



February 5, 2003 Draft

VACAVILLE UNIFIED SCHOOL DISTRICT

**FACILITY
DESIGN STANDARDS**

*Leigh A. Coop
Director of Facilities*

*George Durnay
Director of Maintenance and Operations*

**Vacaville Unified School District
751 School Street
Vacaville, California 95688**

TABLE OF CONTENTS

Part I	Preface	Page 3 - 4
Part II	New Construction Design Standards	Pages 5 - 43
	Architectural Items:	Pages 5 - 30
	Mechanical Items:	Pages 31 - 35
	Electrical Items:	Pages 36 - 40
	Low Voltage Electrical Items:	Pages 41 - 43
Part III	Renovation Design Standards	Pages 44 - 67
	Architectural Items:	Pages 44-53
	Mechanical Items:	Pages 54 - 58
	Electrical Items:	Pages 59 - 64
	Low Voltage Electrical Items:	Pages 64 - 66
Part IV	Portable Building Standards	Pages 67- 78
	Architectural Items:	Pages 67 - 70
	Mechanical Items:	Pages 71 - 72
	Electrical Items:	Pages 73 - 74
	Low Voltage Electrical Items:	Pages 75 - 77
Part V	Modular Building Standards	Page 78
	<i>To be determined</i>	
Part VI	Interim Housing Portable Building Standards	Page 79
	<i>To be determined</i>	
Part VII	Furniture and Equipment Standards	Page 80
	<i>To be determined</i>	
Part VIII	Document Standards	Pages 81-83
Part IX	Outline Specifications	Pages 84 - 128
Part X	Appendix:	
	Check Lists	Page 129
	Light Fixture Schedule:	Page 130
	District's Standard Coversheet General Notes:	Pages 131 - 132
	Landscaping Details:	Pages 133 - 139

Draft Rev. 2-05-03

PART I PREFACE

Background:

Vacaville Unified School District is embarking on a Renovation and building program to address the condition of aging facilities and to accommodate the increasing enrollment. On a building program of this magnitude that involves many different projects, architects, engineers and other design professionals, it is imperative to take steps to ensure uniformity of approach to the projects by the various design teams. The District needs to express its needs and desires with respect to quality and type of materials and systems to be incorporated into the various designs. These specific needs are identified in this document, the Vacaville Unified School District's Design Standards (Design Standards).

These Design Standards were developed through a series of meetings with the staff and the Department of Facilities Planning and Management and the Department of Maintenance and Operations. Additionally the team met with many different manufacture representatives and specialty contractors to determine the best and most current product selections and to ensure accuracy of the Design Standards. Finally, the draft documents were forwarded to all of the design professionals presently working for the Vacaville Unified School District to enlist their comments, thoughts and ideas.

The items included in these Design Standards have been selected based upon life cycle cost, durability, ease of maintenance and value engineering. We have modeled and coordinated many of the requirements based upon the Collaborative for High Performance Schools, Best Practice Manual (CHPS).

Objective:

The goal of the Design Standards is to provide the various design professionals working on each of the different projects for the Vacaville Unified School District with direction that will produce a uniform and consistent product. The District welcomes any suggestions to improve these standards; however, any deviations from these standards need to be specifically approved by the Director of Facilities or their designated representative. It is the objective that continued input from the design professionals; District staff and other stakeholders will result in continuous improvement of the Design Standards.

Draft Rev. 2-05-03

Design Standards Organization:

This document is formatted with separate design standards for new construction, renovation work, portable building projects, modular building projects and interim housing projects. The drawing standards and outline specifications pertain to all projects except the interim housing projects.

- **New Construction Projects:**
The designated District representative will provide the design professionals with educational specifications for new construction projects. This Design Standards and Outline Specifications document shall be used in conjunction with the educational specifications for building design standards, product standards and drawing standards.
- **Renovation Projects:**
The designated District representative will provide the design professionals with a specific scope statement that will include all work that needs to be incorporated into the contract documents. The District will also provide a copy of all available original plans and record drawings. This Design Standards and Outline Specifications document shall be used in conjunction with the specific scope statement for building design standards, product standards and drawing standards.
- **Portable Building Projects:**
The designated District representative will provide the design professionals with the specific scope statement for portable building projects. This Design Standard and Outline Specifications document shall be used in conjunction with the specific scope statement for building design standards, product standards and drawing standards.
- **Modular Building Projects:**
The designated District representative will provide the design professionals with the educational specifications for modular building projects. This Design Standard and Outline specification document shall be used in conjunction with the educational specifications for building design standards, product standards and drawing standards.
- **Interim Housing Projects:**
The designated District representative will provide the design professionals with the specific scope for interim housing projects. This Design Standard document shall be used in conjunction with the specific scope statement for building standards.
- **Furniture and Equipment Standards:**
The District's Purchasing Department will be utilizing this section to create uniformity and equity among the various sites in their procurement for furniture and equipment.
- **Document Standards:**
All documents prepared for use on any of the project types shall comply with the District document standards.
- **Outline Specifications:**
A/E to incorporate the information contained in the outline specification section into their company master specifications for all project types as appropriate.

Draft Rev. 2-05-03

PART II New Construction Design Guidelines:

I. General Items:

- A. All new school buildings and campuses are to be certified by the architect to comply with the Collaborative for High Performance Schools certification requirements. Please refer to the CHPS Best Practice Manual, Part III for those requirements. This document is available at www.chps.net for free download.
- B. The sustainable building design requirements address the following areas of concern: Environmental considerations of orientation and siting of buildings, incorporation of natural daylighting and ventilation in classroom spaces, indoor air quality, low VOC materials, sustainable building materials, energy efficient lighting and mechanical equipment, low water consumption and building commissioning.
- C. All projects to include an informal building-commissioning requirement. See outline specifications for specific section requirements.
- D. All contracts to include final cleaning requirement section 01742.
- E. See outline specifications for product requirements.

II. Campus Design:

- A. Provide campus master plan that includes all future additions and portable buildings anticipated on the site. Include the necessary infrastructure to accommodate master plan. Areas designated for future additions shall have the infrastructure stubbed out to future building location.
- B. Each site may have some sort of design feature that provides the site with it's own, unique, site identification. This element can incorporate art, such as a tile mural or other feature at entry. Provide graffiti coating of any murals.
- C. All projects to employ the following principles of Crime Prevention Through Environmental Design, CPTED:
 - 1. Natural surveillance – the design and placement of physical features in such a way as to maximize visibility. There shall be no hiding places or areas of impaired visibility. Avoid isolated gathering areas blind spots in corridors
 - 2. Access Management – the physical guidance of people coming and going from a space. Access management defines and directs legitimate users to the safest way into and out of buildings, parking areas and pedestrian walkways. Access management may also direct students, staff and visitors past key locations for contact, communications and observation. The entire perimeter of the campus is to be fenced with limited, controlled access points and the building compound should have secondary fencing and limited, controlled access points to enable restricted access for community use during non-school hours.
 - 3. Territoriality – the delineation of private, semi-private and public space or the use of physical attributes that express ownership. A well-defined space that

Draft Rev. 2-05-03

appears to be “owned” will tend to encourage acceptable behavior while discouraging illegitimate or disruptive users. Clean and well-lit spaces tend to encourage positive social interaction. Incorporate areas for supervision of all gathering places.

- D. The site design shall be designed to maintain a separation of pedestrian and vehicle traffic. Also separate staff parking, student parking, parent drop-off and bus drop-off area. Provide ample lighting in parking lots and avoid landscaping that impairs visibility across parking lot.
- E. The campus layout must encourage community access and joint use. The District has a joint use agreement with the City. How the community will get to certain parts of the site but be restrained from others needs to be incorporated into the design. There shall be a fence separating the school campus from adjacent parks.
- F. The campus layout and building orientation must address solar access considerations, landscaping and play fields.
- G. Coordinate access gates, Knox box location, fire alarm announcer panel location, fire lanes, access roads, remote pumper and fire hydrant locations with local fire jurisdiction.
- H. Site buildings to minimize effects of exterior sources of air pollution, such streets, parking lots, etc.
- I. Provide access for ride-on mowers to all turf-ed areas, including curb cuts, ramps and locking gates.
- J. Provide complete 6-foot chainlink perimeter fencing with locking gates around all play and athletic fields and to the building compound ornamental fence.
- K. Provide 8-foot ornamental fencing around building compound that prohibits climbing and allows the interior of the campus to be secure.
- L. Provide bike yard with 8-foot ornamental fencing and locking gate in well-supervised area.
- M. Parking Lots & Access Roads:
 - 1. All bus and truck access roads / portions of parking lots shall have an AC section on 4” AC over 15” AB.
 - 2. All other asphalt paving shall have a section of 3” AC over 9” AB.
 - 3. Coordinate size of parking lots with educational specifications.
- N. Waste and Recycled Material Collection Area:
 - 1. Provide fenced, screened area with locking gates design to accommodate (3) 10 cubic yard dumpsters (6’ long x 6” wide x 7’-8” high). Provide pair of locking gates at each dumpster and direct truck frontal access to each dumpster. One of the dumpsters is for yard clippings, one is for non-recyclable garbage; the other is for future mixed recycling (single stream recycling).

Draft Rev. 2-05-03

2. Provide a clear area of 11'-6" wide and 40 feet long in front of the dumpster enclosures to accommodate service truck approach. Any turning must accommodate the trucks 45 foot turning radius.
3. Provide protective 8" diameter bollards at both the back of enclosure (to stop dumpster from contacting back fence) and at the gates.
4. Service yard and approach to have reinforced concrete pad sufficient for 10,000-pound single wheel truckloads.
5. Locate in area convenient for collections by service trucks and away from campus pedestrian and vehicle traffic. Locate away from building per Pest Management criteria and do not locate too far away in consideration of Custodial Services concerns. Review proposed location and layout with designated District representative who will review with Vacaville Sanitary, Custodial Services and Pest Management.
6. Locate in a manner to minimize visual, noise and odor impacts to campus and residential neighbors.

III. General Building Design:

- A. Construct buildings primary structure with permanent materials such as concrete, concrete block and steel. Use of wood framing shall be limited to non-structural items.
- B. The exterior design must be simple with durability and low maintenance as primary considerations, but also provide aesthetically pleasing architectural style.
- C. Provide sloped metal roofs wherever possible. Use of flat roofs shall be minimized. Avoid use of internal roof drains where possible. Design is to prevent access to roofs by climbing.
- D. Design to incorporate indirect, defused, natural day lighting. Provide sun protection of windows to avoid direct sunlight during the summer months. Address glare concerns during winter months.
- E. Design to provide protection of doors and windows from direct rain.
- F. Design to provide ample natural, cross-ventilation in addition to mechanical ventilation. Site to minimize introduction of external pollution sources.
- G. Architectural acoustical treatment to be incorporated into the design at all occupied spaces.
- H. All rooftop HVAC equipment, except small exhaust fans, shall be architecturally screened from view.
- I. Locate mechanical equipment in a manner to minimize noise transmission into occupied spaces.

IV. Requirements Specific to Campus Grade Levels:

Draft Rev. 2-05-03

- A. Elementary Campuses Specific Design Criteria: (Refer to individual projects Ed Spec.'s for additional requirements.)
 - 1. Design to accommodate year around schedule.
 - 2. Administration Offices:
 - a. Locate in prominent location to receive all campus visitors.
 - b. Locate adjacent to parking lot and flagpole.
 - c. Provide public counter with high/low countertop.
 - d. Provide staff toilet rooms.
 - e. Provide Nurse's room with warm water sink and adjoining student toilet room.
 - f. Provide room for server and low voltage head-in equipment.
 - g. Provide all offices with ample power and data receptacles. (Note that the phone system will be an NEC PBX or Key System)
 - 3. Standard Classrooms (Grades 1-6):
 - a. Standard classrooms to be 960 square feet each.
 - b. Incorporate the use of indirect, natural daylighting.
 - c. Provide teaching wall that extends entire length of front of classroom. Teaching wall to include full-length, tri-passing, sliding marker boards with full height adjustable, shelving behind. Consult education specification for possible power, cable TV, data outlets and configuration requirements.
 - d. Provide large, wall mounted, dry-erase marker boards on adjacent wall of teaching wall.
 - e. Provide student computer area. See electrical section for power and data receptacle requirements. Locate receptacles at standard height to accommodate owner furnished computer desks with grommets in countertops.
 - f. Provide teacher with power and data jacks to accommodate one computer and printer. Accommodate pathway to cable teachers' computer to TV monitor and future ceiling mounted LCD projector location.
 - g. Provide sink (cold water only) with drinking fountain.
 - h. Provide floor covering as indicated in the education specification.
 - i. Provide location and service to TV / VCR as indicated in the education specification. Maybe either wall mounted, in teaching wall or cart mounted.
 - j. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
 - 4. Kindergarten Complex / Classrooms:

Draft Rev. 2-05-03

- a. Provide Kindergarten complex located adjacent to administration office and parking lot with secure play yard.
 - b. Building to compose of two adjoining classrooms, common teachers' workroom and a single stall, student toilet room for each classroom.
 - c. Kindergarten classrooms to be 1120 square feet each.
 - d. Incorporate the use of indirect, natural daylighting.
 - e. Provide floor covering as indicated in the education specification.
 - f. Provide sink with drinking fountain in classrooms with cold water service.
 - g. Provide sink in Teachers' workroom with warm water service.
 - h. Student toilet rooms to have the small "cadet" sized toilets.
 - i. Provide drinking foundation in play yard.
 - j. Provide play structure in play yard with poured in-place protective matting.
 - k. Provide turf area in fenced in play yard with large gate for ride-on mower.
5. Special Education Classrooms:
- a. Refer to the District Special Education Department for specific requirements and provide at a minimum of one special education classroom in the Elementary Schools.
6. Computer Classrooms / Laboratories:
- a. Provide cast-in-place trench duct for power and data cabling. Design professionals to coordinate layout of floor receptacles with the District Technology Director and Site Technology Coordinator. Design room to accommodate maximum number of computers. Provide 4 dedicated computer receptacles per circuit and alternate locations.
 - b. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
7. Teachers' Workrooms:
- a. Each building or classroom pod shall have a teachers' workroom adequately sized to accommodate all teachers (including off-track teachers).
 - b. Provide ample storage space for off-track teacher.
 - c. Provide large worktable with flat file drawers.
 - d. Provide power, phone and data receptacles.
8. Multipurpose Rooms:
- a. Incorporate the use of natural daylighting.

Draft Rev. 2-05-03

- b. Utilize in-wall tables and benches.
 - c. Provide stage complete with curtains, lighting and sound system.
 - d. Provide adequate folding chair storage space.
 - e. Provide assistive listening device for hearing impaired per ADA.
 - f. Provide multi-sport stripping to accommodate basketball court and volleyball court.
 - g. Provide retractable basketball backstops.
 - h. Provide floor inserts for volleyball standards.
 - i. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
9. Kitchens:
- a. Coordinate specific equipment requirements with the Ed. Spec.
 - b. Provide non-slip epoxy flooring with integral 6" coved base.
 - c. Provide FRP wall panels to ceiling.
10. Media Center:
- a. Incorporate the use of natural daylighting.
 - b. Coordinate requirements of the automated book check out system and book detection system with Ed. Spec.
 - c. Provide networked computers for student and teacher research.
 - d. Provide carpeting with resilient flooring at entry.
 - e. Provide a separate Librarian office and Librarian workroom with power and data receptacles.
 - f. Librarian workroom to have a large worktable with drawers and ample perimeter shelving.
11. Student Toilet Rooms:
- a. Provide ceramic tile floors and walls to a minimum of eight feet or to ceiling if nine-feet or less.
 - i) Floor tiles to be 2 x 2 non-slip.
 - ii) Wall tiles to be 4 x 4 with accent pattern.
 - b. Provide sloped floor with floor drains. (Coordinate location of drains with toilet partitions.)
 - c. Provide semi-gloss painted water-resistant gypsum wallboard above and on ceiling.
 - d. Provide padlock hasp to allow doors to be locked open during school hours.
12. Staff Toilet Rooms:

Draft Rev. 2-05-03

- a. Provide ceramic tile floor with drain and a four-foot wainscot.
 - b. Provide semi-gloss painted water-resistant gypsum wallboard above wainscot and on ceiling.
13. Custodial Office:
- a. Provide a small, conditioned office for the custodial staff.
 - b. Office shall not be in same room as mop sink or chemical storage, but can be included in dry storage room.
 - c. Provide with data and power receptacles.
14. Custodial Closets:
- a. Custodial closet with mop sink is required within each building or as suitable to accommodate specific project design.
 - b. Provide sealed concrete floors with 6" sealed concrete curb and floor drain.
 - c. Provide FRP wall panels,
 - d. Provide metal shelving and locking metal storage cabinet for chemicals.
 - e. Provide semi-gloss painted water-resistant gypsum wallboard on ceiling.
 - f. Provide wall space above mop sink to accommodate cleaning product dispenser rack system.
 - g. Provide exhaust fan in room.
15. Equipment / Server Room:
- a. Provide separate room with independent HVAC to house server and other electronic head-in equipment. Design professionals to coordinate size and layout of room with the District Technology Director and Site Technology Coordinator.
 - b. Provide mechanical exhaust system.
16. Mechanical / Electrical:
- a. Locate utility rooms to be accessible via exterior doors.
 - b. Do not locate temperature sensitive, low voltage head-in equipment in same room as water heaters, transformers, and furnaces, etc.
17. Playfields:
- a. Provide space for "education garden" adequate for student planting projects and composting area. Include hose bib in area.
 - b. Provide play structure in high visibility area with poured in-place protective matting.
 - c. Provide soccer field with goal posts.
 - d. Provide softball field with backstop.

Draft Rev. 2-05-03

- e. Provide additional play fields per Ed. Spec.
18. Hard Court:
- a. Provide stripping and equipment for basketball, tetherball, running track, kickball, four square, hopscotch and a map of the US.
 - b. Hard court striping layout to be proposed by architect for site approval.
 - c. Automobile access to hard courts is to be restricted via lockable bollards and / or gates.
- B. Middle School Campuses Specific Design Criteria: (Refer to individual projects Ed Spec.'s for additional requirements.)
- 1. Design to accommodate year around schedule.
 - 2. Provide area for student hallway lockers. Note that the educational specification committee will determine whether or not to include student lockers under current contract on their new middle and high school campuses, but regardless the design should be able to accommodate them if the District decides to add them at a latter date.
 - 3. Administration Offices:
 - a. Locate in prominent location to receive all campus visitors.
 - b. Locate adjacent to parking lot and flagpole.
 - c. Provide public counter with high/low countertop.
 - d. Incorporate the use of indirect, natural daylighting.
 - e. Provide staff toilet rooms.
 - f. Provide Nurse's room with warm water sink and adjoining student toilet room.
 - g. Provide room for server and low voltage head-in equipment.
 - h. Refer to Ed. Spec. for number of counselor offices required.
 - i. Provide all offices with ample power and data receptacles. (Note that the phone system will be an NEC PBX or Key System)
 - 4. Standard Classrooms (Grades 7-8):
 - a. Standard classrooms to be 960 square feet each.
 - b. Incorporate the use of indirect, natural daylighting.
 - c. Provide teaching wall that extends entire length of front of classroom. Teaching wall to include full-length, tri-passing, sliding marker boards with full height adjustable, shelving behind. Consult education specification for possible power, cable TV, data outlets and configuration requirements.
 - d. Provide large, wall mounted, dry-erase marker boards on adjacent wall of teaching wall.

Draft Rev. 2-05-03

- e. Provide 4 separate power circuits to service each classroom's receptacles. 3 shall be dedicated to service the computers / printers and one shall be for the general receptacle requirements. Alternate circuits throughout classroom.
 - f. Provide student computer area with power and data jacks ample to accommodate up to 6 (verify exact quantity) student computers and a printer per classroom. Locate receptacles at standard height to accommodate owner furnished computer desks with grommets in countertops.
 - g. Provide teacher with power and data jacks to accommodate one phone, computer and printer. Accommodate pathway to cable teachers' computer to TV monitor and future ceiling mounted LCD projector.
 - h. Provide floor covering as indicated in the education specification.
 - i. Provide location and service to TV / VCR as indicated in the Education Specification. May be either wall mounted, in teaching wall or cart mounted.
 - j. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
5. Special Education Classrooms:
- a. Refer to the District Special Education Department for specific requirements and provide at a minimum of two special education classrooms in the Middle Schools.
6. Computer Classrooms / Laboratories:
- a. Provide cast-in-place trench duct for power and data cabling. Design professionals to coordinate layout of floor receptacles with the District Technology Director and Site Technology Coordinator. Design room to accommodate maximum number of computers. Provide 4 dedicated computer receptacles per circuit and alternate locations.
 - b. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
7. Teachers' Workrooms:
- a. Each building or classroom pod shall have a teachers' workroom adequately sized to accommodate all teachers (including off-track teachers).
 - b. Provide ample storage space for off-track teacher.
 - c. Provide large worktable with flat file drawers.
 - d. Provide power, phone and data receptacles.
8. Cafeterias:
- a. Incorporate the use of natural daylighting.

Draft Rev. 2-05-03

- b. Utilize in-wall tables and benches.
 - c. Provide adequate folding chair storage space.
 - d. Provide stage complete with curtains, lighting and sound system.
 - e. Provide assistive listening device for hearing impaired per ADA.
 - f. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
9. Kitchens:
- a. Coordinate specific equipment requirements with the ed spec.
 - b. Provide non-slip epoxy flooring with integral 6" covered base.
 - c. Provide FRP wall panels to ceiling.
10. Media Center:
- a. Incorporate the use of natural daylighting.
 - b. Coordinate requirements of the automated book check out system and book detection system with Ed. Spec.
 - c. Provide networked computers for student and teacher research.
 - d. Provide carpeting with resilient flooring at entry.
 - e. Provide a separate Librarian office and Librarian workroom with power and data receptacles.
 - f. Librarian workroom to have a large worktable with drawers and ample perimeter shelving.
11. Gymnasium:
- a. Design around regulation basketball court with bleachers open to accommodate entire student body.
 - b. Provide PA system to accommodate both student assemblies and athletic events with wireless microphone.
 - c. Provide assistive listening device for hearing impaired per ADA.
 - d. Provide score board with remote.
 - e. Incorporate the use of natural daylighting.
 - f. Provide motorized telescoping bleachers.
 - g. Provide wood gym flooring with custom painting of team logo.
 - h. Provide multi-sport stripping to accommodate main basket ball court with bleachers open, main volleyball court with bleachers open, reduced sized practice basketball courts when bleachers are closed.
 - i. Provide retractable basketball backstops for main court and practice courts.
 - j. Provide floor inserts for volleyball standards.

Draft Rev. 2-05-03

- k. Provide wrestling mat storage device.
12. Locker Rooms:
- a. Incorporate the use of natural daylighting.
 - b. Provide athletic lockers. Design professional to propose type and layout to designated District representative for review.
 - c. Provide coaches' office with finished floor height 12" higher than floor of locker room with observation windows. Provide mirrors and low lockers to avoid hiding places in locker rooms.
 - d. Provide sealed concrete floors sloped to drain, hose bibs and with 6" sealed concrete curb.
13. Student Toilet Rooms and Shower Areas:
- a. Provide ceramic tile floors and walls to a minimum of eight feet or to ceiling if nine-feet or less.
 - i) Floor tiles to be 2 x 2 non-slip.
 - ii) Wall tiles to be 4 x 4 with accent pattern.
 - b. Provide sloped floor with floor drains. (Coordinate location of drains with toilet partitions.)
 - c. Provide semi-gloss painted water-resistant gypsum wallboard above and on ceiling.
 - d. Provide padlock hasp to allow doors to be locked open during school hours.
14. Staff Toilet Rooms:
- a. Provide ceramic tile floor with drain and a four-foot wainscot.
 - b. Provide semi-gloss painted water-resistant gypsum wallboard above wainscot and on ceiling.
15. Custodial Office:
- a. Provide a small, conditioned office for the custodial staff.
 - b. Office shall not be in same room as mop sink or chemical storage, but can be included in dry storage room.
 - c. Provide with data and power receptacles.
16. Custodial Closets:
- a. Custodial closet with mop sink is required within each building or as suitable to accommodate specific project design.
 - b. Provide sealed concrete floors with 6" sealed concrete curb and floor drain.
 - c. Provide FRP wall panels,
 - d. Provide metal shelving and locking metal storage cabinet for chemicals.

Draft Rev. 2-05-03

- e. Provide semi-gloss painted water-resistant gypsum wallboard on ceiling.
 - f. Provide wall space above mop sink to accommodate cleaning product dispenser rack system.
 - g. Provide exhaust fan in room.
17. Equipment / Server Room:
- a. Provide separate room with independent HVAC to house server and other electronic head-in equipment. Design professionals to coordinate size and layout of room with the District Technology Director and Site Technology Coordinator.
 - b. Provide mechanical exhaust system.
18. Mechanical / Electrical:
- a. Locate utility rooms to be accessible via exterior doors.
 - b. Do not locate temperature sensitive, low voltage head-in equipment in same room as water heaters, transformers, and furnaces, etc.
19. Hard Courts:
- a. Provide adequate number of basketball and volleyball standards.
 - b. Hard court striping layout to be proposed by architect for site approval.
 - c. Automobile access to hard courts is to be restricted via lockable bollards and / or gates.
20. Athletic Fields:
- a. Design must conform to Title 9 requirements for gender equity.
 - b. Provide quarter mile running track.
 - c. Provide adequate number of football, soccer, softball and baseball fields.
- C. High School Campuses Specific Design Criteria: (Refer to individual projects Ed Spec.'s for additional requirements.)
- 1. Provide area for student hallway lockers. Note that the educational specification committee will determine whether or not to include student lockers under current contract on their new middle and high school campuses, but regardless the design should be able to accommodate them if the District decides to add them at a latter date.
 - 2. Administration Offices:
 - a. Locate in prominent location to receive all campus visitors.
 - b. Locate adjacent to parking lot and flagpole.
 - c. Provide public counter with high/low countertop.
 - d. Incorporate the use of indirect, natural daylighting.

Draft Rev. 2-05-03

- e. Provide staff toilet rooms.
 - f. Provide Nurse's room with warm water sink and adjoining student toilet room.
 - g. Provide room for server and low voltage head-in equipment.
 - h. Refer to Ed. Spec. for number of counselor offices required.
 - i. Provide all offices with ample power and data receptacles. (Note that the phone system will be an NEC PBX or Key System)
3. Standard Classrooms (Grades 9-12):
- a. Standard classrooms to be 960 square feet each.
 - b. Incorporate the use of indirect, natural daylighting.
 - c. Provide teaching wall that extends entire length of front of classroom. Teaching wall to include full-length, tri-passing, sliding marker boards with full height adjustable, shelving behind. Consult education specification for possible power, cable TV, data outlets and configuration requirements.
 - d. Provide large, wall mounted, dry-erase marker boards on adjacent wall of teaching wall.
 - e. Provide 4 separate power circuits to service each classroom's receptacles. 3 shall be dedicated to service the computers / printers and one shall be for the general receptacle requirements. Alternate circuits throughout classroom.
 - f. Provide student computer area with power and data jacks ample to accommodate 6 student computers and a printer per classroom. Locate receptacles at standard height to accommodate owner furnished computer desks with grommets in countertops.
 - g. Provide teacher with power and data jacks to accommodate one phone, computer and printer. Accommodate pathway to cable teachers' computer to TV monitor and future ceiling mounted LCD projector.
 - h. Provide floor covering as indicated in the education specification.
 - i. Provide location and service to TV / VCR as indicated in the education specification. Maybe either wall mounted, in teaching wall or cart mounted.
 - j. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
4. Special Education Classrooms:
- a. Refer to the District Special Education Department for specific requirements and provide at a minimum of four special education classrooms in the High Schools.
5. Computer Classrooms / Laboratories:

Draft Rev. 2-05-03

- a. Provide cast-in-place trench duct for power and data cabling. Design professionals to coordinate layout of floor receptacles with the District Technology Director and Site Technology Coordinator. Design room to accommodate maximum number of computers. Provide 4 dedicated computer receptacles per circuit and alternate locations.
- b. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
6. Teachers' Workrooms:
 - a. Each building shall have a teachers' workroom adequately sized to accommodate all teachers with classrooms within the building.
 - b. Provide large worktable with flat file drawers.
 - c. Provide power, phone and data receptacles.
7. Cafeterias:
 - a. Incorporate the use of natural daylighting.
 - b. Utilize in-wall tables and benches.
 - c. Provide adequate folding chair storage space.
 - d. Provide stage complete with curtains, lighting and sound system.
 - e. Provide assistive listening device for hearing impaired per ADA.
 - f. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
8. Kitchens:
 - a. Coordinate specific equipment requirements with the Ed. Spec.
 - b. Provide non-slip epoxy flooring with integral 6" coved base.
 - c. Provide FRP wall panels to ceiling.
9. Media Center:
 - a. Incorporate the use of natural daylighting.
 - b. Coordinate requirements of the automated book check out system and book detection system with Ed. Spec.
 - c. Provide networked computers for student and teacher research.
 - d. Provide carpeting with resilient flooring at entry.
 - e. Provide a separate Librarian office and Librarian workroom with power and data receptacles.
 - f. Librarian workroom to have a large worktable with drawers and ample perimeter shelving.
10. Theaters:

Draft Rev. 2-05-03

- a. Design professional to propose type of seating, aisle lighting and associated seating accessories with the designated District representative and Site.
- b. Design professional to review the needs of the stage layout, equipment and associated accessories with the designated District representative and Site appointed Drama department committee.
- c. Provide complete with stage curtains, lighting and sound system.
- d. Provide backstage storage area with roll-up doors.
- e. Provide enclosed control booth with lighting and sound controls. Also provide alternate control location backstage.
- f. Provide assistive listening device for hearing impaired per ADA.

