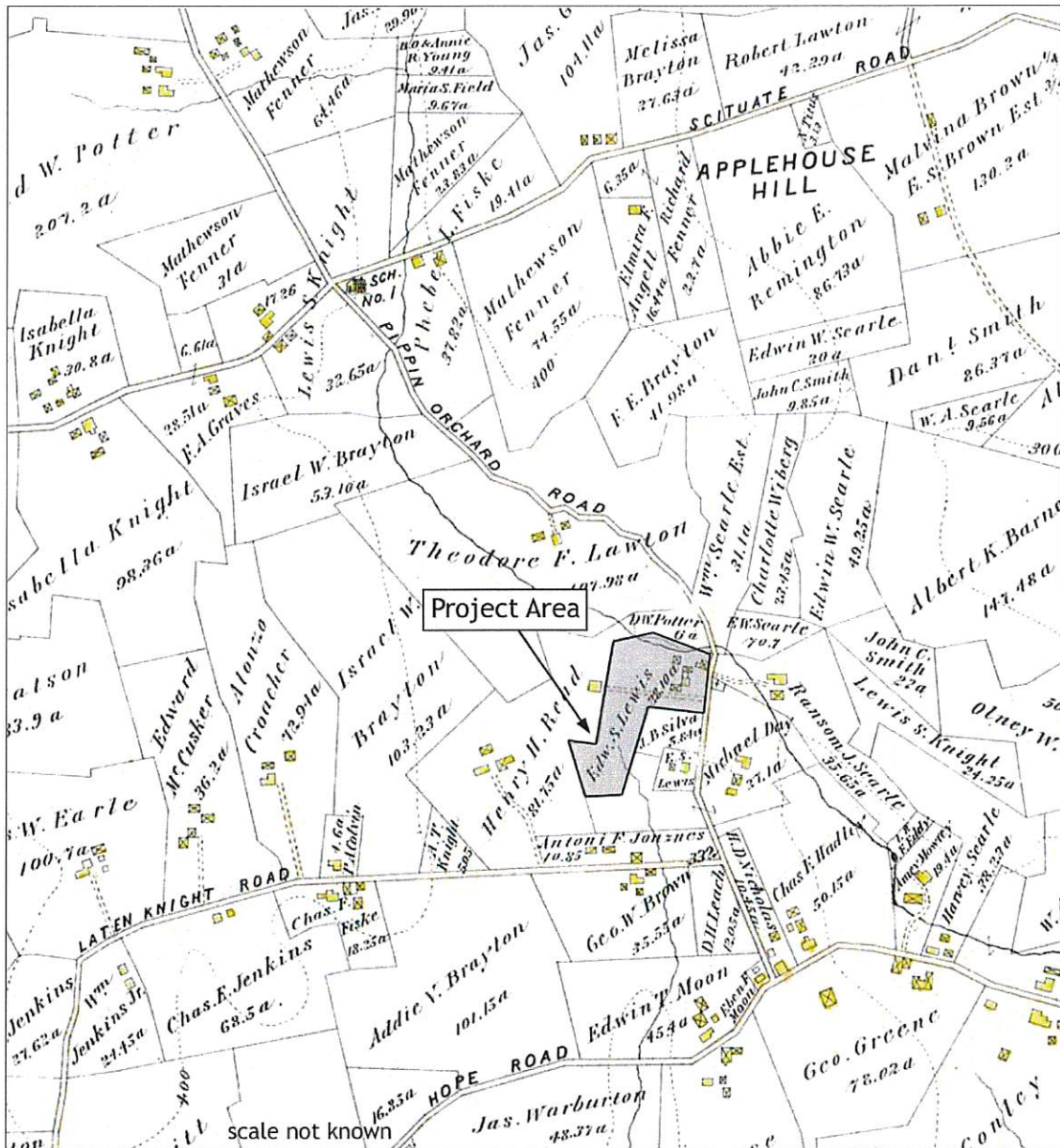


Figure 4. Detail of the 1895 (Everts and Richards) map of Cranston showing approximate location of Orchard Meadows Development Area.

