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2021.05 : Danville Train Station Rehabilitation
OUTLINE SPECIFICATIONS

DIVISION 00 – GENERAL CONDITIONS

1. PROJECT INFORMATION (00 00 20)

- a. Project Name: Danville Train Station Rehabilitation
- b. Architect's Project Number: 2021.05
- c. Project Location: 347 Peacham Rd., Danville, VT 05828
- d. Owner: Town of Danville (Danville Train Station Committee)
- e. Project Size: 1,500 SF
- f. Estimated Construction Cost: \$475,000–\$575,000
- g. Project Summary:
 - i. The Danville Train Station Rehabilitation project provides for the historic rehabilitation of the Danville Train Station (c. 1871), as well as the historic reconstruction of the south train platform and canopy, development of the former (east) freight room side into leased commercial space (specific use pending), ADA upgrades, structural upgrades, MEP upgrades, energy efficiency upgrades, and sitework. The Danville Train Station is on the Vermont State Register of Historic Places.
- h. Project Team:
 - i. Architect: R. Edwards & Company, PLC (East Calais, VT)
Primary Contact: Ryan Edwards, AIA
 - ii. Structural Engineer: Engineering Ventures, PC (Burlington, VT)
Primary Contact: Bob Neeld, PE
 - iii. Civil Engineer: Engineering Ventures, PC (Burlington, VT)
Primary Contact: Hannah Wingate, PE
 - iv. Other Consultants: Efficiency Vermont (Winooski, VT)

Primary Contact: PENDING

2. AGREEMENT FORMS (00 52 00)
 - a. AIA Form A133-2019, *Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price*
3. BOND FORMS (00 61 00)
 - a. Performance Bond and Payment Bond: AIA Form A312-2010, *Performance Bond and Payment Bond*
4. GENERAL CONDITIONS (00 72 00)
 - a. AIA Form A201-2017, *General Conditions of the Contract for Construction*

DIVISION 01 – GENERAL REQUIREMENTS

1. GENERAL REQUIREMENTS (01 10 00)
 - a. Project Requirements
 - i. General Project Requirements
 1. Project shall be procured by competitive bid for Construction Manager (CM) as Constructor.
 2. Trades shall be competitively bid by the Construction Manager
 3. Tax-Exempt Status: No
 4. Davis-Bacon Compliance: Yes
 5. Products, models, and brands indicated in the drawings and specifications are intended as basis of design unless otherwise noted. Substitutions meeting the performance criteria of all products, models, and brands may be provided for consideration.
 - ii. Owner Responsibilities
 1. Identification of Owner's designated representative
 2. Land surveying
 3. Hazardous materials testing and abatement
 4. Local, State, and Federal permitting and regulatory approvals, excluding trade permitting (by CM/GC)
 - a. The Owner shall be responsible for obtaining the following permits and regulatory approvals:
 - i. Vermont Division of Fire Safety Construction Permit
 - ii. Authorization by Vermont Agency of Transportation (VTrans) to construct within a VTrans Right-of-Way (ROW)
 - iii. Town of Danville Zoning Permit
 - iv. Regulatory approvals pertaining to all third-party project funding
 5. Architectural and engineering services
 6. Site access
 7. Timely decision making
 8. Furnishing, Fixtures, and Equipment (FF&E)

9. Removal of all existing FF&E during construction
10. IT, communications, and security services and costs

iii. Construction Manager / General Contractor Responsibilities

1. Preconstruction Services including, but not limited to: design and construction consultation, project scheduling, cost estimation, and development of subcontractor and supplier interest in the project
2. Design/Build engineering of all MEP systems
3. Competitive bidding of all trades
4. Guaranteed Maximum Price (GMP) proposal
5. Trade permitting and fees
6. Compliance with all applicable industry standards, codes, and regulations
7. Means and methods of construction
8. Project scheduling
9. Schedule of values
10. Payment requests
11. Compliance with all standard procedures and control specifications including, but not limited to:
 - a. Project meetings
 - b. Site safety and emergency contacts
 - c. Layout
 - d. Field measurements
 - e. Matching
 - f. Observation
 - g. Utilities
 - h. Coordination of Owner's installation of FF&E
 - i. Cleanup
 - j. Coordination of all trades, construction sequences and schedules, and coordination of all installed locations and interfaces of all work
 - k. Request for Interpretations (RFIs)
 - l. Owner notification of existing articles of unusual value
12. Submittals including, but not limited to: product data, shop drawings, and samples
13. Warranties
14. Cutting and patching
15. Temporary facilities and utilities
16. Products and substitutions
17. Delivery, storage, and handling
18. Owner-Furnished Contractor-Installed (OFICI) products
19. Labels
20. Record documents
21. Project close out
22. Final cleaning and repair

2. QUALITY REQUIREMENTS (01 40 00)

- a. Quality Monitoring: Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Perform quality control procedures and inspections during installation.