11. Band Room:

- a. Provide band and choral rooms.
 - i) Refer to educational specification for decision on a requirement to provide raised, tiered floor.
- b. Locate adjacent to the Theater.
- c. Provide practice rooms.
- d. Provide adequate instrument storage areas.

12. Main Gymnasium:

- a. Design around regulation basketball court with bleachers open to accommodate entire student body. Also to accommodate wrestling tournaments with four matches simultaneously with bleachers open.
- b. Provide PA system to accommodate both student assemblies and athletic events with wireless microphone.
- c. Provide assistive listening device for hearing impaired per ADA.
- d. Provide score board with remote.
- e. Incorporate the use of natural daylighting.
- f. Provide motorized telescoping bleachers.
- g. Provide wood gym flooring with custom painting of team logo.
- h. Provide multi-sport stripping to accommodate main basket ball court with bleachers open, main volleyball court with bleachers open, reduced sized practice basketball courts when bleachers are closed,
- i. Provide retractable basketball backstops for main court and practice courts.
- j. Provide floor inserts for volleyball standards.
- k. Provide wrestling mat storage device.

13. Auxiliary Gymnasium:

Draft Rev. 2-05-03

- a. Incorporate the use of natural daylighting.
 - b. Provide wood gym flooring.
 - c. Provide multi-sport stripping to accommodate a regulation basketball court and regulation volleyball courts.
 - d. Provide fixed basketball backstops.
 - e. Provide floor inserts for volleyball standards.
14. Wrestling Gymnasium:
- a. Incorporate the use of natural daylighting.
 - b. Provide wrestling mat storage and transport device to move mats into main gym for tournaments.
15. Dance Room:
- a. Incorporate the use of indirect, natural daylighting.
 - b. Provide separate room for dance and aerobic classes.
 - c. Provide wall of mirrors with rail.
16. Locker Rooms:
- a. Locate adjacent to Gymnasiums.
 - b. Incorporate the use of natural daylighting.
 - c. Provide athletic lockers. Design professional to propose type and layout to designated District representative for review.
 - d. Provide coaches' office with finished floor height 12" higher than floor of locker room with observation windows. Provide mirrors and low lockers to avoid hiding places in locker rooms.
 - e. Provide sealed concrete floors sloped to drain, hose bibs and with 6" sealed concrete curb.
17. Student Toilet Rooms and Shower Areas:
- a. Provide ceramic tile floors and walls to a minimum of eight feet or to ceiling if nine-feet or less.
 - i) Floor tiles to be 2 x 2 non-slip.
 - ii) Wall tiles to be 4 x 4 with accent pattern.
 - b. Provide sloped floor with floor drains and concealed hose bibs in locking wall box.
 - i) Coordinate location of drains with toilet partitions.
 - ii) Coordinate number and location of hose bibs with M&O department.
 - c. Provide semi-gloss painted water-resistant gypsum wallboard above and on ceiling.

Draft Rev. 2-05-03

- d. Provide padlock hasp to allow doors to be locked open during school hours.
18. Staff Toilet Rooms:
- a. Provide ceramic tile floor with drain and a four-foot wainscot.
 - b. Provide semi-gloss painted water-resistant gypsum wallboard above wainscot and on ceiling.
19. Custodial Office:
- a. Provide a small, conditioned office for the custodial staff.
 - b. Office shall not be in same room as mop sink or chemical storage, but can be included in dry storage room.
 - c. Provide with data and power receptacles.
20. Custodial Closets:
- a. Custodial closet with mop sink is required within each building or as suitable to accommodate specific project design.
 - b. Provide sealed concrete floors with 6" sealed concrete curb and floor drain.
 - c. Provide FRP wall panels,
 - d. Provide metal shelving and locking metal storage cabinet for chemicals.
 - e. Provide semi-gloss painted water-resistant gypsum wallboard on ceiling.
 - f. Provide wall space above mop sink to accommodate cleaning product dispenser rack system.
 - g. Provide exhaust fan in room.
21. Equipment / Server Room:
- a. Provide separate room with independent HVAC to house server and other electronic head-in equipment. Design professionals to coordinate size and layout of room with the District Technology Director and Site Technology Coordinator.
 - b. Provide mechanical exhaust system.
22. Mechanical / Electrical:
- a. Locate utility rooms to be accessible via exterior doors.
 - b. Do not locate temperature sensitive, low voltage head-in equipment in same room as water heaters, transformers, furnaces, etc.
23. Parking Lots:
- a. Provide separate student, visitor and staff parking lots.
24. Hard Courts:

Draft Rev. 2-05-03

- a. Provide adequate number of basketball and volleyball standards.
 - b. Hard court striping layout to be proposed by architect for site approval.
 - c. Automobile access to hard courts is to be restricted via lockable bollards and / or gates.
25. Tennis Courts:
- a. Provide adequate number of tennis courts.
26. Athletic Fields:
- a. Design must conform to Title 9 requirements for gender equity.
 - b. Provide quarter mile running track.
 - c. Provide adequate number of football, soccer, softball and baseball fields.
27. Future Football Stadium:
- a. Provide master plan for future football stadium complete with regulation field and track accommodations, sand-capped field, scoreboards, grandstand bleachers, concessions, ticketing, toilet rooms, snack bar, press box, sound and lighting systems.
28. Future Aquatic Complex:
- a. Provide master plan for future aquatic complete with regulation lap and dive pools, automated timing and scoreboards, shower and changing facilities, grandstand bleachers, concessions, ticketing, toilet rooms, snack bar, sound and lighting systems.

V. Project Site Items for New Campuses:

- A. Civil:
1. Provide for erosion control and all weather access during construction.
 2. Provide a proposed grading plan to the designated District representative for review and approval prior to proceeding with construction documents.
 3. Coordinate all off-site utility tie-ins.
 4. Coordinate topsoil import and / or amendment requirements with the Landscape Architect.
 5. Coordinate grading and pad requirements for all future buildings master planned.
 6. Provide area drains and French drains in all raised planter beds.
 7. Provide drain inlets at downspouts discharge for indirect connection. (Spill discharge onto DI grate.
 8. All storm drain underground piping to be straight pipe with structures for cleanout at all angles. Avoid use of “Y” fittings where possible.

Draft Rev. 2-05-03

9. Do not locate any structures in ball fields.
 10. Provide interceptor ditches at top of any embankments. Provide permanent erosion control measures on any banks.
- B. Landscaping:
1. General Requirements:
 - a. Evaluate condition of existing topsoil and provide amendments as appropriate or import if necessary. Coordinate requirements with Civil.
 - b. Refer to the attached Tree Planting, Shrub Planting and Ground cover planting details for District standard planting information.
 - c. Coordinate with designated District representative for construction schedule to requirements:
 - i) All turfed areas are to be planted 90-days prior to occupancy and be established. (See outline specification for maintenance requirements and warranty period.)
 - ii) All other plantings are to be planted 30-days prior to occupancy.
 2. Landscaping Plant selection:
 - a. Design professional to propose all plantings to designated District representative prior to proceeding with design.
 - b. Select plantings that are indigenous to the climate zone, low water consumption / drought resistant and low maintenance. Avoid plants with stickers or thorns.
 - c. All varieties of trees specified shall be deep rooted. No shallow rooting trees.
 3. Landscape Design:
 - a. Provide areas of ground cover in lieu of turf in small areas around buildings to eliminate small areas that require mowing.
 - b. Avoid hiding areas in landscaping.
 - c. Maintain visibility through landscaping from street for police patrol.
 - d. Coordinate location of landscaping with surveillance cameras and night lighting.
 4. Tree Locations:
 - a. Locate trees in a manner that avoids the mature canopy from overhanging the buildings.
 - b. Coordinate location of trees with underground utilities. Do not plant trees where underground utilities are present.
 - c. Do not located trees within 15 feet of fences.

Draft Rev. 2-05-03

- d. Provide separation between trees and paving surfaces to prevent mature roots from damaging walkways, hardcourts, parking lots or provide root barriers to prevent spread of roots under paving.
 - e. Utilize deciduous shade trees to provide some summer shading of parking lots. Use root barriers to prevent root spread under paving.
 - f. Utilize deciduous shade trees to provide summer shading around ball fields and hardcourts.
 - g. Where trees are located in planter areas or at existing tree, provide groundcover, decomposed granite or cobbles under drip line.
5. Turf Areas:
- a. Limit turf areas to those large enough to accommodate ride-on mowers.
 - b. Provide adequate clearances around trees in turf to accommodate ride-on mowers.
 - c. Coordinate with architectural for the necessary access with curb cuts / ramps for ride-on mower access to all turf areas.
 - d. Provide 6" concrete mow strips between all turfed areas and planters, buildings, fences or other obstructions. Coordinate concrete work with architectural.
6. Planters:
- a. All planter areas to have proper drainage. Coordinate with Civil.
 - b. All raised planters to have surface and French-drain system tied into the storm drain system.
 - c. Coordinate design of raised planters with architectural to discourage skateboarders.
- C. Irrigation:
- 1. Refer to the attached Tree Planting, Shrub Planting and Ground cover planting details for District standard deep bubbler detail for trees.
 - 2. Design professional to coordinate location of irrigation main riser and backflow prevented within the utility yard in a manner that will accommodate a booster pump. Coordinate electrical service requirements.
 - 3. Verify anticipated water pressure and include irrigation booster pump or pressure reducer in contract if anticipated to be needed at time of completion. If not, provide layout to accommodate future booster pump as appropriate with empty 2" conduit for future electrical service.
 - 4. Irrigation Design: (See outline specifications for materials required.)
 - a. Design a loop system with isolation gate valves to separate each individual ball field and landscape zone.
 - b. Irrigate trees with deep bubbler irrigation system per attached detail.

Draft Rev. 2-05-03

- c. Irrigate shrubs and groundcover with drip system.
- d. Irrigate turf with pop-up heads.
- e. Provide multiple smaller time clocks with maximum capacity of 24 stations rather than one larger time clock. Allow for 4 of the stations per clock to be for future use. Provide separate time clocks for shrubs and turf areas.
- f. Do not locate valves in areas of play on turf areas.

VI. Architectural Items for New Construction Projects:

A. Exterior Finishes:

1. The wall surfaces need to be paintable or treated with anti-graffiti coating.
2. Traditional stucco with full scratch and brown coats, thin brick veneer, ceramic tile are all acceptable exterior finish.
3. Soffits to have durable finish.
4. Exterior Finish Insulated System (EFIS) assemblies are not permitted.
5. Exterior wood siding and / or trim are not acceptable.
6. Concrete block is acceptable only if it sealed and painted. Split face block with clear finish is not allowed.

B. Roofs:

1. On sloped roofs (3" in 12" or greater) use Garland, Rmer Span, metal roofing. *See outline specifications and contact Sean Mulligan at (925) 254-4777 for manufacturer specification.*
2. On low-sloped roofs (1/2" in 12" to 3" in 12") use the specified Garland, Stressply EUVFR Mineral, modified bitumen roofing. *See outline specifications and contact Sean Mulligan at (925) 254-4777 for manufacturer specification.*

C. Gutters and Rainwater Leaders:

1. External 22 gauge, fully soldered, rain gutters shall be provided at all roof edges.
2. Gutter profile shall be 4" x 4" with 3/4" reveal at lip.
3. Avoid use of internal rainwater leaders. If design necessitates internal roof drain, then the rainwater leader must be exposed in a utility room such as Custodial room, storage room or mechanical / electrical room.
4. Rainwater leaders to be exposed on exterior and constructed of schedule 40 galvanized steel pipe. Mount pipe tight to wall to minimize ability to climb.
5. Provide indirect connection to storm drain system via drain inlet at downspout discharge.

D. Interior Corridors:

Draft Rev. 2-05-03

1. Provide vandal-proof corner guards in interior corridors.
- E. Flooring:
1. See outline specifications for specific flooring manufacturers and requirements.
 2. All linoleum floor to have 6” coved base unless adjacent to carpeted areas, then provide 6” top set base for continuity.
 - a. All coved base to have backer strip at cove.
 3. “Carpet” or VCTT (Vinyl Cushioned Tufted Textile) to have 6” top-set rubber base.
 - a. At areas where carpet is required, provide integrated walk-off mats at exterior door locations for three feet walk-off minimum.
 4. Provide design patterns using accent colors at classroom doors and other appropriate areas.
 5. Refer to the educational specification for determinations of flooring types in room designations not listed below:
 - a. Kitchens to have epoxy flooring with integral 6” coved base.
 - b. Libraries to be carpeted with 6” top-set base.
 - c. Toilet rooms to be ceramic tile.
 - d. Interior Corridors to be linoleum with 6” coved base.
- F. Toilet Room Accessories:
1. Contract to require Contractor to install Owner furnished toilet paper, paper towel and soap dispensers.
 2. Provide adequate number of Electric hand driers in staff and student toilet rooms.
 3. Stall dividers should be solid plastic types. Brackets and hardware should be heavy-duty stainless steel. All fasteners shall be vandal resistant.
- G. Window Coverings:
1. All windows coverings shall have heavy duty metal Venetian blinds. Provide horizontal at windows with sills and vertical at full height windows.
- H. Windows:
1. Exterior windows to be dual pane with thermal break and to be constructed of clear anodized extruded aluminum.
 2. Dual pane glazing to be standardized in size for ease of replacement.
 - a. Provide no more than six sizes.
 3. Provide stainless steel hinges and handles on windows. No plastic hardware.
 4. Provide operable window sections in all rooms.

Draft Rev. 2-05-03

5. In classrooms provide single hung windows in the lower section and hopper windows at the top. Do not specify awning windows.
 6. Provide cross ventilation when possible with high / low openings.
 7. All glazing is to be low-E and lightly tinted. No dark tinted glazing.
 8. Provide sun shading of windows.
- I. Paint Colors & Sheens.
1. All colors to be selected from District standard colors.
- J. Flag Pole:
1. Provide at entry to campus near administration office.
- K. Cafeteria tables and benches:
1. Provide in-wall table and benches.
- L. Ramps, Guardrails and Handrails:
1. All railing to be hot-dipped galvanized metal finish with painted finish.
 2. Provide guardrails with square tubing with vertical pickets.
 3. Design ramps and railing to discourage skateboarders from utilizing.
- M. Room Numbering and Building Signage:
1. Room numbering shall be developed early in the design phase so that room numbers on the drawings will match the final room numbers on site.
 - a. Require all panels to be labeled with same identification as rooms are identified on site.
 2. Room numbers and building signage shall be mechanically fastened with vandal-resistant fasteners.
 - a. No double-sided tape allowed.
- N. Doors:
1. Elementary Campuses:
 - a. All exterior doors shall be solid core metal doors with continuous hinges except for the multi-purpose doors that shall be FRP doors with continuous hinges. Note that FRP doors are limited to a 20-minute label, where rated door in excess of 20-minutes are required provide solid core metal doors.
 - b. Interior doors in office area are to be stain grade, solid core wood doors. All other interior doors shall be paint grade, solid core wood doors.
 2. Middle and High School Campuses:
 - a. All high abuse exterior doors shall be FRP doors with continuous hinges. Include in base bid solid core metal doors with continuous hinges at other locations and provide a bid alternate to have all exterior doors FRP. Note that FRP doors are limited to a 20-minute

Draft Rev. 2-05-03

label, where rated door in excess of 20-minutes are required provide solid core metal doors.

- b. All interior doors shall be solid core, paint grade, wood doors unless in area of high abuse (such as Gyms, Locker Rooms, Student toilet rooms and remote doors subject to vandalism), then doors shall be FRP doors.

- 3. All FRP doors to have custom factory color.

O. Hardware:

- 1. General: A/E to submit completed finished hardware specification to designated District project manager and Schlage representative for review and acceptance prior to including in bid documents.
- 2. Keying: All doors to be fitted with Schlage Everest cylinders and keyed into the District restricted keyway system. Cylinder cores are to be removable and interchangeable except for "D" series locksets.
 - a. All cylinders to be factory keyed and shipped with construction split-key system.
 - b. District keying system consists of restricted keyways on a District-wide great-grandmaster, site grandmaster, utility-master, building master (High School campuses only), community key (access to only spaces being used by community) and specific door hierarchy.
 - c. Exterior doors to same building and multiple entries to same room are to be keyed alike.
 - d. Staff restrooms and workrooms shall be "maisoned " to classroom keyway. (Each teacher should be issued one key that allows access to only his or her classroom, a staff restroom and workroom.)
 - e. All other doors shall be keyed differently within the Site/Grand Master restrictions except for the special use rooms listed above.
 - f. A/E to meet with designated District project manager, Schlage representative, District locksmith and site personnel to determine keying schedule. The keying schedule is to be incorporated into project specifications prior to bid.
- 3. Exit Devices:
 - a. Von Duprin, no substitutions allowed.
 - b. Heavy-duty touch bar exit rim device.
 - c. Provide with keyed removable mullion at paired entrances.
 - d. Provide with keyed dogging cylinder and with pull trim at exterior entrances.
 - e. All paired doors shall be specified with surface mounted panic devices, keyed removable mullion and set of heavy-duty pull handles.
- 4. Lever / Latch-sets:

Draft Rev. 2-05-03

- a. All exterior lever handles to be “Schlage, Vandlgard”.
 - b. All exterior pull handles to be Ives #VR910-NL and #VR910-DT on non-active leaf on pair of doors.
 - c. All Student Toilet Room doors shall be specified to have Schlage L9460P 503 626 x 03A 626 lever-set with function XL11-886. Also include push plates with cutout around the fixed exterior side lever. Students must not be able to lock themselves in room.
 - d. All Staff Toilet Rooms without toilet partitions shall be specified to have an Schlage D85PD “hotel” function lockset with modification to enable only a push function and disable the “push and twist” function.
 - e. All interior Office doors to be specified as Schlage D70PD, to have no button function on one side and keyed cylinder on other side.
 - f. All Storage rooms to be specified as Schlage D80PD on interior doors and D96PD on exterior doors. They are to have a lever that locks automatically when door is shut, but releasable from interior and keyed cylinder on other side. Only to be used on true storage rooms.
5. Door Closers:
- a. All doors to have LCN #4041-TB, EDA heavy-duty, door closures. No substitutions. Long arm is required where wide throw hinges are required.
6. Hinges:
- a. All exterior doors are to be full length, mortised, continuous hinges. Note that if there is an obstruction of more than 2 13/16” preventing door from opening 180 degrees or against adjoining wall, then specify wide-throw butts with ball bearings. Specify four wide-throw butts for a standard height door.
 - b. All FRP doors are to have full length, mortised, heavy-duty, continuous hinges. Note that if a throw greater than 2 13/16” is required, then FRP door cannot be utilized. Also FRP doors are limited to a 20-minute label. When label is required specify stainless steel hinge.
 - c. All interior doors to have ball bearing butt hinges.
7. Hold Opens:
- a. All exterior doors are to have wall mounted door hold-opens where code permits. Mount high on wall.
 - b. All primary interior doors on campuses with interior corridors shall have wall mounted door hold-opens where code permits.
8. Weather Stripping:
- a. All exterior doors are to be fitted with brush-style, 45-degree, weather-stripping.

Draft Rev. 2-05-03

9. Door Louvers:
 - a. All exterior door louvers to be heavy duty vandal resistant.
 10. Accessories:
 - a. Provide custom heavy-duty hasp on student toilet room doors that will allow the custodian to pad lock open the doors during occupied hours.
 - b. Provide kick plates at the base of non-FRP doors that are subject to abuse, such as Kitchen, storage rooms, custodian rooms, etc.
 - c. All exterior locksets to be equipped with Trimco "Cylindrical Lock-guard" #1083-6.
- P. Handicapped Lifts:
1. Provide National Wheel-O-Vator, model BC, with key-control, factory upper and lower gates.
 2. Provide recessed area for flush transition onto platform.
- Q. Elevators:
1. Provide hydraulic "hole-less" elevators per master specification. Design professional to ensure that all of the CBC requirements are met.

Draft Rev. 2-05-03

VII. Mechanical Items for New Construction Projects:

A. HVAC Systems:

1. Design campus with heating, ventilation and air conditioning in all occupied spaces. No heating or air conditioning is required in storage rooms or custodian closets. HVAC systems shall primarily be individual rooftop packaged gas-electric units and possibly small split units to service special use areas such as computer server room. Provide evaporative coolers and radiant heaters to service shops and locker rooms. No multi-zone units.
2. Design professional to design system around “York” units for the layout, weight, size and performance criteria. (See outline specifications for additional material and equipment information.)
3. Systems shall be properly zoned according to exposure and occupancy usage. Provide an individual unit for each exposure/occupancy zone. Each Classroom shall have its own individual unit.
4. Airside economizers shall be provided for each system 1200 CFM or greater in size.
5. Rooftop packaged gas-electric HVAC units and outdoor air-cooled condensing units shall have an efficiency rating not less than that required by Title 24. When equipment is available with energy efficiency ratings that exceed Title 24, such equipment shall be specified, provided there are enough manufacturers who can meet the higher efficiency requirement to insure a non-proprietary competitive bid.
6. High efficiency type motors shall be specified for all HVAC equipment and exhaust fans.
7. Areas such as Auto Shops that have large roll-up doors, which are often open, shall avoid forced air heating systems. Provide gas-fired radiant tube type heating systems in lieu of forced air heating and evaporative cooling.
8. When rooftop packaged gas-electric units or outdoor air-cooled condensing units are used, heavy gauge expanded metal vandal guards shall be provided on the units to protect the condenser coils and fins.

B. HVAC Load Calculation Criteria:

1. Heating and cooling load calculations shall be performed using a computerized load calculation program that is ASHRAE-based as required by Title 24. Equipment shall be sized and selected to handle the heating and cooling loads calculated, and per the requirements of Title 24.
2. Outdoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Winter: 28F; Summer: 100F dry bulb/70F mean coincident wet bulb, and 71F design wet bulb.
3. Indoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Heating: 72F; Cooling: 76F.

C. Ventilation Criteria:

Draft Rev. 2-05-03

1. Minimum outside air rates delivered to the occupied spaces shall be in accordance with Title 24/ASHRAE Standard 62.
 2. “Demand Control Ventilation” (CO2 control) of minimum outside air delivery rate shall be used on high occupancy spaces, including Multipurpose Rooms, Cafeterias, Gymnasiums, and Theaters.
 3. Minimum supply air circulation rates shall be as follows: Corridors, Storage Rooms: .5 CFM/SF; Locker Rooms: 2.0 CFM/SF; Classrooms, Multipurpose Rooms, Cafeterias: 1.5 CFM/SF; Administrative Offices, Libraries, Theaters: 1.2 CFM/SF; Gymnasiums: 1.0 CFM/SF.
- D. Exhaust Criteria:
1. Toilet Rooms and Locker Rooms shall be exhausted at a rate of 15 air changes per hour and held at a negative pressure.
 2. Custodial Closets and Dark Rooms shall be exhausted at a rate of 20 air changes per hour and held at a negative pressure.
 3. Provide exhaust as required for items such as Kitchen hoods, Art Classroom kilns, Shop welding areas, Woodshop sawdust collection systems, and Science Classroom hoods. In Science Classrooms and Science Prep Rooms, provide a manually switched general space exhaust system sized for 10 air changes per hour.
- E. Acoustic Criteria:
1. Internally line, with acoustic duct liner, all supply and return ducts for a minimum of 10 feet off all HVAC units and exhaust fans, except for moist airstreams such as evaporative cooling, shower exhaust, grease ducts, etc. which shall not be internally lined. Provide a minimum of one, and preferably two, lined elbows between the HVAC unit or fan and the first supply diffuser and the first return register.
 2. Provide 2 layers of ½” gypsum board lining directly on the roof and inside the curb of all rooftop HVAC units.
 3. HVAC equipment shall be located carefully to minimize noise transmission into adjacent occupied spaces.
 4. Provide spring vibration isolation as necessary to control vibration and noise.
 5. Design HVAC systems for the following Noise Criteria (NC) levels: Classrooms and Administration Offices NC 30; Gymnasiums NC 45; Theaters, Performing Arts, and Libraries NC 25; Multipurpose Rooms and Cafeterias NC 35; Shops NC 40.
- F. Indoor Air Quality:
1. Minimum outside air rates shall be in accordance with Title 24/ASHRAE Standard 62.
 2. Locate outside air intakes away from pollutant sources.
 3. Provide local exhaust at indoor pollutant sources.
 4. Specify low VOC duct materials and duct sealants.

Draft Rev. 2-05-03

5. Specify a 72-hour pre-occupancy building purge at system start-up. Run heating cycle on full continuously for 72-hours with all exhaust fans on.
 6. Design control systems to provide the Title 24 required daily pre-occupancy purge cycle.
- G. Ductwork and Air Distribution:
1. Ductwork shall be galvanized steel; fiberglass ductboard will not be acceptable. Aluminum ductwork and air distribution components shall be used in wet areas or when handling moist air. Avoid any rooftop ductwork.
 2. Provide access doors in all sections of ductwork that are internally lined, to allow for cleaning of the duct liner.
 3. In general, unless space constraints exist, ductwork exposed in the conditioned space shall be round spiral duct and shall be painted.
 4. Duct systems shall be designed in accordance with ASHRAE and SMACNA standards, and per applicable Codes. Duct systems shall be designed for quiet and efficient system operation.
- H. Filtration:
1. See outline specifications for requirements to change filters during construction if equipment is used, to provide new filters after system purge and prior to occupancy and to provide four extra stock filters per unit.
- I. Space Pressurization Relief:
1. Provide building pressure relief in all spaces that are pressurized due to minimum outside air introduction or due to economizer outside air introduction. Adequate relief shall be provided so that ADA Door Closure Requirements are met in all rooms. Relief is to be provided by providing HVAC units with accessory modulating power exhaust systems that are controlled by room static pressure.
- J. HVAC Controls:
1. HVAC controls shall be simple electric/electronic controls. DDC energy management systems and pneumatic control systems will not be acceptable. Typically for each campus, a central locking temperature control panel shall be provided with a programmable time clock inside the panel that controls the operating schedules of each HVAC system. User-adjustable (within a controllable range) individual room temperature sensors shall control room temperature. A manual 0-2 hour bypass timer shall be provided adjacent to each room temperature sensor to provide for off-hour operation.
- K. HVAC System Commissioning:
1. See outline specifications for requirement to provide informal commissioning before the District will accept the project as complete. This includes air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for noise sensitive areas, final calibration and set points for all control systems and components, and training of the District's Maintenance and Operations staff for operating and maintaining

Draft Rev. 2-05-03

the systems prior to occupancy. Also require re-balancing, review of all equipment performance and submission of findings on a report to District prior to expiration of 2-year warranty. Require a review on site and re-training for maintenance department prior to the end of the warranty period.

