IUSD ADDENDUM NO. 02

TO: All Registered Bidders

DATE: February 23, 2018

PROJECT: Irvine Unified School District
Measure E Series 1 Expansion Projects – Eastshore E.S., Venado M.S., Creekside H.S.
Project No. 100E014-16-021

CONTACT: Jim Yost, Neff Construction

This Addendum forms a part of the Contract Documents for the Project described above and shall supersede referenced sections of the original Bidding Documents. This Addendum is an integral part of said Bidding Documents and shall be acknowledged in the Contractor's Bid Proposal form. Failure to acknowledge receipt of this Addendum in the Bid may cause the Bid to be rejected.

This addendum is divided into seven (7) parts: Instructions and Procedures, Public Works Bid Packet, Project Specifications, Drawings, Prior Addenda, Other Documents, and Pre-Bid Questions.

I. INSTRUCTIONS AND PROCEDURES

1. The following changes, omissions and/or additions to the Bid Specification shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

2. Careful note of the Addendum shall be taken by all parties of interest so that the proper allowance may be made in all computations and estimates, and all trades affected shall be fully advised in the performance of the work which will be required of them.

3. In case of conflict between the Drawings, Specifications, and this Addendum, this Addendum shall govern.

II. PUBLIC WORKS BID PACKET

1. Supplemental Conditions: Attachment C- Scope of Work Assignments: Category 03 Concrete –, Revise as follows:

    - On page number 2- Add specification section 099123 Interior Painting (as applicable) under the listing for Eastshore ES and Venado MS.

2. Supplemental Conditions, Attachment C- Scope of Work Assignments: Category 14 Flooring- Revise as follows:
   - On page number 1- Delete specification section 096519 Resilient Tile Flooring and Add new section 096516 Resilient Sheet Flooring under the listing for Eastshore ES issued in this addenda.

3. Supplemental Conditions: Attachment C- Scope of Work Assignments: Category 19 Electrical –, Revise as follows:

   - On page number 2- Delete specification section 283100 Intrusion Detection and Add specification section 281600 Intrusion Alarm System under the listing for Venado MS issued in this addenda.

4. Supplemental Conditions: Attachment C- Scope of Work Assignments: Category 30 General Construction –, Revise as follows:

   - On page number 2- Add specification section 083213 Sliding Aluminum-Framed Glass Doors under the listing for Eastshore ES issued in this addenda.

III. PROJECT SPECIFICATIONS

- Throughout each of the project specification manuals of Eastshore, Venado, and Creekside where a division 01 Substitution specification is referenced, the specification section 01 25 00 Substitutions and Product Options issued under Supplementary Conditions Attachment G shall govern.

Eastshore Elementary School- Measure E Expansion- DSA #04-116540
Addendum A

Item: Description:

1.0 PROJECT MANUAL: EASTSHORE ES

1.1 DOCUMENT 000110 - TABLE OF CONTENTS
- 1.1.1.1 Updated per changes in Addendum A

1.2 DOCUMENT 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS
- 1.2.1.1 Updated BoD for laminates and selected hardware finish.

1.3 DOCUMENT 079200 - JOINT SEALANTS
- 1.3.1.1 Added reference to '092900 - GYPSUM BOARD' for acoustical sealants.

1.4 DOCUMENT 083213 - SLIDING ALUMINUM-FRAMED GLASS DOORS
- 1.4.1.1 New specification section.

1.5 DOCUMENT 092900 - GYPSUM BOARD
- 1.5.1.1 Added acceptable products for acoustic sealants.

1.6 DOCUMENT 096516 - RESILIENT SHEET FLOORING
- 1.6.1.1 New specification section per updated finishes.

1.7 DOCUMENT 096519 - RESILIENT TILE FLOORING
- 1.7.1.1 Deleted per updated finishes.

1.8 DOCUMENT 097200 - WALL COVERINGS
- 1.8.1.1 More information (size, sample images, submittal requirements) added about digitally printed wall coverings.

1.9 DOCUMENT 099123 - INTERIOR PAINTING
- 1.9.1.1 Updated dry Erase coating and added concrete sealer BoD.

1.10 DOCUMENT 101100 - VISUAL DISPLAY UNITS
1.10.1.1 Updated BOD for tackboard and linked to 'Wall Coverings' specification section for vinyl fabric.
1.11 DOCUMENT 123661.16 - SOLID SURFACING COUNTERTOPS
1.11.1.1 Updated Basis-of-Design product.