- b. Standards: Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
 - c. Tolerances: Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.
 - d. Reference Standards: For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
3. REFERENCE STANDARDS (01 42 19)
- a. Comply with all reference standards contained within each Division.
 - b. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings, Latest Edition
 - c. National Park Service Preservation Brief #3 Improving Energy Efficiency in Historic Buildings
 - d. National Park Service Preservation Brief #4 Roofing for Historic Buildings
 - e. National Park Service Preservation Brief #6 Dangers of Abrasive Cleaning to Historic Buildings
 - f. National Park Service Preservation Brief #9 The Repair of Historic Wooden Windows
 - g. National Park Service Preservation Brief #10 Exterior Paint Problems on Historic Woodwork
 - h. National Park Service Preservation Brief #17 Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character
 - i. National Park Service Preservation Brief #18 Rehabilitating Interiors in Historic Buildings—Identifying Character-Defining Elements
 - j. National Park Service Preservation Brief #24 Heating, Ventilating, and Cooling Historic Buildings: Problems and Recommended Approaches
 - k. National Park Service Preservation Brief #32 Making Historic Properties Accessible
 - l. National Park Service Preservation Brief #39 Holding the Line: Controlling Unwanted Moisture in Historic Buildings
 - m. National Park Service Preservation Brief #47 Maintaining the Exterior of Small and Medium Size Historic Buildings
 - n. Window Preservation Standards, Window Preservation Standards Collaborative, 2013
4. AIR SEALING REQUIREMENTS (01 45 25)

- a. Provide air sealing at all building enclosure elements, including all through-wall penetrations.
- b. Provide air sealing at all interior partitions, both horizontal and vertical surfaces, between commercial spaces, attics, and basements.
- c. Particular care must be taken with the interfaces of different air barrier materials. Experience has determined that the most likely areas for air leakage in typical buildings include the following:
 - i. Joints between the roof and wall air barriers
 - ii. Joints between the wall air barrier and the windows and doors
 - iii. Penetrations of the wall and roof air barriers by electrical, plumbing and telecommunication services.
 - iv. Penetrations of the wall and roof air barriers by chimneys, and ventilation ducts.
 - v. Joints at floor level on multi-story buildings.
 - vi. Joints where interior partition walls meet the roof or exterior walls.
 - vii. Poorly adjusted weather strips on doors.
- d. Subcontractors will be responsible for coordinating with the Construction Manager / General Contractor all penetrations of the air barrier of the building envelope that they make, and the method of sealing these penetrations. Failure to do so will result in their being charged for the costs of repair of penetrations that result in air leakage revealed by the blower door test.

5. CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL (01 74 19)

- a. This Project shall generate the least amount of waste possible and processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed. Of the inevitable waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled.

DIVISION 02 – EXISTING CONDITIONS

1. CONSERVATION TREATMENT FOR EXISTING PERIOD CONDITIONS (02 03 00)

- a. Standards for Rehabilitation
 - i. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
 - ii. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
 - iii. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

- iv. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
- v. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
- vi. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
- vii. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
- viii. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
- ix. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
- x. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

2. DEMOLITION (02 41 00)

- a. Provide selective demolition and removal of selected components of building and structure as required for new work.
- b. Provide selective demolition and removal of selected site elements as required for new work.
- c. Salvage existing items to be reused or turned over to the Owner.
- d. Provide removal and legal disposal of demolished materials off site. Except those items specifically designated to be relocated, reused, or turned over to the Owner, all existing removed materials, items, trash and debris shall become property of the Contractor and shall be completely removed from the site and legally disposed of at their expense. Salvage value belongs to the Contractor. On-site sale of materials will not be permitted.
- e. Demolition and removal work shall properly prepare for alteration work and new construction to be provided under the Contract.
- f. Provide scheduling and sequencing operations without interruption to utilities serving occupied areas. If interruption is required, obtain written permission from the utility company and the Owner.
- g. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

- h. Materials Ownership: Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain property of the Owner as applicable. Carefully remove each item or object in a manner to prevent damage and deliver promptly to a location acceptable to the Owner.

