```
**************************************************************************
USACE / NAVFAC / AFCEC          UFGS-10 11 00 (August 2020)


                                ------------------------------------
Preparing Activity:  USACE      Superseding
                                UFGS-10 11 00 (August 2017)


                UNIFIED FACILITIES GUIDE SPECIFICATIONS

        References are in agreement with UMRL dated January 2024
**************************************************************************
```

SECTION TABLE OF CONTENTS

DIVISION 10 - SPECIALTIES

SECTION 10 11 00

VISUAL DISPLAY UNITS

08/20

-- End of Section Table of Contents --

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**************************************************************************
USACE / NAVFAC / AFCEC                UFGS-10 11 00 (August 2020)
                                      -------------------------------------
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**************************************************************************
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SECTION 10 11 00

VISUAL DISPLAY UNITS
08/20

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**************************************************************************
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NOTE: This guide specification covers the requirements for visual communications specialties.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable item(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).
```
**************************************************************************
```

PART 1   GENERAL

1.1   REFERENCES

```
**************************************************************************
```
NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

The publications listed below form a part of this specification to the
extent referenced. The publications are referred to within the text by
the basic designation only.

          AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z97.1   (2015) Safety Glazing Materials Used in
                              Buildings - Safety Performance
                              Specifications and Methods of Test

          ASTM INTERNATIONAL (ASTM)

ASTM B221   (2021) Standard Specification for Aluminum
                              and Aluminum-Alloy Extruded Bars, Rods,
                              Wire, Profiles, and Tubes

ASTM B221M   (2021) Standard Specification for Aluminum
                              and Aluminum-Alloy Extruded Bars, Rods,
                              Wire, Profiles, and Tubes (Metric)

ASTM C1048   (2018) Standard Specification for
                              Heat-Strengthened and Fully Tempered Flat
                              Glass

ASTM E84   (2023) Standard Test Method for Surface
                              Burning Characteristics of Building
                              Materials

ASTM F148   (2013) Binder Durability of Cork
                              Composition Gasket Materials

ASTM F152   (1995; R 2009) Tension Testing of
                              Nonmetallic Gasket Materials

ASTM F793/F793M   (2020) Standard Classification of Wall
                              Coverings by Use Characteristics

          CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)

CDPH SECTION 01350   (2017; Version 1.2) Standard Method for
                              the Testing and Evaluation of Volatile
                              Organic Chemical Emissions from Indoor
                              Sources using Environmental Chambers

          SCIENTIFIC CERTIFICATION SYSTEMS (SCS)

SCS   SCS Global Services (SCS) Indoor Advantage

          UNDERWRITERS LABORATORIES (UL)

UL 2818   (2022) GREENGUARD Certification Program
                              For Chemical Emissions For Building

1.2   DEFINITIONS

```
**************************************************************************
          NOTE:  The designer has the option to require that
          visual display units for a project be provided by
          one manufacturer when appropriate.  It is the
          designer's responsibility to determine if all
          products being specified for a project are available
          from a minimum of three manufacturers.  Not all
          manufacturers produce the variety of visual display
          units offered in this specification.

          Alternate frame methods such as: self-edge for
          fabric or vinyl covered tackboards, vinyl edge on
          tackboards, and markerboards are options but are not
          available from all manufacturers.  Designer must
          research available sources.
**************************************************************************
```

The term visual display unit when used herein includes presentation boards, markerboards, tackboards, board cases, display track systems, horizontal sliding units, copyboards, interactive whiteboards, and projection screens; submit manufacturer's descriptive data and catalog cuts plus manufacturer's installation instructions, and cleaning and maintenance instructions. Provide visual display units from manufacturer's standard product line. Submit certificate of compliance signed by Contractor attesting that visual display units conform to the requirements specified.