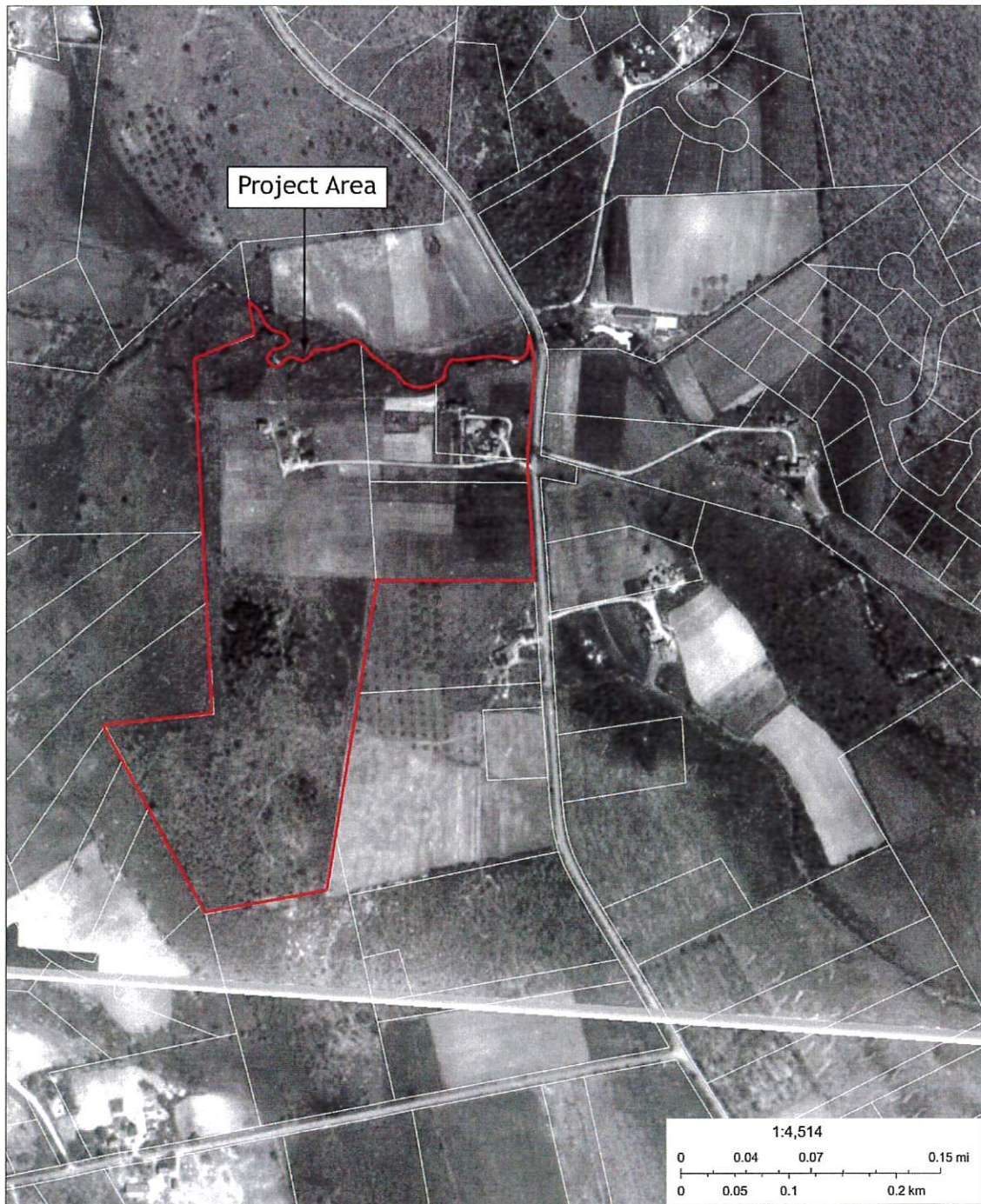


Figure 5. The Orchard Meadows development area on the 1939 aerial photograph of Cranston.