DIVISION 03 – CONCRETE

- 1. CAST-IN-PLACE CONCRETE (03 30 00) [Note: Final Concrete Specifications by Engineer]
 - a. Replace existing east foundation wall with new concrete foundation
 - b. Provide concrete reinforcement of existing north and west foundation walls
 - c. Provide reinforced concrete piers and footings at new south wood-framed platform and ADA ramp
 - d. Provide reinforced concrete piers at new north wood-framed entrance platform and stairs
 - e. Provide Reinforced concrete piers at new kiosk signage
 - f. All work shall comply with the provisions of the latest editions of:
 - i. ACI 318, Building Code Requirements for Reinforced Concrete
 - ii. ACI 301, Specifications for Structural Concrete
 - iii. ACI 305, Guide to Hot Weather Concreting
 - iv. ACI 306, Guide to Cold Weather Concreting
 - v. ACI 308, Guide to External Curing of Concrete
 - g. Compressive Strength at 28 Days:
 - i. Foundation Walls and Footings, Interior Slabs: 3000 psi
 - ii. Exterior Slabs: 4000 psi
 - h. Transit Mix: Shall conform with ASTM C94, Standard Specification for Ready-Mixed Concrete. **Do not change mix design without approval. Calcium chloride admixtures are not permitted**
 - i. Minimum Cement Content:
 - i. 3000 psi Concrete: 517 pounds per cubic yard
 - ii. 4000 psi Concrete: 564 pounds per cubic yard
 - j. Maximum aggregate size shall be 3/4"
 - k. Slump: 3" to 5"
 - l. Air entrainment of 4% to 6% by volume. Do not add air entraining admixtures for interior slabs on grade.
 - m. Concrete Reinforcing

- i. Reinforcing steel shall be ASTM A615, 60 ksi yield grade, deformed steel bars per ASTM A305.
- ii. Welded steel wire fabric (WWR) shall be ASTM A185. Lap a minimum of one mesh.

DIVISION 04 – MASONRY

1. MASONRY RESTORATION AND CLEANING (04 01 20)

- a. Repair existing stone masonry at foundation.
- b. Provide repair and reconstruction of existing brick chimney including. Chimney to be reconstructed to historic height above ridge line.
- c. Provide for repair or replacement of clay or stone masonry broken or damaged during disassembly and reconstruction. Contractor shall be responsible for damage resulting from work of this Section.
- d. Restoration Program: For each phase of restoration process, provide detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials on building and Project site.
- e. Masonry Materials
 - i. Face Brick and Accessories: Provide face brick and accessories, including specially molded, ground, cut, or sawed shapes where required to complete masonry restoration work.
 - ii. Building Brick: Provide building brick complying with ASTM C62, of same vertical dimension as face brick, for masonry work concealed from view.
- f. Mortar Materials
 - i. Portland Cement: ASTM C150, Type I or Type II.
 - 1. Provide white cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
 - ii. Hydrated Lime: ASTM C207, Type S.
 - iii. Mortar Sand: ASTM C144, unless otherwise indicated.
 - 1. Color: Provide natural sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.
 - 2. For pointing mortar, provide sand with rounded edges.
 - 3. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands, if necessary, to achieve suitable match.

- iv. Mortar Pigments: Natural and synthetic iron oxides, compounded for mortar mixes. Use only pigments with a record of satisfactory performance in masonry mortars.
 - v. Water: Potable, clean and free from injurious amount of oil, alkali, organic matter or other deleterious material.
- g. Chemical Cleaning:
- i. Comply with cleaning chemical manufacturer's instructions, recommendations, and precautions.
 - ii. Protect adjacent surfaces with masking agent or other effective means.
 - iii. Clean surfaces in strict conformance with approved field tests and match mock-up panels.
 - iv. Provide uniform final appearance.
- h. Repointing:
- i. Obtain materials from one source to maintain color/texture/quality consistency.
 - ii. Work only when ambient 40°F to 80°F temperature will be maintained until 72 hours after completion.
 - iii. Remove old mortar by hand chisel and mallet, unless Contractor can demonstrate that power tools will not damage masonry.
 - iv. Rake-out old mortar to depth equal to 2-1/2 times joint width and in no case less than 1/2' or depth required to expose sound mortar.
 - v. Do not damage masonry units.
 - vi. Rinse joints and install pointing mortar in 1/2' deep layers.
 - vii. Tool joints to match existing and cure mortar for not less than 72 hours.
 - viii. After pointing, clean masonry using Tampico fiber brushes and running water.

DIVISION 05 – METALS

1. METAL RAILINGS (05 51 50)

- a. Provide new 1-½" diameter steel handrails, guardrails, and railings, at exterior locations where shown.
- b. Provide railings capable of withstanding the effects of gravity loads and Code required loads and stresses within limits and under conditions indicated.
- c. Welding: Qualify procedures and personnel according to the following:
 - i. AWS D1.1, Structural Welding Code–Steel
 - ii. AWS D1.3, Structural Welding Code–Sheet Steel.

