

# **COMPUTER INTEGRATED MANUFACTURING AND ENGINEERING DESIGN AND DEVELOPMENT**

September 30, 2010

## **I. PROGRAM REQUIREMENTS**

Refer to the project-specific Schedule of Spaces for student stations, square footage, and for any requirements that may differ from the prototype requirements listed below:

- 1 Laboratory
- 1 Material Storage Room
- 1 Tool Storage Room
- 1 Related Classroom
- 1 Teacher Planning Area

## **II. PROGRAM FURNITURE AND EQUIPMENT**

Refer to the Furniture and Equipment List for Owner-provided furniture and equipment.

## **III. SPECIAL CONSIDERATIONS**

### **1. Heating/Ventilation/Air Conditioning**

Provide a ducted dust collection system for the Laboratory.

### **2. Acoustical**

Standard, in accordance with the General Design Requirements section.

### **3. Floor**

Provide sealed concrete in the Laboratory and Storage Rooms.  
Provide painted non-skid zone boundary lines around all Owner-provided equipment.

### **4. Walls**

Provide wire mesh partitions (all metal construction) to fully enclose the Material Storage Room and Tool Storage Room.

### **5. Ceiling**

Provide an 18' high ceiling in the Laboratory.

### **6. Lighting**

Standard, in accordance with the General Design Requirements section.

**7. Windows**

Provide windows in the Laboratory, sill height to be minimum 5' above the floor.  
Provide a half-glass door from the Teacher Planning Area into the Laboratory.  
Provide an observation window, 3' wide x 4' high, from the Teacher Planning Area into the Related Classroom, sill height to be 36" above the floor.  
Provide an observation window, 12' wide x 4' high, from the Related Classroom into the Laboratory, sill height to be 36" above the floor.

**8. Doors**

Provide a wire dutch-type door from the Laboratory into the Tool Storage Room.  
Provide a 4' wide wire mesh door from the Laboratory into the Material Storage Room.

**9. Water**

Provide one (1) wall mounted sink with cold water in the Laboratory.  
Provide one (1) semi-circular wash station with three (3) faucets.  
Provide an electric water cooler in the general vicinity of the Laboratory.

**10. Communications**

Provide a clock, speaker and intercom handset in the Laboratory and Related Classroom.  
Provide a clock and speaker (no intercom handset) in the Teacher Planning Area.  
Provide data outlets with adjacent power outlets in the Laboratory, number as directed, in accordance with SDHC standards.  
Provide one (1) voice/data outlet in the Laboratory, in accordance with SDHC standards.  
Provide a data outlet with adjacent power outlet in the Related Classroom and Teacher Planning Area, in accordance with the General Design Requirements and SDHC standards.  
Provide a TV bracket with DVD/VCR bracket, CCTV jack, and adjacent power outlet in the Laboratory and Related Classroom, in accordance with SDHC standards.

**11. Electrical**

Laboratory

Provide a duplex outlet at each Owner-provided student workbench and/or student workstation. Provide power poles if required, located as directed.  
Provide convenience outlets 10'-0" apart on three (3) walls.  
Provide pedestal-type floor outlets as required to serve freestanding power tools and equipment. Flush-type floor outlets are not to be provided at these locations.  
Provide two (2) master disconnect switches to shut down all receptacles, located so as to be easily accessible to the teacher. Provide a keyed reset mounted adjacent to each master disconnect switch.  
Provide two (2) 240v outlets for general use, located as directed.

**12. Gas and Air**

Provide one (1) compressed air outlet on each wall of the Laboratory, 120 psi, 10cfm, with one pressure regulator and dryer for each outlet.

**13. Safety**

Standard, in accordance with the General Design Requirements section.

**14. Fencing**

Not applicable

**15. Service Drives**

Not applicable

**16. Parking**

Not applicable

**17. Contractor-Provided Equipment and Casework**

Laboratory

Provide one (1) glasses/goggles sanitizing cabinet with 20 safety glasses and 10 goggles, in accordance with SDHC standards.

Tool Storage Room

Provide a pegboard, 20' long x 5' high, bottom to be mounted 36" above the floor. The pegboard is to be mounted so as to provide a minimum of 1/2" clearance between the back of the pegboard and the wall.

**18. Contractor-Provided Instructional Aids**

Laboratory

Provide a 12' wide x 4' high markerboard with a 4' wide x 4' high tackboard on one (1) side, bottom to be mounted 36" above the floor.

Provide a wall-mounted audio-visual projection screen, approximately 70" x 70", centered over the markerboard.

**19. Other Considerations**

In the Laboratory the Owner will provide student workbenches and may provide student workstations (ie computer). The quantity, type of workbenches and workstations and the configuration will vary depending on the program and the design of the space.

In the Laboratory the work areas must be properly laid out to allow normal sequence of operations with a minimum of cross traffic. Provide adequate clearances between Owner-provided machines to avoid interference between operators and to allow free flow of traffic and materials.

Locate the Laboratory adjacent to the Engineering Design Laboratory, where provided.

## SPACE RELATIONSHIPS

