

*Restoration of the  
Wilder Homestead Barn  
Buckland, MA  
A National Register Property*

**Specifications  
Phase II**

A project funded in part by grants from legislature, the Massachusetts Cultural Council and generous donations from the hill town communities

August 1, 2024

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All work must be performed in accordance with the documents prepared by Jack A. Sobon: Architect and dated April 15, 2024 and meet the Secretary of the Interior's *Standards for the Treatment of Historic Properties*.

## SECTION 00800 SUPPLEMENTARY CONDITIONS

### 1.1 Insurance

- A. Both the Owner and Architect shall be named as additional Insured on all contracts and policies
- B. The Contractor's insurance Company shall give the owner a Waiver of Subrogation in favor of the Owner and Architect.
- C. The Contractor shall secure the following:
  - 1. Worker's Compensation Insurance providing statutory coverage and Employer's Liability Insurance subject to a limit of at least one hundred thousand dollars (\$100,000) per accident and a policy limit of five hundred thousand dollars (\$500,000).
  - 2. Comprehensive General Liability Insurance, including Owner's and Contractor's Protective to a combined single limit of one million dollars (\$1,000,000) for bodily injury and property damage per occurrence, to an aggregate coverage of two million dollars (\$2,000,000). Coverage shall include: (1)Independent contractors performing work for sub and sub-subcontractors; (2) Contractual liability covering liability assumed under the Contract with the Owner; (3)Person injury liability in the amount of one million dollars (\$1,000,000); (4) Broad form property damage coverage included completed operations.
  - 3. Automobile Liability Insurance with five hundred thousand dollars (\$500,000) limits for any one person, for any one accident involving bodily injury or death, and for property damage to Owner's and Owner's employee's vehicles. Hired vehicles, other non-owned and against under-and uninsured motorist's insurance shall be the minimum required by the Commonwealth of Massachusetts.
  - 4. Umbrella Liability Insurance with one million dollars (\$1,000,000) limits providing excess coverage over that specified above and shall include the Owner as an additional named insured.
- D. The successful bidder must submit to the Owner, before work is started, a Certificate of Insurance from an insurance company licensed to underwrite and sell insurance in the Commonwealth of Massachusetts stating that the Contractor is covered in the amounts as specified herein.

### 2.1 Sales Tax

- A. The Owner is exempt from payment of sales and use taxes in the Commonwealth of Massachusetts. Bidders shall not include in their bid any tax imposed upon the sales or rentals of tangible personal property in this Commonwealth, such as any building materials, supplies, services, and equipment required to construct and complete the Work of this Contract.
- B. The Owner will furnish tax exemption certificates as required to the selected Contractors.

## **SECTION 01027 APPLICATIONS FOR PAYMENT**

### **1.1 Payment schedule**

- A. The Contractor shall submit monthly bills for all work completed and materials in storage. Upon verification by the Architect, the Owner will make payment within thirty (30) days.
- B. When the project is completed, the Architect shall be notified. The Architect and Owner shall inspect the finished work, copies of paid receipts for all materials incorporated into the work, and signed paperwork from the local Building Authority. Upon verification and satisfactory completion of the work, the Owner will make the final payment within thirty (30) days.

## **SECTION 01350 PROJECT REQUIREMENTS**

### **1.1 Permits**

- A. The Contractor shall be responsible for obtaining all necessary permits from the local authorities and notification at the required inspection intervals.
- B. Copies of all permits shall be submitted to the owner.

### **1.2 Protection of Property and the Public**

- A. Construct all fences, barricades, and protective facilities required for the protection of the public in accordance with town and state regulations.
- B. The Wilder Homestead barn is on a property open to the public.
  - a. All measures must be taken to insure the safety and security of property and the general public.
  - b. Behavior of all personnel and subcontractors shall be acceptable at all times. Offensive gestures and/or lewd comments will be grounds for immediate and permanent removal of personnel from the site.

- C. The Wilder Homestead's buildings are historically significant structures. The following precautions apply:
  - a. Do not disturb or damage sound original material which is in place or found on site.
  - b. The Owner, Architect, and Contractor shall examine the area of work prior to the start of work to determine which items, features, and materials that should be retained and protected.
  - c. Original elements required to be retained and re-used shall be removed carefully, labeled, and safely stored until they can be re-installed.
  - d. Protect all existing finishes, features, and components designated to remain in place, to be re-used, or removed and stored for future use.
  - e. Exercise extreme care in removing historic elements and materials slated to be re-used.
  - f. Protect the elements of the barn from wind and weather-related damage during the work.