- d. Provide materials with smooth, flat surfaces, unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.
- e. Provide brackets, flanges, and anchors in same metal and finish as supported rails, unless otherwise indicated.
- f. Ferrous Metals
 - i. Steel Plates, Shapes, and Bars: ASTM A36/A36M.
 - ii. Steel Tubing: ASTM A500 (cold formed) or ASTM A513, Type 5 (mandrel drawn)
 - iii. Uncoated, Hot-Rolled Steel Sheet: ASTM A1011/A1011M, either commercial steel, Type B, or structural steel, Grade 30, unless another grade is required by design loads.
 - iv. Galvanized Steel Sheet: ASTM A653/A653M, G90 coating, either commercial steel, Type B, or structural steel, Grade 33, unless another grade is required by design loads.
- g. Fasteners
 - i. General: Provide stainless steel Type 316 for exterior use and where built into exterior walls. Select fasteners for type, grade, and class required.
 - ii. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.
- h. Steel Finishes
 - i. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - ii. Finish metal railings after assembly.
 - iii. Galvanizing: Hot-dip galvanize items as indicated to comply with applicable standard listed below:
 - 1. ASTM A123/A123M, for galvanizing steel and iron products.
 - 2. ASTM A153/A153M, for galvanizing steel and iron hardware.
 - iv. Apply shop primer to uncoated surfaces of metal railing components, except those with galvanized finishes and those to be embedded in concrete or masonry unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

DIVISION 06 – WOOD, PLASTICS AND COMPOSITES

1. ROUGH CARPENTRY (06 10 00)

- a. Provide framing with dimension lumber at new interior partitions where shown. New interior partitions shall be 2X4 wood studs @ 16" o.c. unless otherwise noted.
- b. Provide framing with dimension lumber at new exterior south platform, stairs, and ADA ramp. Assume new south platform to be framed with pressure-treated 2X10 joists @ 16" o.c. unless otherwise noted (Structural Engineering pending).
- c. Provide framing with dimension lumber at new exterior south platform canopy. Assume new south platform canopy to be framed with 2X8 rafters @ 16" o.c. (Structural Engineering pending).
- d. Provide framing with dimension lumber at new exterior north deck and stairs. Assume new north deck to be framed with pressure-treated 2X8 joists @ 16" o.c. (Structural Engineering pending).
- e. Provide wood blocking and nailers where required
- f. Dimension Lumber
 - i. General: Provide FRTW lumber for support or attachment of other construction, including, but not limited to, the following: Rooftop equipment bases and support curbs, blocking, cants, nailers, furring and grounds.
 - ii. 2X6 and 2X4 bearing walls, interior and exterior locations: Spruce-Pine-Fir (SPF) No. 1/No. 2 as graded by NLGA
 - iii. Structural roof and floor framing: Spruce-Pine-Fir (SPF) No. 1/No. 2 as graded by NLGA
 - iv. Preservative Pressure Treated Lumber: Southern Pine No. 2, as graded by SPIB
 - v. Maximum moisture content shall not exceed 19%

2. SHEATHING (06 16 00)

- a. Provide roof sheathing at new exterior south platform canopy.
- b. Wood Panel Products
 - i. Roof Sheathing: APA rated 5/8" sheathing or Advantech sheathing, span rating as required to support spacing indicated, exposure durability 1, three span minimum
 - ii. Floor Sheathing: APA rated 3/4" sheathing or Advantech sheathing, tongue and groove, span rating to support spacing indicated, exposure durability 1, sanded
 - iii. Wall Sheathing: APA rated 1/2" sheathing or Advantech sheathing, span rating as required to support spacing indicated, exposure durability 1

3. EXTERIOR FINISH CARPENTRY (06 20 10)

- a. Provide exterior wood siding, soffits, and trim to replace existing where required.

- b. Provide exterior wood door frames at all new exterior door locations.
 - c. Provide wood decking at at new exterior south platform, stairs, and ADA ramp
 - d. Provide wood decking at new exterior north deck and stairs
 - e. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," for lumber and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
 - f. Provide Spuce-Pine-Fir (SPF) or Red Cedar siding, Clear Grade, absolutely no knots, Plain Sawn. Match existing siding geometry.
 - g. Provide radius-edged Western Red Cedar board decking, S4S, 5/4X6, field finished (opaque). Maximum moisture content 15%.
4. INTERIOR ARCHITECTURAL WOODWORK (06 04 20)
- a. Cut and patch existing interior finish carpentry to complete the work. Match finishes where necessary.
 - b. Existing architectural woodwork shall remain. Cutting and patching shall be provided where components are removed to install other work. Components shall be salvaged for reinstallation. Careful carpentry work shall be provided to match components and return the interior aesthetic to as close as possible to conditions prior to construction. Special Care (effort that exceeds minimum standards) shall be taken to meet this requirement.
 - c. Historic Wood Refurbishment: All interior wood surfaces shall be cleaned, using the gentlest methods available, to remove built up dirt. This effort is likely necessary prior to painting where required.
 - d. Finish carpentry items:
 - i. Window stools, jambs, casings: Provide new wood stools, jambs, and casings at new window locations. Assume flat stock (5/4 thick), softwood; Select (~95% knot-free), transparent finish.
 - ii. Baseboards: Provide 1X6 wood baseboards where required, softwood; Select (~95% knot-free), transparent finish.
 - iii. Door casings: Provide wood door casings at new door locations. Assume flat stock (5/4 thick), softwood; Select (~95% knot-free), transparent finish.