L. Plumbing Systems:

1. Review educational specifications for additional locations that may require hot and cold water at sinks. In general hot water is required at the following locations: Staff Toilet Rooms, Food Service areas (Kitchens, Snack Bars), Staff dining area, Photo Labs, Kindergarten work room sinks and Special Education Classrooms. Sinks in student toilet rooms and classrooms are to have cold water only.
2. In general, gas-fired storage type water heaters shall be used for domestic hot water production, except where gas is not available, or in cases of small load or remote location which warrants small under counter tank type electric water heaters (No instantaneous type). All water heaters must be able to fit through doorways where located to accommodate replacement.
3. Domestic hot water temperatures shall be 120F storage at the tank and 110F delivery from the fixture. Hot water for kitchens shall be 140F, and for commercial kitchen dishwashers shall be 160F-180F, or as required by the dishwasher manufacturer.
4. Provide hose bibs on the roof for cleaning of roof mounted HVAC equipment, skylights, etc. Provide a hose bib at each building or at each equipment well. The rooftop hose bibs shall be loose-key with a secure remote shut off valve and have a anti-freeze valve with drainage system to prevent water from freezing in pipe.
5. Provide exterior hose bibs around the perimeter of buildings at intervals that allow a 100 foot hose to reach all areas of the building exterior for window washing, etc. Hose bibs shall be loose key, non-freeze type.
6. Provide interior hose bibs in student toilet and shower rooms in locking wall boxes. Verify exact locations with designated District representative that will coordinate with the M&O department.
7. Provide accessible shutoff valves as necessary to insure serviceability of all parts of the domestic cold and hot water systems. This includes at every main line serving area such as Toilet Rooms, Locker Rooms, Kitchens, Shops, etc. Locate isolation valve in wall with a locking access door.
8. Provide garbage disposals in Kitchen sinks, sinks in teacher's lunchroom and as required by the local Health Code. Provide a 2" waste line at all garbage disposal locations.
9. The sizing of domestic water heaters for Locker Rooms shall be determined on showerhead count provided in the educational specifications. The District may elect to apply a diversity factor to the hot water demand calculations, thereby limiting water heater size.
10. Clay traps shall be installed at all Art room sinks.

Draft Rev. 2-05-03

11. Provide Code-required acid waste and vent piping, and acid waste neutralization tanks, at Science Classrooms, Science Prep Rooms, and Dark Rooms.
 12. Provide emergency eyewash/shower fixtures with drain basin in Lab Classrooms, Dark Rooms, Shops, etc.
 13. Where hot water return pumps are used for recirculation of domestic hot water, such pumps shall be controlled by an electric time clock to prevent unnecessary operation after hours.
 14. Locate the grease traps at kitchens at the exterior of building, preferably in utility yard.
 15. Provide floor drains in Kitchens and all toilet rooms.
 16. Provide floor sinks to service Kitchen equipment and ice machines that may be required per education specifications at team locker rooms. Note that if required ensure that the ice machine has remote condensing coil.
 17. Do not specify gang-sinks.
- M. Site Utilities:
1. Provide a seismic gas shutoff valve on the consumer side of the gas meter.
 2. Gas meters shall be enclosed in utility yard that meets the Utility Company's requirements.
 3. Site gas distribution piping shall be medium pressure (5 p.s.i.) where available, and regulated down to low pressure at each building. Provide Code-required accessible gas shutoff valve outside each building served. Building shutoff valves and regulators shall be located as directed by the District to be accessible for service but to prevent vandalism.
 4. Coordinate project gas, water, and sewer loads and requirements with local Utility Companies, and confirm available gas and water pressures.
 5. Size site utilities to allow for any possible future campus expansions, coordinate with District.
 6. Coordinate fire hydrant locations with local fire jurisdiction.
- N. Fire Sprinkler Systems:
1. The sprinkler system shall be a single interlocked preaction system. Design in accordance with all local Codes and Ordinances, and per the requirements of NFPA (latest edition) for both site water supply and building sprinkler systems. Coordinate fire line tie-in, size requirements, backflow prevention, post indicator valve and remote pumper location with local fire jurisdiction.
 2. Determine actual static and residual pressure for the site prior to designing system service.
 3. Comply with requirements of SB575.

Draft Rev. 2-05-03

VIII. Electrical Items for New Construction Projects:

A. New Campus Site Service:

1. Site primary service design and location must be coordinated with and approved by PG & E. Final PG & E commitment requirements shall be incorporated into project requirements by A/E prior to bid. A/E shall be required to obtain written approval from PG & E. Verify availability of voltage and phase.
2. A/E to obtain approval of electrical service location from designated District representative prior to system design.
3. Locate switchgear and transformer in a fully secure utility yard with concrete housekeeping pad.
4. Provide a minimum of a 2000 amp service. Increase size of service if necessary to accommodate all design loads plus future loads of any master planned additions and the required master planned addition of 12 portable classrooms. All main building panels shall be sized for an additional 25% spare capacity of design loads, thus increasing the size of the electrical service by 25%.

B. New Campus Electrical Distribution:

1. Step-down transformers to be located at individual buildings for 480/277 volts or higher distribution systems. Electrical engineer to recommend K-rating of energy efficient transformers depending on location, loads and types of loads.
2. Include spare conduits with pull ropes in all conduit duct banks. The number, size and termination points of the spare conduits need to be determined specific for each campus layout. The A/E is to meet with the designated District representative prior to finalizing the DSA submittal set to determine the specifics.
3. Provide all necessary conduits to service future campus additions and 12 portable classrooms stubbed to grade box in areas designated in master plan for future.
4. Locate all panels in dedicated electrical closets or dry storage rooms. Provide surface mounted panels with skirts.
5. Design electrical circuits to service no more than five, non-computer, duplex receptacles on any one circuit. Circuits servicing computers shall be limited to no more than 3 duplex receptacles.
6. All computer receptacles to be identified and have isolated ground. No shared neutrals are permitted for computer receptacles.
7. Shared neutrals are permitted for non-computer receptacles to 60% of capacity.
8. Provide power to irrigation booster pump or empty 2" conduit for future pump.

Draft Rev. 2-05-03

9. Main Distribution Frames (MDF's) and Intermediate Distribution Frames (IDF's) require dedicated power/circuit from the nearest distribution panel. The specific requirements for each closet's power must be determined in conjunction with the District technology consultant.
 10. Provide dedicated power to fire alarm system, telecommunication system, all copiers and any other specialty equipment.
- C. New Campus Surge Protection:
1. Provide TVSS in main gear to protect system from external surges.
 2. Provide new panels with integrated TVSS at all main building panels.
- D. New Campus Grounding:
1. Provide separate ground wire conductors: Insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Separate neutral conductor from electronic equipment. Install insulated, green conductor for grounding in all conduit or raceways. Use of raceway as ground is not permitted.
- E. New Classroom power requirements:
1. Provide 4 separate power circuits to service each classroom's receptacles. 3 shall be dedicated to service the computers / printers and one shall be for the general receptacle requirements. Alternate circuits throughout classroom.
 2. Each standard classroom shall be configured to accommodate up to six(6) (verify exact quantity with owner's representative) student computers and a printer at designated computer area on back-wall of classroom. Locate student receptacles at standard height to accommodate owner furnished computer desks with grommets in countertops
 3. Provide teacher with power and data jacks to accommodate both a computer and printer in teaching wall. Accommodate pathways to cable teachers' computer to TV/Video monitor and future ceiling mounted LCD projector location.
 4. Provide power receptacle adjacent to CATV receptacle to service TV/Video monitor & VCR / DVD in location per the educational specifications. Following are the optional locations:
 - a. Provide inside teaching wall for a shelf mounted TV / VCR / DVD.
 - b. Provide at 78" on wall to accommodate TV / VCR / DVD wall mount bracket on sidewall adjacent to the teaching wall.
 - c. Provide at 18" for cart-mounted equipment.
 5. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
 6. Provide one receptacle at sink with GFI where applicable. (Elementary classrooms only.)
- F. New Campus Lighting:

Draft Rev. 2-05-03

1. All lighting shall exceed Title 24 requirements for energy efficiency based on watts per square foot. Comply with CHPS recommended guidelines.
 2. Provide District with copies of lighting calculations indicating anticipated lighting levels and watts per square foot. Coordinate colors of finishes with architect for reflective values.
 3. Provide energy efficient light fixtures per school district standards. (See attached Light Fixture Schedule.)
 4. The District's preference is for suspended acoustical ceilings with lay-in fixtures in at least portions of Classrooms, Libraries and Offices, however depending on the daylighting design, a combination of bi-directional suspended fixtures and lay-in fixtures may be required.
 5. Where possible, design suspended fixtures to allow an unobstructed swing of 45 degrees in any direction to avoid the need for seismic bracing.
 6. All light fixtures shall be located in a manner that accommodates ease of lamp replacement.
 7. Controls:
 - a. Provide multi-level switching in all spaces. In areas with daylighting, provide separate, remote, switch to control bank of lights adjacent to daylight source. In other areas switch lamps within fixtures individually to allow light level control. Review switch locations with designated District representative prior to finalizing plans.
 - b. Provide ultrasonic occupancy sensors in classrooms, workrooms and conference rooms.
 - c. Provide infrared occupancy sensors in offices, restrooms, storage rooms and workrooms.
 - d. Design lighting control panel to provide sweep shut off in all assembly areas, reception, hallways, kitchens and stage. Provide a separate time clock control for the Gyms.
 - e. Provide keyed switches in student toilet rooms, gyms, multi-purpose, cafeterias, hallways and auditoriums.
- G. Exterior Lighting:
1. Exterior lighting shall be all heavy-duty and vandal resistant per District standard light fixture schedule.
 2. Minimize use of pole lights where possible.
 3. Utilize soffit lights where possible and coordinate location with doors.
 4. System to provide two separate lighting functions:
 - a. Function A – Provide general lighting of entire exterior of building compound, primary walkways and parking lots. Design exterior lighting system to achieve a minimum maintained 1.5 foot-candle. This lighting is to be timeclock controlled in conjunction with a photocell.

Draft Rev. 2-05-03

- a. Sporting Events:
 - i) Average maintained 70 foot-candles at the horizontal playing surface.
 - b. Social Events:
 - i) Average maintained 30 foot-candles at the horizontal surface.
8. Multi-Purpose:
 - a. Average maintained 30 foot-candles at the play/eating surface.
9. Cafeteria:
 - a. Dining:
 - i) Average maintained 30 foot-candles at the horizontal surface(s).
 - b. Kitchen/Food Preparation:
 - i) Average maintained 70 foot-candles at the horizontal surface(s).

Draft Rev. 2-05-03

IX. Technology / Low Voltage Systems for New Construction Projects:

Note that with respect to technology and low voltage systems, the involvement of the A/E team and its design effort will be limited to the following:

- 1. A complete, functional DSA-approved fire alarm system,**
- 2. The design of a raceway backbone/infrastructure for telephone/voice (including intercom), data, clock and bell, intrusion, video monitoring (CCTV), video distribution (CATV), EMS (as requested), assistive listening and possibly other systems. The actual system design(s) will be generated by the District and the District's technology consultant(s).**
- 3. Coordination with District low voltage/technology consultant as needed to insure adequacy of backbone/infrastructure system.**
- 4. Meet with the District representative and District technology consultant to verify the current design standard requirements prior to proceeding with design of system(s).**

A. Telecommunications System:

1. The District utilizes an NEC (NEAX® 2000 IPS) full-featured IP-based communications system. This system primarily functions within and supports time division switching (TDM). It is also capable of providing pure voice-over-IP (VoIP) peer-to-peer connections across future district local and wide area networks (LAN/WAN).
2. Provide UPS (APC, or equal) for telephone switch.

B. Public Address/Intercom System:

1. The TDM/IP Telephony system must integrate with a standalone Public Address system. It is therefore required to expand the capabilities of the clock / bell system to include the PA function such that all handsets can deliver room-to-room paging, room-to-office paging, and campus-wide paging.
2. Assembly Area System: Provide infrastructure to accommodate an owner furnished Public Address system in assembly areas. Coordinate exact requirements prior to proceeding with Construction Documents.
3. Coordinate power requirements to service equipment.
4. Provide battery back up for 6 hours of standby minimum. Note: The Public Address/Intercom System, while integrated with the TDM/IP Telephony system, can function independently.

C. Master Clock/Bell:

1. Provide the clock / bell system as included in the outline specifications.
2. Coordinate power requirements to service equipment.
3. Provide battery back up for 2 hours of standby minimum. Note: The Master Clock System, while integrated with the TDM/IP Telephony system, can function independently.

D. Local Area Network System:

Draft Rev. 2-05-03

1. Verify current requirements with District representative and District technology consultant prior to proceeding with system design. The infrastructure to accommodate the cabling and equipment will be required as part of this contract and the cabling and equipment will be designed, bid and provided by separate contract.
 2. All Local Area Network equipment and configurations must meet TDM/IP Telephony standards, as defined by the district.
- E. Fire Alarm System:
1. The District utilizes an FCI 7200 Fire Alarm System.
 2. System is to be a fully automatic system with pull stations only where required by code at assembly areas.
 3. Provide dial up panel to report to remote monitoring service.
 4. Provide dedicated power to service equipment and battery back up for 2 hours of standby minimum.
- F. Security System:
1. The District utilizes an Ademco Intrusion System.
 2. Provide motion sensor only system with no door contacts.
 3. Provide dial up panel to report to remote monitoring service.
 4. Coordinate intrusion alarm zones with camera locations.
 5. Provide dedicated power to service equipment.
 6. Provide battery back-up for 2 hours of standby minimum.
- G. Digital Video Surveillance System:
1. The District utilizes a Pelco Digital Video Surveillance System, utilizing Spectra-IIIe P/T/Z cameras.
 2. During design phase, A/E is to meet with the designated District representative to determine locations of cameras for site-specific design. It is not the intent to cover the entire campus only the areas of concern.
 3. Coordinate locations of exterior lighting with camera locations.
 4. Coordinate intrusion alarm zones with camera locations.
 5. Coordinate with signal and power to operate system and cameras.
 6. Provide dedicated power to service equipment.
- H. Local Area Network System:
1. Verify current requirements with District representative and District technology consultant prior to proceeding with Construction Documents. The infrastructure to accommodate the cabling and equipment will be required as part of this contract and the cabling and equipment will be designed, bid and provided by separate contract.
- I. Cable Television (CATV):

Draft Rev. 2-05-03

1. During design phase, A/E is to meet with the designated District representative to determine exact locations of cable jacks for site-specific design. Provide cable jacks in all classrooms, media centers, offices and assembly areas.
 2. Coordinate exact scope requirements with local cable company, AT&T Broadband. Verify if AT&T provides and installs amplifiers, splitters and taps. A/E to coordinate cabling and conduit sizing.
 3. Coordinate power requirements to service amplifiers.
- J. Assistive Listening System:
1. Provide a wireless FM system in assembly areas.
 2. Coordinate power requirements to service equipment.

-END-

Draft Rev. 2-05-03

PART III Renovation Design Guidelines:

I. General Renovation Project Items:

- A. The designated District representative will provide the design professionals with a specific scope state that will list the required scope to be incorporated into the contract documents. It is important to note that the renovation scope of work extends to the portable classroom building, but only to the extent that is included in the specific scope statement.
- B. The designated District representative will provide the design professionals with a copy of all available original plans, record drawings and maintenance projects records to the design professionals for their use.
- C. Areas that have been modified without DSA application number (e.g. added walls, air conditioning units with unapproved structural support, lofts, storage areas and freestanding storage sheds, etc.) should be identified and discussed with designated District representative for possible removal, modification or other appropriate action.
- D. Other minor modifications requested by site should be identified and discussed with designated District representative prior to taking any action. Under no circumstance should site staff be left with the impression that work outside the above-indicated scope will be included in the project.
- E. The District will employ a hazardous materials consultant and will determine the impact of the scope on existing materials and test those materials. This consultant will be preparing exhibits to the construction contract for the abatement procedures necessary to complete the Renovation scope of work. They also will be monitoring the abatement work that will be performed under the General Contractor's contract. The Architect is not responsible for determining if materials contain hazardous particles, determining scope of abatement necessary or monitoring the abatement procedures.
- F. All projects to include an informal building-commissioning requirement. See outline specifications for specific section requirements.
- G. All contracts to include final cleaning requirement section 01742.
- H. See outline specifications for product requirements.

II. Site Work for Modernized Campuses:

- A. Design professionals must verify existing site conditions. The existing site conditions must be investigated and documented. Design professionals to review the "Record Drawings" provided by the School District and incorporate the verified, relative information on the construction documents.
- B. If specific scope of work necessitates excavation, the design professional shall ensure that the contractor is responsible to employ an underground locator service to identify all underground utilities of select areas. The construction contract is to

Draft Rev. 2-05-03

require the contractor to be wholly responsible for any damage to existing underground utilities.

- C. If new electrical service transformer and switchgear are required, locate new equipment in an area that will allow existing equipment to remain in operation to minimize required time of power outage. The new location should be as discrete as possible. The new utility yard shall have a concrete pad and eight-foot chain link fence enclosure and locked gates.
- D. If new seismic shut-off valve is required on the gas service, a chain link enclosure is required around the valve complete with a chain link lid and locked gate.
- E. Waste and Recycled Material Collection Area:
 - 1. Design professional to review existing service yard location and layout and propose Renovation design to Designated District representative to accommodate the following:
 - a. Provide fenced, screened area with locking gates design to accommodate (3) 10 cubic yard dumpsters (6' long x 6" wide x 7'-8" high). Provide pair of locking gates at each dumpster and direct truck frontal access to each dumpster. One of the dumpsters is for non-recyclable garbage, one is for mixed recycling (single stream recycling) and one is for yard waste.
 - b. Provide a clear area of 11'-6" wide and 40 feet long in front of the dumpster enclosures to accommodate service truck approach. Any turning must accommodate the trucks 45 foot turning radius.
 - c. Provide protective 8" diameter bollards at both the back of enclosure (to stop dumpster from contacting back fence) and at the gates.
 - d. Service yard and approach to have reinforced concrete pad sufficient for 10,000-pound single wheel truckloads.
 - e. Locate in area convenient for collections by service trucks and away from campus pedestrian and vehicle traffic. Review proposed location and layout with designated District representative and Vacaville Sanitary.
 - f. Evaluate existing location for compliance with the District's goal to minimize visual, noise and odor impacts to campus and residential neighbors.

III. Architectural Items for Renovation Projects:

- A. Handicapped Access for Renovation Projects:
 - 1. Design professionals to obtain from the designated District representative a copy of the ADA self-evaluation study that has been completed for all existing campuses. Also, if available, they will provide a copy of the transition plan. If the transition plan is available, include appropriate scope delineated for

Draft Rev. 2-05-03

implementation within the next five years and include copy of the transition plan with plan submittal to DSA.

2. Include the scope of work delineated on the specific scope statement for handicapped accessibility. If during the plan review process, DSA requires additional scope of work to be included to obtain approval, forward specific requested and code reference to designated District representative to address.
3. Handicapped Access for Renovation Projects – Site:
 - a. A/E to coordinate and employ the services of an independent land surveyor to establish existing grades to determine optimum design solution for handicapped path of travel.
 - b. Provide handicapped parking stalls with appropriate pavement markings and signage.
 - c. Provide curb ramps, other ramps, and handrails as appropriate to allow access to all areas of site.
 - d. Include rebar dowels for new concrete ramps abutting existing concrete.
 - e. Coordinate location of new work with existing infrastructure (e.g. storm- and wastewater system).
 - f. If necessary repair existing concrete or asphalt paving as needed for handicapped path of travel.
 - g. Include keynotes and details as appropriate for transitions, base rock, preparation of sub-base, seal coats, striping, etc.
 - h. Include specific direction for removal of existing striping where spaces have been modified for handicapped spaces.
 - i. All non-structural concrete flatwork should be specified at 2500 p.s.i. with no mix design submittals required.
4. Handicapped Access for Renovation Projects - Buildings:
 - a. All occupant used doors to be handicapped accessible. (Storage and equipment rooms are not required to be accessible.)
 - b. Reconfigure minimum of one pair of student toilet rooms and one pair of adult restrooms (or if applicable one unisex toilet room) to handicapped standard; actual number to be negotiated with DSA.
 - c. Provide wheelchair lifts or ramps at multi-purpose room stages or elsewhere where required.
 - d. Provide wall and floor mounted rails at exterior drinking fountains for handicapped accessibility.
 - e. Provide CBC compliant room and building signage. All room designations to be confirmed in meeting with Site Principal and District project manager prior to preparation of plans. (Note that plans are required to use same designations as used on site.)

Draft Rev. 2-05-03

- f. Provide handicapped accessible areas at cafeteria tables and benches.
 5. Provide modifications to casework to accommodate handicapped access if required by transition plan or if the above items have not achieved the 10% threshold.
 6. Other potential site-specific requirements requested by DSA or identified by the design professional should be discussed with designated District representative for appropriate action.
- B. Existing Building Exteriors and Finishes:
1. All exterior surfaces of buildings are to be free of peeling paint and in general good condition free of discoloration and graffiti.
 2. Exposed masonry exteriors are to be cleaned, repaired, sealed and treated with anti-graffiti coating. All loose or unstable masonry shall be repaired or replaced.
- C. Existing Roofs:
1. The ability to climb on the roof should be minimized. Therefore rainwater leaders and overhangs that can be climbed on should be modified as practical.
 2. Survey existing areas designated in scope to be replaced and evaluate condition of existing roof accessories (vents, flashings, gutters, downspouts, sleepers, curbs, skylights, etc.) and indicate replacement or modification as necessary. Note that existing curbs may need to be modified or replaced to accommodate new roof warranty requirements. Provide details for any necessary modifications or replacement work that will be required.
 3. Survey existing condition of substrate (from underside where possible), fascia, trim and alike and indicate replacement as necessary. (Note that if selective demolition is necessary to investigate an area suspect of dry rot or termite damage, notify designated District representative for authorization of extra services.) Include in base contract all know structural repairs. Determine anticipated amount of unknown structural repairs and estimated costs. Include as a bid allowance with standard structural repair details.
 4. Require in contract the removal of all roofing material to substrate and replace / repair existing substrate as required.
 5. On flat roofed areas provide positive drainage in ponding areas with tapered insulation. Provide tapered non-CFC and non-HCFC insulation as necessary to eliminate all ponding water.
 6. On low-sloped roofs ($\frac{1}{2}$ " in 12" to 3" in 12") use the specified Garland "Stressply EUVFR Mineral" modified bitumen roofing. See outline specifications and contact Sean Mulligan at (925) 254-4777 for manufacturer specification.
 7. On sloped roofs (3" in 12" or greater) use Garland, Rmer Span, metal roofing. See outline specifications and contact Sean Mulligan at (925) 254-4777 for manufacturer specification.

Draft Rev. 2-05-03

8. Include ¼" "densdeck" drywall material as required for Class A roof assembly.
 9. Provide walkway pads around all existing and new rooftop equipment and at roof access ladders or roof access hatches.
 10. Where ceiling is exposed underside of metal roof deck, indicate that fasteners for roofing are to be limited to penetration of top flutes.
 11. Asbestos abatement for existing roofs will be designed by separate consultant hired by District.
- D. Existing Gutters and Downspouts:
1. Remove and replace as necessary the existing rain gutters and downspouts. Detail gutter and downspouts as follows:
 2. External 22 gauge, fully soldered, rain gutters shall be provided at all roof edges.
 3. Gutter profile shall be a minimum of 4" x 4" with ¾" reveal at lip. Detail with outer edge ½" lower than roof plane.
 4. Rainwater leaders to be exposed on exterior and constructed of schedule 40 galvanized steel pipe.
 5. Provide indirect connection to storm drain system via drain inlet at downspout discharge where practical.
 6. Where no gutters presently exist, add new gutters to roof design where practical to do so.
 7. Where existing downspouts drain across walkways, tie downspouts into the storm drain system with in indirect connection via drain inlet.
- E. Painting of Renovation Projects:
1. Scope to include complete painting of all existing items previously painted and any new items included under this contract. Specifically indicate painting of new and existing unpainted conduits, pull boxes, metal railings, fascias, doors and frames, flashings, gutters, downspouts, etc., and restoration/touchup of any areas adjacent to work installed.
 2. All paint colors to be from District standard color schemes, as chosen by site prior to bid.
 3. Interior painting to include all walls, ceilings, clerestories, doors, frames, and trim.
 4. Include repainting of all casework including the interiors.
 5. Interior CMU and brick to be cleaned and painted.
 6. All ceilings and underside of canopies and overhangs to be white per District standard color. The balance to be one of nine District standard color schemes per wing or building, chosen by site from District standard colors.
 7. Interiors of Gyms, Libraries, Theaters, Multipurpose Rooms, and other special use rooms may have existing custom colors (not in District standard colors)

Draft Rev. 2-05-03

and multiple tones with graphics or logos. Design professional to indicate existing color scheme and layout to be replicated.

8. Exterior surface preparation to include sandblasting of metal surfaces where required, high pressure washing of all other surfaces and filling of cracks in cement plaster and veneer surfaces.
9. Interior surface preparation to include TSP cleaning, sanding and patching of all interior surfaces.
10. Coordinate surface preparation with lead paint surface preparation specification provided by separate consultant hired by District.

F. Existing Casework:

1. All casework must be fully functional and operational.
2. The design professional is to include in the bid documents all work necessary for repairs to hardware, doors and drawers. Or if more cost effective, replacement of existing casework.
3. Modifications for handicapped accessibility may be required by transition plan or due to not achieving the 10% threshold by implementing the other, higher priority, ADA modifications.
4. In Elementary classrooms, add a sink base cabinet to retrofit sinks with drinking fountains in all K-6 classrooms. Note that this requirement includes K-6 portable classrooms.

G. Existing Ceilings:

1. Show replacement of damaged and severely stained ceiling tiles and indicate actual replacement areas or a typical percentage. Show areas to be patched due to installation of new work (e.g. exhaust fans, electrical panels, lighting, smaller light fixtures, etc.).
2. Design professional to review existing suspended ceiling systems and advise if they need to be replaced.

H. Existing Doors and Frames:

1. All exterior doors to be replaced. Design professions to evaluate the condition of all interior doors, hardware and frames to determine if repair or replacement is necessary. Doors, hardware and/or frames are only to be replaced if necessary to accommodate handicapped accessibility or are in need of repair due to major damage or are not secure.
2. Following is the standards for door replacement:
 - a. If doors need to be replaced that are in primary location and exhibit architectural detailing significant to the appearance of the campus, then the door shall be replaced to match existing as practical.
 - b. All exterior doors shall be FRP doors with continuous hinges. Note that FRP doors are limited to a 20-minute label, where rated door in excess of 20-minutes are required provide solid core metal doors.

Draft Rev. 2-05-03

- c. All interior doors shall be solid core wood doors unless in area of high abuse (such as Gyms, Locker Rooms and remote doors subject to vandalism), then doors shall be FRP doors.
 - d. All replacement doors shall have a vision lite if original door had one or where it would provide additional safety. If applicable codes will allow, the glazing shall be 6" x 30" (on standard height doors) set 8" from top of door and 6" from strike side of door. The glazing shall be wire glass. Due to an interpretation of the code from DSA all doors with wire glazing are required to have a minimum of a 20-minute label. Glazing to be set in integral frames with interior stops.
 3. The frames are to remain, but need to be evaluated for repair or replacement on a door-by-door basis. Width of doors may need to be increased for accessibility. Where frames are required to be replaced provide detail for wall repair.
- I. Door Hardware for Renovation Projects:
 1. General: A/E to submit completed finished hardware specification to designated District project manager and Schlage representative for review and acceptance prior to including in bid documents.
 2. Keying:
 - a. All doors to be fitted with Schlage Everest cylinders and keyed into the District restricted keyway system. Cylinder cores are to be removable and interchangeable except for "D" series locksets.
 - b. All cylinders to be factory keyed and shipped with construction split-key system.
 - c. District keying system consists of restricted keyways on a District-wide great-grandmaster, site grandmaster, utility-master, building master (High School campuses only), community key (access to only spaces being used by community) and specific door hierarchy.
 - d. Exterior doors to same building and multiple entries to same room are to be keyed alike.
 - e. Staff restrooms and workrooms shall be "maisoned " to classroom keyway. (Each teacher should be issued one key that allows access to only his or her classroom, a staff restroom and workroom.)
 - f. All other doors shall be keyed differently within the Site/Grand Master restrictions except for the special use rooms listed above.
 - g. A/E to meet with designated District project manager, Schlage representative, District locksmith and site personnel to determine keying schedule. The keying schedule is to be incorporated into project specifications prior to bid.
 3. Exit Devices:
 - a. Von Duprin, no substitutions allowed.
 - b. Heavy-duty touch bar exit rim device.

