Technical Specifications/Scope of Work - Project #8101

June 24, 2020

A. SITE WORK

1. **Clearing**
	* Protect all trees/shrubs which are to be saved.
	* Removal of “non-saved” trees and shrubs shall be done by the Contractor.
	* The Contractor shall provide and maintain erosion and sediment controls until all disturbed areas have been stabilized.
2. **Earthwork – work includes earthwork for a new sidewalk**
	* Strip and stockpile topsoil
	* Perform excavation
	* Backfill with controlled compacted fill under the concrete slab-on-grade as required for new construction.
	* Rough grade the site to blend to the existing grades with proper slope to assure drainage.
	* Prepare and spread stockpiled top soil for seeding.
3. **Landscaping – work includes re-seeding of disturbed areas and plantings**
	* Provideadditional topsoil, lime, fertilizer, lawn seeding, and watering to establish a healthy stand of grass.

B. CONCRETE

1. **Cast-in-Place Concrete –** **work includes new access and entry slab-on-grade concrete sidewalk.**
	* Concrete shall be normal weight having a 28-day compressive strength of 3,000 psi. and a max. slump of 5 inches. Surface to be broom finish.

C. CARPENTRY

1. **Rough Carpentry – work includes exterior canopy framing and sheathing over exterior entry.**
	* Framing lumber shall be standard grade Hem. Fir. #2 and better or Dug. Fir #2. Two by four (2/4) and two by six (2/6) @ 16” on center. Maximum moisture content shall not exceed 19%. All framing lumber in contact with masonry shall be pressure treated.
	* Roof sheathing shall be 5/8 in. CDX w/ exterior glue plywood.
	* Rough Hardware, use nails, bolts, etc. as required. By Connecticut State Building Code. Use galvanized items for locations exposed to moisture.
2. **Finish Carpentry – work includes exterior and interior building finish trim.**
	* Exterior Finish Trim shall be 1 in. cellular PVC trim boards. Fasteners and Anchorage, nails, screws and other anchoring devices to be concealed where possible and either stainless steel or aluminum. Adhesives to be waterproof type for exterior use as recommended by the manufacturer.
	* Interior Finish Trim shall match the existing Library for finished areas.
3. **Interior Architectural Woodwork – work includes wall cabinets, base cabinets, countertop and backsplash.**
	* Architectural Woodwork with layout as shown on Contract Drawings. Materials and details to match similar Architectural Woodwork in Children’s Story Hour/ Crafts and Staff Room in the existing Library.

D. THERMAL AND MOISTURE PROTECTION

1. **Building Insulation – work includes acoustical insulation in new partitions.**
	* Unfaced fiberglass batt insulation shall be full cavity friction fit, Type I, flame spread-25, smoke development-50.
2. **Composition Shingles – work includes asphalt roofing shingles and roofing underlayment for canopy at entry.**
	* Shingle Roofing shall be self-sealing, class “A”, mineral surfaced fiberglass/ asphalt shingles, with 40-year warrantee, equal to Timberline heavy weight, color “Cedar Blend”.
	* Underlayment shall be Grace ice and water shield over the entire surface.
	* Nails to be galvanized steel, 11-gauge barbed shank, 3/8 in. head roofing nails or .0625 in. thick, zinc-coated steel roofing staple.
3. **Flashing and Sheetmetal – work includes preformed, pre-finished metal flashing, drip flashing, gutters & downspouts and joint sealants.**
	* Step flashing at masonry shall be lead.
	* Concealed step flashing shall be .024 aluminum.
	* Roof Apron and Rake Edge shall be metal drip .027-aluminum, finished to match gutter.
	* Gutter and Downspout shall be of 16 oz cooper of configuration and finish color to match Main Lower Level Gutter and Downspout
4. **Joint Sealers – work includes all exterior and interior caulking, joint sealers, and firestopping of all penetrations including plumbing, HVAC and electrical work in rated assemblies of walls**
	* Joint sealers are required to establish and maintain airtight and water proof continuous seals on a permanent basis.
	* Sealant for exterior joints shall be acrylic terpolymer.
	* Sealant for interior joints shall be acrylic latex compatible with latex paint.
	* Sealant for interior joints exposed to water shall be silicone rubber.
	* Joint backing shall be closed cell polyethylene stock.
	* Fire-resistant Joint Sealers material shall have ratings by Underwriters Laboratory, Inc. and be one-part elastomeric sealant formulated for use in a through-penetration fire-stop system for sealing openings around cables, conduit, pipes, HVAC ductwork, and for filling spaces between rated walls or partitions and deck.