1.3   SUBMITTALS

```
**************************************************************************
          NOTE:  Review submittal description (SD) definitions
          in Section 01 33 00 SUBMITTAL PROCEDURES and edit
          the following list, and corresponding submittal
          items in the text, to reflect only the submittals
          required for the project.  The Guide Specification
          technical editors have classified those items that
          require Government approval, due to their complexity
          or criticality, with a "G."  Generally, other
          submittal items can be reviewed by the Contractor's
          Quality Control System.  Only add a "G" to an item,
          if the submittal is sufficiently important or
          complex in context of the project.

          For Army projects, fill in the empty brackets
          following the "G" classification, with a code of up
          to three characters to indicate the approving
          authority.  Codes for Army projects using the
          Resident Management System (RMS) are:  "AE" for
          Architect-Engineer; "DO" for District Office
          (Engineering Division or other organization in the
          District Office); "AO" for Area Office; "RO" for
          Resident Office; and "PO" for Project Office.  Codes
          following the "G" typically are not used for Navy
          and Air Force projects.
```

Government approval is required for submittals with a "G" or "S"
classification. Submittals not having a "G" or "S" classification are
[for Contractor Quality Control approval.][for information only. When
used, a code following the "G" classification identifies the office that
will review the submittal for the Government.] Submit the following in
accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Placement Schedule; G[, [_____]]

SD-03 Product Data

Visual Display Unit; G[, [_____]]

Projection Screen; G[, [_____]]

SD-04 Samples

Aluminum; G[, [_____]]

Hardwood; G[, [_____]]

Porcelain Enamel; G[, [_____]]

Cork; G[, [_____]]

Fabric; G[, [_____]]

Vinyl Wall Covering; G[, [_____]]

Glass; G[, [_____]]

SD-07 Certificates

[Indoor air quality for markerboards; S

][Indoor air quality for tackboards; S

][Indoor air quality for projection screen; S

]   Certificate of Compliance

SD-08 Manufacturer's Instructions

Manufacturer's Cleaning Instructions

Manufacturer's Printed Installation Instructions

SD-10 Operation and Maintenance Data

            Visual Display Units, Data Package 1; G[, [_____]]

1.4   CERTIFICATIONS

1.4.1   Indoor Air Quality

1.4.1.1   Indoor Air Quality for Visual Display Products
   ****
               NOTE: The Government's preference is for use of
               products that have been certified for indoor air
               quality by a third-party organization such as
               Greenguard or SCS Global Services. However, it must
               be verified there is a certified product available
               that is both cost effective and appropriate for the
               project. The requirements of this paragraph are
               invoked when the designer of record confirms
               local/regional availability of Greenguard or SCS
               products and includes the bracketed requirements for
               indoor air quality certified products in Part 2 of
               this Section.
   ****

   Provide products certified to meet indoor air quality requirements by
   UL 2818 (Greenguard) Gold, SCS Global Services Indoor Advantage Gold or
   provide certification or validation by other third-party program that
   products meet the requirements of this Section. Provide current product
   certification documentation from certification body. When product does
   not have certification, provide validation that product meets the indoor
   air quality product requirements cited herein.

1.5   DELIVERY, STORAGE, AND HANDLING

   Deliver materials to the building site in the manufacturer's original
   unopened containers and store them in a clean dry area with temperature
   maintained above 10 degrees C 50 degrees F. Stack materials according to
   manufacturer's recommendations. Allow visual display units to acclimate
   to the building temperature for 24 hours prior to installation.

1.6   WARRANTY

   Provide manufacturer's warranty to repair or replace defective materials
   and workmanship for period of [one year][_____][years] from date of final
   acceptance of the work.

PART 2   PRODUCTS

2.1   MATERIALS

   For each type, submit a section of core material and backing showing the
   lamination of porcelain enamel coating on steel, colored cork, natural
   cork, woven fabric, non-woven fabric, or vinyl wall covering, as
   applicable. Submit a sample of hardwood, plastic laminate finish, or
   glass type, as applicable. Provide minimum 102 by 102 mm 4 by 4 inch
   samples, or larger, showing range of color.

Submit manufacturers' descriptive product data for [each type of] visual display unit indicated. Include manufacturers' literature, finishes, profiles and thicknesses of materials.

Submit manufacturers' operations and maintenance data for [each type of] visual display unit in accordance with Section 01 78 23 OPERATIONS AND MAINTENANCE DATA.