Draft Rev. 2-05-03

- c. Provide with keyed removable mullion at paired entrances.
 - d. Provide with keyed dogging cylinder and with pull trim at exterior entrances.
 - e. All paired doors shall be specified with surface mounted panic devices, keyed removable mullion and set of heavy-duty pull handles.
4. Lever / Latch-sets:
- a. All exterior lever handles to be “Schlage, Vandlgard”.
 - b. All exterior pull handles to be Ives #VR910-NL and #VR910-DT on non-active leaf on pair of doors.
 - c. All Student Toilet Room doors shall be specified to have Schlage L9460P 503 626 x 03A 626 lever-set with function XL11-886. Also include push plates with cutout around the fixed exterior side lever. Students must not be able to lock themselves in room.
 - d. All Staff Toilet Rooms without toilet partitions shall be specified to have an Schlage D85PD “hotel” function lockset with modification to enable only a push function and disable the “push and twist” function.
 - e. All interior Office doors to be specified as Schlage D70PD, to have no button function on one side and keyed cylinder on other side.
 - f. All Storage rooms to be specified as Schlage D80PD on interior doors and D96PD on exterior doors. They are to have a lever that locks automatically when door is shut, but releasable from interior and keyed cylinder on other side. Only to be used on true storage rooms.
5. Door Closers:
- a. All doors to have LCN #4041-TB, EDA heavy-duty, door closures. No substitutions. Long arm is required where wide throw hinges are required.
6. Hinges:
- a. All exterior doors are to be full length, mortised, continuous hinges. Note that if there is an obstruction of more than 2 13/16” preventing door from opening 180 degrees or against adjoining wall, then specify wide-throw butts with ball bearings. Specify four wide-throw butts for a standard height door.
 - b. All FRP doors are to have full length, mortised, heavy-duty, continuous hinges. Note that if a throw greater than 2 13/16” is required, then FRP door cannot be utilized. Also FRP doors are limited to a 20-minute label. When label is required specify stainless steel hinge.
 - c. All interior doors to have ball bearing butt hinges.
7. Hold Opens:

Draft Rev. 2-05-03

- a. All exterior doors are to have wall mounted door hold-opens where code permits. Mount high on wall.
 - b. All primary interior doors on campuses with interior corridors shall have wall mounted door hold-opens where code permits.
8. Weather Stripping:
 - a. All exterior doors are to be fitted with brush-style, 45-degree, weather-stripping.
9. Door Louvers:
 - a. All exterior door louvers to be heavy duty vandal resistant.
10. Accessories:
 - a. Provide custom heavy-duty hasp on student toilet room doors that will allow the custodian to pad lock open the doors during occupied hours.
 - b. Provide kick plates at the base of non-FRP doors that are subject to abuse, such as Kitchen, storage rooms, custodian rooms, ect.
 - c. All exterior locksets to be equipped with Trimco "Cylindrical Lock-guard" #1083-6.
- J. Existing Window systems:
 1. Replace window systems per specific project scope statement. Configure replacement windows to match existing operation of each sash. Obtain District approval or proposed replacement system, details and operation prior to finalizing bid documents.
 2. Replace all jalousie-type windows with new windows as appropriate.
 3. Replace all existing non-glass, Plexiglas, and glazing infill panels with glass. All new glazing shall match existing tint.
- K. Existing Skylights:
 1. Retrofit existing skylights with new, Sun Optics skylights. Select specific model suitable for specific reuse application. Specify with Lexan outer lens.
- L. Existing Covered walkways:
 1. Walkways are to be roofed similar to buildings except no rigid insulation is required. If walkway is a metal deck, utilize ½" "Dens-deck" to span flutes on metal deck.
 2. Review walkways for roof slope (need for tapered insulation), gutters, downspouts, and roof-to-wall flashing details.
- M. Toilet Room Upgrades for Renovation Projects:
 1. Refer to specific scope statement for rooms requiring renovation.
 2. Toilet rooms designated for renovation shall receive all new finishes, fixtures and toilet room accessories.

Draft Rev. 2-05-03

3. Use single hollow metal door with wall infill at existing in/out type restroom door where existing doors do not meet CBC width requirements.
4. All grab bars; new fixtures, accessories, etc. require opening walls to install blocking. Note on plans requirement to patch finishes.

N. Existing Flooring:

1. The District will designate all flooring that is to be replaced and will include the specific type of replacement flooring desired.
2. Linoleum Sheet Flooring:
 - a. Color to be selected from District's standard stock colors.
 - b. Provide a design pattern using accent colors at classroom doors and other appropriate areas.
3. "Carpet" or VCTT (C & A Power-Bond, Vinyl Cushioned Tufted Textile):
 - a. Use of carpet shall be limited to only areas specifically included in the specific scope statement.
 - b. At areas where carpet is required, provide Triad Geo Tile at exterior door locations for three-feet walk-off minimum.
 - c. Color to be selected from District's standard stock colors. All carpet patterns and colors to be selected from District standard range of colors from the C & A "Infinity" line.
4. Kitchens:
 - a. All Kitchens flooring is to be epoxy flooring with 6" integral cove.
5. Toilet Rooms:
 - a. All toilet rooms shall be either ceramic tile or terrazzo if existing. Terrazzo to be thickset cement based integral cove base, not epoxy-based.

O. Chainlink Fencing for Renovation Projects:

1. Any new fencing required that is adjacent to building where it may be used to gain access to the roof shall be narrow mesh to discourage vandals from obtaining access to roofs.

P. Existing In-wall Cafeteria Tables and Benches:

1. Replace in kind (same number of tables and benches) if included on specific scope statement.

Q. Existing Custodian Closets:

1. Refer to specific scope statement. If included provide new FRP wall panels. Evaluate existing ventilation and replace or provide new as necessary.

Draft Rev. 2-05-03

IV. Mechanical Items for Renovation Projects:

A. HVAC Systems for Renovation Projects:

1. In general, the existing campus' systems need to be replaced with new, energy efficient HVAC units. It is the District's preference to utilize; individual rooftop, packaged, gas-electric units were possible. If the existing roof structure or configuration prevents roof-mounted equipment, then a split system gas-fired furnaces with DX cooling coils and outdoor air-cooled condensing units shall be provided. Furnaces for classrooms shall be located in an acoustically insulated closet inside the classroom. Furnaces for other areas of the school shall generally be located in indoor mechanical rooms or acoustically insulated furnace closets. Locating furnaces in attic spaces shall be avoided except when absolutely necessary, and when done, adequate (and Code-required) service clearance and removal provisions shall be made. Design professional to propose type of system for District approval prior to proceeding with complete design. It is the District's goal to decommission and remove all existing central plants.
2. Systems shall be properly zoned according to exposure and occupancy usage. Provide an individual unit for each exposure/occupancy zone. Each Classroom shall have it's own individual unit.
3. Airside economizers shall be provided for each system 1200 CFM or greater in size.
4. Gas-fired furnaces shall be the high efficiency "condensing" type.
5. Rooftop packaged gas-electric HVAC units and outdoor air-cooled condensing units shall have an efficiency rating not less than that required by Title 24. When equipment is available with energy efficiency ratings that exceed Title 24, such equipment shall be specified, provided there are enough manufacturers who can meet the higher efficiency requirement to insure a non-proprietary competitive bid.
6. High efficiency type motors shall be specified for all HVAC equipment and exhaust fans.
7. Areas such as Auto Shops that have large roll-up doors, which are often open, shall avoid forced air heating systems. Provide gas-fired radiant tube type heating systems in lieu of forced air heating and evaporative cooling.
8. When rooftop packaged gas-electric units or outdoor air-cooled condensing units are used, heavy gauge expanded metal vandal guards shall be provided on the units to protect the condenser coils and fins.

B. HVAC Load Calculation Criteria:

1. Heating and cooling load calculations shall be performed using a computerized load calculation program that is ASHRAE-based as required by Title 24.

Draft Rev. 2-05-03

Equipment shall be sized and selected to handle the heating and cooling loads calculated, and per the requirements of Title 24.

2. Outdoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Winter: 28F; Summer: 100F dry bulb/70F mean coincident wet bulb, and 71F design wet bulb.
3. Indoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Heating: 72F; Cooling: 76F.

C. Ventilation Criteria for Renovation Projects:

1. Minimum outside air rates delivered to the occupied spaces shall be in accordance with Title 24/ASHRAE Standard 62.
2. "Demand Control Ventilation" (CO2 control) of minimum outside air delivery rate shall be used on high occupancy spaces, including Multipurpose Rooms, Cafeterias, Gymnasiums, and Theaters.
3. Minimum supply air circulation rates shall be as follows: Corridors, Storage Rooms: .5 CFM/SF; Locker Rooms: 2.0 CFM/SF; Classrooms, Multipurpose Rooms, Cafeterias: 1.5 CFM/SF; Administrative Offices, Libraries, Theaters: 1.2 CFM/SF; Gymnasiums: 1.0 CFM/SF.

D. Exhaust Criteria for Renovation Projects:

1. Design professionals to evaluate existing ventilation systems and replace if necessary to provide the following standards:
 - a. Toilet Rooms and Locker Rooms shall be exhausted at a rate of 15 air changes per hour and held at a negative pressure.
 - b. Custodial Closets and Dark Rooms shall be exhausted at a rate of 20 air changes per hour and held at a negative pressure.
 - c. Provide exhaust as required for items such as Kitchen hoods, Art Classroom kilns, Shop welding areas, Woodshop sawdust collection systems, and Science Classroom hoods. In Science Classrooms and Science Prep Rooms, provide a manually switched general space exhaust system sized for 10 air changes per hour.

E. Acoustic Criteria for Renovation Projects:

1. Internally line, with acoustic duct liner, all supply and return ducts for a minimum of 10 feet off all HVAC units and exhaust fans, except for moist airstreams such as evaporative cooling, shower exhaust, grease ducts, etc. which shall not be internally lined. Provide a minimum of one, and preferably two, lined elbows between the HVAC unit or fan and the first supply diffuser and the first return register.
2. The architectural walls of furnace closets shall be insulated with fiberglass batt insulation, and the return register, if on the wall of the closet, shall not directly face the classroom. The return air duct or plenum within the closet shall be lined, and the closet door shall be tightly gasketed for noise containment.
3. Provide 2 layers of ½" gypsum board lining directly on the roof and inside the curb of all rooftop HVAC units.

Draft Rev. 2-05-03

4. HVAC equipment shall be located carefully to minimize noise transmission into adjacent occupied spaces.
 5. Provide spring vibration isolation as necessary to control vibration and noise.
 6. Design HVAC systems for the following Noise Criteria (NC) levels:
Classrooms and Administration Offices NC 30; Gymnasiums NC 45;
Theaters, Performing Arts, and Libraries NC 25; Multipurpose Rooms and Cafeterias NC 35; Shops NC 40.
- F. Indoor Air Quality for Renovation Projects:
1. Minimum outside air rates shall be in accordance with Title 24/ASHRAE Standard 62.
 2. Locate outside air intakes away from pollutant sources.
 3. Provide local exhaust at indoor pollutant sources.
 4. Specify low VOC duct materials and duct sealants.
 5. Specify a 72-hour pre-occupancy building purge at system start-up. Run heating cycle on full continuously for 72-hours with all exhaust fans on.
 6. Design control systems to provide the Title 24 required daily pre-occupancy purge cycle.
- G. Ductwork and Air Distribution for Renovation Projects:
1. Ductwork shall be galvanized steel; fiberglass ductboard will not be acceptable. Aluminum ductwork and air distribution components shall be used in wet areas or when handling moist air. Avoid use of rooftop ductwork if possible. Where rooftop ductwork is necessary require ductwork to be sealed watertight and coated with a reflective, isolative coating. Rooftop, supply air and return air ductwork shall be internally lined with 2-inch thick acoustic duct liner.
 2. Provide access doors in all sections of ductwork that are internally lined, to allow for cleaning of the duct liner.
 3. In general, unless space constraints exist, ductwork exposed in the conditioned space shall be round spiral duct and shall be painted.
 4. Duct systems shall be designed in accordance with ASHRAE and SMACNA standards, and per applicable Codes. Duct systems shall be designed for quiet and efficient system operation.
- H. Filtration for Renovation Projects:
1. See outline specifications for requirements to change filters during construction if equipment is used, to provide new filters after system purge and prior to occupancy and to provide four extra stock filters per unit.
- I. Space Pressurization Relief for Renovation Projects:
1. Provide building pressure relief in all spaces that are pressurized due to minimum outside air introduction or due to economizer outside air introduction. Adequate relief shall be provided so that ADA Door Closure Requirements are met in all rooms. Relief shall be provided by providing

Draft Rev. 2-05-03

HVAC units with accessory modulating power exhaust systems that are controlled by room static pressure.

J. HVAC Controls for Renovation Projects:

1. HVAC controls shall be simple electric/electronic controls. DDC energy management systems and pneumatic control systems will not be acceptable. Typically for each campus, a central locking temperature control panel shall be provided with a programmable time clock inside the panel that controls the operating schedules of each HVAC system. User-adjustable (within a controllable range) individual room temperature sensors shall control room temperature. A manual 0-2 hour bypass timer shall be provided adjacent to each room temperature sensor to provide for off-hour operation.

K. HVAC System Commissioning for Renovation Projects:

1. See outline specifications for requirement to provide informal commissioning before the District will accept the project as complete. This includes air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for noise sensitive areas, final calibration and set points for all control systems and components, and training of the District's Maintenance and Operations staff for operating and maintaining the systems prior to occupancy. Also require re-balancing, review of all equipment performance and submission of findings on a report to District prior to expiration of 2-year warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

L. Plumbing Systems for Renovation Projects:

1. Revise drinking fountains, sinks, lavatories, urinals and toilets as required to accommodate handicapped access per architectural. Coordinate requirements to tie-in new fixtures to existing plumbing and address new and existing fixture carriers.
2. Maintain hot and cold water locations where exist.
3. Water Heaters:
 - a. Evaluate condition of existing water heaters and make recommendation for replacement if equipment is beyond the anticipated life span.
 - b. Replacement water heaters shall be gas-fired storage type water heaters, except where gas is not available, or in cases of small load or remote location which warrants small under counter tank type electric water heaters. (No instantaneous type). Water heater must be sized to fit through doorway.
 - c. Domestic hot water temperatures shall be 120F storage at the tank and 110F delivery from the fixture. Hot water for kitchens shall be 140F, and for commercial kitchen dishwashers shall be 160F-180F, or as required by the dishwasher manufacturer.
 - d. The sizing of domestic water heaters for Locker Rooms shall be discussed with the District. The District may elect to apply a diversity

Draft Rev. 2-05-03

factor to the hot water demand calculations, thereby limiting water heater size.

- e. If existing water heater is to remain, evaluate the installation and require modifications to the existing equipment for code compliant installation.

- 4. Provide a garbage disposal in Teacher's lunchrooms if one doesn't exist.
- 5. Replace the toilet room clean-out fittings and cover.
- 6. Evaluate condition of existing grease traps and make recommendation for replacement if necessary.

M. Site Utilities for Renovation Projects:

- 1. Consult with specific scope statement if there is a need to replace any of the existing site infrastructure.
- 2. If applicable, coordinate any increase demand for gas, water, and sewer capacity with local Utility Companies, and confirm available gas and water pressures.

Draft Rev. 2-05-03

V. Electrical Items for Renovation Projects:

A. General Electrical Renovation Notes:

1. Prior to starting design, A/E shall meet with the District M&O department and review existing electrical conditions and ongoing problems at site.
2. A/E to review electrical record / as-built drawings, conduct independent site investigations and evaluate existing conditions of power equipment including, switchboard, panels, transformers and feeders.
3. A/E to review scope statement and propose additional scope that may be determined necessary with designated District representative and the M&O department prior to starting Construction Documents.
4. A/E to meet with designated District representative(s) to help develop phasing schedule and coordinate system(s) design for construction phasing requirements. Goal is to minimize impact to school operations and allow for functioning systems during construction.

B. Renovation Site Service:

1. A/E to determine if service upgrade is necessary to accommodate current loads and new loads per the renovation scope. If upgrade is necessary, provide a minimum of a 2000 amp service. Increase size of service if necessary to accommodate all design loads plus future loads of any master planned additions and the required master planned addition of portable classrooms. (Note that the number of future portables needs to be determined for specific site, consult with the designated District representative for this information.) All new main building panels shall be sized for an additional 25% spare capacity of design loads, thus increasing the size of the electrical service by 25%.
2. If new site service is necessary, site primary service design and location must be coordinated with and approved by PG & E. Final PG & E commitment requirements shall be incorporated into project requirements by A/E prior to bid. A/E shall be required to obtain written approval from PG & E. Verify availability of voltage and phase.
3. Locate new transformer and gear adjacent to the existing to minimize power outage during switchover. Provide short circuit protection for existing panels to meet new A.I.C. requirements.
4. Special attention should be paid to aesthetic considerations of transformer and switchgear replacement. A/E to obtain approval of electrical service location from designated District representative prior to system design. Locate switchgear and transformer in a fully secure utility yard with concrete housekeeping pad.

C. Renovation Power Scope:

Draft Rev. 2-05-03

1. Refer to Specific Scope Statement for site needs to address existing power problems such as grounding, panel load balancing and services to existing and new equipment for office equipment, vending machines, and other appliances
 2. Provide dedicated power to fire alarm, telecommunication system, all data equipment including servers, security system, HVAC equipment and any other specialty equipment such as photo copiers, food service equipment.
 3. Provide new distribution panels at each building to accommodate new, existing and future power requirements. Provide new feeders in new conduits sized to accommodate all anticipated future loads. Reuse existing branch circuitry when in good condition.
 4. Provide fully skirted surface mounted panels only. Locate in electrical rooms or storage rooms wherever possible.
- D. Power Distribution on Renovation Campuses:
1. Utilize step down transformers at each building, or as reasonable, to minimize size and number of conduits for 480/277 volts systems. Electrical engineer to recommend K-rating of energy efficient transformers depending on location, loads and types of loads.
 2. Conduits shall be routed in concealed, accessible, attic spaces wherever possible. Minimize rooftop conduits. When possible feed new rooftop equipment under curb. Conduits routed under the overhangs or under canopies shall be clustered with all conduits on common supports. Limit use of underground conduits for site service electrical and to service buildings that do not have connecting canopies or overhangs.
 3. Do not use exposed conduits in interior applications except for corridors. Utilize Wiremold or Panduit.
 4. MDF's and IDF's require dedicated circuit from the nearest distribution panel. The specific requirements for each closet's power must be determined in conjunction with the technology consultant.
- E. Renovation Campus Surge Protection:
1. If new switchgear is required provide with TVSS to protect system from external surges.
 2. Required new main building panels and computer laboratory panels to be provided with integrated TVSS.
- F. Renovation Campus Grounding:
1. Conductors: Insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Separate neutral conductor from electronic equipment. Install insulated, green conductor for grounding in all conduit or raceways. Use of raceway as ground is not permitted.
- G. Renovation General Power Requirements:
1. Engineer circuits to service no more than five, non-computer, duplex receptacles on any one circuit.

Draft Rev. 2-05-03

H. Renovation Classroom Power & Data Requirements:

1. Each standard classroom shall be configured to accommodate up to six (6) student computers and a printer at designated computer area on back-wall of classroom and one teacher computer with optional printer in teaching wall. Provide in surface mounted 5500 series Wiremold or Panduit, three track, non-metallic, and raceway. Service exposed raceway with concealed conduits. Provide duplex receptacles in wiremold with corresponding data jacks. Alternate circuiting to prevent adjacent receptacles from being on the same circuit.
2. Provide four circuits to service receptacles. Three to service the computers and printers and one for general-purpose receptacles. Alternate circuits throughout classroom.
3. Provide power receptacle adjacent to CATV receptacle to service TV/Video monitor & VCR / DVD. Verify with District representative exact location.

I. Renovation Campus Lighting:

1. General notes:
 - a. Replace existing lighting with new energy efficient light fixtures per school district standards. (See attached Light Fixture Schedule.)
 - b. All lighting shall exceed Title 24 requirements for energy efficiency based on watts per square foot. Comply with CHPS recommended guidelines.
 - c. Provide District with copies of lighting calculations indicating anticipated lighting levels and watts per square foot. Coordinate colors of finishes with architect for reflective values.
 - d. Where possible, reuse existing conduits and boxes. Replace all conductors.
2. Controls:
 - a. Provide multi-level switching in all spaces. In areas with daylighting, provide separate, remote, switch to control bank of lights adjacent to daylight source. In other areas switch lamps within fixtures individually to allows light level control. Review switch locations with designated District representative prior to finalizing plans.
 - b. Provide ultrasonic occupancy sensors in classrooms, workrooms and conference rooms.
 - c. Provide infrared occupancy sensors in offices, restrooms, storage rooms and workrooms.
 - d. Design lighting control panel to provide sweep shut off in all assembly areas, reception, hallways, kitchens and stage. Provide a separate time clock control for the Gyms.
 - e. Provide keyed switches in student toilet rooms, gyms, multi-purpose, cafeterias, hallways and auditoriums.

Draft Rev. 2-05-03

3. Exterior Lighting:
 - a. Replace existing exterior lighting with new energy efficient heavy-duty and vandal resistant fixtures per District standard light fixture schedule.
 - b. Minimize use of pole lights where possible.
 - c. Utilize existing fixture locations where possible.
 - d. Replacement system to provide two separate lighting functions:
 - i) Function A – Provide general lighting of entire exterior of building compound, primary walkways and parking lots. Design exterior lighting system to achieve a minimum maintained 1.5 foot-candle. This lighting is to be timeclock controlled in conjunction with a photocell.
 - ii) Function B – Provide peripheral lighting for security, to always be on at night. These fixtures should be integrated with the above fixtures to provide minimal lighting throughout the campus and concentrated lighting for the surveillance cameras. This lighting is to be photocell-controlled.
 - e. Exterior lighting to be designed to minimize light pollution and avoid overspill to adjacent properties.
4. Emergency Lighting:
 - a. Egress lighting shall be by means of individual battery light units. Units shall have test switch and indicator lamp outside of fixture housing. Battery unit shall not have protruding light heads. No bug-eye lights will be allowed. Provide wire guards in locker rooms, multi-purpose rooms, gyms and vandal prone areas.
 - b. Exit Signage: Coordinate faceplate color to match adjacent wall color. Secure with tamper resistant fasteners.
 - i) Illuminating exit signs shall be vandal resistant system with polycarbonate shields or wire guards.
 - ii) Low-level exit signs shall be the non-powered vandal resistant self-luminous type.

J. Interior Lighting Levels:

1. Classroom Lighting:
 - a. Minimum maintained 5 foot-candles at the vertical surface(s), including white boards.
 - b. Average maintained 50 foot-candles at the horizontal work surface, with a minimum of 30 foot-candles at any location.
2. Office, Conference and Library Lighting:

Draft Rev. 2-05-03

- a. Average maintained 50 foot-candles at the horizontal work surface, with a minimum of 30 foot-candles at any location.
3. Restrooms:
 - a. Minimum maintained 20 foot-candles at the horizontal surface(s).
4. Lockers:
 - a. Minimum maintained 10 foot-candles at the horizontal surface(s).
5. Hallways:
 - a. Minimum maintained 10 foot-candles at the horizontal surface(s).
6. Theater:
 - a. Light fixtures and lighting design to be proposed by A/E to designated District representative prior to finalizing design.
7. Gymnasium:
 - a. Sporting Events:
 - i) Average maintained 70 foot-candles at the horizontal playing surface.
 - b. Social Events:
 - i) Average maintained 30 foot-candles at the horizontal surface.
8. Multi-Purpose:
 - a. Average maintained 30 foot-candles at the play/eating surface.
9. Cafeteria:
 - a. Dining:
 - i) Average maintained 30 foot-candles at the horizontal surface(s).
 - b. Kitchen/Food Preparation:
 - i) Average maintained 70 foot-candles at the horizontal surface(s).

Draft Rev. 2-05-03

VI. Technology / Low Voltage Systems for Renovation Projects:

Note that with respect to technology and low voltage systems, the involvement of the A/E team and its design effort will be limited to the following:

- 1. A complete, functional DSA-approved fire alarm system,**
- 2. The design of a raceway backbone/infrastructure for telephone/voice (including intercom), data, clock and bell, intrusion, video monitoring (CCTV), video distribution (CATV), EMS (as requested), assistive listening and possibly other systems. The actual system design(s) will be generated by the District and the District's technology consultant(s).**
- 3. Coordination with District low voltage/technology consultant as needed to insure adequacy of backbone/infrastructure system.**
- 4. Meet with the District representative and District technology consultant to verify the current design standard requirements prior to proceeding with design of system(s).**

A. Low Voltage Site Service:

1. The design professional, shall design all classrooms and work areas to be serviced with a minimum of five (5) - 2" conduits dedicated for low voltage systems. The five conduits shall be installed on the building and terminated (where required) into exterior NEMA 3R surface-mounted junction cans. One of the 2" conduits shall be terminated dedicated for the fire alarm system and the other (4) 2" conduits shall be reserved for the remaining low voltage systems.

B. Telecommunications System:

1. The District utilizes an NEC (NEAX® 2000 IPS) full-featured IP-based communications system. This system primarily functions within and supports time division switching (TDM). It is also capable of providing pure voice-over-IP (VoIP) peer-to-peer connections across future district local and wide area networks (LAN/WAN).
2. Provide UPS (APC, or equal) for the telephone switch.

K. Public Address/Intercom System:

1. The TDM/IP Telephony system must integrate with a standalone Public Address system. It is therefore required to expand the capabilities of the clock / bell system to include the PA function such that all handsets can deliver room-to-room paging, room-to-office paging, and campus-wide paging.
2. Assembly Area System: Provide infrastructure to accommodate an owner furnished Public Address system in assembly areas. Coordinate exact requirements prior to proceeding with Construction Documents.
3. Coordinate power requirements to service equipment.
4. Provide battery back up for 2 hours of standby minimum. Note: The Public Address/Intercom System, while integrated with the TDM/IP Telephony system, can function independently.

Draft Rev. 2-05-03

- L. Master Clock/Bell:
 - 1. Provide the clock / bell system as included in the outline specifications.
 - 2. Coordinate power requirements to service equipment.
 - 3. Provide battery back up for 2 hours of standby minimum. Note: The Master Clock System, while integrated with the TDM/IP Telephony system, can function independently.
- M. Local Area Network System:
 - 1. Verify current requirements with District representative and District technology consultant prior to proceeding with system design. The infrastructure to accommodate the cabling and equipment will be required as part of this contract and the cabling and equipment will be designed, bid and provided by separate contract.
 - 2. All Local Area Network equipment and configurations must meet IP Telephony standards, as defined by the district.
- N. Fire Alarm System:
 - 1. The District utilizes an FCI model 7200 Fire Alarm System.
 - 2. Provide a fully automatic system with pull stations only where required by code at assembly areas.
 - 3. Provide dial up panel to report to remote monitoring service.
 - 4. Provide dedicated power to service equipment and battery back up for 6 hours of standby minimum.
- O. Security System:
 - 1. The District utilizes an Ademco Intrusion Alarm System.
 - 2. Provide motion sensor only system with no door contacts.
 - 3. Provide dial up panel to report to remote monitoring service.
 - 4. Coordinate intrusion alarm zones with camera locations.
 - 5. Provide dedicated power to service equipment.
 - 6. Provide battery back up for 6 hours of standby minimum.
- P. Digital Video Surveillance System:
 - 1. The District utilizes a Pelco Digital Video Surveillance System, utilizing Spectra-IIIe P/T/Z cameras.
 - 2. During design phase, A/E is to meet with the designated District representative to determine locations of cameras for site-specific design. It is not the intent to cover the entire campus only the areas of concern.
 - 3. Coordinate locations of exterior lighting with camera locations.
 - 4. Coordinate intrusion alarm zones with camera locations.
 - 5. Coordinate data port locations for LAN connections.