E. DOORS AND WINDOWS

1. **Steel Doors and Frames – work includes interior fire rated steel door frames.**
	* Interior frames shall be of cold rolled steel of 16-gauge welded type construction complying with NFPA 80 and are listed and labeled.
2. **Flush Wood Doors – work includes interior fire rated flush wood doors.**
	* Interior swing fire rated flush wood doors shall be 1 ¾ in. thick with solid mineral core and wood veneer faces. Construction shall comply with NFPA 80 and are listed and labeled. Wood veneer construction and finish shall be similar to existing doors in the public spaces of the existing Library.
3. **Finish Hardware – work includes finish door hardware, automatic door operators and cabinet hardware.**
	* Interior and Exterior Door Hardware shall match similar door hardware in public spaces of the existing Library. Door #1 and #3 shall have push bars. Door #2 shall have a latch set. Existing Door #6 shall be fitted with a motorized door operator. Door #2 and #3 shall have low profile thresholds compatible with the resilient tile flooring.
	* Cabinet Hardware shall be by the manufacturer and to match the cabinet hardware in the Children’s Story Hour/ Crafts and Staff Room in the existing Library.

F. FINISHES

1. **Metal Support Systems – work includes metal studs for interior partitions. All work ready for application of insulation and gypsum wallboard.**
	* Partition Components shall meet ASTM C645 with 1-1/4” deep flange. Studs shall be 3 5/8” deep. All framing products of steel with a G-60 zinc coating as per A525.
	* Fasteners including Studs to Track shall be 3/8” long, Type S, pan head screws. Studs to Frame Anchors shall be 1/2” long, type S-12 pan head screws. Track to Concrete shall be 1/2” long concrete stud nails or power-driven studs, or Masonry nails.
2. **Gypsum Board – work includes gypsum wall board on metal studs, and furring for partitions, soffits and ceilings.**
	* Fire Rated Walls and Partitions shall be constructed of fire rated materials and confirm to the U.L. design as detailed in the Contract Drawings.
	* Gypsum Wallboard for Fire Rated walls and Partitions shall be 5/8” Fire Rated Type X conforming to ASTM C36.
	* Fasteners shall conform to ASTM C954. For light gage metal studs (25 ga.) use No. 2 bulge head with twin-fast thread design, needle point. For heavy gage metal studs (12 ga. maximum) use No. 2 bulge head, twin-fast thread design, needle point.
	* Drywall Trim Accessories; Use exterior corner beads with metal or paper flanges. Use “J” edge strip trim where wallboard abuts other material. All metal accessories shall be non-rust elec. galv. metal.
	* Joint Compound shall be ready mixed all-purpose with triple layer applied.
	* The Joint Compound System for the South Wall of the Technology Room White Board shall be Level 5 with a magnetic underlayment and a white board finish.
3. **Acoustical Tile Ceilings – work includes suspended acoustical ceiling grid systems, and acoustical panels.**
	* Acoustical Tile Ceiling System shall be standard 24” x 24” and 24” x 48” x ¾” lay in. as shown on the Contract Drawings.
	* Panels shall be molded mineral fiber panels to meet NRC range .65-.75, STC range .40-.44, LR = 1, flame spread 25 per ASTM E84. Design and color to be similar to the adjacent Lower Level Community Room.
	* Metal Suspension System shall be exposed, non-fire rated.
4. **Resilient Flooring – work includes resilient flooring and vinyl base.**
	* Resilient Tile shall be 12” x 12” x 1/8” thick vinyl composition tile. Style and Color as in the Lower Level Community Room in the existing Library.
	* Vinyl Base shall be 4” high x 1/8” thick cove toe, plain surface, including pre-formed inside and outside corners. Color as in the Lower Level Community Room in the existing Library.
	* Adhesives of type and brand as recommended by the manufacturer.
	* Patching/ Leveling material as required to provide a smooth, level substrate.
5. **Painting – work includes complete exterior and interior painting, staining, sealing and finishing of construction.**
	* Ferrous Metal (whether galvanized or not): Primer – zinc oxide primer. Finish – two coats of semi-gloss resin-oil or alkyd heavy duty enamel.
	* Interior Wood of Natural Finish: Stained to match similar surface in the Lower Level Community Room of the existing Library. Finish – two coats clear urethane, matte finish.
	* Interior Wood of Opaque Finish: Primer – enamel undercoat if not pre-primed by manufacturer. Finish – two coats semi-gloss alkyd or resin-oil enamel. Color to match similar surfaces in the Lower Level Community Room of the existing Library.
	* Interior Gypsum Wall Board: Primer – water resistant latex primer-sealer for gypsum board. Finish – two coats egg shell latex. Color to match similar surfaces in the Lower Level Community Room of the existing Library. The south walls in the Technology Room to receive magnetic primer and whiteboard finish.