### 1.3 Safety Regulations

- A. This project is subject to compliance with Public Law 92-596 "Occupational Safety and Health Act of 1970" (OSHA), with respect to all rules and regulations pertaining to construction including Volume 36, numbers 75 and 105, of the Federal Register as amended, and as published by the U.S. Department of Labor.
- B. The committing of nuisances on the site or adjacent properties is prohibited.
- C. The Contractor shall take all precautions to safeguard the health and well-being of all workers and all others rightfully on the project site.
- D. All applicable safety laws and regulations of the Commonwealth of Massachusetts shall be adhered to by the Contractor.
- E. Ladders, staging, tools, and equipment shall be secured from public use or access during non-work hours.

### 1.4 Fire Protection and Precautions

- A. The Contractor shall keep the buildings and site clear of debris and rubbish at all times. Metal barrels with tight fitting covers shall be provided where needed.
- B. The Contractor shall maintain on site a fire extinguisher in each work area.
- C. Gasoline and other flammable liquids shall be safely stored in and dispensed from containers in conformance with the National Board of Fire Underwriters and the Commonwealth of Massachusetts

Department of Public Safety requirements, and in no event, stored within the confines of the permanent structures.

- D. All tarpaulins used shall comply with Federal Specification CCCC746. Polyethylene shall not be used.

#### 1.5 Broken Glass

- A. The Contractor shall be responsible for all glass broken, scratched, or otherwise damaged for the duration of the project and shall replace with salvaged glass or new glass to match the broken glass.

#### 1.6 Cleaning

- A. The site shall be kept free of the accumulation of waste materials at all times.
- B. Prior to final inspection, the entire work site shall be cleared of all tools, equipment, materials, and debris and the area broom cleaned.
- C. All existing equipment or furnishings moved to facilitate the work should be returned to its original location.
- D. Each installed window shall have its glass washed inside and out.

#### 1.7 Use of Site

- A. Construction work can only occur between the hours of 7:00AM and 5:00PM Monday through Saturday. The Contractor will be required to cooperate with the Owner concerning safety, hours of work, cleanliness, and noise levels when there are events planned for the property.
- B. No smoking is allowed in or near the buildings.
- C. No radios or sound systems are allowed in or near the buildings.

### **SECTION 01510 TEMPORARY ELECTRICITY**

#### Part 1-General

The Contractor shall provide for temporary power using a generator or shall coordinate with the Buckland Historical Society for power via cords from the Wilder house.

### **SECTION 02200 EARTHWORK**

#### Part 1-Description of work

This section covers grading for landing stones and walkways, trenching for electrical service, backfill, and grading.

## **SECTION 02930 SEEDING**

### Part 1-General

Final raking and seeding provided by the Owner

## **SECTION 04400 STONE MASONRY**

- 1.1 Description of work
  - A. Install Accessible stone landings at doorways
  - B. Install stone steps at wagon doorways
- 2.1 Materials
  - A. Step stones provided by Owner, transportation and handling provided by Masonry Subcontractor
  - B. Supporting and leveling stones provided by Owner on site.
- 3.1 Execution
  - A. Install minimum of 6" compacted  $\frac{3}{4}$ " stone subgrade under Accessible landing stones. Set stone  $\frac{1}{4}$ " below finish floor height at threshold and pitch stone 1" to drain away from building. Stone to be level side to side. Gap between stone and threshold to be  $\frac{1}{2}$ " maximum.
  - B. Install step stones at wagon doorways on minimum 6" compacted  $\frac{3}{4}$ " stone subgrade. Pitch stones maximum 1/50 to drain away from building and height to be 5" below finish floor. Provide 2" gap between stones and foundation. Joints between stones to be as tight as practical.

## **SECTION 06100 ROUGH CARPENTRY**

- 1.1 Description of Work
  - A. Install additional timber frame elements as indicated on drawings including Cow bay studs, wall girt in West wall of original barn, and door studs between Main Barn and Weave room.
  - B. Install pressure treated sleepers on slab for finish floor planking.
- 2.1 Materials

- A. Timbers shall be riven for studs and girts except door studs which shall be rough sawn. Pegs shall be riven, clear, straight grained oak as per original barn.
- B. Lumber for sleepers shall be #2 or better ground contact alkaline copper quaternary (ACQ), copper azole (CA) or micronized copper azole (MCA) Pressure treated.
- C. Fasteners shall be compatible with the treated sleepers.

