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## **SECTION E**

## **EQUIPMENT AND FURNISHINGS**

### **E10 EQUIPMENT**

#### **E1010 Commercial Equipment**

##### **E1010.01 Commercial Laundry and Dry Cleaning Equipment**

Not required for this Project.

#### **E1020 Institutional Equipment**

##### **E1020.01 Library Equipment**

Library Equipment will be provided by the Owner, under a separate Furnishings, Fixtures and Equipment contract.

##### **E1020.02 Gymnasium Equipment**

- Scoreboards: Electronic scoreboard for interior installation; multi-purpose type that can display scores for basketball and volleyball. Quantity: 2
- Basketball Equipment: Overhead mounted folding backstops, with glass backboards for main court and fiberglass backboards for practice courts.
- Gymnasium Divider Curtain: Electrically operated, vertical lift. Quantity: 2 (second curtain to be installed in the cafeteria)
- Wall Mats: Wall protection mats.
- Volleyball Equipment: Floor sleeves for volleyball net posts. Quantity: 1 set

##### **E1020.04 Theater and Platform Equipment**

Type: Manual rigging; Frame and rear curtain only

Type: Theatrical Lighting System: A company specializing in the manufacturer of Theatrical Lighting equipment: ETC, Inc., Strand Lighting, or equal. Include the following equipment:

- Master Control Console
- House Light Control

**NASHOBA-POMPO/CENTER ELEMENTARY SCHOOL  
SCHEMATIC DESIGN PROJECT DESCRIPTION**

**SMMA**

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- Dimmer Banks
- Dimmers
- Emergency Transfer Lighting System
- Distribution Equipment
- Fixtures
- Miscellaneous Lighting Equipment

**E1020.06 Audiovisual Equipment**

Projection Screens, Electrically Operated: Large size screens, matte white fabric face; motor in roller.

- Locations: Performance Platform, Gymnasium and Library.

Projection Screens, Manually Operated: Manufacturer's standard spring-roller-operated units designed and fabricated for wall or ceiling installation and consisting of case, screen, mounting accessories, and other components necessary for a complete installation.

- Locations: One per teaching space, including general education classrooms, art classrooms, music classrooms, and SPED classrooms.

Projectors: Refer to Part D

**E1020.07 Art Classroom Equipment**

Pottery Kilns: One electric kiln to be installed in the kiln room of the art room.

**E1030 Vehicular Equipment****E1030.01 Loading Dock Equipment**

Dock Bumpers: Heavy molded-rubber bumpers at loading dock area.

**E1040 Food Service Equipment**

Kitchen and Servery: A fully equipped kitchen and servery will be provided with the capacity to serve 630 students daily in three seatings.

**E1090 Other Equipment****E1090.01 Residential Appliances**

Microwave Ovens: Under-cabinet type will be provided for the Staff Lunch Room, and Administration Kitchenette.

Refrigerators: Frost-free, bottom freezer; with automatic ice-maker: One in the Staff Lunch Kitchenette and one in the Nurse's Suite.

Clothes Washer and Dryer – (1) stacking unit in kitchen and (1) stacking unit in custodial area

**E20 FURNISHINGS****E2010 Fixed Furnishings****E2010.01 Fixed Casework**

Modular Casework: Hardwood cases and interiors with plastic-laminate clad doors and drawer fronts; AWI (American Woodwork Institute) Premium Grade, full-flush overlay design.

Typical classrooms will have a continuous counter with sinks and drinking bubbler, open shelving below, wall mounted top cabinets over student open front cubbies, and (1) full-height wardrobe and (1) full height storage cabinets along the corridor partition. At exterior wall in PreK and kindergarten rooms only, 30" high open shelving either side of the unit ventilator. Interior shelves in wall and tall cabinets will be adjustable. All doors will have key-operated cam locks.

Counters, Countertops and Table Tops: Fabricated from the following materials; 4-inch high backsplash where tops meet a vertical wall or cabinet surface.

General Classrooms, Kindergarten Classrooms, Art Classroom: Plastic-laminate-clad tops with solid wood front edge.

Custom-Fabricated Casework: Wood cases, interiors, door and drawer fronts with solid wood trim, fabricated to AWI (American Woodwork Institute) Premium Grade standards. Base-cabinet and table tops will be of solid surfacing material.

Includes: Reception desks, library circulation desk, built-in library shelves

Corridor Display Cases: Custom-fabricated wood display cases. Deep, wood-framed units, back surface inside case covered with tackboard material, tempered glass shelves supported on metal standards and brackets. Sliding tempered glass doors, with locks. Fabricated to AWI (American Woodwork Institute) Custom Grade standards.