Venado Middle School- Measure E Expansion- DSA #04-116541
Addendum A
Item: Description:

1.0 PROJECT MANUAL: VENADO MS

1.1 DOCUMENT 000110 - Table of Contents
1.1.1 Updated per changes in Addendum A.
1.1.2 Remove Section '283100 Intrusion Detection' from Table of Contents
1.2 DOCUMENT 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS
1.2.1 This section is not needed in Venado.
1.3 DOCUMENT 079200 - JOINT SEALANTS
1.3.1 Added reference to '092900 - GYPSUM BOARD' for acoustical sealants.
1.4 DOCUMENT 092900 - GYPSUM BOARD
1.4.1 Added acceptable products for acoustic sealants.
1.5 DOCUMENT 099123 - INTERIOR PAINTING
1.5.1 Added concrete sealer BoD.
1.6 DOCUMENT 101100 - VISUAL DISPLAY UNITS
1.6.1 Updated BOD for tackboard and linked to 'Wall Coverings' specification section for vinyl fabric.
1.7 DOCUMENT 123553.19 - WOOD LABORATORY CASEWORK
1.7.1 Added language for 'custom sizes' where needed.
1.8 DOCUMENT 281600 – INTRUSION ALARM SYSTEM
Added new specification section.

IV. DRAWINGS

Eastshore Elementary School- Measure E Expansion- DSA #04-116540
Addendum A

2.0 DRAWINGS: EASTSHORE ES
2.1 SHEET L1.01 – IRRIGATION PLAN
2.1.1 Replace Sheet L1.01 with attached Sheet L1.01 indicating revisions to:
2.1.1.1 Valve stationing and calculations
2.2 SHEET L1.04 – IRRIGATION CALCS
2.2.1 Added irrigation calculations sheet
2.3 SHEET L3.01 – HARDSCAPE PLAN
2.3.1 Replace Sheet L3.01 with attached Sheet L3.01 indicating revisions to:
2.3.1.1 Removed concrete seat wall, dolphin and fish stamped concrete and all colored concrete.
2.3.1.2 Revised the concrete specification for color to be natural gray and the finish standard broom finish.
2.3.1.3 Revised plan callouts.
2.3.1.4 Revised Paving Section Detail 'A' to reference the Civil plans for the concrete.

2.3.1.5 Updated paving schedule to reference the Civil details and specifications.

2.3.1.6 Updated restroom building architecture in playground

2.4 SHEET L3.02 – HARDSCAPE DETAILS

2.4.1 Remove Sheet L3.02. Hardscape is referenced on the Civil drawings and Specifications

2.5 SHEET A1.01 – FLOOR PLAN

2.5.1 Replace Sheet A1.01 with attached Sheet A1.01 indicating revisions to:
2.5.1.1 Existing wall to remain at K-1 Classroom 106.
2.5.1.2 Floor plan modification at Work Room 111, K1 Restroom 110, Storage 110A, Girls RR 113, Boys RR 114, K-2 Restroom 112.
2.5.1.3 Replacement of Double Door adjacent to K-1 Classroom 106 with Curtainwall.

2.6 SHEETS A2.01 – ENLARGED RESTROOM PLANS AND ELEVATIONS

2.6.1 Replace Sheet A2.02 with attached Sheet A2.02 indicating revisions to details 11 thru 25.

2.7 SH EETS A2.02 – ENLARGED RESTROOM PLANS AND ELEVATIONS

2.7.1 Replace Sheet A2.02 with attached Sheet A2.02 indicating revisions to details 11 thru 25.

2.8 SHEETS A2.21 Thru A2.25 – INTERIOR ELEVATIONS

2.8.1 Replace Sheets A2.21 Thru A2.25 with attached Sheets A2.21 Thru A2.25 indicating revisions to interior elevations and interior finishes.