### 3.1 Execution

- A. Note the direction of the finished floor on the plan and install pressure treated sleepers perpendicular as required to obtain the finished pattern shown. Sleepers are 2x6 and spaced at not more than 16" on center in threshing bay and 24" on center elsewhere. The first sleeper shall be spaced as close as practical to the exterior timber. Provide fasteners to secure sleepers to concrete slab as necessary to prevent warp and maintain sleeper flat to slab, minimum of two fasteners per length of sleeper. At wagon doorways and other doorways where sleepers are perpendicular to door threshold, install a 2" wide by 1-1/2" thick, all heartwood, clear, Eastern White Pine cap to conceal sleeper ends when door is open. Secure to floor slab at maximum 24" on center.
- B. Provide additional sleepers as necessary for nailing flooring around posts, under all stair stringers, and at partition wall between barn and weave room. Install a continuous sleeper under cow bay studs and toenail studs to sleeper below finish flooring level.
- C. Where flooring changes direction, sleepers shall support minimum 1-1/2" of parallel flooring edge, 4" of perpendicular flooring ends.
- D. Coordinate with electrical subcontractor for any wiring required to go under finish floor.
- E. Install cow bay studs, door studs, and girt as sleepers are set and toe nail studs to sleepers. Nailing shall be concealed below the level of finished flooring.

## 06200 FINISH CARPENTRY

### 1.1 Description of work

- A. Build and install doors
- B. Install partition between Main barn and Weave Room
- C. Install Finish plank floors
- D. Install stair to loft
- E. Install gate on loft doorway

### 2.1 Materials

- A. Door frames, diagonal braces, and bar keepers for framed doors shall be rough sawn Northern red oak (Band sawn from owner's logs) free



- of wane, rot, and loose knots. No knots permitted beyond  $\frac{3}{4}$ " diameter. Timbers shall be full thickness and widths as specified. Door battens and diagonals for batten type doors shall be new, seasoned Eastern White Pine full one inch thick free of wane, rot, and loose knots. No knots permitted beyond  $\frac{3}{4}$ " diameter. Door exterior boards shall be new 1" thick, all heartwood, full height, band sawn, Eastern white pine boards from Owner's stock, minimum 10" wide. Door interior boards shall be old salvaged barn boards, approximately  $\frac{3}{4}$ " thick and minimum 8" wide and full height.
- B. Egress door hardware (2 doors) shall be Allegion/Von Duprin #22 Rim exit device, 4' size, #299 Strike, #230L Lever and key lock (one RH Reverse, one LH Reverse, all in powder coated matte black finish.
  - C. Weave Room partition door hardware shall be hand forged iron by Historic Housefitters, 287 New Milford Turnpike, P.O. Box 2305, New Preston, CT. 06777-1606 ([www.historichousefitters.com](http://www.historichousefitters.com)) #4024 Bean type strap hinges (4), #4021  $\frac{1}{2}$ " drive pintles (4), #2202-2 Bean thumb latch (1), #2301-1 latch bar, #2400-1 drive staple (1), #2408-1 Footed drive catch (1), and #4220 Slide Bolt with mortise strike plate.
  - D. Floor plank on main floor and loft shall be 1-3/4"x10" and wider Eastern white pine, sawn from Owner's logs, free of wane, rot, spiral grain, and loose knots. It shall be air-dried to a maximum of 12% moisture content (verify at the time of installation), edges joined straight, grooved and splined. Floor plank at exterior doorways shall be all heartwood within 8" of exterior. Splines shall be clear Eastern white pine  $\frac{1}{2}$ " x 1" and accurately sized to snugly fit into grooves. Spline length shall match the plank length except when over 12 feet wherein two lengths of spline may be joined.
  - E. The stairs will be the existing stairs re-installed with railings and guards. Notify the Architect if the new floor to floor height requires modification of the stairs in any way.
  - F. Lumber for loft door gate shall be no. 1 or better, rough sawn, full size, eastern white pine. Old lumber salvaged from the original barn may be substituted in entirety if clean, sound, and meeting no. 1 grade. Do not mix old and new material.