Approximate quantities:

- Wardrobe cubbies: Custom fabricated wood, wardrobe cubbies in each classroom:  
PreK classrooms - 15 units per classroom  
Kindergarten classroom, 20 units per classroom  
Grades 1-2, - 22 units per classroom  
Grades 3-5, 24 units per classroom
- Window Stools: Solid surfacing material.
- Mailboxes: For mail delivery to teachers and administrative staff, custom-fabricated mail slots will be provided. Quantity: 70
- Adjustable Shelving: Provide utility shelving for storage rooms, copy rooms, and similar locations: Wood shelves with solid-wood edge banding, supported on extra-heavy duty double slot extruded aluminum stanchions and brackets; 12" deep shelving.
- Indoor Air Quality (IAQ): Casework specifications will require the use of panel materials that have been tested and certified for low emissions of volatile organic compounds (VOCs) and, and made with no added-urea formaldehyde.

#### E2010.02 Window Treatments

Shades: Roller shade assemblies with one solar control (sheer) fabric on the roller in grades 1-5 classrooms and offices; combination (duel shade) light blocking and solar filtering in PreK and kindergarten classrooms.

Manually-operated roller shades will be provided at exterior windows in all teaching spaces.

Electrically-operated roller shades will be provided in the Library.

Vertical Blinds: Vertical blinds with 2-inch vanes will be provided at interior windows ("borrowed lights") in the administration area and other offices, and in the Library Media Center.

**E2010.03 Entrance Grille and Mats**

Two-part walk-off mat system will be provided at the main entrance.

Entrance Grille: Drop-through extruded aluminum grille, recessed in the floor.

Walk-Off Mat: Carpet type mat or carpet tiles, surface mounted.

Telescoping Stands: In the Gymnasium, electrically-operated telescoping bleachers. Bleacher layout will include areas for wheelchairs to comply with the Americans with Disabilities Act and with Massachusetts Architectural Access Board (MAAB) rules.

Capacity: 100 seats.

**E2020 Movable Furnishings**

Movable Furnishings will be provided by the Owner, under a separate Furnishings, Fixtures and Equipment contract.

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## SECTION F

## SPECIAL CONSTRUCTION AND DEMOLITION

### F10 SPECIAL CONSTRUCTION

Not required for this Project.

### F20 SELECTIVE DEMOLITION

#### **F2010 Selective Demolition**

Portions of the existing building will be demolished to allow construction of the new addition. Selective demolition within the existing building will also occur to allow classrooms and ancillary rooms of adequate size to be constructed. Salvaged materials become the property of the Contractor except where the Owner has identified elements to be salvaged prior to demolition.

Boiler room wing to have the super structure to be demolished. Foundation walls to be saw cut down to four feet below grade below grade to allow for new structured slab (to be buried with waterproofing)

#### **F2020 Hazardous Components Abatement**

Prior to demolition hazardous materials will be abated. Refer to Section 3.4 for documentation of existing hazardous materials.

Asbestos: ACM is assumed to be present. These materials will have to be removed prior to renovation or demolition work in areas where it may be disturbed.

Lead Based Paint: Elevated levels of lead-based paint (lead content greater than 1.0 mg/cm<sup>2</sup>) may be present on various surfaces throughout the areas of the building to be demolished.

PCBs: PCBs (polychlorinated biphenyls) may be present in fluorescent light ballasts, and will have to be handled and disposed of as universal waste.

Mercury: May be present in fluorescent lamps and in thermostats. These items will have to be handled and disposed of these items as universal waste.

Other Hazardous Materials: Other hazardous materials which may be encountered during demolition include banned refrigerants in air conditioning units, emergency lighting, batteries, and stored paints and chemicals. These

materials will have to be handled and disposed of in accordance with federal, state and local regulations.

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## **SECTION G      BUILDING SITEWORK**

### **G10 SITE PREPARATION**

#### **G1010 Site Clearing and Phasing**

##### **G1010.01 Site Clearing**

- Site Clearing and Erosion and Sediment Control, in compliance with the NPDES General Permit from the EPA.
- Maintain temporary protective barriers through the course of construction.
- Maintain safe access for emergency vehicles.
- Comply with project Order of Conditions.

##### **G1010.02 Site Phasing**

In general, the project will consist of two phases in order to ensure the continued use of the site.

Phase 1 will generally consist of:

- Demolition of a portion of the existing building;
- General preparation of the site for the construction of the building addition;
- Construction access from Hartley Road;
- Student/staff access from the existing parking lot and driveways from Great Road.
- Construction of the new school building;
- Construction of the new septic system and soil absorption system;
- Construction of the water supply well;
- Installation of all utilities to serve the new school addition;



- Construction of the staff parking and bus loop from Hartley Road;
- Reconstruction of the ballfields.
- Construction of the new playground area – relocation of existing equipment will occur during the summer vacation between Phases 1 and 2.
- Construction of two tennis courts.