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

1. THERMAL INSULATION (07 21 00)
- a. General Note: Final insulation and air sealing specifications and details to be developed in consultation with Efficiency Vermont. Scope of work as outlined below is for general concept only.
 - b. Provide 2" Extruded Polystyrene (XPS) board insulation over new crushed stone at existing crawl space. 25-psi compressive strength.

- c. Provide blown-in dense-pack cellulose insulation at all existing floor joist cavities
 - d. Provide 2" foil-faced Polyisocyanurate (Polyiso) board insulation to underside of all floor joist cavities
 - e. Provide blown-in dense-pack cellulose insulation at all existing wall cavities.
 - f. Provide dense-pack cellulose insulation at all existing ceiling cavities
 - g. Provide dense-pack cellulose insulation at all existing roof rafter bays.
2. WEATHER BARRIERS (07 25 00)
- a. Provide self-adhesive, rubberized asphalt/polyethylene waterproofing membrane flashing at all new openings. Basis of Design: GCP Perm-A-Barrier
3. VAPOR RETARDER (07 26 00)
- a. Provide 15-mil. vapor retarder over new crushed gravel fill and XPS board insulation at existing crawl space. Tape and seal all seams. 6" minimum overlap or per manufacturer's specifications, whichever is greater. Lap vapor retarder up existing foundation walls and terminate at existing sill. Basis of Design: StegoCrawl Wrap.
4. SHEET METAL ROOFING (07 61 00)
- a. Provide complete sheet metal roofing system at existing roof and at new exterior south canopy including, but not limited to: custom- fabricated metal roof pans, cleats, clips, anchors and fasteners, sheet metal flashing and drainage components related to sheet metal roofing, fascia panels, trim, underlayment, and accessories as indicated and as required for a weathertight installation.
 - b. Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified.
 - c. Roofing Sheet Metals: Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required.
 - i. Thickness: 0.032 inch, unless otherwise indicated.
 - ii. Surface: Smooth, flat finish.
 - iii. Exposed Finishes: Apply the following coil coating, as specified or indicated on Drawings: Fluoropolymer Three-Coat System: Manufacturer's standard three-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight, with a minimum total dry film thickness of 1.5 mil; complying with AAMA 2605. Color as selected by Owner and Architect from manufacturer's full range, including metallics.
 - d. Underlayment Materials: Self-Adhering, High-Temperature Sheet: 30 to 40 mils thick minimum, consisting of slip- resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

e. Accessories

- i. Provide seam-mounted, bar-type snow guards: aluminum rods or bars held in place by stainless-steel clamps attached to vertical ribs of standing-seam sheet metal roofing. Provide prefabricated, noncorrosive units designed to be installed without penetrating sheet metal roofing, and complete with predrilled holes, clamps, or hooks for anchoring. Final locations pending.
- ii. Provide 6" half-round hanging gutters, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch long sections. Furnish flat-stock gutter spacers and gutter brackets fabricated from same metal as gutters, of size recommended by SMACNA but not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters. Final locations pending.

5. SHEET METAL FLASHING AND TRIM (07 62 00)

- a. Provide sheet metal flashing and trim for through-wall flashing and formed wall flashing and trim
- b. Sheet Metals
 - i. Aluminum Sheet: ASTM B 209, Alloy 3003, 3004, 3105, or 5005. Thickness as specified in this Section. Temper suitable for forming and structural performance required, but not less than H14, finished as follows:
 1. High-Performance Organic Finish (3-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 3-coat, thermocured system consisting of specially formulated inhibitive primer, fluoropolymer color coat, and clear fluoropolymer topcoat, with both color coat and clear topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2605 and with coating and resin manufacturers' written instructions.
 2. Color and Gloss: As selected by Architect from manufacturer's full range.
 - ii. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, with No. 2D dull, cold-rolled finish. Thickness as specified in this Section.

6. JOINT SEALANTS (07 92 00)

- a. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- b. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