G. SPECIALITIES

1. **Signage – work includes exterior and interior room designation signage.**
	* Exterior Signage of cast aluminum 10” high optima style individual letters with baked acrylic enamel finish to match the Lower Level Main Entry signage of the existing Library. Wording as shown on the Contract Drawings.
	* Interior Room Designation Signage shall be 6” x 6” with 1/32” faceplate laminated to 1/8” baseplate of color and style to match the existing Library. All signs to be ADA compliant. Verbiage shall be accompanied by its Grade 2 Braille equivalent. Wording as shown on the Contract Drawings.

H. EQUIPMENT

1. **Security and Emergency Systems – work includes one “Swipe Pad”.**
	* Swipe Pad” security system shall be compatible with the Town system

All other equipment, including computers, 3-D printer and projector will be provided by the Town. Contractor will only need to provide wall blocking as required and assist in the installation.

I. FURNISHINGS

This is not included in contract and will be provided by the Town and includes free standing chairs, lounge chairs lose carpet, information desk and movable tables.

J. MECHANICAL

1. **Basic Materials and Methods –** work includes a new HVAC system including an air handling unit with exterior condenser unit, ductwork and control wiring. Work also includes all necessary cutting and patching. Work does not include, line voltage power wiring, outlets and disconnect switches specified in Division 16.
2. **Demolition –** work includes the removal and disposal of the existing heating unit at the exterior entry to the project area, capping of heating water lines and disconnecting electrical.
3. **Insulation**
	* Pipe insulation shall be molded all-purpose fiberglass pipe insulation. Heating hot water and chilled water piping shall be 1”. All pipe insulation, fitted covers and identification shall match existing.
	* The insulation and covering system shall have Fire Hazard Classification not exceeding 25 Flame Spread, 50 Fuel Contribution, and 50 Smoke Development when tested under ASTM E 84 and UL 723.
4. **Equipment**
	* The new HVAC Fan-Coil Unit shall be factory packaged and tested 3-1/2 ton convertible air handler TEM4AOC42S41SB by Trane. The unit shall be rated according to ARI 440, ASHRAE 33, and UL 1995.
	* Install work as close as possible to layout shown on the Contract Drawings. Modify work as necessary to provide maximum possible headroom and space clearances.
	* The new Split System Cooling Condenser Unit shall be factory packaged and tested 3-1/2 ton 4TTR3042E-SUB-1E-EN by Trane.
5. **Ductwork, Air Inlets and Outlets**
* The low-pressure steel supply and return ductwork shall include access doors, volume dampers, fire dampers, flexible connectors, duct liner, and other accessories required for a complete air distribution system.
* Grilles, diffusers and registers shall match existing.
* Firestop all penetrations thru fire rated walls and partitions.
1. **Testing and Balancing**

Test and balance the completed HVAC system and submit a balancing report to the Town.

K. ELECTRICAL

1. **Basic Materials and Methods**

Work includes power distribution, exterior and interior lighting, surface raceways with power, data ports, switching, fire alarm system, security systems and as indicated on the contract drawings.

* All equipment and material shall be approved by the Underwriters Laboratories, Inc.
* Wall Switches shall be rated 20 AMP, 120/240 volt A/C with single pole, double pole or 3-way as indicated on the Contract drawings.
* Wall Receptacles shall be duplex rated 20 AMP, 120/240 volt A/C.
* Cover Plates shall match the Lower Level Community Room in the existing Library.
* Surface mounted outlets shall be installed in surface raceways and boxes.
* Install new Door Opener with Push Pads as shown on the Contract Drawing. Manual off switch shall be mounted at 80” on the door frame.
1. **Through Penetration Firestop Systems**

Firestop all penetrations thru fire rated walls and partitions.

1. **Interior Lighting Fixtures**
	* Recessed ceiling 2x4 and 2x2 LED Lighting Fixtures shall be Axis Lighting Inc. lighting products and installed as shown on the Contract Drawings.
2. **Exterior Lighting Fixtures**
	* Provide the new exterior Lighting Fixture, with motion sensing as located on the Contract Drawings.
3. **Emergency Lighting Equipment**
	* Emergency Lighting Units shall be Dual Lite EV series LED Emergency lights installed as shown on the Contract Drawings.
4. **Addressable Fire Alarm System**
	* The existing Fire Alarm System shall be modified due to the addition of a suspended ceiling in the project area. Lower heads and sensors as required.
5. **Security System Wiring**
	* Provide wiring for the Town swipe pad system of door access. See Section 11024.
	* Provide and install security monitoring camera(s) as located on the Contract Drawings.
6. **Telephone System**
	* Provide and install an expansion of the Library telephone system as located on the Contract Drawings.

**Failure to include any of the above-referenced items in the submitted proposal may be grounds for disqualifying said proposal**.