### 3.1 Execution: Doors

#### A Door Frames

1. Choose the straightest material for stiles. All mortise and tenon joinery to be secured with drawbored, riven oak pins.
2. Assemble frames in doorway and mount with Owner provided wrought hardware.
3. Attach bar latch cleats (clear oak) from exterior side of frame prior to applying door sheathing boards. Use Simpson Exterior

Grade SDWS 0.220 lags as shown and pre drill undersized hole as necessary for a snug fit.

**B** Door boards, Interior Layer

1. The inner layer of boards shall be 9/16" to 3/4" thick, full height old sound boards with up-and-down sawing marks, and a minimum of 10" wide. Boards may be ripped in width to remove a bad edge or trimmed in length to remove a bad end or defect. Painted or weathered surfaces should be placed out and not visible from the barn interior. Original boards tapered in width may be used but alternate thicker and thinner ends to maintain joints roughly plumb.
2. The bottom of board shall be cut with a 10° bevel to create a drip.
3. Use a minimum of two nails per board over each framing member, including braces, 1 to 1-1/2" from each edge. On 14" and wider boards, add a third nail in the center.
4. Portions of these boards will be exposed to the exterior in the joints between the exterior boards so take extra care to avoid knot holes or splits where they will compromise the weather tightness or allow in mice, bats, or birds.

**C** Door Boards, Exterior Layer

1. New, band sawn vertical door boards shall be full height from sill to head.
2. Bottom of board shall be cut with a 10° bevel to create a drip.
3. Stagger vertical joints a minimum of 2" from the inner layer.
4. Use a minimum of two galvanized 10d cut box nails (Tremont Nail Company) per board over each framing member, including braces, 1 to 1-1/2" from each edge. On 14" and wider boards, add a third nail in the center. Orient the wider part of the nail with the grain to avoid splitting the siding. Pre-drill if necessary to avoid splitting.
5. Do not install any boards with loose knots, holes, or splits. Butt boards tight to each other.

**E.** Build and Install Doors between Weave Room and Main Barn

1. Install batten type doors in opening using original hardware supplemented with new forged iron hardware provided by owner.
2. Sheathe doors in place with two layers (3/4" Old boards on the main barn side, 1" new boards on the Weave Room) as per siding. Use full height boards only for both layers. Stagger vertical joints between layers min. of 2".
3. On double doors, create a 3/4" astragal by overlapping them where they butt each other.

4. Install hinges, thumbblatch, and slide bolt, hardware provided by Owner, installed by General Contractor.

F. Install panic bar hardware on all (2) Egress doors.

3.2 Execution: Partition between Main Barn and Weave Room

A. Install partition before installing plank floor. Attach 2x6 Pressure treated sleeper as wall shoe to concrete floor slab at maximum 24" on center. Install layer of old,  $\frac{3}{4}$ " thick vertical boarding first. Old board layer may be jointed over framing members but maintain consistent width and appearance for continuity. Install second layer of new, full inch thick vertical boards, full length. Stagger joints between board layers. Use Tremont 10d cut box nails, two per girt for new boards. Boarding shall extend to stair rail and guards.

B. Install 1-3/4"x 5" clear pine rail/cap with dado. Provide  $\frac{1}{4}$ " chamfer on all four edges. Extend and lap ends over all posts. Secure to ends of 1" boards with finish nails at maximum 16" on center. Secure lapped ends to posts with finish nails.

C. Hold back boarding at head and jambs of door opening 1" to allow for door lap.

3.3 Execution: Finish Plank Floors

A. Join edges of planks as necessary for straightness. If planks are cupped, the convex side should be up. The groove for the spline shall be  $\frac{1}{2}$ " wide by  $\frac{1}{2}$ " deep and  $\frac{5}{8}$ " up from the bottom of the planks. Sort planks roughly by thickness to maintain as even a finish floor surface as practical. Extra thick planks should be run through a thickness planer as necessary, put the planed side down.

B. Install plank flooring in the direction as shown on the plan. In the threshing floor/drive bay, the planks shall run the full width without joints. In the remainder of the barn, use as long lengths as practical to minimize end joints. Stagger end joints at least 24" and maintain consistent width in each run. Scribe planks to posts and studs for a reasonably snug appearance. Planking within 8" of doorways shall be all heartwood.

Install spline on leading edge before next row. Wedge planks to keep edge gaps at  $\frac{1}{8}$ " or less. Fasten planks to sleepers with angled 10d Tremont cut box nails, 2 per sleeper for planks up to 13" wide, 3 on wider ones. Set nail  $\frac{1}{16}$ " below surface. If any floor planks are raised more than  $\frac{1}{8}$ " above an adjacent plank on sides or ends, bevel those edges with a block plane at 45°.