DIVISION 08 – OPENINGS

1. RESTORATION OF WOOD WINDOWS (08 01 52)

- a. Provide exterior wood window repair all existing windows.
 - b. Provide reglazing of all existing exterior windows.
 - c. Provide new storm windows. Basis of Design: Allied Window, Inc. HOL-B (Historic One Lite Top Panel Fixed Bottom Inside Removable).
 - d. Provide exterior window hardware repair, refinishing, and replacement.
 - e. Work may be performed only by a qualified restoration specialist
2. STILE AND RAIL WOOD DOORS (08 14 30)
- a. Provide new stile and rail wood doors at all new openings, for exterior and interior locations
 - b. Use only materials that comply with referenced quality standards unless more stringent requirements are specified.
 - c. Assemble exterior doors and sidelites, including components, with wet-use adhesives complying with ASTM D 5572 for finger joints and ASTM D 5751 for joints other than finger joints.
 - d. Assemble interior doors, frames, and sidelites, including components, with either dry-use or wet-use adhesives complying with ASTM D 5572 for finger joints and ASTM D 5751 for joints other than finger joints.
 - e. Grade of doors for transparent finish: Premium
 - f. Wood species and cut for transparent finish: Match existing
 - g. Door Construction for Transparent Finish:
 - i. Stile and Rail Construction: Clear lumber; may be edge glued for width. Select lumber for similarity of grain and color, and arrange for optimum match between adjacent pieces.
 - ii. Raised-Panel Construction: Clear lumber, edge glued for width. Select lumber for similarity of grain and color, and arrange for optimum match between adjacent pieces.
 - h. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/2 inch from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 3/8 inch from bottom of door to top of threshold.
3. WOOD WINDOWS (08 52 00)
- a. Provide new fixed and operable wood-framed windows with factory-installed glass and glazing, and with primed wood interior finish at all new window openings. Basis of Design: Pella Reserve.
 - b. Install per manufacturer's specifications including, but not limited to: all flashing, joint sealants, etc., for a complete installation.

4. DOOR HARDWARE (08 71 00)
 - a. Provide commercial-grade ADA-compliant door hardware at all new and existing doors.
 - b. All latch sets, hinges, stops, plates, pulls, etc. shall be dark bronze finish.
 - c. Provide door closers on all exterior doors. Dark bronze finish.

DIVISION 09 – FINISHES

1. GYPSUM BOARD ASSEMBLIES (09 21 10)
 - a. Provide 5/8" gypsum wallboard at all new interior partitions and new interior ceilings
 - b. Provide 5/8" water-resistant gypsum wallboard at all new bathroom partitions
 - c. Provide 5/8" Type X gypsum wallboard at all new fire-rated partitions.
 - d. Provide gypsum tile backing panels at all new tile surface locations
2. TILING (09 30 00)
 - a. Provide new floor tile at bathrooms where noted.
 - b. Provide new wall tile at bathrooms where noted.
 - c. Wet Dynamic Coefficient of Friction: for flooring exposed as a walking surface, provide products with the following values as determined by testing identical products per ANSI/NFSI B101.3 - 2012 Test Method for Measuring Wet DCOF of Common Hard-Surface Floor Materials, or ANSI 326.3 - American National Standard Test Method for Measuring Dynamic Coefficient of Friction of Hard Surface Materials - 2017. Testing by other methods or earlier editions of the specified test method is not acceptable.
 - d. Tile sizes and configurations pending.
3. WOOD FLOORING (09 64 00)
 - a. Provide new field-finished solid-wood flooring where noted. Where new wood flooring is provided, match existing wood flooring in species and geometry.
 - b. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content, tongue and groove and end matched, and with backs channeled.
 - c. Fasteners: Non-corrosive type, as recommended by manufacturer, but not less than that recommended in NWFA's "Installation Guidelines: Wood Flooring."
 - d. Provide UV resistant sealer and oil-based polyurethane finish system all wood flooring.
4. PAINTING AND COATING (09 90 00)
 - a. Provide interior and exterior painting and coating.

- b. Paint colors and coating specifications pending.
- c. VOC Content for Interior Paints and Coatings: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - i. Flat Paints and Coatings: 50 g/L (SCAQMD and CARB).
 - ii. Nonflat Paints and Coatings: 50 g/L (SCAQMD) or 100 g/L (CARB).
 - iii. Nonflat, High Gloss Paints and Coatings: 50 g/L (SCAQMD) or 150 g/L (CARB).
 - iv. Dry-Fog Coatings: 50 g/L (SCAQMD) or 150 g/L (CARB).
 - v. Primers, Sealers, and Undercoaters: 100 g/L.
 - vi. Anticorrosive and Antirust Paints Applied to Ferrous Metals (Industrial Maintenance and Rust Preventative Coatings): 100 g/L (SCAQMD) or 250 g/L (CARB).
 - vii. Zinc-Rich Industrial Maintenance Primers: 100 g/L (SCAQMD) or 340 g/L (CARB).
 - viii. Pretreatment Wash Primers: 420 g/L.
 - ix. Floor Coatings: 50 g/L (SCAQMD) or 100 g/L (CARB).
 - x. Shellacs, Clear: 730 g/L.
 - xi. Shellacs, Pigmented: 550 g/L.
 - xii. Clear Wood Finishes: 275 g/L.
 - xiii. Stains, Exterior: 100 g/L (SCAQMD) or 250 g/L (CARB).
 - xiv. Stains, Interior: 250 g/L.