2.1.1   Porcelain Enamel

Provide markerboard writing surface composed of porcelain enamel fused to a nominal 0.378 mm 28 gauge thick steel, laminated to a minimum 6 mm 1/4 inch thick core material with a steel or foil backing sheet. Writing surface must be capable of supporting paper by means of magnets. Markerboard surface for display track system may be a powder paint dry erase surface adhered to a nominal 1.214 mm 18 gauge thick steel.

2.1.2   Cork

Provide a continuous resilient sheet made from soft, clean, granulated cork relatively free from hardback and dust and bonded with a binder suitable for the purpose intended; wearing surface to be free from streaks, spots, cracks or other imperfections that would impair its usefulness or appearance. Provide seasoned material and a clean cut made not less than 13 mm 1/2 inch from the edge and must show no evidence of soft sticky binder.

2.1.2.1   Colored Cork

Provide colored cork composed of pure cork and natural color pigments that are combined under heat and pressure with linseed oil. Colored cork must be colored throughout and be washable. The burlap backing must be deeply imbedded and keyed to the work sheet being partially concealed in it and meeting the requirements of ASTM F148.

2.1.2.2   Natural Cork

Provide a light tan natural cork composed of a single layer of pure grain natural cork without backing or facing. Cork sheets must have a tensile strength of not less than 275 kPa 40 psi when tested in accordance with ASTM F152.

2.1.3   Woven Fabric

****
          NOTE: A multi-colored, patterned, textured fabric
          will aid in hiding pin and tack holes.

          Fabric other than manufacturer's standard may be
          used; however there may be an upcharge cost and
          minimum quantity requirements. Provide minimum
          generic specifications to obtain fabric required.
****

Provide [plain][_____] weave fabric with [100 percent polyester] [_____] fiber content and[496 grams plus or minus 16 grams per linear meter 16 oz. plus or minus 0.5 oz. per lineal yard] for 1524 mm 60 inch wide fabric [_____] minimum total weight. Fabric must have a Class A flame spread rating of 0-50 and smoke development rating of 0-450 in accordance with

ASTM E84.

2.1.4   Non-Woven Fabric

Provide a non-woven, hooktape compatible fabric with a [backed] [100 percent polyester][,][100 percent polyolefin][or][100 percent nylon] [_____] fiber content and[341 grams plus or minus 14 grams per linear meter 11 oz. plus or minus 0.5 oz. per lineal yard for 1524 mm 60 inch wide fabric] [_____] minimum total weight. Fabric must have a Class A flame spread rating of 0-50 and smoke development rating of 0-450 in accordance with ASTM E84.

2.1.5   Vinyl Wall Covering

****
           NOTE: A multi-colored, textured, vinyl wall
           covering will aid in hiding pin and tack holes.

           Vinyl wall covering other than manufacturer's
           standard may be used; however, there may be an
           upcharge cost and minimum quantity requirements.
           Provide minimum generic specifications to obtain
           fabric required.
****

Provide vinyl wall covering conforming to ASTM F793/F793M, Category V with a Class A flame spread rating of 0-50 and smoke development rating of 0-450 in accordance with ASTM E84.

2.1.6   Aluminum

Provide a minimum 1.5 mm 0.06 inch thick, 6063-T5 or 6063-T6 aluminum alloy frame extrusion conforming to ASTM B221M ASTM B221. Exposed aluminum must have [anodized, satin finish][_____]. Use straight, single lengths wherever possible and keep joints to a minimum. Provide mitered corners with a hairline closure. Submit sections of frame, map rail, and marker rail, and [two] [_____] map hooks.

2.1.7   Hardwood

Provide exposed oak, walnut or mahogany hardwood with manufacturer's standard durable factory-applied stain and lacquer finish for frames, cabinets, and cases.

2.1.8   Glass

Provide tempered glass in accordance with ANSI Z97.1 and ASTM C1048, Kind FT (fully tempered), Condition A (uncoated), Type I, Class I (clear), thickness as specified.

2.1.8.1   Glass with Interlayer Color Coating

Provide glass markerboard writing surface composed of tempered, low-iron, extra clear, safety writing glass with polished edges. Provide glass with an interlayer color coating with a durable paint/glass bond that is fade resistant, water resistant, and heat resistant.