2.9 SHEETS A3.01 – REFLECTED CEILING PLAN

2.9.1 Replace Sheet A3.01 with attached Sheet A3.01.

2.10 SHEETS A5.01 – EXTERIOR ELEVATIONS

2.10.1 Replace Sheet A5.01 with attached Sheet A5.01 indicating new Keynotes: EF-9, EF-10 and EF-11

2.11 SHEETS A12.01 – FINISH FLOOR PLAN & FINISH SCHEDULE

2.11.1 Replace Sheet A12.01 with attached Sheet A12.01.

2.12 SHEET S2.1– FOUNDATION PLAN

2.12.1 Replace Sheet S2.1 with attached Sheet S2.1 indicating revisions to:

2.12.1.1 Updated slab and curb layout per new bathroom layout

2.13 SHEETS P1.1 – PLUMBING PLAN

2.13.1 Replace Sheet P1.1 with attached sheet P1.1 indicating revisions to:

2.13.1.1 Updated plumbing layout for Girls RR 113 fixture locations.

2.13.1.2 Updated plumbing layout for Boys RR 114 fixture locations.

2.13.1.3 Updated plumbing layout for Restroom 110 fixture locations.

2.13.1.4 Updated plumbing layout for Restroom 112 fixture locations.

2.14 SHEETS M2.3 – MECHANICAL FLOOR PLAN

2.14.1 Replace Sheet M2.3 with attached sheet M2.3 indicating revisions to:
2.14.1.1 Revised restroom layout for Restroom 110.

2.14.1.2 Added 1" lining for all supply and return ductwork in classrooms per acoustical recommendations.

2.14.1.3 Added access panel (24"x24") in K-2 Restroom 112 to facilitate access to existing water-source heat pump.

2.14.1.4 Added exhaust grille in Girl's Restroom 105.

2.14.1.5 Added exterior door louver in Girls' Restroom 105.

2.14.1.6 Revised air distribution in Vestibule 131.

2.14.1.7 Added note in (E) Lounge 213 and (E) Lounge 204 to re-use existing mechanical.

Venado Middle School- Measure E Expansion- DSA #04-116541
Addendum A

2.0 DRAWINGS: VENADO MS

2.1 SHEET A2.01– ENLARGED RESTROOM PLAN, AND ELEVATIONS

2.1.1 Replace Sheet A2.01 with attached Sheet A2.01 indicating revisions to:
2.1.1.1 Revised Tile Patterns.

2.2 SHEETS A2.21 and A2.22 – INTERIOR ELEVATIONS

2.2.1 Replace Sheet A2.21 and A2.22 with attached Sheet A2.21 and A2.22 indicating revisions to Keynotes IE42 and IE39.

2.3 SHEETS A5.01 – EXTERIOR ELEVATIONS

2.3.1.1 Replace Sheet A5.01 with attached Sheet A5.01 indicating revisions to Keynotes: EL02 and EL03 and new keynote EL23

2.4 SHEETS A9.10 – DOOR / WINDOW SCHEDULE & DETAILS

2.4.1.1 Replace Sheet A9.10 with attached Sheet A9.10 indicating revisions DOOR AND WINDOW NOTES

2.5 SHEETS A12.01 – FINISH FLOOR PLAN & FINISH SCHEDULE

2.5.1 Replace Sheet A12.01 with attached Sheet A12.01.

2.6 SHEETS M1.02 – MECHANICAL FLOOR PLAN

2.6.1 Replace Sheet M1.2 with attached Sheet M1.2:

2.6.1.1 Added 1" lining on all supply and return ductwork serving classrooms

V. CHANGES TO PRIOR ADDENDA

1. None.

VI. OTHER DOCUMENTS

1. None.

VII. PRE-BID QUESTIONS

1. None.

Attachments:

- **DLR- Group-Addendum A- Eastshore Elementary School- Measure E Expansion- DSA #04-116540**
- **DLR Group- Addendum A- Venado Middle School- Measure E Expansion- DSA #04-116541**

END OF ADDENDUM No. 02

Addendum A

DLR Group
Architecture Engineering Planning Interiors

1650 Spruce Street
Suite 300
Riverside, CA 92507

o: 951/682-0470
f: 951/682-1801

Project Reference:	Eastshore Elementary School Measure E	Date:	2/16/2018
DLR Group Project №:	75-17603-00 | DSA A#04-116540 | File 30-48		
Submitted By:	Robert Demmond		
To:	All Bidders		
Attention:	Authorized Representative		
Notice to Bidders:	Changes to the Project Manual and Drawings for the above reference project as follows:		

Notice to General Contractor:
The Contractor shall assure himself that all changes and specifications within this Addendum have been correctly listed and described. The General Conditions and Supplementary Conditions Sections of the Specifications shall apply to the work of this Addendum as though printed herein.