Draft Rev. 2-05-03

6. Provide dedicated power to service equipment.

Q. Local Area Network System:

1. Verify current requirements with District representative and District technology consultant prior to proceeding with Construction Documents. The infrastructure to accommodate the cabling and equipment will be required as part of this contract and the cabling and equipment will be designed, bid and provided by separate contract.

R. Cable Television (CATV):

1. During design phase, A/E is to meet with the designated District representative to determine exact locations of cable jacks for site-specific design. Provide cable jacks in all classrooms, media centers, offices and assembly areas.
2. Coordinate exact scope requirements with local cable company, AT&T Broadband. Verify if AT&T provides and installs amplifiers, splitters and taps. A/E to coordinate cabling and conduit sizing.
3. Coordinate power requirements to service amplifiers.

S. Assistive Listening System:

1. Provide a wireless FM system in assembly areas.
2. Coordinate power requirements to service equipment.

-END-

Draft Rev. 2-05-03

PART IV Portable Building Standards:

I. General Items for Portable Building Projects:

- A. Portable Buildings are defined as a manufactured building that is transportable and is set on wood skids.
- B. The District will hire a design professional to prepare the DSA application to site the building and provide the design professional with a specific project scope statement that conforms to these design standards.
- C. The District will contract directly with the building manufacture for procurement of building.
- D. The District will determine on a project specific basis what portions of the work will be performed by a site contractor(s), portable building manufacturer or District staff and how the work will be contracted.
- E. Refer to specific project scope statement for additional building and / or project requirements.
- F. Building manufacturer to provide a complete set of drawings, specifications and calculations consisting of elements that have been “pre-approved” by the Division of State Architect (DSA).
- G. All contracts to include final cleaning requirement.
- H. Refer to the following for specific upgrades required from the manufacture standards. See portions of outline specifications for the upgraded product requirements.

II. Architectural Items for Portable Building Projects:

- A. Site Design: The design professional will be tasked with the siting of the portable classroom building(s) in the specific project scope statement. The siting must conform to the following requirements:
 - 1. Site buildings to utilize common ramps and stairs when possible.
 - 2. Where possible locate buildings in a row with a 48” minimum space between buildings with closure panels that match exterior building finishes. Secure areas behind and in between buildings to avoid hiding places.
 - 3. Where applicable locate grouped buildings back-to-back with a secured, fenced utility space between buildings.
 - 4. Locate buildings as close as possible to core campus.
 - 5. Avoid siting in a manner that would minimize interference with supervision of campus and playfields.
 - 6. Provide ample site lighting around portables and between portables and rest of campus.

Draft Rev. 2-05-03

7. Do not site on existing utilities.
 8. Address impact to existing site drainage by placement of new portable buildings. Provide positive drainage away from all buildings and walkways.
 9. Address impact to existing landscaping and irrigation by placement of new portable buildings.
 10. Indicate path of handicapped travel to new portable buildings and include any necessary modifications for code conforming path of travel.
 11. Prepare building pad in accordance with the District furnished Geotechnical Report. All portable building pads to be scarified and have a minimum of 8" AB compacted to 95% and extend 5 feet beyond building lines including ramps and stairs. Provide positive drainage away from the building(s).
 12. Provide a minimum of a 48" wide 2" thick asphalt concrete walkway on minimum of 4" AB as required to service new portable building. Provide positive drainage away from walkway(s).
- B. Building Design: The District facility department will order the building(s) per the following requirements:
1. Classroom Size:
 - a. Classrooms to be 24 x 40 or 30 x 32 depending on existing campus site layout.
 - b. Elementary classrooms (K-6) are to have a sink with drinking fountain located within casework along non-window wall adjacent to the door.
 2. Structural:
 - a. Building Design Loads to be as required by California Building Code for indicated Occupancy and Construction Type.
 - b. Foundation: Install on wood skid foundation. The foundation and the method of fastening the units shall be per previous approval by DSA. Foundations shall be install to be flush with building edges and not project beyond the outside face of the building.
 3. Ramps and Stairs:
 - a. Provide pre-engineered steel ramp(s) with landing with anti-slip perforations.
 - b. Ramp(s) and landing(s) to be fully skirted with wood panels to match buildings.
 - c. All handrails to be hot-dipped galvanized after fabrication.
- C. Building Shell:
1. Roofing: Manufacturer standard metal roofing with option reflective coating with energy star rating.

Draft Rev. 2-05-03

2. Thermal Insulation: Provide a minimum of R – 19 Walls, R-19 Floors, R – 30 Roof or (if higher values are required) as Determined by Title 24 Energy Calculations prepared by Building Manufacturer.
 3. Vapor Barrier: Provide Tyvek vapor barrier or approved equal in lieu of the manufacturer standard building paper.
 4. Exterior Finish: Refer to specific scope statement for selection of exterior appearance:
 - a. Wood siding, trim and building skirting: All plywood siding shall be APA or comparable rated exterior type, siding shall be medium density overlay (MDO) Duratemp or equal.
 - b. Stucco appearance: Hardyboard substraight with 100% acrylic elastomeric knockdown coating, VIP FC58 or approved equal.
- D. Gutters and Rainwater Leaders:
1. External 22 gauge, fully soldered, rain gutters at rear of building.
 2. Gutter profile shall be 4" x 4" (minimum) with 3/4" reveal at lip.
- E. Rainwater leaders:
1. Exposed locations: Schedule 40 galvanized steel pipe.
 2. Protected locations (in utility enclosure): 22 gauge galvanized sheet metal.
 3. If rainwater leader(s) discharge across a walkway, provide indirect connection to storm drain system via drain inlet at downspout discharge or into valley gutter that drains into storm drain system.
- F. Painting:
1. All colors to be selected from District standard colors schemes.
- G. Doors and Frames:
1. Doors: Heavy-duty, 16 gauge solid core metal doors with 8" x 30" vision lite. Glaze with wire glass.
 2. Door Frames: 16 gauge frames, fully welded, with a minimum of three strap anchors per jamb plus two at head.
- H. Door hardware: Each door to be provided with the following:
1. Continuous geared aluminum hinge.
 2. Parallel arm door closure.
 3. Vandlgard lever set
 4. District Schlage Everest master keying.
 5. Lock protector
 6. Stop / holder
 7. Aluminum threshold
 8. Weather-stripping

Draft Rev. 2-05-03

- 9. Kickplate
- I. Windows: Provide extruded anodized aluminum, single-hung windows with low-E dual-pane, insulating glazing. All windows to be operable. Provide screens.
- J. Interior Finishes and Features:
 - 1. Wall Finish: Vinyl wrapped tackboard over 5/8" type "X" gypsum wallboard.
- K. Flooring:
 - 1. Elementary Classrooms (K-6): Provide linoleum at entry and 4 foot depth along cabinets with sink. The remainder of the room is to be carpet (C & A Powerbond).
 - 2. Middle and High School Classrooms: Provide carpet (C & A Powerbond) with walk-off matt carpet tiles (Triad Geo Tile) at exterior door locations for three feet walk-off minimum.
- L. Ceilings: Acoustical Tile in lay-in ceiling grid. Exposed heavy-duty non-fire rated 24" by 48" grid flat white baked enamel finish. Mineral fiber lay-in ceiling tiles 24" by 48", NRC Range .050 to .060, STC Range 30 to 34, white, fissured finish. Grid to be installed per DSA IR 47-4.
- M. Blinds: Provide horizontal mini-blinds, all metal, on all windows.
- N. Markerboards: All classrooms to include (2) two white markerboards 48" high by 96" long per classroom with cork filled map rail, tray and aluminum trim.
- O. Casework: All classrooms to include built-in WIC custom grade plastic laminate casework as follows:
 - 1. Classrooms designated to serve grades K-6 shall include sink with drinking fountain: (1) Sink cabinet and countertop: WIC No. 155 (48" long x 24" deep x 34" high)
 - 2. Classrooms designated to serve grades 7-12 shall include a base cabinet WIC No. 212 (48" long x 24" deep x 34" high) in lieu of the WIC No. 155.
 - 3. (1) Teachers center: WIC No. 532 (48" long x 24" deep x 80" high)
 - 4. (1) Base Cabinets: WIC No. 212 (48" long x 24" deep x 34" high)
 - 5. (1) Base Cabinets: WIC No. 272 (48" long x 24" deep x 34" high)
 - 6. (3) Wall Cabinets: WIC No. 312 (48" long x 12" deep x 24" high)
 - 7. (1) Storage Cabinets: WIC No. 424 (48" long x 24" deep x 80" high)
 - 8. The following is for kindergartens only:
 - a. (1) Children's Storage Cubicles: WIC Custom, Thirty 12" by 12" square cubicles (24" deep x 36" high x 120" long)
- P. Fire Extinguisher: All classrooms to have (1) one 10:BC extinguisher.

Draft Rev. 2-05-03

III. Mechanical Items for Portable Projects:

A. HVAC General:

1. The District facility department will order from the portable building manufacturer the following HVAC system:
 - a. Provide the Wall mounted heat pump, Bard or approved equal:
 - i) SEER 12 (or higher)
 - ii) WERV, Energy Recovery Ventilator.
 - iii) 450 cfm of fresh air
 - iv) CO2 sensor.

B. HVAC Load Calculation Criteria:

1. The District facility department will require the portable building manufacturer to utilize the following HVAC design loads for sizing equipment and providing their Title 24 calculations:
 - a. Heating and cooling load calculations shall be performed using a computerized load calculation program that is ASHRAE-based as required by Title 24. Equipment shall be sized and selected to handle the heating and cooling loads calculated, and per the requirements of Title 24.
 - b. Outdoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Winter: 28F; Summer: 100F dry bulb/70F mean coincident wet bulb, and 71F design wet bulb.
 - c. Indoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Heating: 72F; Cooling: 76F.

C. Ventilation Criteria:

1. The District facility department will require the portable building manufacturer to comply with the following ventilation criteria:
 - a. Minimum outside air rates delivered to the occupied spaces shall be in accordance with Title 24/ASHRAE Standard 62.

D. Indoor Air Quality:

1. The District facility department will require the portable building manufacturer to comply with the following IAQ requirements:
 - a. Minimum outside air rates shall be in accordance with Title 24/ASHRAE Standard 62.
 - b. Specify low VOC duct materials and duct sealants.

Draft Rev. 2-05-03

- c. Specify a 72-hour pre-occupancy building purge at system start-up. Run heating cycle on full continuously for 72-hours with all exhaust fans on.
 - d. Design control systems to provide the Title 24 required daily pre-occupancy purge cycle.
- E. HVAC Controls:
- 1. Campus Controls:
 - a. The M&O department will determine if there is an existing campus central locking temperature control panel with a programmable time clock inside the panel that controls the operating schedules of each HVAC system. If one exists, the new portable building(s) will need to be tied into the existing system. If one doesn't exist, then a stand-alone panel to service the new building(s) will be required. The project scope statement will the design professional, contracted to site the new building, the necessary direction.
 - 2. Room Controls:
 - a. The District facility department will order the portable building with simple electric/electronic HVAC controls as follows:
 - i) User-adjustable (within a controllable range) individual room temperature sensor shall control room temperature.
 - ii) A manual 0-2 hour bypass timer shall be provided adjacent to temperature sensor to provide for off-hour operation.
 - iii) A CO2 sensor shall be tied into system to control fresh air exchanges.
- F. Plumbing:
- 1. The District facility department will order from the portable building manufacturer the following plumbing requirement:
 - a. Provide one, coldwater only, sink with drinking fountain for each classroom in Kindergarten through Six Grade.
 - b. There are no plumbing requirements for portables designated to service grade levels 7 through 12.
 - 2. The design professional, contracted to site the new building on an Elementary school campus, will be required to design the water and sewer service from points of connection to new building tie-in.

Draft Rev. 2-05-03

IV. Line Voltage Electrical Items for Portable Projects:

A. Site Service:

1. The design professional, contracted to site the new building, will be required to employ the use of a registered electrical engineer to evaluate the existing campus electrical service capacity and confirm ability to add additional loads or design the necessary site service upgrade.
2. If necessary, the electrical engineer will design a new sub-panel with integrated TVSS to service new portable building(s).
3. The design professional will coordinate all of the underground service utilities to require the site contractor to utilize a joint-trench.

B. Building Panel:

1. The facilities department will order the portable classroom building with the following panels:
 - a. Provide 100-amp panel for standard classroom building.
 - b. Provide 125-amp panel for computer laboratory classroom building.

C. New Building Grounding:

1. The design professional shall design the grounding and bonding as follows:
 - a. Provide a ground rod in a grade box, adjacent to the building panel, for each portable building.
 - b. Require bonding of steel frame modules and stairs / ramp if applicable.

D. New Classroom power requirements:

1. The facilities department will order the portable classroom building with the following power requirements:
 - a. Each portable classroom shall be configured to accommodate up to six student computers and a printer at designated computer area on back-wall of classroom and one teacher computer with printer. Locate receptacles at standard height to accommodate owner furnished computer desks with grommets in countertops.
 - b. Provide teacher with power and data jacks to accommodate one computer and printer. Accommodate pathway to cable teachers' computer to TV monitor.
 - c. Provide four circuits to service receptacles. Three to service the computers and printers and one for general-purpose receptacles. Alternate circuits throughout classroom
 - d. Provide power receptacle adjacent to CATV receptacle to service TV monitor & VCR / DVD.

Draft Rev. 2-05-03

- e. Provide at 78" on wall to accommodate TV / VCR / DVD wall mount bracket on sidewall adjacent to the teaching wall.
- f. Provide a power receptacle and adjoining CATV / Data receptacle in the ceiling to accommodate a future LCD projector.
- g. Provide one receptacle at sink with GFI where applicable. (Elementary classrooms only.)

E. Lighting:

- 1. The facilities department will order the portable classroom building with the following lighting requirements:
 - a. Provide 2 x 4 drop-in T-8 fixtures per District standard light fixture schedule. Provide layout that creates a minimum maintained 5 foot-candles at the vertical surface(s), including white boards and an average maintained 50 foot-candles at the horizontal work surface, with a minimum of 30 foot-candles at any location.
- 2. The electrical engineer will evaluate existing campus night lighting system and design the additional site lighting to illuminate path of travel to portable buildings and surrounding areas. Also, will require the replacement of the Manufacture standard porch light with the District standard exterior light fixture.

Draft Rev. 2-05-03

VII. Technology / Low Voltage Systems for Portable Projects:

A. Low Voltage Site Service:

1. The design professional, contracted to site the new building, shall design all portable classrooms to be serviced with a minimum of five (5), 2" conduits dedicated for low voltage systems. The five conduits shall be stubbed up to the building with flex-conduit on the back of each portable and terminated into exterior NEMA 3R surface-mounted junction cans. One of the 2" conduits shall be terminated into the manufacturer provided 6" x 6" can, dedicated for the fire alarm system and the other (4) 2" conduits shall be terminated into the manufacturer provided 24" x 24" can.
2. The facility department shall order the building(s) with the 24" square and 6" square NEMA 3R surface mounted junction cans and the associated conduits within the building(s) per each system as described below. The cans are to be mounted high on the back wall, under the protective overhang, in a manner that allows the manufacturer to stub five (5) 2" conduits from the back on the can into the attic space.

B. Fire Alarm System:

1. The M&O department will determine type of existing campus fire alarm system and evaluate the capacity for expansion to service new portable building(s). These requirements will be included in the project scope statement.
2. The design professional, contracted to site the new building, will design the pathway from the existing head-in fire alarm equipment, type of raceway / conductors, any necessary sub-panels, splitters, amplifiers to service new building(s). The design professional will need to carefully coordinate the code requirements with the facilities department prior to ordering the portable classroom building.
3. The facilities department will order new portable classroom building with ¾" conduits from the various device locations and, if applicable, to a panel location. The design professional needs to inform the facilities department of the exact requirements.

C. Telecommunications System:

1. The Maintenance and Operations department will determine type of existing campus phone system and evaluate the capacity for expansion to service new portable building(s). These requirements will be included in the project scope statement.
2. The design professional, contracted to site the new building, will design the pathway from the existing head-in equipment, type of raceway / conductors, any necessary sub-panels / hardware to service new building(s).

Draft Rev. 2-05-03

3. The facilities department will order new portable classroom building with a $\frac{3}{4}$ " conduit from a recessed, 4" square, j-box located at 48" A.F.F., for a wall mounted phone, stubbed to the attic space.
 4. The site contractor will install all site conduits, provide and pull all conductors and make final terminations in new building.
 5. The District will make final terminations at head-in equipment and provide and install the handset.
- D. Public Address/Intercom and Master Clock/Bell System:
1. The M&O department will determine type of existing campus intercom system and evaluate the capacity for expansion to service new portable building(s). These requirements will be included in the project scope statement.
 2. The design professional, contracted to site the new building, will design the pathway from the existing head-in equipment, type of raceway and conductors, any necessary sub-panels / hardware to service new building(s).
 3. The facilities department will order new portable classroom building(s) with a $\frac{3}{4}$ " conduit from a recessed, 4" square, junction box located at 96" A.F.F., for a wall mounted clock/speaker, stubbed to the attic space.
 4. The site contractor will provide and install all devices, install all site conduits, provide and pull all conductors and make final terminations in new building and tie into existing system.
- E. Security System:
1. The M&O department will determine type of existing campus security system, evaluate the capacity for expansion to service new portable building(s) and if building should have its own keypad or tied to an existing zone. These requirements will be included in the project scope statement.
 2. The design professional, contracted to site the new building, will design the pathway from the existing head-in equipment, type of raceway and conductors, any necessary sub-panels / hardware to service new building(s).
 3. The facilities department will order new portable classroom building(s) with a $\frac{3}{4}$ " conduit from a recessed, 4" square, j-box located at either 96" A.F.F., for a wall mounted motion detector, stubbed to the attic space, or not, for a ceiling mounted motion detector. And if scope requires a new keypad, the facilities department will order the building with a $\frac{3}{4}$ " conduit from a recessed, 4" square, junction box located at 48" A.F.F., for a wall mounted key pad adjacent to the door, stubbed to the attic space.
 4. The site contractor will provide and install all devices, install all site conduits, provide and pull all conductors and make final terminations in new building and tie into existing system.
- F. Cable Television (CATV):
1. The design professional, contracted to site the new building, will design the pathway from the existing CATV system, determine best type of raceway and

Draft Rev. 2-05-03

conductors, and design any necessary sub-panels / hardware to service new building(s).

2. The facilities department will order new portable classroom building(s) with a $\frac{3}{4}$ " conduit from a recessed, 4" square, junction box located at 72" A.F.F., for a wall mounted TV mounting bracket, stubbed to the attic space.
3. The site contractor will provide and install CATV jacks, (one in the attic and one adjacent to the TV mounting bracket) install all site conduits, provide and pull all conductors and make final terminations in new building and tie into existing system.

G. Local Area Network System:

1. The technology department will determine the requirements to tie new portable building(s) into campus / District local area network and if there are to be an IDF provided to accommodate new building(s). These requirements will be included in the project scope statement.
2. The design professional, contracted to site the new building, will design the pathway from the existing head-in equipment or IDF, type of raceway /conductors, any necessary sub-panels, splitters, amplifiers to service new building(s).
3. The facilities department will order new portable classroom building(s) with $\frac{3}{4}$ " conduits stubbed into ceiling from recessed 4" junction boxes as follows (Note: Utilization of 5500 Wiremold may be considered in lieu of junction boxes):
 - a. In back of classroom: seven junction boxes spaced 24" apart, located at 18" A.F.F., for student computers and a printer. (Adjacent to power receptacles.)
 - b. At teacher's desk: two junction boxes located at 18" A.F.F., for teacher's computers and a printer (in front of room). (Adjacent to power receptacle.)
 - c. At TV mounting bracket: One junction box at 72" AF.F. for pathway from teacher's computer to monitor. (Adjacent to power and CATV receptacles.)
4. The site contractor will install all site conduits, provide and install data jacks, (including one in attic for future LCD projector) provide and pull all conductors and make final terminations to data jacks in new building.
5. The technology department or separate contractor will make final terminations at IDF or head-in equipment and provide and install data equipment.

- END -

Draft Rev. 2-05-03

PART V Modular Building Standards:

This Section is Currently Being Developed

I. General Items for Modular Building Projects:

- A. Modular Buildings are defined as a manufactured building that is utilized as permanent construction.
- F. Refer to specific project scope statement for additional building requirements.
- B. All modular buildings require fire sprinklers.
- C. Building manufacturer to provide a complete set of drawings, specifications and calculations consisting of elements that have been “pre-approved” by the Division of State Architect (DSA).
- D. All projects to include an informal building-commissioning requirement. See outline specifications for specific section requirements.
- E. All contracts to include final cleaning requirement section 01742.
- F. See outline specifications for product requirements.

II. Architectural Items for Modular Building Projects:

III. Mechanical Items for Modular Projects:

IV. Line Voltage Electrical Items for Modular Projects:

V. Technology / Low Voltage Systems for Modular Projects:

Draft Rev. 2-05-03

PART VI Interim Housing Portable Buildings Standards:

This Section is Currently Being Developed

VI. General Items for Interim Housing Building Projects:

- A. Interim Housing Portable Buildings are defined as a manufactured portable building that is utilized for temporary housing while exiting campus is undergoing renovation construction.
- B. A/E to obtain DSA approval of building siting including all necessary services to building.
- C. Building supplier to provide the manufacturer's complete set of drawings, specifications and calculations consisting of elements that have been "pre-approved" by the Division of State Architect (DSA).
- D. All contracts to include final cleaning requirement section 01742.
- E. Note that the outline specifications do not apply to this type of project.

VII. Architectural Items for Interim Housing Building Projects:

VIII. Mechanical Items for Interim Housing Building Projects:

IX. Line Voltage Electrical Items for Interim Housing Building Projects:

X. Technology / Low Voltage Systems for Interim Housing Building Projects:

Draft Rev. 2-05-03

PART VII Furniture and Equipment Standards:

This Section is Currently Being Developed

General Items for Furniture and Equipment:

Draft Rev. 2-05-03

PART VIII Document Standards:

I. General:

- A. All plan submissions to be provided on CD in AutoCAD, release 14 or more current.
- B. All sheets shall include a standard title block with project name, A/E name, sheet title, contents of sheet, sheet number, sheet index number, DSA approval stamp area, date block with revision date area. Also include on plan sheets a reduced key plan indicating areas shown on the specific plan sheet.
- C. All plan sets to include cover sheet with project title, index of drawings, location map, standard symbol legend, abbreviations definitions, project directory (listing architect, all consultants, owner and CM), District's project identification number, and DSA required information.
- D. All plan sets shall utilize keynote system. Each sheet shall include legend of keynotes utilized on a specific sheet and a master list is to be included with the specifications as an exhibit.
- E. On renovation projects, the room designations & building names to be utilized must match actual designations on site. Architect to meet with designated District representative and school principal to confirm designations.

II. Architectural Drawings:

- A. Site Plans:
 - 1. The architectural site plan must show all existing and new handicapped parking, path of travel and access to all buildings.
 - 2. All demolition work must be clearly identified. When removing flatwork, curb and gutter, or AC paving, indicate extent of removal on architectural site plans.
 - 3. If existing mechanical, electrical devices, circuits, or services need to be relocated for demolition, show new location on both the architectural and appropriate consultant site plans.
- B. Floor Plans:
 - 1. All areas of work shall be shown with relevant dimensioned floor plans.
 - 2. Enlarged floor plans for toilet rooms and other congested areas are required.
 - 3. Extent of all demolition work and patching shall be clearly illustrated and noted.
- C. Roof Plans:
 - 1. All areas of work shall be shown with dimensioned roof plans.
 - 2. Roof plans to indicate all new and existing equipment, piping, flues, vents, etc.
 - 3. Reference all roofing transition and termination details.

Draft Rev. 2-05-03

4. Reference all gutters, downspouts, roof drains, rooftop equipment curb and piping anchorage details.
5. Extent of all demolition work shall be clearly illustrated.
6. Indicate any areas of known dryrot or other structural damage on plans and reference appropriate repair details. Provide details for replacement of roof sheathing, fascias, sub-fascias, and structural members, and for openings for ducts and exhaust fans. Be specific when identifying fascia and other finish material to be replaced. Indicate all items on roof to be removed and reinstalled or replaced.
7. Provide repair and transition details as necessary on plans.
8. Provide specific details for all flashing and sheet metal.
9. Provide details when replacing roof drains and dome strainers, and show locations on plans.
10. Verify gutter design and profile with District standard.
11. Roofs will be shown on various buildings as included in base contract or as part of one or more alternates, as directed by designated District representative
12. Indicate areas of tapered insulation and thermal insulation with referenced transition details.

D. Elevations:

1. On renovation projects, the use of digital photography to depict both exterior and interior elevations is acceptable, provided that they are dimensioned, work is properly identified with detail references and keynotes.

E. Finish Schedule:

1. Include on finish schedule pre-selected colors from the District Standard color groups.

III. Mechanical Drawings:

- A. Clearly delineate which items are new and which are existing.
- B. Normally, each drawing sheet in the set shall contain plan(s) of only one building of the school site. Demolition and new plans may be contained on one sheet.
- C. Provide appropriate legends, equipment schedules, etc. as required for the project. Legends shall include all symbols and abbreviations used on the drawings. Provide a plumbing fixture schedule on the plumbing drawings to define fixture connection pipe sizes.
- D. When necessary, provide a site plan indicating all buildings, structures, paving, walkways, landscaping, site utilities, etc.
- E. Where new gas meters are required, indicate meter set location on the site plan and provide a piping diagram of the meter set indicating meter, valving arrangement, regulator if required, and seismic gas shutoff valve.
- F. Indicate pressure of all gas piping.

Draft Rev. 2-05-03

- G. Provide building sections as necessary to indicate and make clear all duct routing and how it relates to the structure, the architecture, and other building utilities.
- H. Provide large scale (1/4" = 1'-0") partial plumbing floor plans and partial HVAC floor plans where necessary to clearly indicate work to be accomplished.
- I. Provide details of specific construction items as necessary. Coordinate details with the specific construction which exists at the school, or which will be used on a new school building.
- J. Provide temperature control diagrams for each system and each item of equipment to be controlled. Include schematic diagrams, sequences of operation, control equipment schedule, etc.

IV. Electrical Drawing Standards:

- A. Provide complete site plan with enlarged 1/4" per foot plan of new utility yard housing transformer and switchgear.
- B. Indicate existing structures, paving, walks, landscape and other items that exist on site from architectural base sheet.
- C. On renovation projects indicate actual conduit path from point of service off-site to distribution panels.
- D. On renovation projects identify all existing electrical items to be removed and existing electrical items to remain.
- E. New Light fixture reference to be consistent with attached District standard light fixture schedule.
- F. On renovation projects indicate actual routing of all conduits. Coordinate with routing of EMS conduits and mechanical piping to utilize common support wherever possible. Minimize routing of conduits on roof, but where necessary minimize anchored blocks.
- G. On renovation projects indicate routing of low voltage conduits on common supports with other conduits wherever possible.
- H. Indicate location of casework and other obstructions in conjunction with location of surface mounted raceway.
- I. Provide panel schedule for all panels including load calculations and connected load of each panel.
- J. Indicate all grounding and provide detail including grounding of chainlink fence at utility yard.
- K. Show all anchorage details for specific conditions.

-END-

Draft Rev. 2-05-03

PART IX Outline Specification:

A/E to utilize their company master specifications as a base document and incorporate the following criteria as appropriate.

FRONT END DOCUMENTS (Division 0):

All A/E's to obtain District master front-end documents from designated District representative.

GENERAL REQUIRMENTS (Division 1):

01300 Submittal Requirements:

Part 1 General:

- Record Drawings must be maintained as work progresses and signed off by project inspector as a condition to process pay applications.
- O&M manuals must be compiled in CSI format, tabbed, indexed and submitted in 3 sets of 3-ring binders. Manual to include copies of all operation instructions, maintenance information, warranty data, reorder / parts information, approved submittals, shop drawings and a directory of all subcontractors, suppliers / vendors with phone numbers. Note that receipt of approved manuals is required prior to occupancy.