2.1.8.2   Magnetic Glass

Provide magnetic glass markerboard writing surface composed of tempered, low-iron, extra clear, safety writing glass with polished edges and steel backing permanently adhered to the back of the glass.

2.2   PRESENTATION BOARD

Provide wall hung cabinet presentation board with lockable [double doors] [single door] [with] [without] a projection screen [that pulls down over the markerboard writing surface in the cabinet interior]. Attach doors to cabinet with piano hinges and include a catch or closure to keep doors closed when not in use. Provide a porcelain enamel markerboard writing surface on the interior of the cabinet with marker rail, a flip chart that can be hung on an interior door panel, and fabric covered tack surface on the interior door panels. Provide cabinet of [oak hardwood] [walnut hardwood] [mahogany hardwood] [plastic laminate] [_____], with [rectilinear] [bullnose or radius] [traditional] [_____] edge detailing. Dry erase markings must be removable with a felt eraser or dry cloth without ghosting. Provide each unit with an eraser and four different color compatible dry erase markers, and two keys.

2.3   MARKERBOARD

2.3.1   Porcelain Markerboard

Provide a factory assembled markerboard with a porcelain enamel[,
magnetic] writing surface. Unit to be comprised of one piece, without
joints whenever possible. When markerboard dimensions require delivery in
separate sections, components must be prefit at the factory, disassembled
for delivery and jointed at the site. Provide [hardwood oak][hardwood
walnut][hardwood mahogany][aluminum][_____] frame with marker rail
[constructed of the same material as the frame] [and] [[extending the full
length of the markerboard] [_____] inches long]. The markerboard [does
not include a map rail.] [includes a map rail with a tackable insert
extending the full length of the markerboard, map hooks and clips for
holding sheets of paper. Provide two map hooks for each 1219 mm 4 feet of
map rail.] Dry erase markings must be removable with a felt eraser or dry
cloth without ghosting. Supply each unit with an eraser and four
different color compatible dry erase markers. [Provide magnetic glass
markerboard with [10] [_____] rare each magnets.] [Provide markerboards
that meet the emissions requirements of CDPH SECTION 01350 (limit
requirements for either office or classroom spaces regardless of space
type).] [Provide certification of indoor air quality for markerboards.]
[Provide surface applied [direct print][_____] graphics where required.
Graphic type is [semivisible writing guidelines][penmanship
lines][grid][horizontal lines] [_____][as indicated].]

2.3.2   Glass Markerboards with Interlayer Color Coating

Provide markerboard with a smooth finish[, magnetic glass] writing surface
units to be comprised of one piece, without joints whenever possible.
When markerboard dimensions require delivery in separate sections,
components must be prefit at the factory, disassembled for delivery and
jointed at the site. [Extend marker rail the full length of the
markerboard.] [Marker rail is [____] inches long]. The markerboard [does
not include a map rail.] [includes a map rail with a tackable insert
extending the full length of the markerboard, map hooks and clips for
holding sheets of paper. Provide two map hooks for each 1219 mm 4 feet of
map rail.] Dry erase markings must be removable with a felt eraser or dry
erase cloth without ghosting. Supply each unit with an eraser and four
different color compatible dry erase markers. [Provide magnetic glass
markerboard with [10][_____] rare earth magnets.] [Provide markerboards
that meet the emissions requirements of CDPH SECTION 01350 (limit
requirements for either office or classroom spaces regardless of space

type).] [Provide certification of indoor air quality for markerboards.]
[Provide high resolution graphics[reverse surface applied][printed on
paper for insert behind glass][surface applied, direct print][_____] where
required. Graphic type is [semivisible writing guidelines][penmanship
lines][grid][horizontal lines][_____][as indicated].]

2.4   TACKBOARDS

****
            NOTE: Retain the last sentence below requiring
            products with indoor air quality certification when
            the designer of record confirms local/regional
            availability of Greenguard or SCS products that does
            not impact cost effectiveness.
****

[Provide tackboards that meet the emissions requirements of
CDPH SECTION 01350 (limit requirements for either office or classroom
spaces regardless of space type).][Provide certification or validation
of indoor air quality for tackboards.]