Item: Description:

1.0 PROJECT MANUAL

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- 1.1.1 Updated per changes in Addendum A

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- 1.2.1 Updated BoD for laminates and selected hardware finish.

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2.14.1.7 Added note in (E)Lounge 213 and (E)Lounge 204 to re-use existing mechanical.

Sincerely,

Robert Demmond

DLR Group

Division	Section Title	Pages

TABLE OF CONTENTS

SPECIFICATIONS GROUP

DIVISION 12 - FURNISHINGS

DIVISION 22 - PLUMBING

DIVISION 23 - MECHANICAL

DIVISION 31 - EARTHWORK

DIVISION 32 - EXTERIOR IMPROVEMENTS

DIVISION 33 - UTILITIES

SECTION 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Plastic-laminate-faced architectural cabinets.
2. Slotted wood paneling system.
3. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-faced architectural cabinets unless concealed within other construction before cabinet installation.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing cabinets and concealed within other construction before cabinet installation.
2. Section 123623.13 "Plastic-Laminate-Clad Countertops."

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
2. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
3. Chain-of-Custody Certificates: For certified wood products. Include statement of costs.

4. Product Data: For adhesives, indicating that product contains no urea formaldehyde.
5. Product Data: For composite wood products, indicating that product contains no urea formaldehyde.

C. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show details full size.
2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
3. Show locations and sizes of cutouts and holes for electrical switches and outlets and other items installed in architectural plastic-laminate cabinets.
4. Apply WI Certified Compliance Program label to Shop Drawings.

D. Samples for Initial Selection: For each type of exposed finish.

E. Samples for Verification:

1. Plastic laminates, 8 by 10 inches, for each color, pattern, and surface finish, with one sample applied to core material and specified edge material applied to one edge.

2. Corner pieces as follows:

a. Cabinet-front frame joints between stiles and rails, as well as exposed end pieces, 18 inches high by 18 inches wide by 6 inches deep.
b. Miter joints for standing trim.

3. Exposed cabinet hardware and accessories, one unit for each type and finish.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

B. Product Certificates: For each type of product.

C. Woodwork Quality Standard Compliance Certificates: WI Certified Compliance Program certificates.

D. Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop with not less than 5 years' experience with projects of similar scope, that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a licensee of WI's Certified Compliance Program.

B. Installer Qualifications: Licensee of WI's Certified Compliance Program.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockups of typical plastic-laminate cabinets as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver cabinets until painting and similar operations that could damage woodwork have been completed in installation areas. If cabinets must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed, and indicate measurements on Shop Drawings.

C. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.9 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that cabinets can be supported and installed as indicated.

B. Hardware Coordination: Distribute copies of approved hardware schedule specified in Section 087111 "Door Hardware (Descriptive Specification)" to fabricator of architectural woodwork; coordinate Shop Drawings and fabrication with hardware requirements.

PART 2 - PRODUCTS

2.1 GENERAL

A. Operable parts for all accessible casework shall comply with CBC Section 11B-309

2.2 PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural plastic-laminate cabinets indicated for construction, finishes, installation, and other requirements.

1. Provide labels and certificates from WI certification program indicating that woodwork complies with requirements of grades specified.
2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.

B. Grade: Custom.

C. Regional Materials: Wood products shall be manufactured within 500 miles of Project site.

D. Certified Wood: Wood products shall be certified as "FSC Pure" according to FSC STD-01-001 and FSC STD-40-004.

E. Type of Construction: Frameless.

F. Cabinet, Door, and Drawer Front Interface Style: Flush overlay.

G. Reveal Dimension: As indicated.

H. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by woodwork quality standard.

1. Manufacturers: Subject to compliance with requirements, provide products by ~~Formica Corporation~~Wilsonart, or comparable products by the following:

a. Formica Corporation
~~a.~~b. Pionite: a Panolam Industries International, Inc. brand.

I. Laminate Cladding for Exposed Surfaces:

1. Horizontal Surfaces: Grade HGL.
2. Postformed Surfaces: Grade HGP.
3. Vertical Surfaces: Grade HGS.
4. Edges: PVC edge banding, 0.12 inch thick, matching laminate in color, pattern, and finish.
5. Pattern Direction: As indicated.

J. Materials for Semiexposed Surfaces:

1. Surfaces Other Than Drawer Bodies: Thermoset decorative panels.

a. Edges of Plastic-Laminate Shelves: PVC edge banding, 0.12 inch thick, matching laminate in color, pattern, and finish.
b. Edges of Thermoset Decorative Panel Shelves: PVC or polyester edge banding.
c. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.