Part 2 Products:

- N.A.

Part 3 Execution:

- All submittals to be submitted with in 35 days of Notice to Proceed.
- Every submittal to be submitted on District standard submittal form.
- All products being proposed for use that is not a specified product shall be submitted within 7-days of Notice to Proceed.
- Any product being proposed that is not a specified product must be submitted with a District standard substitution request form that compares and contrasts the differences between specified product and proposed product.
- Any product being proposed that is not a specified product shall be reviewed first by A/E and then, if recommended to accept, the A/E is to obtain acceptance from the District M&O director prior to returning to contractor. Note that the final accepted product would then be incorporated into the design standards and outline specifications for future projects.

01500 Temporary Facilities:

Part 1 General:

- Provide temporary fencing to isolate all construction work from occupants and adjacent property.
- Provide protection to existing structure, finishes and grounds that are to remain.
- Contractor responsible to provide all temporary utilities required.

Part 2 Products:

- N.A.

Part 3 Execution:

- Contractor to be responsible to remove all temporary facilities and restore area to original condition.

Draft Rev. 2-05-03

- Refer to District's "Standard General Notes" to be included on the cover sheet of all renovation projects for specific procedural requirements. (See Appendix)

01742 Final Cleaning:

- All construction, modernization and demolition contracts to include a specification section dedicated to final cleaning requirements. All areas must be final cleaned, reviewed and accepted prior to occupancy.

SITWORK (Division 2):

02220 Selective Demolition:

Part 1 General:

- **Scope:**
 - Coordinate with recommendations of the designated District environmental consultants for abatement of hazardous materials including: asbestos, lead, other hazardous materials including; PCBs in transformers, fluorescent lamp recycle/disposal, radon abatement, and lead paint removal, VCT, TSI, etc.
 - The District prefers abatement of asbestos versus encapsulating. Items that are to be encapsulated due to budgetary or physical restraints need to be reviewed with District representative.
 - Design professions to review items to be removed with Building and Grounds prior to bid to determine if salvage is desired. After items are identified in documents, add the following paragraph into the above referenced specification section:
 - *"Deliver salvaged material to a location designated by the District. Contractor shall be responsible for all such materials, fittings, fixtures, etc., and shall use the utmost care in their removal, so as to insure the least possible damage to the same, or surrounding work."*

02740 Asphalt Concrete Paving:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing asphalt paving and replace as necessary.
 - New Construction Projects: Provide new tables and benches at all new multi-purpose rooms and cafeterias. Require 2 tables per pocket unless directed to provide otherwise.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
 - Specify pavement markings to comply with accessibility standards.
 - Conform to applicable city / county standards.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- Require certification of AB to be free of hazardous material – test required.
- Repaving: where practical incorporate paving fabric in overlay or in replacement over compacted fill.

Draft Rev. 2-05-03

02820 Chainlink Fences and Gates:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
 - Materials and components: Conform to CLFMI Product Manual.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Line posts: 2.38" diameter, 3.65 lbs./ft.
- Corner and Terminal posts: 2.88" diameter, 5.79 lbs./ft.
- Gate posts: 4.0" diameter, 9.10 lbs./ft. for 13'-0" wide or less; 6.625" diameter, 18.97 lbs./ft. for over 13'-0" wide.
- Top and Brace Rail: 1.66" diameter, 2.30 lbs./ft., plain end, sleeve coupled.
- Gate Frame: 1.90" diameter, 2.72 lbs./ft. for fittings and truss rod fabrication.
- Fabric: 2" diamond mesh interwoven wire, 9 gauge thick, top and bottom selvage knuckle end closed.
- Tension Wire: 7 gauge thick high-carbon steel coil-spring wire, single strand.
- Tension Bar: 3/16" thick by 3/4" wide steel, not more than 2" shorter than fabric height.
- Tension Strap: 1/8" thick steel.
- Tie Wire: 9 gauge galvanized steel wire.
- Caps: Cast steel galvanized; sized to post diameter, set screw retainer.
- Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel galvanized.
- Gate Hardware: Fork latch with gravity drop mechanical keepers; three 180° gate hinges per leaf and hardware for padlock.
- Concrete: ASTM C94; Normal Portland Cement, 2,500 p.s.i. minimum strength at 28 days, 3" slump; 1" nominal sized coarse aggregate.
- Vinyl Slats:
 - Materials: Fence slating shall be of extruded high-density virgin polyethylene, containing color pigmentation and UV Inhibitors to resist the effects of ultraviolet radiation from sunlight and extend the colorfastness of the material for a minimum of 15 years of service without visible degradation.
 - Slat Profile: Slats shall be of flat tubular shape with a profile depth of .312" (5/16") and a wall thickness of .020".
 - Slat Width: All slats shall be sized to fit tight within the specified fence fabric.
 - Slat Height: Slats shall be fabricated 3-1/2" shorter than the overall height of the fence.
 - Slat Locking System: Fence slats shall be installed using the self-locking horizontal bottom channel system as supplied by slat manufacturer.
 - Slat Color: As selected by the Architect from manufacturer's standard color palette.

Part 3 Execution:

- Line Post Spacing: At intervals not exceeding 10'.
- All posts to be set in 24" deep, 12" diameter, concrete footings. Top of footings to be 2" above grade and sloped for water run off.
- Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail, one bay each side from end and gate posts.
- Provide top rail through line post tops and splice with 6" long rail sleeves. Top rails shall be

Draft Rev. 2-05-03

continuous, using 18' minimum lengths, except at corner and gate posts.

- Install center and bottom brace rail on corner gate leaves.
- Stretch fabric between terminal posts or at intervals of 100' maximum, whichever is less.
- Position bottom of fabric 2" above finished grade.
- Fasten fabric to top rail, line posts, braces and bottom tension wire with tie wire at maximum 15" on centers.
- Attach fabric to end, corner and gates posts with tension bars and tension bar clips.
- Install bottom tension wire stretched taut between terminal posts.
- Do not swing gate from building wall; provide gateposts.
- Install gate with fabric to match fence. Install three hinges per leaf, latch, catches, retainer and locking clamp.

02810 Irrigation System:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement or when repairs are necessary due to installation of new underground utilities.
 - New Construction Projects: Refer to design standards for scope requirements.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty on controller. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings for irrigation layout, configuration of valves, pump area and controllers.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products:

- Controllers:
 - Provide "Irritrol" 24-station digital controllers with remote control. (No substitutions.)
 - Do not specify any computerized controllers or moisture sensors.
- Backflow Preventers:
 - Provide "Febco", Wilkins or approved equal.
- Valves:
 - Provide "Weathermatic", "Toro", "Griswold" or approved equal.
- Sprinklers:
 - Provide "Hunter" I-25's at turf areas. (No substitutions.)
 - Provide "Hunter" I-20's, "Toro", "Rainbird" or approved equal at other locations.
- Provide all schedule 40 PVC underground piping.
- Booster pump:
 - Berkeley or approved equal.

Part 3 Execution:

Draft Rev. 2-05-03

- Require water pressure testing of all underground prior to backfilling.
- Stake all drip hoses 12" o.c. max.

02882 Playground Equipment:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement.
 - New Construction Projects: Provide per educational specifications.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Miracle playground system complete with poured in placed rubber surfacing. Or approved equal.
 - Model(s) and configuration to be determined by ed. spec committee and provided to A/E.

Part 3 Execution:

- N.A.

02950 Landscaping:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement or when repairs are necessary due to installation of new underground utilities.
 - New Construction Projects: Refer to design standards for scope requirements.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all plants and material proposed for use per section 01300.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of equipment.
- **Mandatory Meetings:** Require the following meetings with designated District representatives, contractor(s) and design professionals:
 - Pre-planting meeting to accept irrigation system and soil conditions.
 - Post-planting meeting to accept landscaping installation prior to start of maintenance period.

Draft Rev. 2-05-03

- Start of warranty period meeting to accept landscaping at end of maintenance period.
- End of warranty period to accept landscaping prior to the end of 1-year warranty period.

Part 2 Products:

- *A/E to obtain approval from District of all proposed vegetation.*

Part 3 Execution:

- *A/E to refer to the attached (see appendix) planting details for District Standards.*

02970 Landscape Maintenance:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement or when repairs are necessary due to installation of new underground utilities.
 - New Construction Projects: Provide a requirement to plant all playfields 90-days prior to occupancy and balance of landscaping 30-days prior to occupancy and maintain during construction period through recordation date of Notice of Completion.

Part 2 Products:

- N.A.

Part 3 Execution

- N.A.

Concrete (Division 3):

03300 Cast In-Place Concrete:

Part 1 General:

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion for cracking. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of mix designs per section 01300. The Structural Engineer of record and the District's testing laboratory must approve all mix designs.

Part 2 Products:

- All concrete to be batched in a certified plant capable of achieving DSA waiver of continuous batch plant inspection.
- Structural concrete mix design shall yield specified strength prior to 28 days.
- Steel Reinforcing Bars: ASTM 615 Grade 60.
- Welded Wire Mesh: ANSI/ASTM A185 plain type, coil rolls, uncoated finish.
- Concrete: Design mixes shall be as specified in title 24 California Building Code. Concrete Strength at 28 days: 3,000 PSI for regular weight and 3,500 PSI for lightweight concrete.

Part 3 Execution:

- **Concrete Finishes:** All walkways and driveways shall have non-slip medium broom finish; non-exposed slabs shall have finished as required for placement of finished flooring materials.

Masonry (Division 4):

Draft Rev. 2-05-03

04900 Masonry Restoration & Cleaning:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing masonry and call for re-pointing and necessary repairs prior to application of sealer.
 - New Construction Projects: Not applicable.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the sealer manufacturer's warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- Klenstone or Prosoco masonry cleaners or approved equal.

Part 3 Execution:

- Apply in strict conformance with the manufacturer's recommendations.

METALS (Division 5):

05500 Metal Fabrications:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- All downspouts to be galvanized schedule 40 steel-pipe.
- All exterior metal fabricated items to be hot-dipped galvanized after fabrication and painted.
- Metal stair nosing (where required): Tapered, "Feracast"; Style 4702, as manufactured by American Safety tread Company, or approved equal. Extend nosing full length of steps.

Part 3 Execution:

- All downspouts to have welded joints. Threaded and collard joints are not acceptable.

WOOD and PLASTIC (Division 6):

06101 Rough Carpentry:

Part 1 General:

- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Material Handling & Storage:** All materials are to be dry stored and protected from weather.

Part 2 Products:

Draft Rev. 2-05-03

- Mill stamped S-Dry; maximum moisture 19 percent prior to installation. Lumber shall exhibit no growth of fungus when installed.

Part 3 Execution:

06200 Finish Carpentry:

Part 1 General:

- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- All finish lumber to be Kiln dry.
- All casework to be WIC certified, Custom Grade.

Part 3 Execution:

All joints to be beveled. No butt joints.

THERMAL and MOISTURE CONTROL (Division 7):

074100 Metal Roofing:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement.
 - New Construction Projects: Refer to design standards, Part II.
- **Warranty:** Require the following warranties:
 - Unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion.
 - A 20-year manufacture warranty for finish.
 - A 30-year warranty for water-tightness.
- Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- **General:**
 - Garland, "Rmer Span", "Mesa" pattern or approved equal, (A/E's to contact Sean Mulligan (925) 254-4777 for manufacture spec.):
 - **Panel material:**
 - 24 ga., Galvalume steel, type AZ-55, grade 50 B, smooth as per ASTM A792-96.
 - **Panel Finish:**
 - Two-coat coil applied, baked-on full-strength (70% resin) fluorocarbon coating system (polyvinylidene fluoride, PVF2), applied by manufacturer's approved applicator.
 - **Fasteners:**
 - Concealed fasteners: Corrosion resistant steel screws designed to meet structural loading requirements. The normal minimum screw size shall be

Draft Rev. 2-05-03

#14.

- Exposed fasteners: Corrosion resistant steel screws (cadmium or zinc coatings are not acceptable) of R-MER SPAN series stainless steel with neoprene sealing washer, or 3/16" diameter waterproof rivets.

Part 3 Execution:

- Coordinate installation requirements with manufacture.

07550 Modified Bitumen Roofing:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement to replace existing built-up roofing include the following requirements (Refer to design standards part III):
 - Remove and dispose of all existing roofing material to structural substraight. (Coordinate abatement requirement if existing roof is tested positive for asbestos.)
 - Weather protection during construction.
 - Installation of ½" Perlite insulation board and / or tapered insulation board to prevent any ponding water.
 - Installation of new Class A, bitumen roofing system.
 - Final clean-up.
 - New Construction Projects: Refer to design standards, Part II.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to a 30-year manufacture warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of equipment.
- **Quality Assurance:**
 - Manufacture: minimum of 10-years experience and ISO certified.
 - Installer: minimum of 5-years experience with modified bituminous roofing and certified by manufacturer.
 - Pre-roofing conference with manufacturer's representative, installer, General Contractor, Inspector (s), Architect, and District representative.

Part 2 Products:

- **General:**
 - Garland, "Stressply EUVFR Mineral" or approved equal, (A/E's to contact Sean Mulligan (925) 254-4777 for manufacture spec.):
 - Two-ply, ASTM D-2178, Type IV glass fiber roofing felt bonded to the prepared substrate with ASTM D-312, Type III hot steep asphalt.
 - One-ply specified SBS/SIS modified cap sheet in steep asphalt.
 - Two-ply modified base flashing set in steep asphalt.

Draft Rev. 2-05-03

- Insulation: ½” Perlite insulation board above all occupied areas and tapered insulation as required to create roof slopes to drain at low slope conditions. Provide insulated subsurface to meet required fire ratings where decks are diagonally wood sheathed or are concrete.
- Mechanical Fasteners:
 - Nails: galvanized steel with 1” cap.
 - Metal Disks: 28 gauge, zinc-coated, sheet metal caps.

Part 3 Execution:

- All drains to be tested and shown to be functioning prior to start of roofing work.
- Provide for complete tear-off of existing roofing.
- Install tapered insulation in a manner to avoid any standing water.
- Roof mounted equipment and lines are to be supported in such way as to permit roof replacement without their removal.

07600 Sheet Metal Flashing, Gutters and Trim:

Part 1 General:

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Related Sections:**
 - All downspouts to be galvanized schedule 40 steel-pipe. (See 05500)

Part 2 Products:

- All material are to be hot-dipped galvanized:
 - Provide 20 gauge vents.
 - Provide 22 gauge min. gutters.
 - Provide 24 gauge min. flashings.
- Provide min. 4” x 4” gutter profile with ¾” reveal at lip and 4” flange under roofing.
- Provide 4 pound lead flashings at all roof pipe penetrations.

Part 3 Execution:

- Require all gutters and downspouts to be water tested in presence of project inspector.

07720 Roof Hatches:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Bilco Type “S”, 11 gauge (2.3mm), aluminum construction with mill finish or approved equal.

Draft Rev. 2-05-03

- Hatches to have compression springs or gas loaded struts for ease of one-handed operation.
- Provide “Ladder-Up” safety post at all roof access ladders.

Part 3 Execution:

07810 Skylights:

Part 1 General:

- **Warranty:** Require unconditional 2-year installation warranty with building finishes endorsement, commencing on recordation date of the Notice of Completion in addition to a 30-year manufacture warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Commissioning:** Require a informal commissioning requirement if automated louvers are provided with skylights that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District’s maintenance and operations staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products:

- Sun Optics prismatic skylights. *A/E’s to contact Jim Blomberg at (916) 395-4700 for manufacture specifications.*
- Frame Model 8001B, fixed units, triple glazed units with Lexan outer lens and insulated thermal break.

Part 3 Execution:

- Coordinate installation requirements with manufacture.

07840 Firestopping:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- Fire Marshal approved, UL or WH classified systems.

Part 3 Execution:

07920 Joint Sealers:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Draft Rev. 2-05-03

Part 2 Products:

- Use appropriate type of sealant for materials in contact:
- Silicon Sealant:
 - Use at concrete, masonry and glazing applications.
 - Tremco or approved equal.
- Interior Building Sealant:
 - Acrylic-emulsion, one-part, nonsag, mildew resistant.
 - Pecora Corp: “AC-20”, Sonneborn: “Sonolac”, Tremco: “Tremco Acrylic Latex 834” or approved equal.
- Sanitary Sealants:
 - One-part mildew-resistant silicone, formulated with fungicide for sealing interior joints of nonporous substrates around ceramic tile, plumbing fixtures, showers.
 - Dow Corning Corp.: “786 Mildew Resistant”, Sonneborn: “Sonoolalastic Omniplus” or approved equal.
- Acoustical Sealant:
 - Concealed Joints: Pecora Corp.: “BA-98”, Tremco: “Tremco Acoustical Sealant” or approved equal.
 - Exposed Joints: Pecora Corp.: “AC-20 DTR”, USG: “Sheetrock Acoustical Sealant” or approved equal.

Part 3 Execution:

- Install with backer rods.

DOORS and WINDOWS (Division 8):

08110 Steel Doors and Frames:

Part 1 General:

- **Scope:** Note to Specifier: For exterior applications or high abuse interior applications that require fire ratings in excess of 20-minutes only
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require schedule and shop drawings.

Part 2 Products:

- Steelcraft, BW16 series steel stiffened, extra heavy-duty door and frame. Or Approved equal.
 - 16 Gauge door and frame with “galvannealed”, commercial quality carbon steel.
 - Steel stiffened core construction with welded hat section stiffeners.
 - Seamless, Full height, welded edge seams.
 - 14 gauge top and bottom channels.
 - Beveled hinge and lock edges.
- Baked on rust inhibiting primer per ANSI A250.10. Supplier to certify compatibility of shop primer to specified finish coats

Part 3 Execution:

- Specify a minimum of 2- head and 3 jamb frame anchors for standard size doors.

Draft Rev. 2-05-03

08120 Aluminum Doors and Frames:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Monumental wide style, wide rail entrance doors.
 - Kawneer Series #500, with 12-inch bottom rail or approved equal.

Part 3 Execution:

- Install per manufacture installation recommendations and contract details.

08210 Wood Doors:

Part 1 General:

- **Scope:** Note to Specifier: For non-high abuse interior applications only.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to a lifetime manufacture warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Mohawk Flush Doors Inc., Platinum Series, 5-Ply, solid core (particle core for non-rated applications and mineral core for rated applications). Or approved equal.
 - All wood doors shall be stain grade. Face Veneer to be selected by architect from manufacture's "stock species for immediate manufacturing".
- Doors shall be 1 3/4-inch thickness unless otherwise required.

Part 3 Execution:

- Install in strict conformance with manufacture requirements.

08520 Aluminum Windows:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

Draft Rev. 2-05-03

- Aluminum; single glazed from interior; all welded or factory sealed corners. Factory applied Class 1 anodized finish. Blomberg, Vista Wall, Kawneer; Efc0, or approved equal. 2-inch tubular sections. Wall sections 1/8-inch. Steel reinforcing as engineered for storefront openings. Tubular type sashes at windows 4 feet or greater in width.
- Window Hardware:
 - Handles: Cam type; white bronze alloy; US25D Finish. Bronze Craft series #167 or #158 as required. Coordinate with required strikes, keepers, spring catches, and shade hardware.
 - Hinges: Stainless Steel 4 bar hinges; Anderberg #301 or Bronze Craft #300 series. Provide with “restrictor blocks”.
 - Remote Operations: Provide pole/hook assembly; aluminum with rubber end-7 feet long; Bronze Craft #234 series w/#231 series hook.
 - Catches: Spring type @ transom hopper vents; Bronze Craft #273 with #210 series keeper.
 - Fasteners: Stainless steel.
 - Provide with screens.

Part 3 Execution:

- Install per manufacture installation recommendations and contract details.

08710 Door Hardware:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing tables and benches and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new tables and benches at all new multi-purpose rooms and cafeterias. Require 2 tables per pocket unless directed to provide otherwise.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing and adjustments prior to expiration of warranty. Requirements to include instructions to the District’s maintenance and operations staff in the operation, adjustment, and maintenance of equipment.
- **Quality Assurance:**
 - Include requirement for installers to be factory certified and experienced with a minimum of 3-years installing door hardware
- **Additional Requirements:**
 - Provide full set of maintenance tools for each type of hardware.

Part 2 Products:

- Finish:
 - All hardware to have US26D finish (satin-chrome) or equal unless required matching uniform building standard.

Draft Rev. 2-05-03

- Bronze or stainless steel base material on interiors U.O.N.
- Hinges:
 - For doors where no additional throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Pemko CFM SLF HD or Roton 780-224HD.
 - For doors where up to a 2 13/16" throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Pemko WTCFM HD no known equal
 - For doors where over a 2 13/16" throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Hager Ball Bearing Hinge Model #BB1168 x 626 x NFP or approved equal.
- Door Closers:
 - LCN model #4041-TB, EDA, heavy duty, door closures. No substitutions.
 - Specify long arm when used on doors with wide throw hinges.
- Locksets and Latchsets:
 - All locksets to be Schlage (Ingersoll-Rand Company), "D" series, in the "Rhodes" design with "Vandlgard" lever at all exterior applications. No substitutions allowed.
 - All exterior pull handles to be Ives #VR910-NL and VR910-DT on non-active leaf on a pair of doors.
 - Student Toilet Room doors:
 - Schlage L9460P 503 626 x 03A lever set with function XL11-886.
 - Include push plate around exterior lever with cutout.
 - All Staff Toilet Rooms without toilet partitions shall be specified to have, "hotel" function lockset with modification to enable only a "push" function and disable the "push and turn" function.
 - Schlage D85PD, modified button function.
 - All interior Office doors shall be specified to have a lockset with no button function inside and keyed cylinder on other side.
 - Schlage D70PD.
 - All Storage rooms to be specified to have a lever that locks automatically when door is shut, but releasable from interior and keyed cylinder on other side. Only to be used on true storage rooms.
 - Schlage D80PD on interior doors.
 - Schlage D96PD on exterior doors.
- Exit Devices:
 - Von Duprin, no substitutions allowed.
 - Heavy-duty touch bar exit rim device.
 - Provide with keyed removable mullion at paired entrances.
 - All paired doors shall be specified with surface mounted panic devices, keyed removable mullion and set of heavy-duty pull handles.
 - Provide with keyed dogging cylinder and with pull trim at exterior entrances.
 - If the door is not required to have positive latching, then the door shall be specified with: Von Duprin CD 98 NL x 990NL (surface mounted panic bar with keyed dogging cylinder and fixed pull handle)
 - If the door is required to have positive latching, then the door shall be fitted with: Von Duprin 98L-2-F x 994L (surface mounted panic bar with "break away" latching lever handle)
 - If a pair of doors is not required to have positive latching, then the doors shall be

Draft Rev. 2-05-03

- specified with: Von Duprin CD 98NL x 990NL x CD98 EO (surface mounted panic bars with keyed dogging cylinders and heavy duty pull handles)
- If a pair of doors door is required to have positive latching, then the doors shall be fitted with: Von Duprin 98L-2-F x 994L x 98EO-2-F (surface mounted panic bars with “break away” latching lever handle on one side and blank plate)
- Keying:
 - All keying is to be keyed into District restrictive, Schlage Everest, keying system no substitutions allowed.
 - All cylinder cores are to be removable and interchangeable except for the “D” series locksets.
 - All cylinders to be factory keyed and shipped with split construction key system.
 - A/E to include key schedule in bid specifications.
- Stops / Holders:
 - Trimco, no known equals.
 - All exterior doors to have door hold-opens where code permits. All primary interior doors on campuses with interior corridors shall have door hold-opens. Where solid backing is available mount high on wall, if hold-open must be floor mounted, mount within 3” of wall.
 - For floor mounted applications:
 - Trimco model #1283-2S or #1283-3S depending on required length of strike.
 - For wall mounted applications:
 - Trimco model #1283-4S or #1283-5S depending on required length of strike.
- Bumpers:
 - Glynn-Johnson, no known equals.
 - Provide in locations where a stop is necessary and the above stop / holder will not work.
- Thresholds:
 - Pemko, shapes as required, or approved equal.
 - Rixson where required with pivot hinge, no known equal.
- Weather Stripping:
 - New door applications utilize concealed brush door sweeps for hollow metal doors with inverted bottom channel.
 - Pemko 90100CP, or approved equal.
 - Retrofitting existing doors utilize a surface mounted brush sweep.
 - Pemko 309AP, or approved equal.
 - All exterior doors to be fitted with 45 degree, brush-style weather-stripping.
 - Pemko #45041CP or approved equal.
- Latch Protectors:
 - All exterior mortised locksets to be equipped with Trimco “Cylindrical Lock-guard” #1083-6.
- Astragals/Coordinators/Automatic Flush bolts:
 - Avoid where possible.
- Kickplates:
 - Armor plates; 10-inches high.
- Pulls/Push Plates: Cast alloy; ADA complying.
- Door Louvers:

Draft Rev. 2-05-03

- All exterior door louvers to be heavy duty vandal resistant
 - Anemostat PLSL heavy-duty louver with 12-gauge grill.
- Lock-Open Hasp:
 - All student toilet rooms to have custom, heavy duty, lock-open hasp.

Part 3 Execution:

- All hardware to have non-removable pins and tamper-proof screws.

08800 Glazing:

Part 1 General:

- **Scope:**
 - Renovation Projects: On renovation projects design professional is to field verify existing glazing and include in scope the replacement of all polycarbonate and Plexiglas with ¼” laminated glass.
 - New Construction Projects: Refer to Design Standards Part II.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.

Part 2 Products:

- Note to Specifier: On renovation projects the type of glazing may vary for each site. Match existing glazing tint where applicable.
- Standard glazing is ¼” laminated glass consisting of two layers clear 1/8” thick minimum float glass with 0.030” thick tinted polyvinyl butyl interlayer
- Provide wired or tempered glass where required by code.

Part 3 Execution:

- Install per manufacture installation recommendations and contract details.

FINISHES (Division 9):

09270 Tackable Wall-Board:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- Fiber insulating board ½” thick conforming to ASTM C208 Class A Commercial Standard CS42 Class A beveled edge.
- Vinyl wall covering calendared base color weighing 8 ounce per square yard coating backing shall be sheeting or non-woven fabric.
- Class III Flame spread.

Draft Rev. 2-05-03

Part 3 Execution:

- Install per manufacture installation recommendations.

09300 Ceramic Tile:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.

Part 2 Products:

- Specify recycled content products.
- Slip resistive finish on floors.
- Latex-epoxy mortar and grout in toilet rooms.
- American Olean, Dal Tile, or approved equal.

Part 3 Execution:

- Remove existing tile where new tile is scheduled.

09500 Acoustical Panel Ceilings:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples shop drawings.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of equipment.
- **Extra Stock:** Require a minimum of one carton or 2% of total project, whichever is greater.

Part 2 Products:

- Specify recycled content products.
- Exposed heavy-duty 24" by 48" grid flat white baked enamel finish.
- 2'x4'x5/8" lay-in acoustical mineral fiber ceiling panels. NRC Range .050 to .060, STC Range 30 to 34, white, fissured finish.
 - Armstrong, "Ultima" or approved equal.
 - Armstrong, "Fire Guard" or approved equal where fire rating is required.

Part 3 Execution:

- Grid to be installed per DSA IR 47-4.