2.4.1   Cork

****
            NOTE: Tackboards with 6 mm 1/4 inch thick cork are
            more durable and higher in cost than tackboards with
            3 mm 1/8 inch thick cork. Tackboards constructed
            with insulation board or fiberboard are generally
            less durable and less expensive than tackboards
            constructed of a hardboard. Cost of natural cork
            tackboards is generally less than colored cork
            tackboards.
****

Provide tackboard consisting of a minimum [3 mm 1/8 inch thick colored
cork with burlap backing laminated to a minimum 10 mm 3/8 inch thick
insulation board or fiber board] [6 mm 1/4 inch thick colored cork with
burlap backing laminated to a minimum 6 mm 1/4 inch thick hardboard] [3 mm
1/8 inch thick natural cork laminated to a minimum 10 mm 3/8 inch thick
insulation board or fiber board] [6 mm 1/4 inch thick natural cork
laminated to a minimum 6 mm 1/4 inch thick hardboard], and [a] [hardwood
oak] [hardwood walnut] [hardwood mahogany] [an] [aluminum] [_____] frame.

2.4.2   Vinyl Covered

Provide tackboard consisting of vinyl wall covering laminated to a minimum
[3 mm 1/8 inch thick cork laminated to a minimum 10 mm 3/8 inch thick
insulation board or fiberboard] [6 mm 1/4 inch thick cork laminated to a
minimum 6 mm 1/4 inch thick hardboard or particleboard] [13 mm 1/2 inch
thick insulation board or fiberboard], and [a][hardwood oak] [hardwood
walnut] [hardwood mahogany] [an] [aluminum] [_____] frame.

2.4.3   Fabric Covered

Provide tackboard consisting of a [woven] [non-woven] fabric covering
laminated to a minimum [3 mm 1/8 inch thick cork laminated to a minimum 10
mm 3/8 inch thick insulation board or fiberboard] [6 mm 1/4 inch thick
cork laminated to a minimum 6 mm 1/4 inch thick hardboard or
particleboard] [13 mm 1/2 inch thick insulation board or fiberboard], and

[a][an] [hardwood oak] [hardwood walnut] [hardwood mahogany] [an]
[aluminum] [_____] frame.

2.5   BOARD CASE

Provide [surface] [recess] mounted board case with [hinged minimum 5 mm
3/16 inch thick] [sliding minimum 6 mm 1/4 inch thick] tempered glass
doors that are lockable. Provide [a][an] [aluminum][hardwood
oak][hardwood walnut][hardwood mahogany][_____] case with mitered corners
reinforced for rigidity. Provide doors [equipped with continuous piano
hinges. Door glass framed with the case material, and reinforced at all
corners. Door framing does not depend upon the glass for rigidity.
Multiple door cases with an elbow catch] [sliding aluminum "H" molding at
top and bottom of case]. The interior side of the back panel is tackable
and composed of [a minimum 6 mm 1/4 inch colored cork] [a minimum 6 mm 1/4
inch natural cork] [a vinyl wall covering laminated to a minimum 6 mm 1/4
inch cork] [[_____] laminated to a minimum 6 mm 1/4 inch fiberboard]
[_____]. Provide two keys for each unit.

2.6   DISPLAY TRACK SYSTEM

Method of display is a flexible and interchangeable system that consists
of lightweight presentation components suspended from a wall mounted,
linear, horizontal track. Track has [one] [two] [_____] levels to attach
components. Track allows attached components to slide horizontally.
Presentation components are capable of being lifted from the track and
being relocated to allow for reconfiguration. Components must be capable
of being installed on the track without the use of tools for installation,
removal, and reconfiguration. The presentation components consist of a
[retractable projection screen,] [tilted projection screen (top tilts
forward),] [reversible panel with dry erase markerboard on both sides,]
[reversible panel with markerboard on one side and woven fabric covered
tack surface on the other,] [[1] [_____] [removable shelf],] [panel with
adjustable flip chart,] [_____] and [display rail for setting presentation
materials or a holder for displaying maps, presentation boards, drawings
and other paper display materials up to a [3] [6] mm [1/8] [1/4] inch
thickness]. Install and locate components on track in accordance with
manufacturer's written recommendations. Provide markerboards with a
marker rail Markerboard surface accepts magnets. Dry erase markings are
removable with a felt eraser or dry cloth without ghosting. Provide each
unit with an eraser and four different color compatible dry erase markers.