Phase 2 will generally consist of:

- Renovation of the remaining portion of the existing Center School;
- Construction of the Pre-K/K playground;
- Reconstruction of the parent drop-off/visitor parking area off Great Road.

### **G1020 Site Demolition and Relocations**

#### **G1020.01 Building Demolition**

See Section F.

#### **G1020.02 Site Elements Demolition**

**Playground Equipment:** The existing playground equipment will be dismantled and re-erected by a certified playground installer during the summer vacation period between phases.

#### **G1020.03 Utility Relocation**

The proposed building addition will conflict with an existing sanitary sewer force main. The new force main should be installed prior to building construction and temporarily connect to the existing leaching field.

The existing septic tank, pump station, and leaching field must be maintained throughout construction until the new system leaching field is approved to receive flow.

### **G1030 Site Earthwork**

Excavation for building foundations, utilities, pedestrian and parking areas including bracing and support as required.

Preparation of subgrade and bearing surfaces including proof rolling and dewatering.

Placement and compaction of fills from onsite and offsite sources. Compact fill layers below building and pavement to 95% Maximum Dry Density, per ASTM 1557. Fill in landscape areas will meet the specifications for common fill.

Preparation of subbase and base courses for building and pavement.

Preparation of landscaping areas including placement of topsoil.

Excavation, preparation, and fill placement for Title V soil absorption system including DEP approved fill material.

Excavation and backfill for utilities.

### **G1040 Hazardous Waste Remediation**

A Phase I Preliminary Site Assessment is currently being performed for the project by ADS Environmental, Inc. The Phase I soil testing program is ongoing.

## **G20 SITE IMPROVEMENTS**

### **G2010 Roadways**

**Bituminous Flexible Pavement:** 2-inch binder course, 1-1/2 inch wearing course. Materials in compliance with paragraph 460 of the Massachusetts Highway Department Standard Specifications.

The firelane shown on the project plans will be constructed of 10 feet wide porous pavement with 4 foot wide reinforced turf shoulders each side. (see section G2020 below).

### **G2020 Parking Lots and Firelane**

#### **G2020.01 Parking Lot Program**

One hundred thirty-one (131) parking spaces will be provided to serve staff and visitors, including 5 handicap accessible spaces (2 van and 3 automobile). Parking area will be striped and landscaped. Parking lot lighting will be provided.

**G2020.02 Parking Lot Paving**

Porous pavement will be utilized in the proposed parking areas. Porous pavement will consist of 4-inches of pervious pavement underlain by a 4-inch thick 3/4" washed stone choker course, a 12-inch thick bank run gravel sub base, a 3-inch thick 3/8" pea stone choker course and a 4-inch thick 3/4" washed stone reservoir course. The porous pavement will include a 4-inch diameter perforated subdrain connected to the on-site drainage system.

**G2020.03 Parking Lot Curbs and Gutters**

VA4 vertical granite.

**G2020.04 Parking Lot Appurtenances**

Parking lots will be provided with traffic barriers, parking lot signs and pavement markings.

**G2030 Pedestrian Paving****G2030.01 Sidewalks**

Pedestrian sidewalks will be Portland cement concrete. Sidewalks are proposed between each parking lot and drop-off area to the school entrances as shown on the site plans. Provide detectable warning surfaces at all handicap curb ramps.

**G2030.02 Exterior Steps and Ramps**

Steps: Cast-in-place concrete; standard cements and aggregates; broomed-finish. Galvanized steel pipe rail, painted with polyurethane paint system.

Ramps: Cast-in-place concrete; standard cements and aggregates; broomed-finish. Widths and slopes conforming to ADAAG and MAAB. Galvanized steel pipe rail, painted with polyurethane paint system.

**G2030.02 Pedestrian Unit Pavers and Edging**

Provide integrally colored precast concrete pavers complying with ASTM C939 set on an asphalt binder course. The pavers shall be applied to binder course with asphalt setting bed, asphalt primer, and neoprene-modified adhesive. Provide aluminum paver restraints "L" with standard 3/8-inch x 10-inch steel spikes at 12-inch on center.

**G2040 Site Development****G2040.01 Fences and Gates**

Provide 6 foot high black vinyl clad chain link fence with locking gate at the transformer and emergency generator. Provide a 4 foot black vinyl-clad chain link fence and double gate at the PK-K play area.

Provide 6 foot high black vinyl clad chain link fence at the baseball field players benches and a 20 foot high black vinyl clad backstop as shown on the drawings.

Provide 10 foot high black vinyl clad chain link fence at the tennis courts.

**G2040.02 Athletic and Recreational Surfaces**

Baseball/softball surfacing: Skinned infield conditioner mix consisting of approximately 40% silt/clay and 60% sand.

Playground surfacing: 2-layer rubber polyurethane poured-in-place surfacing system. System to comply with ASTM F-1292 and be certified by IPEMA.