Draft Rev. 2-05-03

09650 Resilient Flooring:

Part 1 General:

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to a 5-year manufacture warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating locations of all seams.
- **Commissioning:** Require an informal commissioning requirement that provides ample site staff training sessions for the cleaning and care of product, including post occupancy reviews prior to expiration of warranty.
- **Quality Assurance:**
 - Require installer to be factory trained and certified. Forbo installers to be “Master Mechanic” certified.
 - Proof of Certification; provide proof of certification as Forbo “Master Mechanic” before start of work.
 - Master Mechanic must be present on job site Daily.
 - Require mock-up to establish workmanship quality of seams, welds and cove.
- **Extra Stock:**
 - Specify extra materials, for each color, between 2-10 percent (depending on project size).
- **Testing Concrete substraigh:**
 - The General Contractor shall be responsible for conducting one calcium chloride test for every 1,000 square feet (minimum 3 tests) to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period.
 - Contingency for High Moisture Readings: If at the time of testing the moisture readings are in excess of 5.0lbs the Architect will initiate testing using petrographic analysis to determine if the Water Cement Ratio and sufficient hydration has taken place. If the Specifications were not followed in their entirety, water/cement ratio (as specified), and or the concrete surface has been inadequately hydrated the Contractor responsible for the placement of the cement shall be responsible for the costs associated with the petrographic analysis and subsequent remediation requirements.
 - The Flooring Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, Per ASTM F1869-89 requirements.
 - Alkalinity: Maximum pH of 10

Part 2 Products:

- Typical resilient flooring shall be Forbo, “Marmoleum” or Armstrong – DLW or approved equal.
 - Linoleum Sheet Flooring: Meeting or exceeding Federal Specification SS-T-312B, and ASTM F1700, Static Load Limit 450 pounds per square inch, 2.5mm gauge, unless otherwise indicated. ASTM E-682/NFPA 258—450 or less. ASTM E-648/NFPA 253—Class 1. Homogeneous linoleum of primarily natural materials consisting of linseed oil, wood flour, rosin binders and pigments mixed and calendared onto natural jute backing.

Draft Rev. 2-05-03

- Specify Johnson Diversey Sealer, finish and cleaner:
 - Linoleum Sealer: 4189
 - Care-free Matt Finish: 5441
 - Stride Neutral Cleaner: 3815
- Specify low VOC adhesives and seam sealers.
- Leveling and Patching Compounds:
 - Portland Cement types as recommended by flooring manufacturer

Part 3 Execution:

- All sheet flooring to have fully heat-welded seams.
- Provide backing at all coved installations.
- Install per manufacture recommendations.
- Final clean, seal and polish.

09680 Carpeting:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing tables and benches and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new tables and benches at all new multi-purpose rooms and cafeterias. Require 2 tables per pocket unless directed to provide otherwise.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating proposed locations of all seams.
 - Require factory certification of individuals to perform installation.
- **Commissioning:** Require an informal commissioning requirement that provides ample site staff training sessions to learn proper care and maintenance of flooring including post occupancy reviews prior to expiration of warranty.
- **Extra Stock:**
 - Require 4 square yards extra stock of each color supplied.

Part 2 Products:

- C&A, "Powerbond" carpet, no known equal.
 - Infinity series, Color to be selected from District stock colors.
- C&A "Triad Geo Tile" walk-off system at all exterior doors in carpeted rooms.
 - Color to be coordinated with carpet.
- Specify low VOC adhesives and seam sealers.
- Provide 6" rubber base at all carpeted locations.

Part 3 Execution:

- Require use of largest sections possible to minimize seams.

09700 Epoxy Flooring:

Part 1 General:

- **Scope:**

Draft Rev. 2-05-03

- Renovation Projects: When required by scope statement.
- New Construction Projects: For Kitchens only.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples and shop drawings.
 - Require factory certification of individuals to perform installation.
- **Commissioning:** Require an informal commissioning requirement that provides ample site staff training sessions to learn proper care and maintenance of flooring including post occupancy reviews prior to expiration of warranty.
- **Extra Stock:**
 - Require touch-up material in color supplied.

Part 2 Products:

- Dex-O-Tex or approved equal.
 - Décor Flor: Ceramic coated quartz aggregates:
 - Thickness: 1/8" to 1/16" (Depending on color selected.)
 - Compressive Strength: (ASTM C-109) 8,556 p.s.i.
 - Tensile Strength: (ASTM D-638) 4,400 p.s.i.
 - Surface Hardness: (Durometer "D") 82
- Provide pre-selected color from District stock colors.
- Provide 6" integral base.

Part 3 Execution:

- Install in strict accordance with manufacturer recommendations with manufacturer certified installers.
- Prepare concrete substraight and provide Dex-O-Tex bond coat primer, basecoat with decorative quartz aggregate and clear filler and finish coats.

09900 Painting:

Part 1 General:

- **Scope:** A/E to provide pre-selected color schedule from District standard colors.
- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Submit final schedule of colors with formulas for each paint at project closeout.

Part 2 Products:

- Specify low VOC paints and primers only.
- Acceptable Manufacturers: PPG Industries, Inc, ICI, Kelly Moore, and Sinclair.
- Interior paint types and sheens:
 - Interior Plaster/Gypsum Board:

Draft Rev. 2-05-03

- *Primer: PPG Pure Performance Interior Latex Primer 9-2.*
- *Corridors: Semi-Gloss: PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
- *Classrooms: Semi-gloss. PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
- *Offices: Eggshell: PPG Pure Performance Eggshell Interior Latex 9-411 Series.*
- *Toilet Rooms: Semi-Gloss: PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
- *Service Areas: Eggshell: PPG Pure Performance Eggshell Interior Latex 9-411 Series.*
- *Kitchens: Semi-Gloss Enamel: PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
- Interior Wood:
 - *Primer: PPG Speedhide Interior Latex Enamel Undercoater 6-855.*
 - *Opaque Finish: PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
 - *Transparent Finish: Refinish to match existing. Specify product compatible with existing finish and, if possible, low VOC.*
- Interior Metal Doors and Frames:
 - *Primer: PPG Pitt-Tech Int/Ext Industrial DTM Primer/Finish Enamel 90-712 Series.*
 - *PPG Pure Performance Semi-Gloss Interior Latex 9-510 Series.*
- Interior Miscellaneous Metals:
 - *Sheen to fit circumstance.*
- Exterior paint types and sheens:
 - Exterior Stucco:
 - *Primer: PPG Speedhide Exterior Latex Wood Primer 6-609.*
 - *Semi-gloss, 100% Acrylic Latex: PPG Speedhide Exterior Semi-Gloss Acrylic Latex 6-900 Series.*
 - Wood (opaque):
 - *Primer: PPG Speedhide Exterior Latex Wood Primer 6-609.*
 - *Gloss, 100% Acrylic Latex: PPG Speedhide Gloss Acrylic Latex Enamel 6-8534 Series.*
 - Misc. Ferrous Metals:
 - *Primer: PPG Pitt-Tech Int/Ext Industrial DTM Primer/Finish Enamel 90-712 Series.*
 - *PPG Pitt-Tech Int/Ext Satin DTM Industrial Enamel 90-474 Series.*
 - Ferrous metal gutters, downspouts, doors, flashing, etc.:
 - *Primer: PPG Pitt-Tech Int/Ext Industrial DTM Primer/Finish Enamel 90-712 Series.*
 - *PPG Pitt-Tech Int/Ext Satin DTM Industrial Enamel 90-474 Series.*
 - Exterior Guardrails and Handrails:
 - *Primer: PPG Pitt-Guard All Weather D-T-R Epoxy Coating 97-946/949 Series.*
 - *PPG Pitthane Ultra Gloss Urethane Enamel 95-812 Series.*
 - Aluminum:
 - *Primer: PPG Pitt-Tech Int/Ext Industrial DTM Primer/Finish Enamel 90-712 Series.*
 - *PPG Pitt-Tech Int/Ext High Gloss DTM Industrial Enamel 90-374 Series or PPG*

Draft Rev. 2-05-03

Pitt-Tech Int/Ext Satin DTM Industrial Enamel 90-474 Series.

- Exterior Painting:
 - Specify mildew retardant admixtures.

Part 3 Execution:

- Do not paint over existing transparent finishes. Existing transparent finishes shall be refinished to match existing. Specify finish compatible with existing.
- All existing surfaces to be repaired and prepared prior to painting.
- Three coat system over existing paint or new primed finishes to consist of one prime coat and two finish coats.
- All shop-primed items are to be fully re-primed in the field.
- Color-tint sealers and undercoats within general color range of finish color. Vary color of successive coats sufficiently to distinguish between coats.
- Protect planting adjacent to buildings.
- Acid wash all galvanized materials. Etch and prime prior to finish painting and rinse thoroughly.

SPECIALTIES (Division 10)

10110 Chalkboards, Markerboards and Tackboards:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- No seams in boards up to 16-feet in length.
- Provide both standard and heavy-duty map rails. Heavy-duty map rails mounted above boards as manufactured by Rand McNally or approved equal.

Part 3 Execution:

- Install per manufacturer recommendations.

10170 Solid Plastic Toilet Compartments:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- Specify recycled content partitions.
- High density Polyethylene or Polypropylene. Acceptable manufacturers Santana, Comtec, Global, Capitol Partitions or approved equal.

Draft Rev. 2-05-03

- All toilet partitions to be solid plastic with metal bottom edge.
- Provide the optional heavy-duty stainless-steel hardware with continuous wall brackets.
- Partitions to utilize head-rail brace mount system.
- Color to be selected by District from manufacturers standard range of colors.

Part 3 Execution:

- Install per manufacturer recommendations.
- Install with one-way screws.

10260 Corner-Guards:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.

Part 2 Products:

- “Acrovyn” molded corner guards with closure caps top and bottom, as manufactured by Construction Specialties, or approved equal.

Part 3 Execution:

- Install per manufacturer recommendations.

10350 Flagpoles:

Part 1 General:

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- American Flagpole, Morgan-Francis Co, Concord Industries, or approved equal.
- Aluminum with mil finish, Gold anodized 6” ball, with external halyard and locking cover.

Part 3 Execution:

- Install with lighting ground cable.

10400 Signage:

Part 1 General:

- **Scope:**
 - New and Renovation Projects: A/E to include a signage schedule for all doors in accordance with ADA and CBC.
 - Room and building designations need to be approved by designated District representative.

Draft Rev. 2-05-03

- **Warranty:** Require unconditional 1-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings and samples.

Part 2 Products:

- All parking lot signage to be .125" aluminum panel with baked porcelain enamel finish mounted to 3" galvanized steel post set in 36" x 12" concrete footing.
 - Reference District security phone number on tow sign.
- All room identification signage to be integral color with fussed raised lettering and California Braille.
 - ASI, "Incast" or approved equal.

Part 3 Execution:

- Install with vandal resistant fasteners. No double-sided tape.

10500 Metal Lockers:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing lockers and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new gym lockers, no hallway lockers to be provided.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- All steel, fully welded, construction with powder coat finish. Provide hasps for padlocks.
 - DeBourgh Lockers or approved equal.

Part 3 Execution:

- Install with concealed fasteners where possible and vandal resistant fasteners where exposed.

10800 Toilet Accessories:

Part 1 General:

- **Scope:**
 - Paper towel, toilet paper and soap dispensers are to be owner furnished and contractor installed (OFCD).
 - Renovation Projects: When required by scope statement replace / provide as necessary.
 - New Construction Projects: Provide new accessories.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties.

Draft Rev. 2-05-03

Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.

- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- Electric Hand Dryers (Student Toilet Rooms Only):
 - Promaco, E726 or approved equal. 1-800-253-2866.
 - Chrome finish with Die-Cast cover
- Toilet paper dispenser: (OFCI) Fort James, “Never-Out”.
- Toilet seat cover dispenser: Only in staff restrooms, ¼ fold chromed metal, James River #25131500 /4001, no substitution allowed.
- Grab Bars: Heavy Duty, 18 gauge, 304 stainless steel tubing, welded 11 gauge flanges, concealed mounting. Safety grip finish, no peening, Bobrick B-6806, or approved equal.
- Sanitary Napkin Disposal: Bobrick B-270, or approved equal.
- Soap dispenser: (OFCI) Dermapro, “Gojo”, 800 ML System.
- Paper towel dispensers: (OFCI) Fort James, Double roll, “Series 2000”, model 54342.
- Student toilet room mirrors: 22 gauge, high polished stainless steel with backing plates; Bobrick B1556 or approved equal.
- Staff toilet room mirrors: Mirror and shelf: Bobrick B-1666 Stainless Steel or approved equal.
- Trash receptacles: Owner furnished and owner installed.
- Handicapped Shower Seat: American standard, “Pressalit” rehab shower chair or approved equal.

Part 3 Execution:

- All toilet room accessories are to be surface mounted and installed with concealed fasteners where possible or vandal resistant fasteners where fasteners are exposed.

EQUIPMENT (Division 11)

11133 TV Mounting Brackets:

Part 1 General:

- **Scope:**
 - Renovation Projects: Specify when required by scope statement. Refer to design standards for location criteria.
 - New Construction Projects: Refer to educational specifications for location criteria.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- All TV monitor brackets to include optional VCR mounting bracket component.
- Peerless model Jumbo 2000 with double support arm, 300 lb capacity, black epoxy finish, 360-degree swivel and 30-degree tilt. Or approved equal.

Draft Rev. 2-05-03

- Model #JMW 2660H for 30" to 36" standard monitors.
- Peerless Jumbo 2000, Adjustable VCR mounting bracket, 50 lb capacity, black epoxy finish, with vandal resistant fasteners. Or approved equal. A/E to verify size of owner furnished VCR and edit the following:
 - Model #SVPM35J for VCR Width range of 10.25" to 14.25" and height range of 3" to 4.5".
 - Model #SVPM40J for VCR Width range of 13.25" to 17.25" and height range of 3" to 4.5".
 - Model #SVPM45J for VCR Width range of 13.25" to 17.25" and height range of 4.25" to 5.75".

Part 3 Execution:

- A/E show locations on both floor plans and interior elevations and include mounting detail.
- Install with a minimum of 6'-6" clear under mount.

FURNISHINGS (Division 12):

12300 Casework:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing casework and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new casework in accordance with educational specifications.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products:

- All casework to be WIC "Custom Grade" certified.
- Specify, owner approved, pre-selected color(s).
- Specify formaldehyde-free, environmentally preferable materials and low VOC adhesives.
- All shelving to be 3/4" plywood core.
- Specify 5-knuckel hinges.
- Specify heavy-duty, ball bearing, drawer glides.

Part 3 Execution:

- Drawer bottoms to be fully let-in, glued and blocked.

12500 Window Treatment:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing window coverings and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new window coverings at all exterior windows unless directed to provide otherwise.

Draft Rev. 2-05-03

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating all locations and location of operators.

Part 2 Products:

- Levelor “Century” or approved equal with 2-inch metal blade. Provide with heavy-duty hardware and heavy-duty operators.
- Specify, owner approved, pre-selected color(s).

Part 3 Execution:

- Require field verification before fabrication.
- Verify required clearances.

12640 Cafeteria Tables and Benches:

Part 1 General:

- **Scope:**
 - Renovation Projects: When required by scope statement, evaluate condition of existing tables and benches and replace as necessary to match existing configuration.
 - New Construction Projects: Provide new tables and benches at all new multi-purpose rooms and cafeterias. Require 2 tables per pocket unless directed to provide otherwise.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacture standard warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District’s maintenance and operations staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products:

- Palmer Snyder, Hamilton Series, no known equals:
 - Single In Wall Pocket #76R211
 - Double In Wall Pocket #76R212
 - Triple In Wall Pocket #76R213
 - Quad In Wall Pocket #76R214
 - Tables and benches to be detachable from and interchangeable with steel pockets.
 - Units to disengage and engage from pockets with minimal effort for easy operation.
- In-Wall Tables and Benches:
 - Specify height of tables and benches as follows:
 - Elementary: Tables: 27” with Benches at 15”.
 - Table #70M273014

Draft Rev. 2-05-03

- Bench 72M151214
- 7-12 Campuses: Tables: 29” with Benches at 17”.
 - Table #70M293014
 - Bench #72M171214
- Provide required number of accessible units in accordance with ADA requirements.
 - Tabletop frame shall be 16ga steel box channels with returned edges rolled to 11ga.
 - Anti-jackknife device.
 - Compression springs to ensure proper counterbalance in any position.
 - Table Edge: “Edgeguard” bonded polyurea. Specify pre-selected color or either black or gray to best accent selected laminate color.
 - Factory “Powder Chrome” finish.
 - Specify pre-selected, owner approved, Wilsonart or Formica plastic laminate color for tops and benches.
- Wall Pockets:
 - All welded construction.
 - 16ga steel frame.
 - 11ga steel sill.
 - Specify the optional, factory cylinder locks mounted in frame at 48” A.F.F.
 - Note that the pockets are only available from the manufacturer in “Dark Neutral” (dark bronze) and “Chameleon” (beige). Not available from the manufacture in custom colors. If custom color is desired, coordinate requirements in painting specifications for field painting of this factory finished item.

Part 3 Execution:

- Require field verification before ordering tables and benches.
- Install with vandal resistant fasteners.

CONVEYING SYSTEMS (Division 14):

14420 Vertical Wheelchair Lifts:

Part 1 General:

- **Scope:**
 - Renovation Projects: Coordinate requirements with ADA Transition Plan and Scope Statement.
 - New Construction Projects: Minimize use of lifts. Where necessary locate in manner to minimize lost square footage.
 - Contractor is responsible for obtaining necessary permit.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Provide shop drawings.
- **Commissioning:** Require a informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include

Draft Rev. 2-05-03

instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products:

- National Wheel-O-Vator, model BC, or approved equal.
 - Provide with manufacture upper and lower gates.
 - Provide key operated switches.
 - Specify manufacture baked on enamel finish with pre-selected color: Beige.

Part 3 Execution:

- New construction to set in recessed pit for flush transition.
- Modernization projects utilize manufacture ramp.

MECHANICAL (Division 15)

15050 General Mechanical Requirements:

Part 1 General:

- **Scope:** Coordinate scope requirements with District Design Standards and Project Specific Scope Statement for renovation projects or Educational Specifications for new construction projects.
- **Commissioning:** Require a informal commissioning requirement that provides complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of all mechanical equipment.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:** Reference the latest editions of CBC, CMC, CPC, CEC, ASHRAE Standards, NFPA Standards, SMACNA Standards.
- **Submittals:** Include requirements for submission of all material proposed for use per section 01300.
- **Contract Closeout:** Include submittal requirements for Record Drawings, operation and maintenance manuals and air balance reports as a precedent to final payment. Reference section 01300 for requirements.

Part 2 Products:

- Materials:
 - Valves shall be Nibco, Hammond, Milwaukee, Stockham, or equal.
 - For shutoff duty, ball valves are preferred.
 - Access doors: Milcor, Newman, or equal. Provide with keyed lock.
 - Expansion loops: Metraflex Metraloop, or equal.
 - Pumps: Bell and Gossett, Paco, Taco, Armstrong, or equal.
 - Motors: General Electric, Gould, Century Electric, Lincoln, or equal. All motors shall be premium efficiency type.
 - Motor starters: Square D, Allen Bradley, or equal, in NEMA enclosure.

Part 3 Execution:

- Provide adequate working space around all equipment, including CEC required clearances.
- Perform all excavating and backfilling required for the work of this section.
- Support and seismically brace all piping and ductwork in accordance with CBC, CMC, and

Draft Rev. 2-05-03

CPC.

- Furnish access doors where required for service and removal of mechanical equipment, valves, control devices, dampers, etc. Coordinate with architectural.
- Identify each piece of equipment with a permanently attached engraved bakelite plate. Identify all piping systems and direction of flow with Setmark or equal markers.
- All piping systems shall be pressure tested in the presence of the Inspector of Record.
- Install tracer wires for all non-metallic underground piping outside of buildings.
- Fully commission and test all systems. Contractor shall provide test and balance reports to the District for approval as a precedent to final payment.

15250 Thermal Insulation For Mechanical Systems:

Part 1 General:

- **Scope:** Insulate domestic hot water piping, domestic cold water piping outside of building insulation envelope, refrigerant suction piping, hot water storage tanks, and supply and return ductwork with insulation having R-values required by Code.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:** Reference the latest editions of CBC, CMC, CPC.
- **Submittals:** Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products:

- All insulation materials, including jackets, facings, adhesives, coatings, and accessories shall be fire hazard rated and UL listed for a flamespread rating not to exceed 25 and a smoke developed rating not to exceed 50.
- Pipe insulation shall have all-service type jackets. Piping insulation exposed to the weather shall be covered with a .015" thick weatherproof aluminum jacket.
- Duct wrap insulation shall be not less than 2" thick $\frac{3}{4}$ lb./cu.ft. density fiberglass with reinforced foil/kraft vapor barrier facing.
- Internal duct lining shall be 1" thick matte faced fiberglass acoustic duct liner, Owens Corning Aeroflex, Schuller Linacoustic, or equal. Seal all edges with adhesive to prevent loose fibers from entering airstream.

Part 3 Execution:

- Overlap duct wrap insulation joints 3" minimum.
- Seal all duct wrap seams, longitudinal and transverse, and all staple and fastener penetrations through the facing, with scrim backed foil tape, or recommended sealant to insure a vapor tight installation.
- Ducts and plenums exposed inside fan rooms or air handler rooms shall be insulated with rigid fiberglass insulating board with factory applied foil faced vapor barrier.

15300 Fire Sprinkler Systems

Part 1 General:

- **Scope:** Require a Design Build fire sprinkler system for entire new campuses or new permanent additions to existing campuses in accordance with SB575. Note that portable buildings are exempt from this requirement since the District will not be utilizing any State funding for portable building. The system shall include site backflow prevention, post indicator valve, fire department connection, and fire sprinkler riser assembly.

Draft Rev. 2-05-03

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:** Reference the latest editions of CBC, CFC, NFPA Standards 13, 20, 24.
- **Submittals:** Include requirements for DSA deferred approval requirements including submission of hydraulic design, hydraulic calculations shop drawings and all material proposed for use per section 01300.
- **Commissioning:** Require a informal commissioning requirement that provides complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of all fire sprinkler equipment.

Part 2 Products:

- Sprinkler heads shall be Viking, Star, Central, or equal. Heads shall be heavy-duty type.
- Sprinkler pipe shall be schedule 40 black steel, ASTM A-135 or A-53, with UL approved ductile iron or cast iron threaded fittings. UL approved grooved fittings and associated couplings may be used. Schedule 10 UL approved pipe with UL approved grooved fittings and associated couplings may be used in pipe sizes 3" and larger, except where exposed in gymnasiums.
- Underground site fire piping shall be J.M. Blue Brute Class 200 UL C900 PVC pressure pipe, or ductile cast iron AWWA C111 and C151. All pipe and fittings shall be approved for fire protection use.

Part 3 Execution:

- HVAC ducts and gravity flow plumbing piping shall have right of way over sprinkler piping.
- Grade piping for drainage and provide drain valves as required by Code.
- Piping shall be thoroughly flushed and proved clean before final connections are made.
- Firestop all penetrations through rated walls, floors, etc.
- Protect parts of the system which are exposed to freezing with a method approved by NFPA and by Code.
- Coordinate all supervision wiring from tamper switches, flow switches, waterflow indicators, and wiring to fire alarm system.

15400 Plumbing Systems:

Part 1 General:

- **Scope:** Coordinate scope requirements with District Design Standards and Project Specific Scope Statement for renovation projects or Educational Specifications for new construction projects.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:** Reference the latest editions of CBC and CPC.
- **Submittals** Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:** Require a informal commissioning requirement that provides complete system testing / commissioning and ample site staff training sessions including post

Draft Rev. 2-05-03

occupancy reviews and final testing prior to expiration of warranty. Requirements to include instructions to the District's maintenance and operations staff in the operation, adjustment, and maintenance of all plumbing fixtures, valves and plumbing equipment.

Part 2 Products:

- Water closets: American Standard or approved equal. Water closets shall be wall mounted flush valve type wherever feasible.
- Urinals: American Standard or approved equal. Urinals shall be wall mounted flush valve type wherever feasible.
- Flush valves: Sloan Royal Flushometer, Zurn or approved equal.
- Seats: Bemis or approved equal.
- Lavatories and sinks: American Standard or approved equal.
- Faucets: Chicago, no substitutions allowed. Student lavatories to have metering facets. (No Bradley multi-spray sinks.)
- Drinking fountains: Interior: Haws model HWCD-8 heavy-duty stainless steel, or approved equal. Exterior: Haws cast aluminum fixture, or approved equal.
- Domestic hot and cold water piping inside buildings: type L copper tubing, hard temper, with wrought copper fittings. Solder shall be "Silvabright 100" lead free.
- Gas piping inside buildings: schedule 40 black steel with malleable iron threaded fittings for pipe sizes 2" and smaller, class 150 welded fittings for pipe sizes 2 1/2" and larger.
- Site gas piping below grade: polyethylene with ASTM D2513, ASTM D3261, and ASTM D2683 fittings with fusion welded joints. Pipe shall be labeled "for natural gas" in accordance with CPC.
- Soil, storm and waste piping underground and to 6" above ground, and soil piping above ground: service weight no-hub cast iron soil pipe and fittings, asphaltic coated, CISPI Std. 301 stamped. Provide Anaco Husky, Clamp-All, or Mission Heavyweight couplings for joints underground.
- Waste pipe above ground from lavatories and sinks, rainwater leaders and overflows inside and outside buildings above grade: schedule 40 galvanized steel pipe with black cast iron drainage fittings.
- Vent piping: service weight cast iron soil pipe and fittings for piping 3" and larger, schedule 40 galvanized steel pipe with black cast iron drainage fittings for piping 2 1/2" and smaller.
- Domestic water heaters: gas-fired tank type wherever possible, small under-counter electric tank type or electric instantaneous type only for remote locations or small loads. Heaters shall have sacrificial anode, brass drain plug, and 90 degree elbow on inlet pipe inside tank to agitate water. Install per Code and with ample clearance for service.

Part 3 Execution:

- Install all fixtures in accordance with Code. Install in accordance with ADA where required.
- Domestic water piping system disinfection: clean and disinfect in accordance with AWWA Std. C65, and as required by all local Building Department and Health Department Codes and by Cal-EPA.
- Install plastic gas pipe at minimum 30" depth with sand bedding, tracer wire and warning tapes at both 6" below surface and above 12" above pipe.

15800 Heating, Ventilating and Air Conditioning:

Part 1 General:

- **Scope:** Coordinate scope requirements with District Design Standards and Project Specific Scope Statement for renovation projects or Educational Specifications for new construction projects.

Draft Rev. 2-05-03

- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period. Note that early start up of units does not start warranty period.
- **Codes and Standards:** Reference the latest editions of CBC and CPC.
- **Submittals** Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:** Require training for maintenance department and informal commissioning of systems before the District will accept the project as complete. This includes air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for noise sensitive areas, final calibration and set points for all control systems and components, and training of the District's Maintenance and Operations staff. Also require re-balancing, review of all equipment performance and submission of findings on a report to District prior to expiration of 2-year warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

Part 2 Products:

- HVAC units shall have an efficiency rating not less than that required by Title 24. When equipment is available with energy efficiency ratings, which exceed Title 24, such equipment shall be specified, provided there are enough manufacturers who can meet the higher efficiency requirement to insure a non-proprietary competitive bid.
- Rooftop packaged gas-electric HVAC units: York, Carrier, Trane or approved equal. Provide with mfr's roof curb and economizer. Units shall be gas-fired with minimum 82% AFUE. Cooling EER/SEER shall be not less than that required by Title 24.
- Indoor furnaces: Carrier model 58MXA high efficiency condensing type furnace, or approved equal. Provide with 20-year burner warrantee.
- Outdoor air-cooled condensing units: Carrier or approved equal. EER/SEER shall not be less than that required by Title 24.
- Fans: Penn, Greenheck, Cook, or approved equal. Provide rooftop type, cabinet type, inline type, or ceiling type as required. Provide mfr's roof curbs, backdraft dampers, bird screens, etc. as required. For toilet room application, provide two-speed fan: light on high speed, light off low speed.
- Air conditioning condensate drain piping: type DWV copper tubing with wrought copper fittings.
- Refrigeration piping: Type L hard drawn ACR copper tubing with wrought copper fittings. All joints shall be made with Sil-fos.
- Ductwork: galvanized sheet metal, aluminum sheet metal in wet areas and when handling moist air. Duct gauges shall be as required by Code, SMACNA Stds, and ASHRAE Stds.
- Filtration: provide all HVAC equipment with 2" thick, U.L. Class II, 25-30% efficient pleated media disposable filters, equal to "Farr" 30/30. Require changes during construction if units are ran and new filter prior to occupancy (after building purge) with (4) extra stock filters per unit.
- Air distribution devices: diffusers, registers and grilles shall be Titus, Krueger, Metalair, Tuttle & Bailey, or approved equal.

Part 3 Execution:

- Install all equipment in accordance with Code. Provide adequate service and removal clearances.
- Provide expansion loops or expansion joints in piping, with proper anchors, as required for

Draft Rev. 2-05-03

thermal and building expansion.