2. Drawer Sides and Backs: Thermoset decorative panels with PVC or polyester edge banding.
3. Drawer Bottoms: Hardwood plywood.

K. Dust Panels: 1/4-inch plywood or tempered hardboard above compartments and drawers unless located directly under tops.

L. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

M. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners.

N. Colors, Patterns, and Finishes: ~~Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:~~As indicated on drawings.

~~1. As indicated by laminate manufacturer's designations.~~
~~2. Match Architect's sample.~~
~~3. As selected by Architect from laminate manufacturer's full range in the following categories:~~

~~a. Solid colors, matte finish.~~
~~b. Solid colors with core same color as surface, matte finish.~~
~~c. Wood grains, matte finish.~~
~~d. Patterns, matte finish.~~

2.3 SLOTTED WOOD PANELING SYSTEM

A. Basis-of-Design: High Pressure Laminate (HPL) slotted wood paneling as manufactured by Slatwall Systems.

B. Paneling: ¾ inch MDF grooved to receive standard-sized fixture mounting brackets for display.

C. Slatwall Type:
1. Slats: T-Shaped, spaced at 3 inches on center, unless indicated otherwise.

2. Slat Direction: As indicated on drawings.

D. Finish: High pressure plastic laminate, color to be selected by the architect from manufacturers standard options.

E. Groove finish: Extruded aluminum T-shaped insert, mill finish.

F. Panel size: As indicated on drawings.

2.4 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 8 to 13 percent.

B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Recycled Content of MDF and Particleboard: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

C. Composite Wood Products: Products shall be made without urea formaldehyde.

D. Composite Wood Products: Products shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

1. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for test methods 3.3, 3.4, 3.6, 3.8, and 3.10.

2.5 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087111 "Door Hardware (Descriptive Specification)."

B. Butt Hinges: 2-3/4-inch, five-knuckle steel hinges made from 0.095-inch- thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361.
2. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.

C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 170degrees of opening.

D. Back-Mounted Pulls: BHMA A156.9, B02011.

E. Wire Pulls: Back mounted, solid metal, 5 inches long, 2-1/2 inches deep, and 5/16 inch in diameter.

F. Catches: Magnetic catches, BHMA A156.9, B03141.

G. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.

H. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with shelf hold-down clip.

I. Drawer Slides: BHMA A156.9.

1. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
2. For drawers not more than 3 inches high and not more than 24 inches wide, provide Grade 1.
3. For drawers more than 3 inches high but not more than 6 inches high and not more than 24 inches wide, provide Grade 1HD-100.
4. For drawers more than 6 inches high or more than 24 inches wide, provide Grade 1HD-200.
5. For computer keyboard shelves, provide Grade 1HD-100.
6. For trash bins not more than 20 inches high and 16 inches wide, provide Grade 1HD-200.

J. Door Locks: BHMA A156.11, E07121.
1. Provide 6 keys for each type of lock.

K. Drawer Locks: BHMA A156.11, E07041.
1. Provide 6 keys for each type of lock.

L. Door and Drawer Silencers: BHMA A156.16, L03011.

M. Grommets for Cable Passage: 2-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Color: Black.

N. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

~~1. Dark, Oxidized, Satin Bronze, Oil Rubbed: BHMA 613 for bronze base; BHMA 640 for steel base; match Architect's sample.~~
~~2. Bright Brass, Clear Coated: BHMA 605 for brass base; BHMA 632 for steel base.~~
~~3. Bright Brass, Vacuum Coated: BHMA 723 for brass base; BHMA 729 for zinc-coated steel base.~~
~~4. Satin Brass, Blackened, Bright Relieved, Clear Coated: BHMA 610 for brass base; BHMA 636 for steel base.~~
~~5. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.~~
~~6. Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.~~
~~7.~~1. Satin Stainless Steel: BHMA 630.

O. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.6 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. Adhesives: Do not use adhesives that contain urea formaldehyde.

D. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Adhesive for Bonding Plastic Laminate: Unpigmented contact cement.

1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

2.7 FABRICATION

A. Fabricate cabinets to dimensions, profiles, and details indicated.

B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.