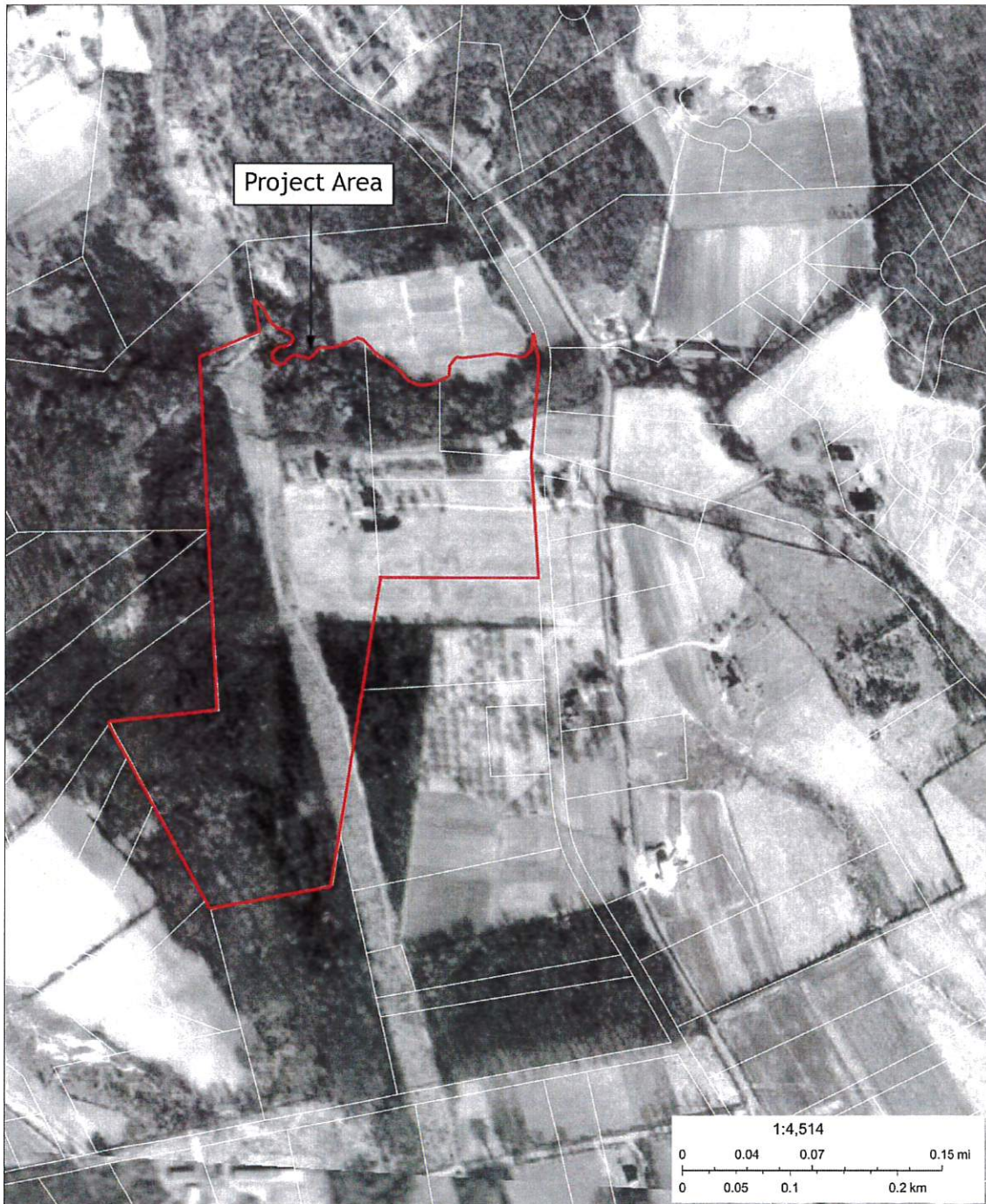


Figure 6. The Orchard Meadows development area on the 1962 aerial photograph of Cranston.