L. CONSTRUCTION FACILITIES

Construction facilities to be provided by the Contractor. The Contractor’s use of the premises shall be limited to areas agreed to by the Town. The Contractor shall assume full responsibility to protect existing work and materials stored at the site.

* Temporary Electric is available from the existing power panel in the area of construction at no cost to the Contractor. The Contractor must provide night security lighting as directed by the Town.
* The Contractor must provide a portable toilet. Water is available from an outside faucet and in a janitorial closet.
* The Contractor must provide adequate ventilation of all areas as required to prevent damage to construction caused by humidity and moisture.
* The Contractor must provide one or more dumpsters for trash. The Contractor shall pick up accumulated trash and debris daily and deposit it in the dumpsters and to be deposited off-site. Open burning not permitted. In the event the Contractor fails to clean the site daily, the Owner may do so, without notice to the Contractor and charge the costs of the same to the Contractor.
* The Contractor must provide barriers and protection for all stored materials, work in progress and to prevent unauthorized entry into the work areas during and after hours.
* There shall be no commercial advertising placed on the site. The Contractor’s and Subcontractor’s business name signs size and location shall be subject to the approval of the Town.
* Progress cleaning daily to remove all scrap, debris and waste material which shall be placed in the dumpster(s). In the event the Contractor fails to clean the site - daily, the Owner may do so, without notice to the Contractor and charge the costs of the same to the Contractor.
* Sweep and keep all interior spaces “broom clean” on a daily basis.
* Perform a final cleaning to the level of cleanliness generally provided by commercial quality building maintenance.

M. SUBMITTALS

The Contractor shall submit to the Architect, for approval, shop drawings, product data including manufacturer’s schematic drawings and catalog sheets, layout data, and samples of colors and finishes.

* Review of shop drawings and samples does not indicate any approval of change in time or cost. Review of shop drawings is only for general conformance with the information given in the Contract Documents and shall not relieve the Contractor from compliance with the Contract Documents.
* Distribution of shop drawings and product data submittals after approval by Architect: Town, Architect, Contractor, and Subcontractor and or Suppliers.
* Colors and Finishes shall be similar to those of adjacent spaces unless otherwise noted. Contractor to submit name of manufacturers of products proposed for use with samples of color, finish, pattern, texture or other related information to the Architect.

N. CHANGE ORDERS

No Change Orders shall be charged to the project until submitted to and authorized by the Town in writing. The Contractor acknowledges that he has had the opportunity to examine the site, and does not reasonably foresee any work that is not reflected in the work specified in the Drawings or the Technical Specifications/Scope of Work and in the contract price.

O. PROJECT COORDINATION, MEETINGS AND PROGRESS REPORTS

The Architect shall schedule and administer the pre-construction meeting, periodic progress meetings, and specially called meetings throughout the progress of the work. The Architect shall record all significant proceedings and decisions.

The following people shall be in attendance at these meetings:

* Town Representative
* Architect
* General Contractor
* Major Subcontractors

At the **Pre-Construction Meeting**, the following will take place:

* Project Coordination – designation of responsible personnel
* Critical work schedule
* Procedures and processing of field decisions, proposal requests, submittals, change orders and applications for payment.
* Review of use of existing premises, temporary utilities and storage areas.
* Safety and first-aid procedures.
* Security and housekeeping procedures

At **Progress Meetings**, the following will take place:

* Review of work progress, field observations, problems, and or conflicts.
* Corrective measures.
* Maintenance of quality standards

P. PAYMENT BASIS

Once the work has commenced the Contractor will submit to the Architect a Schedule of Values prior to submitting the first Application for Payment. The Application for Payment will exclude all sales tax on materials or supplies purchased for this Project. The Architect will review and verification the progress of the Work performed or products stored as per itemized items on the agreed Schedule of Values.

When the Architect finds the Application for Payment properly completed and correct, he will transmit it to the Library Director and the Town for its review.

Q. PROJECT COMPLETION

* When the Contractor considers the work to be substantially complete, he shall notify the Architect who will make an inspection, together with the Contractor and Town. The Contractor and Architect will prepare a punch list of items to be completed or corrected as determined by the inspection. The Architect will assign a dollar value to each item on the list. The amount shall be withheld until all “punch list” items are completed. The Architect will prepare and issue a Certificate of Substantial Completion with the signatures of the Town and Contractor.
* **Final Inspection** – when the Contractor considers the work to be complete, he shall certify that:
* The project has been completed and inspected for compliance with the Contract Documents.
* Equipment and systems have been tested in the presence of the Town and are operational.
* The Architect will make a final inspection.
* Contractor will submit the following closeout submittals:
* Project Record Drawings
* Operation and Maintenance Data
* Warranties
* Keys and Keying Schedule
* Contractor’s Affidavit of Release of Liens
* Final Request for Payment