DIVISION 10 – SPECIALTIES

1. SIGNAGE (10 14 00)

- a. Provide code-compliant interior panel signage, including but not limited to, accessibility signage, toilet room signage and mechanical and electrical room signage.
- b. Provide signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction as indicated. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus 1/16 inch measured diagonally. Provide the following:
 - i. Code-Required Signs for Certificate of Occupancy shall be photopolymer on acrylic or printed acrylic / aluminum as applicable. Color to be selected from manufacturer's standard colors including metallic silver, off white, champagne, light gray, dark red, dark green, dark blue, dark bronze, or charcoal.
 - ii. Interior Signs Based on Owner's Requirements shall be photopolymer on acrylic or printed acrylic as applicable. Color to be selected from manufacturer's standard colors including metallic silver, off white, champagne, light gray, dark red, dark green, dark blue, dark bronze, or charcoal.
- c. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines and ICC/ANSI A117.1. Text shall be accompanied by Grade 2 braille. Produce precisely formed characters with square cut edges free from burrs and cut marks.

- i. Raised-Copy Thickness: Not less than 1/32 inch
- ii. Symbols of Accessibility: Provide 6-inch- high symbol fabricated from opaque non reflective vinyl film, 0.0035-inch nominal thickness, with pressure-sensitive adhesive backing suitable for both exterior and interior applications.

2. TOILET ACCESSORIES (10 28 00)

- a. Provide toilet accessories at new and existing bathrooms. Toilet accessories shall include, but not be limited to: toilet tissue dispensers, paper towel dispensers, grab bars, mirrors, etc. Toilet Accessories Schedule to be included in Architectural Drawings.
- b. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - i. A & J Washroom Accessories, Inc.
 - ii. American Specialties, Inc.
 - iii. Bobrick Washroom Equipment, Inc.
 - iv. Bradley Corporation.

3. FIRE-PROTECTION SPECIALTIES (10 44 00)

- a. Provide portable fire extinguishers. Locations to be shown in the Architectural Drawings.
- b. Multipurpose Dry-Chemical Type in Steel Container: UL-rated 2-A:10-B:C, 5-lb nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

DIVISION 11 – EQUIPMENT

–NOT USED–

DIVISION 12 – FURNISHINGS

- 1. All furnishings by Owner.

DIVISION 13 – SPECIAL CONSTRUCTION

–NOT USED–

DIVISION 14 – CONVEYING EQUIPMENT

–NOT USED–

DIVISION 21 – FIRE SUPPRESSION

–NOT USED–

DIVISION 22 – PLUMBING

1. All plumbing work within the scope of work shall be completed design/build in coordination with the Architect.
2. The General Contractor / Construction Manager (GC/CM) shall be responsible for all plumbing engineering as required.
3. All plumbing within the scope of work shall comply with all applicable codes and standards in force including, but not limited to:
 - a. Vermont Fire and Building Safety Code, 2015
 - b. Vermont Electrical Safety Rules, 2020
 - c. Vermont Plumbing Rules, 2018
 - d. Vermont Access Rules (ADA), 2012
 - e. NFPA 1 Fire Code, 2015
 - f. NFPA 101 Life Safety Code, 2015
 - g. The International Building Code, IBC, 2015
 - h. NFPA 70 National Electrical Code, 2017
 - i. ICC International Plumbing Code, 2018
 - j. The National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors, 2015
 - k. Vermont Commercial Building Energy Standards, 2020
4. The GC/CM shall guarantee all plumbing work for a period of one (1) year from the date of final acceptance by the Architect as evidenced by the Architect's final certificates. During the guarantee period, the GC/CM shall service all installed equipment free of charge. Any apparatus or equipment that requires excessive service during the guarantee period shall be considered defective and shall be replaced without additional cost to the Owner.
5. Provide removal and replacement of all existing under-slab and exposed sanitary waste and vent piping. All existing piping deemed inaccessible to be capped and abandoned in place. Existing routing below slab to be field verified.
6. Provide removal and replacement of all existing domestic water distribution piping. All piping deemed inaccessible to be capped and abandoned in place. Existing routing of water distribution piping to be field verified.
7. Provide removal and replacement of all domestic water heaters, including all valves and equipment accessories
8. Provide removal and replacement of all existing plumbing fixtures, including faucets, stops, traps, flanges, trim, and accessories. Existing routing of associated sanitary waste and vent and

domestic water supply piping to be field verified. Verify with Owner if any existing plumbing fixtures shall be salvaged prior to removal.

9. Provide condensate drainage piping for all new air conditioning equipment.
10. Provide all minor and miscellaneous items and equipment required to make each system complete and satisfactory working order.
11. All plumbing fixture selections by Owner. Architect to provide fixture schedule in Architectural Drawings.