Figure 7. The Orchard Meadows development existing conditions, view west.

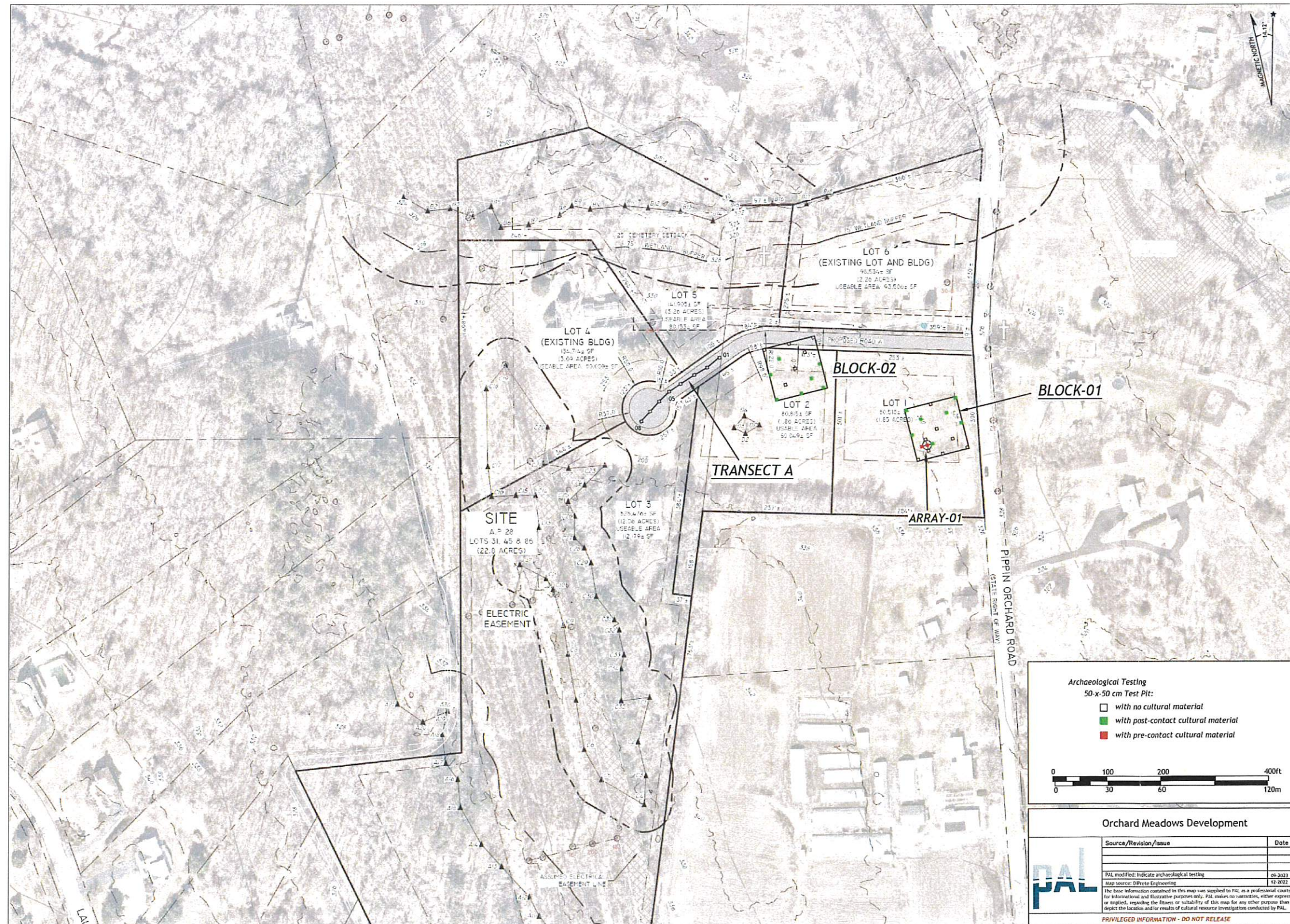


Figure 8. Locations of Phase I archaeological testing, Orchard Meadows development area.