- Provide anti-vibration bases and hangers to insure systems and equipment will operate without objectionable vibration.
- Require system purge prior to occupancy. Run heating cycle with 100% outside air on full continuously for 72-hours with all exhaust on full.

15900 Temperature Controls:

Part 1 General:

- **Scope:** Coordinate scope requirements with District Design Standards and Project Specific Scope Statement for renovation projects or Educational Specifications for new construction projects.
- **Warranty:** Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period. Note that early start up of units does not start warranty period.
- **Codes and Standards:** Reference the latest editions of CBC, CMC and CEC.
- **Submittals** Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:** Require training for maintenance department and informal commissioning of systems before the District will accept the project as complete. This includes final calibration and set points for all control systems and components, and training of the District's Maintenance and Operations staff. Also require re-adjustment of controls, review of all equipment performance and submission of findings on a report to District prior to expiration of 2-year warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

Part 2 Products:

- Electric/electronic programmable timeclocks, controllers, room temperature sensors, bypass timers, damper actuators, valve actuators, etc.
- Acceptable manufacturers: Siebe, Johnson, Honeywell, or approved equal.

Part 3 Execution:

- Install all temperature control systems and components in accordance with Code.
- Provide Title 24 required sequences, including but not limited to night set-back and set-up, and pre-occupancy purge cycle.
- All temperature control wiring shall be in conduit.

ELECTRICAL (Division 16)

16100 Basic Materials and Methods:

Part 1 General:

- The requirements of Division 1 apply to all work hereunder.

Part 2 Products:

- Conduit:
 - Rigid Steel
 - Intermediate Metallic (IMC)
 - Coated Rigid Steel

Draft Rev. 2-05-03

- PVC Type 40
- Electrical Metallic Tubing (EMT)
- Flexible Conduit
- Raceway, non-metallic, three track, surface mounted
 - 5500 series Wiremold or T-70 Panduit
- Outlet Boxes:
 - Pressed Steel Type
 - Cast Metal Type
- Wire:
 - Copper only.
 - Type THW or XHHW insulation for feeders.
 - Type THHN or THWN for branch circuits.
 - 90 degrees centigrade insulation for high temperature areas.
 - #8 AWG and larger, stranded.
- Wall Switches:
 - AC rated, heavy-duty 20 amperes specification grade,
 - 277 volts AC.
- Floor Outlets:
 - Adjustable, cast metal body type for ground level, steel type for above ground level. Single or multi-compartment as needed for power, data, and telephone.
- Convenience Outlets:
 - Shall be rated 15 and 20 amperes at 125 volts, specification grade.
 - Weatherproof cover.
 - GFCI type.
- Panelboards:
 - Copper busses.
 - Bolt-on molded case breakers.
 - Breakers with pad-locking tabs.
- Switches: Type "HD" heavy duty.
- Pull Line:
 - 1/8 inch diameter braided line of polypropylene or pull rope, 200 pound break strength.
- Pull boxes: Concrete Box with concrete lid and hold-down bolts. Steel lids for larger boxes.
- Backboards: 3/4" AC grade.
- Terminal Cabinets: Metal cabinet with hinged door and lock.
- Lighting Contactors: Rated 30 Amps lighting load.
- Ground Rods: 3/4" x 10 ft copper clad.
- Transient Voltage Surge Suppressors (TVSS).
- Device Plates: (Plates shall be .040 inch stainless steel, satin finish.) (Smooth plastic nylon.)

Part 3 Execution:

- Installation of Conduit and Outlet Boxes:
 - a. Conduit: All conduit shall be rigid except IMC 2½ inches and larger or EMT 2 inches and smaller may be used at the following locations:
 1. In dry location in furred space.
 2. In partitions other than concrete and masonry.
 3. For exposed work indoors above 8 feet.

Draft Rev. 2-05-03

Provide flexible connections of short length to equipment subject to vibration or movement and to all motors. Provide ground wire within raceway across all flexible connections. Run conduits concealed in areas having finished ceiling and in furred walls. Exposed conduit below 8 feet shall be rigid. Exposed conduit shall be run neatly installed parallel to or at right angles to structural members.

Conduit installed in contact with ground or fill shall be rigid type PVC conduit where concealed underground or shall be PVC coated rigid steel. Flashing - make conduit projecting through roof water-tight by proper flashing.

b. Boxes: Secure boxes to backing with screws. Do not use nails. Boxes shall be independently secured to wood backing or manufactured adjustable channel, heavy-duty type. Verify all mounting heights by checking interior elevations or Architectural Drawings. Install pull boxes as required by Code, in accessible spaces. All devices such as emergency lighting, exit lights, fire alarm devices, and alike shall be secure with recessed backbox that covers entire backside of the component. In no case shall any device or unit have an exposed back area capable of being gripped or pried. All wiring, low and high voltage shall be enclosed in conduit.

- Installation of Wiring:

Splices and joints for #10 AWG or smaller shall be twisted together and insulated with insulated spring connectors.

Joints and connectors for #8 AWG or larger shall be made with solderless tool applied pressure lugs and connectors.

During pull-in, use only UL listed pulling compound.

Lace conductors together with waxed linen lacing cord, T & B "Ty-Rap", Halub "Quik Wrap" nylon straps or approved equal in panelboards, wireways, pull boxes and similar locations.

#12 AWG copper shall be minimum wire size.

Color Code: 208/120V - black, red, blue, white (neutral) and green (ground). 480/277V - brown, orange, yellow, white with colored stripe (neutral) and green (ground).

- Grounding:

All equipment cases, motor frames, computer floor support pedestals, separately derived system neutral, etc. shall be completely grounded to satisfy requirements of NEC.

Total ground resistance shall not exceed 25 ohms.

- Concrete Work:

16461 Dry Type Transformers:

Part 1 General:

- Scope: Furnish and install dry type transformers.
- Submittals
- Testing

Part 2 Products:

- Transformer: General purpose, dry type, aluminum core, rated 480 Volts primary to 120/208 Volts secondary, 3 phase, 4 wires, 150 degrees C rise, 220 degrees C insulation.
- Transformers to be K-Rated and shielded for areas with heavy computer use.

Part 3 Execution:

- Installation:
- Grounding:
- Inspection and testing:
- Warranty:

Draft Rev. 2-05-03

16470 Switchboard:

Part 1 General:

- Furnish and install a freestanding switchboard consisting of a pull section, main section, and distribution section.
- Quality Assurance
UL listed per UL 891
NEMA PB-2

Part 2 Products:

- Description: Completely self supporting, 90" high, NEMA-1 or NEMA-3R. Rated [480/277] [120/208] Volts, 3 phase, 4 wires. AIC rating as required. Bus bracing at 65,000 RMS Symm. Amps. Tin plated aluminum bussing. Thermal magnetic breakers. Ground fault protected main breaker where required. Thermostat.
- Manufacturers: Square D, Simons ITE, Westinghouse, General Electric.

Part 3 Execution:

- Installation: Install complete with all necessary accessories and provide all necessary connections.
- Testing and Initial start-up.
- Warranty.

16500 Lighting:

Part 1 General:

See District Standard Light Fixture Schedule included at end of this document.

Part 2 Products:

- Ballasts: Electronic fluorescent ballasts, HPF >98%, < 15% THD, no PCB's, Class A, thermally protected, CBM label.
HID ballasts, HPF, regulated.
- Lamps:
Fluorescent T8 type.
Clear HID type.
- Luminaires shall be UL labeled.
- Light poles: Minimum 90 MPH wind rated with 1.3 gust factor.

Part 3 Execution:

- Refer to Architectural Drawings for ceiling; coordinate therewith.
All dirt, paint, etc. on luminaires and lenses shall be removed.
Mounting shall be in strict accordance with NEC, para. 410-16 and 410-76.
In wire suspended lay-in ceilings, support all fluorescent luminaire housings from structural members with a minimum of 3 #12 galvanized iron wires.
All mountings shall resist seismic forces.

16700 Intercom/Paging/Clock/Signal Controls:

Part 1 General:

- Scope: A Latham clock bell system will be used to provide Clock and Signal Controls. A Bogen system will provide Intercom and Paging functionality.
- Commissioning: Require complete system testing / informal commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

Draft Rev. 2-05-03

- Warranty: Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.

Part 2 Products:

- Provide a Latham 24 VDC, impulse clock system, no substitutions allowed.
- Provide a Bogen Intercom and Paging system, no substitutions allowed.
- Require wet rated cables at all exterior locations.

Part 3 Execution:

- Installation: Require complete installation including control panel, all associated devices including conduit and wires. Make all necessary connections and test system prior to occupancy.

16721 Fire Alarm System:

Part 1 General:

- Scope: Furnish and install a fully automatic fire detection and alarm system for new construction projects. Furnish and install a manual fire alarm system with ceiling smoke detectors for renovation construction projects.
- Commissioning: Require complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
- Warranty: Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.

Part 2 Products:

- Furnish complete systems including all detectors, horns, visual signaling devices, raceways, and terminal cabinets.
- Provide FCI 7200 series fire alarm system with Wheelock devices, no substitutions allowed.
- Require wet rated cables at all exterior locations.

Part 3 Execution:

- Installation: Require complete installation including control panel and all associated devices including conduit and wires. Make all necessary connections.
- Test in the presence of Project Inspector and Local Fire Jurisdiction prior to occupancy.

16727 Intrusion Alarm System:

Part 1 General:

- Scope: Furnish and install a complete alarm system for new construction projects and consult scope statement for inclusion on renovation projects. System shall utilize motion detection only (no door / window switches) and be ties to remote monitoring station.
- Commissioning: Require complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
- Warranty: Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.

Part 2 Products:

- Furnish complete systems including control panel, multiple keypads, passive infrared motion sensors in all rooms, alarm bells, connection to direct phone line for remote monitoring, raceways, and conductors.
- Provide Ademco, Vista – 50P with V-plex addressable detectors or approved equal.
- Require wet rated cables at all exterior locations.

Draft Rev. 2-05-03

Part 3 Execution:

- Installation: Require complete installation including control panel and all associated devices including conduit and wires.
- Make all necessary connections and test prior to occupancy.
- Coordinate intrusion alarm zones with surveillance camera locations.

16740 Telephone System:

Part 1 General:

- Scope:
 - Furnish, install and configure a TDM/IP Telephony phone system based on NEC NEAX 2000 System equipment. The system will carry voice traffic over a time division switching network with the capacity to also deliver voice traffic over the Data infrastructure. This will require Quality of Service to be configured on the networking equipment.
 - All IP Telephony systems must meet the security design criteria set forth by the District IT department and District technology consultants.
- Commissioning:
 - Require complete testing of routing, both inbound and outbound for all phone types. Confirm all services are working properly. Test Jitter and Latency while placing heavy data load on network to insure QoS is configured properly. Provide Introductory Administrative training on system.
- Warranty:
 - Minimum Hardware Warranty Requirements:
 - Provide Three-Year Replacement Warranty covering all materials and labor
- Support:
 - Network Troubleshooting
 - If IP telephony is activated, provide Two-Year Support Agreement covering *IP Telephony Network Troubleshooting*, including routing issues related to IP Telephony, including Latency and Jitter issues.
 - CDR Reporting
 - If IP telephony is activated, provide Two-Year Support Agreement covering *Reporting*, including daily, weekly, monthly and yearly reports, voice-gateway and user specific reports.

Part 2 Products:

- Furnish complete, fully integrated, NEC telecommunication system with integration capabilities for public address, master clock and signal functions.

Part 3 Execution:

- Installation:
 - All servers need to be in a physically secure environment consisting of a minimum of 40 square feet of unencumbered space surrounding the racks. This will allow for cabling in the rear of each rack and an adequate working area in front of each rack.
 - Reference drawings to show satisfactory rack area.
 - The location must be climate controlled. The following are the requirements for the climate:
 - Temperature – 32 degrees to 104 degrees
 - Humidity – 10% to 85% (Non-condensing)

Draft Rev. 2-05-03

- 7-foot 19” racks are required for servers/UPS. The exact number will be determined by how much equipment is needed.
- Hardware:
 - 911 calls:
 - Emergency 911 calls need to route out the local PSTN gateway.
 - Because this is a school Cisco Emergency Responder needs to be deployed. This needs to be loaded on a Cisco MCS server that is not running any other AVVID application.
 - The following Partitions should be created for each location (Note ‘Site’ will change):
 - Site Student Phone
 - Site Teacher Phone
 - Site Admin Phone
 - Site Guest Phone
 - Site911
 - The following Partitions should be created for all facilities to use:
 - Local Calls
 - Long Distance Calls
 - International Calls
 - Toll Free Calls
 - 900/976Calls
 - Voicemail
 - 900/976 Partitions need to be blocked.
 - Other partitions need to be routed/blocked as required by Vacaville staff.
 - The following Calling Search Spaces should be created (Note ‘Site’ is going to change):
 - Site Student
 - Site Teacher
 - Site Admin
 - Site Guest
 - Site911
 - The following Plug-ins should be installed:
 - Call Manager Attendant Console (As needed.)
 - Bulk Administration Tool
 - CDR Analysis and Reporting
 - Cisco Call Manager Multilevel Administration Access
 - Cisco Customer Response Application Engine
 - Extension Mobility Feature
 - The MCS Backup Utility needs to be installed and configured to backup to a network location or to the other Call Manager hard drive if none exists.

16745 Data Communications System:

Part 1 General:

- Scope: Furnish and install a complete data communications system configured to support both voice and video traffic with acceptable service levels.

Draft Rev. 2-05-03

- All IP Telephony systems must meet the security design criteria set forth in the Cisco IP Telephony SAFE white paper:

- http://www.cisco.com/warp/public/cc/so/cuso/epso/sqfr/safip_wp.htm

Part 2 Products:

- Fiber Optic Cables:
 - 12-strand multi-mode or 12-strand single-mode fiber depending on distances
- Copper Cables:
 - Category 5e
- Connectors:
 - Fiber SC-SC connectors between MDF and IDF's
 - Fiber SC-SC connectors from the patch panels to the switches
 - Copper RJ45, 8-conductor, category 5e
- Copper patch panels:
 - Category 5e, multi-port
- Fiber patch panels:
 - SC fiber patch panels
- Accessories:
 - Equipment racks: 7'x19" Beeline or equivalent racks with DSA approved bracing.
 - Equipment cabinets: 19" Lockable cabinets
 - Wire management: Panduit vertical and horizontal cable management
 - Innerduct: Carlon Innerduct
 - Faceplates: Mechanically labeled cover plates with windows
 - Various length Patch Cords
- Voice-Enabled Routers/Voice Gateways:
 - Voice-enabled Routers are routers that have voice cards installed and provide access off the IP Telephony network (i.e. PSTN lines, T1's, fax lines, analog phones). Voice Gateways are specifically designed to provide access on and off the IP Telephony network. They lack the full-featured routing capabilities of Voice-enabled routers, but otherwise are the same.
 - Each Voice-enabled Router/Voice Gateway must be capable of running Voice-over-IP and SRST. The IOS, Flash, RAM must meet the requirements for running Voice-over-IP and SRST as required. Routers must be capable of running LLQ and IP RTP Priority.
 - Voice Gateways providing the above capabilities are:
 - Cisco VG200
 - Voice-enabled routers providing the above router capabilities are:
 - Cisco 1750 Router (Small-Office Router)
 - Cisco 2600XM Series Routers (Medium-traffic Routers)
 - Cisco 3600XM Series Routers (Medium/High-traffic Routers)
 - Cisco 3700 Series Routers (Medium/High traffic Routers)
 - Cisco 7200 Series Routers (Core Routers)
 - Cisco 7500 Series Routers (High-capacity Routers)
- Switches:
 - Switches must be able to provide 802.1q VLAN tagging capabilities.
 - Switches must be capable of providing QoS (i.e. Classification of traffic, Policing Traffic, Marking Traffic and Queuing and Scheduling.)

Draft Rev. 2-05-03

- All switches that will have an IP phone patched into must have in-line power capabilities. For instances where this is not possible, the phone can be powered via a power adapter plugged into a power outlet.
- The following switches meet this criteria:
 - Cisco Catalyst 3524XL-PWR Switches
 - Cisco Catalyst 4500 Series Switches
 - Cisco Catalyst 6500 Series Switches
 - Cisco 3550 Series Switches (In-line power version targeted for availability 4Q02).
- Uninterruptible Power Supplies:
 - UPS(s) (APC, or equal) need to provide surge protection, line conditioning and battery backup for a minimum of 20 minutes to allow the graceful shutdown of attached systems. This requirement applies to all hardware that supports voice traffic.
 - UPS(s) (APC, or equal) should be rack-mountable to prevent unnecessary use of MDF/IDF floor space.
 - As a minimum, the following devices need to be on UPS (APC, or equal) backup:
 - All IP Telephony Servers
 - All Routers
 - All Switches
 - A power calculation needs to be performed to determine the correct UPS sizing.
 - The following UPS(s) (APC, or equal) or next generation devices should be included:
 - APC SU2200RM
 - APC SU1400RM

Part 3 Execution:

- Installation:
 - Provide complete installation, testing and documentation
 - Test fiber optic cables (including but not limited to - bi-directional for signal attenuation) and Category 5e cables (including but not limited to - signal attenuation, noise, NEXT, cable length, pair-to-pair continuity, DC loop back resistance).
 - The network backbone should be at Gigabit speeds.
- Configuration:
 - Switches:
 - The ports to workstations need to be 10/100Mbps.
 - All ports on switches with IP Phones patched into them must be configured with Virtual LANs (VLANs).
 - 802.1q tagging shall be enabled on all IP phone ports.
 - The native VLAN will be for Data and the Auxiliary will be for voice.
 - All ports connecting to other switches need to be configured as Trunk Ports.
 - All ports connecting to IP phones need to be configured as Trunk Ports.
 - All ports connecting to servers need to be configured as Access Ports.
 - Routers:
 - Classes need to be assigned to all traffic with the following categories defined:
 - Voice
 - Security Video
 - Classroom Video
 - Voice Setup
 - Video Setup

Draft Rev. 2-05-03

- Data
- Low-Latency Queuing needs to be configured on all WAN segments between facilities.
 - Voice – High Priority Traffic
 - Security Video – Highest Queue
 - Classroom Video – High Queue
 - Voice Setup - Medium Queue
 - Video Setup - Medium Queue
 - Data – Low Queue
- IP Network Schematic
 - A separate private address subnet needs to be assigned to the Voice VLAN.
 - DHCP needs to have option 66 or option 150 configured to point to Call Manager's IP address. If no DHCP is available, Call Manager can support this function.
 - IP Helper needs to be configured to point to the DHCP server for IP addresses.
- SRST Configuration
 - Survivable Remote Site Telephony features will be configured for a minimum of 24 phones per site. This feature will allow up to 24 phones to call each other, to other offices through the PSTN, and outside the school district through local PSTN gateways when connectivity to the District office fails. If the router used supports more than 24 phones on SRST then the router will be configured to handle the maximum number of phones.
- Software Versions
 - Before installation, Cisco Systems will be consulted as to the current recommended software versions for all switches, routers, gateways, Call Manager, Cisco Unity Voicemail, and Cisco Emergency Responder.
- Performance:
 - Loss of voice traffic needs to be less than 1%
 - End-to-end latency must be no more than 150-200ms
 - Average Jitter should be no more than 30ms
 - 21-106kbps of guaranteed priority bandwidth required per call (Depending on the CODEC)
 - 150bps plus Layer-2 overhead of required bandwidth per phone for voice control
 - Variance between Average Jitter and Max Jitter must be minimal
- Warranty:
 - Provide Two-Year Replacement Warranty covering Critical Hardware via SMARTnet 7x24. This includes edge routers and core switches. They are devices that if they failed, would bring down the entire network. They are critical points of failure.
 - Provide Two-Year Replacement Warranty covering network Hardware not included in the above warranty via SMARTnet 8x5x4.
 - Provide Two-Year Replacement Warranty on switches with SMARTnet 8x5xNBD ("Next Business Day").
- Support:
 - Provide Two-Year Support Agreement covering 8x5 *Network Troubleshooting*, including troubleshooting network performance and routing issues.
 - Provide Two-Year Support Agreement covering 7x24 *Network Monitoring*, including trending and analysis, monthly health checks and comprehensive network troubleshooting of network devices and telecom lines.

Draft Rev. 2-05-03

Section 16745 Assistive Listening System:

Part 1 General:

- Scope: Include in all assembly locations for both new and renovation projects.
- Commissioning: Require complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
- Warranty: Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.

Part 2 Products:

- Furnish complete, assistive listening system complete with transmitter, receivers and control equipment.
- Provide a wireless, FM system as manufactured by Williams or approved equal.

Part 3 Execution:

- Installation: Require complete installation including control panel, all associated devices including conduit and wires. Make all necessary connections and test system prior to occupancy.

Section 16782 Digital Video Surveillance System:

Part 1 General:

- Scope: Provide on all new construction projects only.
- Commissioning: Require complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
- Warranty: Require unconditional 2-year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacture standard warranty.

Part 2 Products:

- Furnish complete system complete with network connects, control panel, cameras, conductors and raceway.
- Provide Pelco DVR Model 7000 with Spectra IIIe P/T/Z cameras

Part 3 Execution:

- Installation: Require complete installation including control panel, all associated devices including raceway and conductors.
- Make all necessary connections to LAN and test system prior to occupancy.

Draft Rev. 2-05-03

PART X Appendix:

Checklists:

This Section is Currently Being Developed

Draft Rev. 2-05-03

DISTRICT STANDARD LIGHT FIXTURE SCHEDULE

SYM	FIXTURE DESCRIPTION	Location	MANUF. & CATALOG NUMBER	ALT. MANUF. & CATALOG NUMBER	LENS / Louvers	LAMPS	REMARKS
			ALR	Lighting Systems			
A	Linear, Suspended, Bi-Directional	Classrooms, Libraries, Office Areas	FINELITE Series 10	Ledalite - Achieva	Open top with A12 diffusers	1, 2 OR 3 F32-T8	Suspended 15"-18" from the ceiling. Provide a minimum of clearance of 8'-0" from finished floor.
B	Metal sided, Surface Mounted, Vandal Resistant	Restrooms, hallways & high abuse interior locations	Luminaire, LVP 1049	Holcor HSP3	Poly-Carbon	F32-T8	Heavy-duty, Vandal Resistant
C 1	2 x 2, Compact Fluorescent, Surface Mounted	High / Medium Bay applications with Flat Ceiling	H.E. Williams, SMP	Columbia PM22	High Impact 50% DR	Twin Tube T5	Provide with white wire guard (WG11)
C 2	Round, Compact Fluorescent, Suspended Mounted,	High / Medium Bay applications With sloped ceiling	Kirlin, PR83070	SPI, IPS	High Impact 50% DR	9 Triple F42 PLT or Twin Tube T5	Provide with white wire guard.
D	2 x 4 Lay-in Fixtures in T-bar ceilings	Classrooms, Libraries, Office Areas	DAYBRITE, 2DP	Columbia 4PS	Acrylic .125	2 OR 3 F32-T8	
E	Recessed Exterior Lighting	All Exteriors Soffits	Design Plan, RHL	Sterner 55R55L	Poly-Carbonate	HPS / HID	New Construction only.
F	Low profile, Wall mounted, Exterior Lighting	Exteriors where there is no soffit and renovation projects	Luminaire, LVP 58	Harris 300	Poly-carbonate	HPS HID	
G	Emergency Egress Lighting	Assembly Areas	Emergilite, IND 18/25		Poly-Carbonate	Incan.	Battery Pack with HD wire guard
X	LED, Exit Lights	Assembly Areas	Emergilite, SVX	Dual Lite BLN4X	Poly-Carbonate	LED	Illuminated, Vandal Resistant
XL	Low-level, self-luminous exit lights.	Assembly Areas	ISOLITE 2040-70-15	Evenlite	N/A	Self-Luminous	Wall 18" above finished floor
PLT	Pole lights	Parking Lots	Gardco, Form 10	Sterner Executive	Tempered Glass	HPS	Heavy duty, vandal resistant. Provide on 24" conc. Base. 25' at parking lots & 15' at walkways.

Draft Rev. 2-05-03

Standard Renovation Cover Sheet Notes:

The following notes are to be included verbatim on the coversheet of all renovation projects.

GENERAL NOTES:

1. This project site is an occupied school campus. The educational program takes precedent over construction activities. All construction activities shall be contained within fenced or barricaded areas in accordance with project specification and schedule requirements. Certain construction activities that generate disruptive noise, smells, dust and debris must be scheduled when campus is not occupied.
2. This is an existing facility renovation project. All work shown, noted or detailed is new, except where indicated as existing or as existing to remain.
3. Photos if shown in this set of drawings do not preclude the pre-bid site visit requirements of the bidder. The Contractor shall be responsible for appropriate site visits to confirm existing field conditions prior to bidding.
4. Contractor shall field verify all dimensions and existing conditions at the site and shall report any discrepancies in writing to the Construction Manager by the means of an Request for Information (RFI) or as part of the applicable shop drawing / submittal.
5. Specific items noted to be verified or field verified are required to be verified prior to ordering materials or proceeding with the work.
6. Contractor is responsible for all incidental work necessary to complete the installation of new work. This includes, but is not limited to, the removal and/or reinstallation of all existing items, of portions of the existing construction whether shown or not.
7. The existing facility has asbestos containing material in various locations. Any part of the work requiring removal of asbestos containing material shall be performed in accordance with the Asbestos Abatement Specifications Exhibit 'C' of the Project Manual.
8. The existing facility has lead containing material in various locations. Any part of the work requiring removal of lead containing material shall be performed in accordance with the Lead Abatement Specifications Exhibit 'D' of the Project Manual.
9. The existing facility has PCB Ballast and Fluorescent Tube Materials in various locations. Any part of the work requiring removal of PCB Ballast and Fluorescent Tube Materials shall be performed in accordance with the PCB Ballast and Fluorescent Tube Materials Abatement Specifications Exhibit 'E' of the Project Manual.
10. Contractor is responsible for protection, modification and re-installation of all existing rooftop piping, conduit, wire and equipment during the roof removal/replacement operations. This includes but not limited to, extensions of existing conduit and piping penetrations to accommodate new roofing

Draft Rev. 2-05-03

requirements, replacement or modification of existing sleepers, blocking and supports. Provide new conduit, conductors, unistrut, and alike as necessary to accommodate new roofing requirements.

11. Prior to starting work at each phase, the General Contractor shall request the Construction manager to schedule a team meeting with all Subcontractors, Project Inspector, and the designated District representatives to survey existing equipment operations. The objective is to determine the operability of all existing mechanical equipment, fire alarm system, telephone system, intrusion alarm system, intercom system and any other devices and equipment that are to remain after phase completion. The Construction manager shall prepare a written report documenting team field investigation and noting any existing items that are damaged or non-functional. Prior to occupancy another survey will be conducted with same team to determine if any item has been damaged or made inoperable. In the event that something has been damaged the General Contractor will be required to correct problem with approved, qualified, technician.
12. Prior to the start of each phase the Construction Manager shall schedule the District to identify and tag all exposed wiring. District personnel shall remove any wiring identified as abandoned. Any wiring identified "to remain" shall be protected against damage during construction and inspected for damage at phase completion.
13. Prior to site mobilization, the General Contractor, the Construction Manager and Project Inspector are to meet on site and photo document the existing conditions of the Contractor's corporation yard area and landscaped areas where trenching will be occurring or where vehicle traffic is anticipated. Also test irrigation system for proper operation. At project completion all areas must be restored to original condition including but not limited to installing sod at damaged turf areas, replacing damaged plantings, repairing damaged underground utilities, patching damaged asphalt paving, re-stripping paving and replacement of damaged concrete. The General Contractor, the Construction Manager and Project Inspector shall meet on site at project completion and review all site conditions and operation of irrigation system.
14. The General Contractor is responsible to have emergency shut-off procedures in place prior to start of construction. The General Contractor and all Subcontractors shall familiarize themselves with all shut-off valve locations on site and have proper tools readily available to operate valves.

Draft Rev. 2-05-03

DISTRICT STANDARD PLANTING & IRRIGATION
DETAILS:

(See Attached Details 1 through 5.)