C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

D. Install glass to comply with applicable requirements in Section 088000 "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition cabinets and slotted panels to average prevailing humidity conditions in installation areas.
   1. Store slotted panels laid flat in the area in which they are to be installed for at least 48 hours prior to installation, to acclimate to ambient conditions.

B. Before installing cabinets, examine shop-fabricated work for completion and complete work as required.

3.2 INSTALLATION

A. Grade: Install cabinets to comply with same grade as item to be installed.

B. Assemble cabinets and complete fabrication at Project site to the extent that it was not completed in the shop.

C. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

D. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.

   1. Use filler matching finish of items being installed.

F. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

   1. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
   2. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood framing, blocking, or hanging strips.

3.3 SLOTTED WOOD PANELING SYSTEM INSTALLATION

A. Install panels using adhesive and screws, in accordance with panel manufacturer’s written instructions.

B. Locate panel ends over studs.

3.4 ADJUSTING AND CLEANING

A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION 064116

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Butyl joint sealants.
5. Latex joint sealants.

B. Related Requirements:
1. Section ~~079219~~ 092900 "~~Acoustical Joint Sealants~~Gypsum Board" for sealing joints in sound-rated construction.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product, including backer rods.

B. Sustainable Design Submittals:

1. Product Data: For sealants, indicating VOC content.

C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

D. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

E. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.
5. Primer and cleaner
6. Backer rod type.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Product Test Reports: For each kind of joint sealant, for tests performed by a qualified testing agency.

C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

D. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with masonry substrates.
4. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
5. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
6. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
7. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

1.7 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content: Sealants and sealant primers shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.

2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
3. Sealants and sealant primers for porous substrates shall have a VOC content of 775 g/L or less.

4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Basis-of-Design: Subject to compliance with requirements, provide Dow Corning 795, or approved equal.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonalastic TX1.
b. Bostik, Inc.; Chem-Calk.
c. ER Systems, an ITW Company; Pacific Polymers Elasto-Thane 230 MP.
d. Pecora Corporation; Dynatrol I-XL.
e. Polymeric Systems, Inc.; Flexiprene 1000.
f. Schnee-Morehead, Inc., an ITW company; Permathane SM7108.
g. Sherwin-Williams Company (The); Stampede-1.
h. Sika Corporation U.S.; Sikaflex Textured Sealant.
i. Tremco Incorporated; Dymonic.

B. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonolastic SL 1.
b. Pecora Corporation; NR-201.
c. Polymeric Systems, Inc.; Flexiprene 952.
d. Schnee-Morehead, Inc.; an ITW company; Permathane SM7101.
e. Sherwin-Williams Company (The); Stampede 1SL.

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Dow Corning Corporation; 786-M White.
b. GE Construction Sealants; SCS1700 Sanitary.
c. May National Associates, Inc., a subsidiary of Sika Corporation U.S.; Bondaflex Sil 100 WF.
d. Soudal USA; RTV GP.
e. Tremco Incorporated; Tremsil 200.

2.5 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Bostik, Inc.; Chem-Calk 300.
b. Pecora Corporation; BC-158.

2.6 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonolac.
b. May National Associates, Inc., a subsidiary of Sika Corporation U.S.; Bondaflex 600.
c. Pecora Corporation; AC-20.
d. Sherwin-Williams Company (The); 850A, 950A or PowerHouse.

e. Tremco Incorporated; Tremflex 834.

2.7 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems.
b. Construction Foam Products, a division of Nomaco, Inc.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.8 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Concrete.
    b. Masonry.
    c. Unglazed surfaces of ceramic tile.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

    a. Metal.
    b. Glass.
    c. Porcelain enamel.
    d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:

   a. Perform 1 tests for each kind of sealant and joint substrate.

2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

   a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

3. Inspect tested joints and report on the following:

   a. Whether sealants filled joint cavities and are free of voids.

b. Whether sealant dimensions and configurations comply with specified requirements.
c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.

4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces .

1. Joint Locations:
   a. Isolation and contraction joints in cast-in-place concrete slabs.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Construction joints in cast-in-place concrete.
    b. Control and expansion joints in unit masonry.
    c. Joints between different materials listed above.
    d. Perimeter joints between materials listed above and frames of doors, windows and louvers.
    e. Control and expansion joints in ceilings and other overhead surfaces.
    f. Other joints as indicated on Drawings.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:

    a. Isolation joints in cast-in-place concrete slabs.
    b. Control and expansion joints in tile flooring.
    c. Other joints as indicated on Drawings.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Control and expansion joints on exposed interior surfaces of exterior walls.
    b. Tile control and expansion joints.
    c. Vertical joints on exposed surfaces of unit masonry walls.
    d. Other joints as indicated on Drawings.