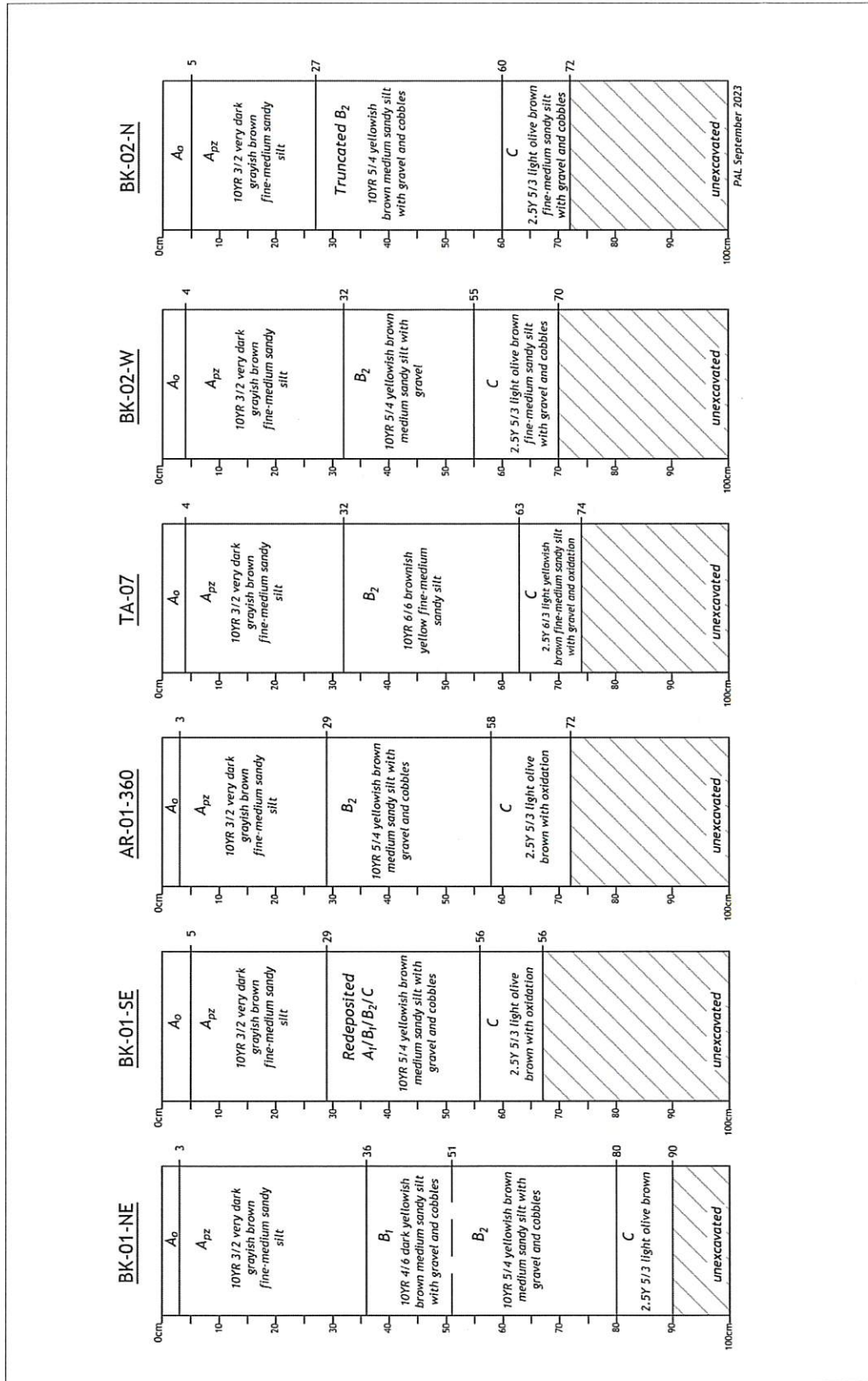


Figure 9. Representative test pit soil profiles, Orchard Meadows development area.