DIVISION 23 – HVAC

1. All HVAC work within the scope of work shall be completed design/build in coordination with the Architect and the Owner's energy efficiency consultants (Efficiency Vermont).
2. The General Contractor / Construction Manager (GC/CM) shall be responsible for all HVAC engineering as required.
3. All HVAC work within the scope of work shall comply with all applicable codes and standards in force including, but not limited to:
 - a. Vermont Fire and Building Safety Code, 2015
 - b. Vermont Electrical Safety Rules, 2020
 - c. Vermont Plumbing Rules, 2018
 - d. Vermont Access Rules (ADA), 2012
 - e. NFPA 1 Fire Code, 2015
 - f. NFPA 101 Life Safety Code, 2015
 - g. The International Building Code, IBC, 2015
 - h. NFPA 70 National Electrical Code, 2017
 - i. ICC International Plumbing Code, 2018
 - j. The National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors, 2015
 - k. Vermont Commercial Building Energy Standards, 2020
 - l. ASHRAE 62.1-2016, Ventilation for Acceptable Indoor Air Quality
4. The GC/CM shall guarantee all HVAC work for a period of one (1) year from the date of final acceptance by the Architect as evidenced by the Architect's final certificates. During the guarantee period, the GC/CM shall service all installed equipment free of charge. Any apparatus or equipment that requires excessive service during the guarantee period shall be considered defective and shall be replaced without additional cost to the Owner.
5. Remove all obsolete gas piping and exterior gas entrance equipment
6. Remove all existing thermostats, including all wiring to source.

7. Provide new low-ambient air source heat pump units and associated indoor fan coil units ("mini-splits"), including, but not limited to all associated refrigeration piping, valves, fittings, supports, controls, and accessories. Assume one indoor fan coil unit per space.
8. Provide new supplemental electric baseboard radiation, including, but not limited to, all controls and accessories.
9. Provide new bathroom exhaust fans at each restroom, including, but not limited to, all associated exhaust ductwork, controls, and accessories.
10. Provide new hot water heating system for each space. Review hot water heating options with Architect and Owner.
11. Provide factory balancing and start-up of all new air distribution and heating systems.
12. Provide all minor and miscellaneous items and equipment required to make each system complete and satisfactory working order.
13. Coordinate location of all exposed HVAC equipment with Architect during design/build engineering.

DIVISION 25 – INTEGRATED AUTOMATION

–NOT USED–

DIVISION 26 – ELECTRICAL

1. All electrical work within the scope of work shall be completed design/build in coordination with the Architect.
2. The General Contractor / Construction Manager (GC/CM) shall be responsible for all electrical engineering as required.
3. All electrical work within the scope of work shall comply with all applicable codes and standards in force including, but not limited to:
 - a. Vermont Fire and Building Safety Code, 2015
 - b. Vermont Electrical Safety Rules, 2020
 - c. Vermont Plumbing Rules, 2018
 - d. Vermont Access Rules (ADA), 2012
 - e. NFPA 1 Fire Code, 2015
 - f. NFPA 101 Life Safety Code, 2015
 - g. The International Building Code, IBC, 2015
 - h. NFPA 70 National Electrical Code, 2017
 - i. ICC International Plumbing Code, 2018
 - j. The National Board Inspection Code, National Board of Boiler and Pressure Vessel Inspectors, 2015

- k. Vermont Commercial Building Energy Standards, 2020
- 4. The GC/CM shall guarantee all electrical work for a period of one (1) year from the date of final acceptance by the Architect as evidenced by the Architect's final certificates. During the guarantee period, the GC/CM shall service all installed equipment free of charge. Any apparatus or equipment that requires excessive service during the guarantee period shall be considered defective and shall be replaced without additional cost to the Owner.
- 5. The Architect shall supply the GC/CM with reflected ceiling plans and power + data plans depicting desired locations of all new light fixtures, receptacles, or other electrical components with an aesthetic or functional effect on the architectural scope of work.
- 6. Remove all obsolete electrical wiring and replace with new.
- 7. Provide new LED Energy Star-compliant light fixtures. All light fixture selections by Architect and Owner. Architect to provide lighting fixture schedule.
- 8. Prior to removal of existing light fixtures, verify with Owner which light fixtures to be salvaged.

DIVISION 27 – COMMUNICATIONS

- 1. All communications work within the scope of work shall be completed design/build in coordination with the Architect.
- 2. The General Contractor / Construction Manager (GC/CM) shall be responsible for all communications engineering as required.
- 3. Provide telecommunications and data access to each space.

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY

–NOT USED–

DIVISION 31 – EARTHWORK

- 1. All earthwork scope, including site grading, modifications, drainage, etc. to be provided by the Civil Engineer (Pending).

DIVISION 32 – EXTERIOR IMPROVEMENTS

- 1. All exterior improvements to be provided by the Civil Engineer (Pending).

DIVISION 33 – UTILITIES

1. Coordinate all work requiring connection to or disconnection from existing utilities with the local utilities of the Project's jurisdiction.

-END OF OUTLINE SPECIFICATIONS-