Basketball & Tennis Court surfacing: Acrylic color playing surface system which is non-flammable and asbestos-free. Surface finished with highly pigmented with 100% acrylic textured coating. Playing lines defined with acrylic emulsion-type, reflective marking paint.

**G2040.03 Athletic and Recreational Equipment**

Playground equipment for the Grades 1-5 playground (rear yard) will be salvaged from the existing playground and re-used. Provide playground equipment for the K-PK playground (front yard).

Athletic equipment includes baseball backstop, home plate (1), pitching rubber (1), bases (3), portable soccer goals (2), Permanent adjustable basketball goals with nets (2), two 20' player benches, two tennis court nets.

**G2040.04 Site Furnishings**

Site furnishings include 12 six-foot metal/Trex benches; 6 metal/Trex trash receptacles; three bicycle racks for a total of 30 bikes; one ground-set 40' high extruded aluminum or fiberglass pole, with flag; and painted metal pipe-rails where required at handicap ramps.

**G2040.05 Exterior Signage**

Exterior signage will include two illuminated site identification signs, traffic control signs, and parking lot signs.

**G2040.06 Retaining Walls**

Retaining walls will be 12 inches wide P.I.P., reinforced concrete retaining walls.

**G2050 Landscaping****G2050.01 Soil Preparation**

Provide eighteen inches of topsoil in plant bed areas and six inches of topsoil in lawn areas per specified topsoil preparation and amendment additives. Assume that all topsoil will be imported from off-site sources.

**G2050.02 Lawns and Grasses**

Lawn areas shall be provided to compliment the general plantings and the site. Seed mixes will be appropriate to use. Provide 4 feet wide reinforced turf shoulders on each side of all fire lanes. Turf shoulders will be seeded over 2 inches of loam over 12 inches of compacted dense grade gravel.

**G2050.03 Trees, Plants and Ground Covers**

Trees, shrubs, groundcover, and perennials will be provided to compliment the site and public areas. Planting areas will include two-inch deep mulch.

**G2050.04 Plant Maintenance and Guarantee**

Contractor shall provide maintenance to plantings and lawn areas for a specified time and guarantee plantings for one year to ensure the health and establishment of all plantings.

**G30 SITE CIVIL/MECHANICAL UTILITIES****G3010 Water Supply****G3010.01 Domestic Water Distribution**

Domestic water to the building will be provided by on-site bedrock well. The well will be designed and located so as to conform with the Massachusetts Department of Environmental Protection (MADEP) requirements to the maximum extent possible based on site constraints. Well permitting with

(MADEP) will be required. Filtration and treatment of the well water is covered in Section D.

The Town of Stow and Assabet Water Company are discussing the possibility of extending a public water supply to the vicinity of the proposed school. The timing of the water extension is unknown at this point; therefore the project will continue to pursue the on-site bedrock well. The project will allow for future connection in the design of the site utilities and includes an 8 inch CLDI water service from Great Road.

#### **G3010.02 Fire Protection Water Distribution**

The fire protection service will consist of a pressurized 8-inch Class 52 ductile iron line which will loop the proposed school. Fire protection storage tanks will be provided as described in Section D.

Hydrants will be provided within 300 feet of each building corner and as required by the Town of Stow Fire Department.

#### **G3020 Sanitary Sewer**

Sanitary sewer will be provided by a new on-site septic system. The system will be designed to provide enhanced nitrogen removal, as required by MA DEP, with the use of a recirculating sand filter or other MA DEP approved technology. The proposed septic system will consist of a 22,500 gallon septic tank, a 5,000 gallon equalization tank, a 15,000 gallon recirculation tank, recirculating sand filter, pump station, and pressure dosed soil absorption system. All components will be reviewed and approved by the MA DEP and/or Town of Stow Board of Health.

Gravity sewer lines will be PVC (SDR-35) and force mains will be pressure class PVC (SDR-21). Manholes shall include metal frame and cover with precast concrete structures with concrete channels. Septic system tanks will consist of watertight precast concrete. Kitchen wastes will discharge to a precast concrete grease trap (3,000 gallons) prior to discharge to the septic tank.

#### **G3030 Storm Sewer**

Storm drain pipe will be corrugated polyethylene, smooth interior. Manholes and catch basins shall include metal frame and grates or covers with precast concrete structures.

Runoff from the loading/service area will discharge to a precast concrete oil-water separator.

Rooftop runoff will discharge to three separate subsurface infiltration systems consisting of a series of Cultec 330 rechargers or equal.

Stormwater treatment devices (1,800 gallon Stormceptors or equal) will be incorporated into the storm drain system.

The project proposes to utilize porous pavement within the parking lots on the site. The porous pavement will be designed to provide sufficient storage volume within the reservoir course to detain stormwater to allow for proper infiltration.