2.7   HORIZONTAL SLIDING UNITS

Provide horizontal sliding unit composed of a fixed back panel, sliding
panels, an aluminum track assembly, map rail and marker rail. Provide

unit with [2] [3] [4] [_____] tracks. The fixed back panel is
[markerboard] [tackboard]. Provide unit with [_____] markerboard sliding
panel and [_____] tackboard sliding panel. The track assembly and exposed
members, including panel edging and marker rail, are made of extruded
aluminum. Reinforce frame assembly at corners. Sliding panels are
suspended from the top and slide over the aluminum track using molded
nylon ball bearing rollers at the top of the track and nylon guide rollers
at the bottom of the track to eliminate vibration and to provide quiet and
smooth operation of the panels. Sliding panels have finger pulls at each
end. Provide a map rail with a tackable insert extending the length of
the horizontal sliding unit. The map rail has map hooks with clips for
holding sheets of paper. Provide two map hooks for each 1220 mm 4 feet of
map rail. Marker rail extends the full length of the horizontal sliding
unit. Dry erase markings are removable with a felt eraser or dry cloth
without ghosting. Provide each unit with an eraser and four different
color compatible dry erase markers.

2.8   COPYBOARD

****
            **NOTE: Models are available that have copy feature
            only and do not operate with a PC.**

            **Copyboards are used to document and print
            information directly from the writing surface.**

            Specify PC ready or PC interface if required.

            **Coordinate PC requirements for PC ready and PC
            interface units with user to assure the Government
            furnished and Government installed PC and printer
            will be compatible with copyboard PC requirements.**

            **Some models that have PC interface do not have a
            built-in printer since printer capability is
            obtained through interfacing with the PC and printer.**

            **Coordinate copyboard requirements and locations with
            electrical engineer to assure that electrical
            outlets or hardwiring at the appropriate locations
            are included in the design.**

****

Provide wall mounted copyboard, 120V, UL listed, with [2] [_____] sided
rotating screens, and [a built-in printer that prints letter size copies]
[and] [capability to save and print to a Government furnished and
Government installed PC and printer]. Copyboard surface [has grid lines]
[and] accepts dry erase markers. Dry erase markings are removable with a
felt eraser or dry cloth without ghosting. [Copyboard [has PC interface]
[or] [is PC ready].] [Provide PC interface kit for each PC ready unit.]
Copyboards [are hardwired] [have an electrical cord that plugs into an
electrical wall outlet]. Comply with electrical work requirements in
Section 26 20 00 INTERIOR DISTRIBUTION SYSTEM. Provide each copyboard
with an eraser and three different color compatible dry erase markers.

2.9   INTERACTIVE WHITEBOARDS

****

Provide interactive whiteboards are composed of a wall mounted interactive
touch screen/panel with infrared touch technology. System includes
keyboard, conference camera, [short throw projector] [[connection to local
area network (LAN)] and built-in wireless], remote control, pen, and
audio. [Provide a system compatible with Government furnished and
Government installed PC and printer][Provide a system that includes a
printer and that is compatible with a Government furnished and Government
installed PC]. Interactive whiteboards [are hardwired] [have an
electrical cord that plugs into an electrical wall outlet]. Comply with
electrical work requirements in Section 26 20 00 INTERIOR DISTRIBUTION
SYSTEM.