B. At leading edge of loft at stairs, provide 4" wide nosing with spline grooved into ends of floor planks. Extend nosing to match stair nosings.

C. Provide temporary coverings at all door openings to protect flooring from weather damage until doors are completed.

- 3.4 Execution: Stairs To Loft
- A. The former stairs to the loft shall be re-installed in their previous position including hand rails and guards after the main floor planking has been installed.
  - B. The stair assembly may require modification both structurally where it attaches to the 2<sup>nd</sup> floor framing and to meet building code requirements. Riser heights within the finished flight shall not vary more than 3/8" per code (Including the top and bottom risers). Tread surfaces may not be tilted more than 1/48. If these conditions cannot be met, notify the Architect before permanently attaching the stairs.
- 3.5 Execution: Loft Gate
- A. All components shall be provided with a 1/8" wide chamfer on all side and end-grain edges.
  - B. Openings between and below guards shall not exceed three inches. Fasten guards to 2x4 rails with two 2-inch long black, Philips head screws staggered at each rail crossing. Secure 2x4 rails to door studs with black, 4" long, "Timberlok" lags, one at each location.

## **08600 WOOD WINDOWS**

- 1.1 Description of Work
- A. The work consists of building frames and installing windows as indicated on the drawings
- 2.1 Materials
- A. For frame and sill use all heartwood, clear Eastern white pine at maximum 15% moisture content, full one inch thick.
  - B. For new sash, use Brosco, Brockway Smith Company ([www.brosco.com](http://www.brosco.com)) single glazed sash 1-3/8" thick.
  - C. For Transoms, use Brosco 1'-0" x 10'-0", 16-light transom with frame but no casing.
  - D. 1-3/4" Zinc plated Turn Buttons w/screws as manufactured by Stanley or National Hardware
- 3.1 Execution: Barn Sash Windows
- A. Provide 10 degree bevel cut on sash bottom rail. Sand or plane a 1/8" bevel on cut edge. Prime and paint cut portion.
  - B. Windows shall be centered between posts and positioned vertically between horizontal timber components as shown on plan.
  - C. All windows shall be set plumb and level.

- D. Layout siding opening from interior using level. Notch lower corners in siding to allow sill ends to penetrate. Top and bottom of opening cut 10 degrees off level to drain. Cut frame 3/16" bigger in width and height for operation clearance. Attach frame to siding with #8 x 3" long galvanized or stainless steel bugle head screws from inside at maximum 6" on center. Pre-drill if necessary to avoid splitting. Attach sill to outer 1" siding below with galvanized finish nails.
  - E. Secure non-operable sash with one turn button into frame midway on each side of sash. For tilt-in sash, secure with one turn button on top frame at midpoint.
- 3.2 Execution: 16 Light Transoms
- A. Center transom unit between posts. Shim under bottom as necessary for straight and level unit. Secure to door header at approximately 16" on center. Shim and attach at top to plate only at ends to allow for potential plate sagging.
  - B. Bring siding layers against frame and apply rough (band-sawn) one inch thick, all heartwood pine trim using galvanized finish nails . Trim to be left natural (unpainted).

## **SECTION 10522 FIRE EXTINGUISHERS**

### Part 1-Description of work

Provide two 1A Fire extinguishers, well-spaced

## **SECTION 11000 HAY TRACK & TROLLEY**

### Part 1- Description of work

- A. Install missing track hangers w eyebolts (Additional hangers by owner, installed by General Contractor).
- B. Install original track components, repairing as necessary to create a reasonably straight, level, and usable track.
- C. Reeve and install trolley on track, attach hay fork.

### Part 2- Materials

- A. Additional track hangers and eyebolts shall be blacksmith fashioned and to be provided by Owner. Fasteners to rafters shall be #12 x 1-1/2" flat head wood screws.
- B. Trolley and hay fork shall be cleaned, re-conditioned, and lubricated (By Owner).
- C. Rope shall be manilla hemp of suitable size and length.

## **SECTION 16400 ELECTRICAL**

Feed from House (Underground)

Entrance panel in Weave room

**SECTION 16500 LIGHTING**

General Lighting

Emergency means of egress lighting

Illuminated Exit signs shall be installed at each exit door