2.10   PROJECTION SCREEN

Provide [wall mounted] [ceiling mounted] [recessed mounted] motorized
projection screen with 120V motor that is lubricated for life, quick
reversal type, has overload protector, integral gears, and preset
accessible limit switches. [Provide recessed mounted projection screens
with an operable closure door and access panel.]Provide flame retardant,
mildew resistant, [glass beaded] [white matte] [_____] screen [with
[white] [black] masking borders] [that is tab tensioned. Tab tensioned
screens have a vinyl surface that is stretchable]. Bottom of screen
fabric is weighted with a metal rod. Provide roller of rigid metal at
least [76] [127] [_____] mm [3] [5] [_____] inches in diameter mounted on
sound absorbing supports. Motor is [end mounted] [or] [motor-in-roller]
design. Provide screen with a 3 position control switch to stop or
reverse screen at any point. Install the switch in a flush electrical box
with cover plate, location(s) as shown on the Electrical drawings. All
conduit and wiring from the control switch to the projection screen is
furnished and installed by the Contractor. [Provide ceiling recessed case
of [extruded aluminum] [or] [wood with metal lined motor compartment]].
[Provide [wall] [ceiling] mounted case of [aluminum] [or] [steel] [or]
[wood. Wood case is finished in [plastic laminate] [light oak] [medium
oak] [walnut] [cherry] [mahogany] [_____]]]. Screen is UL listed.
Comply with electrical work requirements in Section 26 20 00 INTERIOR
DISTRIBUTION SYSTEM. [Provide projection screens that meet the emissions
requirements of CDPH SECTION 01350 (limit requirements for either office
or classroom spaces regardless of space type).]

[Provide certification of indoor air quality for projection screens.]

2.11   COLOR

****
            NOTE: Editing of color reference sentence(s) must
            be coordinated with the Government. Generally,
            Section 09 06 00 SCHEDULES FOR FINISHES or drawing
            is used when the project is designed by an architect
            or interior designer. Color must be selected from
            manufacturers standard colors or identified as a
            manufacturers color in this specification only when
            the project is very simple and has minimal finishes.

            When the Government directs that color be located in
            the drawings a note must be added that states:
            "Where color is shown as being specific to one
            manufacturer, an equivalent color by another
            manufacturer may be submitted for approval.
            Manufacturers and materials specified are not
            intended to limit the selection of equal colors from
            other manufacturers. The word "color" as used
            herein includes surface color and pattern."

            Prior to specifying a custom color finish, research
            to determine if additional cost and lead time is
            feasible. Note there is often a minimum order
            requirement; this requirement will also affect
            future orders.

            When a manufacturer's name, stock number, pattern,
            and color is used, be certain that the product
            conforms to this specification, as edited.
****

Provide finish colors for required items [as specified in Section 09 06 00 SCHEDULES FOR FINISHES][as indicated; colors listed are not intended to limit the selection of equal colors from other manufacturers].

PART 3   EXECUTION

3.1   PLACEMENT SCHEDULE

****
          NOTE: Identify location and mounting height of
          visual display units.

          Identify size and type of visual display units only
          once in the contract documents.

          Include additional information for the display track
          system. Specify the length of the wall track, and
          type and number of presentation components required
          per room.
****

[Location, size and mounting height of visual display units as shown on the drawings.] [Provide visual display units as follows:

Room Name and Number	Board Type	Board Size	Wall Location	Mounting Height
[_____]	[_____]	[_____]	[_____]	[_____]

]
Mounting height is defined as distance from finished floor to top of the visual display unit frame.

3.2   INSTALLATION

****
          NOTE: Provide reinforcing at partitions to support
          visual display units.
****

Do not install items that show visual evidence of biological growth. Perform installation and assembly in accordance with manufacturer's printed installation instructions. Use concealed fasteners. Attach visual display units to the walls with suitable devices to anchor each unit. Furnish and install trim items, accessories and miscellaneous items in total, including but not limited to hardware, grounds, clips, backing materials, adhesives, brackets, and anchorages incidental to or necessary for a sound, secure, complete and finished installation. Do not initiate installation until completion of room painting and finishing operations. Install visual display units in locations and at mounting heights indicated. Install visual display units level and plumb, and if applicable align doors and adjust hardware. Repair or replace damaged units as directed by the Contracting Officer.

3.3   CLEANING

Clean writing surfaces in accordance with manufacturer's cleaning instructions.

-- End of Section --

-- End of Section --