2. Joint Sealant: Urethane, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.

1. Joint Locations:

    a. Control joints on exposed interior surfaces of exterior walls.
    b. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
    c. Other joints as indicated on Drawings.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

F. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
b. Tile control and expansion joints where indicated.
c. Other joints at wet areas.

2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

G. Joint-Sealant Application: Concealed mastics.

1. Joint Locations:

a. Aluminum thresholds.
b. Sill plates.
c. Other joints as indicated on Drawings.

2. Joint Sealant: Butyl-rubber based.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 083213 - SLIDING ALUMINUM-FRAMED GLASS DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes sliding aluminum-framed glass doors for interior locations.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For sliding aluminum-framed glass doors.

C. Samples: For each exposed product and for each color specified, 12-inch-long section with weather stripping, glazing bead, and factory-applied color finish.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification data.

B. Product test reports.

C. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating sliding aluminum-framed glass doors that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.

1.6 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of sliding aluminum-framed glass doors that fail in materials or workmanship within specified warranty period.

1. Warranty Period:

a. Sliding Door: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design: Arcadia, Heavy Commercial Acoustical Sliding Doors.

2.2 PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

1. Product Certification: AAMA certified with label attached to each door.

B. The entire sliding door assembly (framing members, glass, and integral components) shall meet or exceed STC 41 when measured in accordance to ASTM E90 and E413.

1. The acoustical performance and rating of the glass and glazing shall be as a complete glazing system installed in the aluminum frame with the weather-stripping and seals of that system. Acoustic test report data for the glass alone shall not be acceptable.

2.3 SLIDING ALUMINUM-FRAMED GLASS DOORS

A. Frames and Door Panels: Fabricated from aluminum extrusions, ASTM B221, 6063-T6 alloy.

B. Threshold and Sill Cap/Track: Provide extruded-aluminum threshold and track of thickness, dimensions, and profile indicated; designed to comply with performance requirements indicated; with manufacturer's standard finish.

1. Recessed Floor Track: ADA-ABA compliant.

2.4 GLAZING

A. Glass and Glazing: Manufacturer's standard glazing system that produces required acoustic performance. Comply with requirements indicated in Section 088000 "Glazing."

2.5 HARDWARE

A. General: Provide manufacturer's standard hardware, fabricated from a corrosion-resistant material compatible with aluminum complying with AAMA 907 and designed to smoothly operate, tightly close, and securely lock sliding aluminum-framed glass doors.

1. Track: Stainless steel

2. Rollers: Stainless steel

2.6 ACCESSORIES

A. Anchors, Clips, and Accessories: Provide anchors, clips, and accessories of aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron for sliding aluminum-framed glass doors, complying with ASTM B 456.

2.7 FABRICATION

A. Fabricate sliding aluminum-framed glass doors in sizes indicated. Include a complete system for assembling components and anchoring doors.

B. Factory-Glazed Fabrication: Glaze sliding aluminum-framed glass doors in the factory where practical and possible for applications indicated. Comply with requirements in Section 088000 "Glazing" and with AAMA/WDMA/CSA 101/I.S.2/A440.

2.8 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing doors, hardware, accessories, and other components.

B. Install sliding aluminum-framed glass doors level, plumb, square, true to line, without distortion, without warp or rack of frames and panels, and without impeding thermal movement; anchored securely in place to structural support; and in proper relation to wall flashing, vapor retarders, air barriers, water/weather barriers, and other adjacent construction.

C. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

D. Adjust operating panels and screens to provide a tight fit at contact points and weather stripping for smooth operation, without binding, and a weathertight closure. Adjust hardware for proper alignment, smooth operation, and proper latching without unnecessary force or excessive clearance.

END OF SECTION 083213

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Tile backing panels.

~~B. Related Requirements:~~

~~1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.~~

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
2. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
3. Product Data: For adhesives and sealants, indicating VOC content.

C. Samples for Verification: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.

1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

C. Ceiling and wall materials shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 GYPSUM BOARD, GENERAL

A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Regional Materials: Products shall be manufactured within 500 miles of Project site.

C. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. American Gypsum.
2. CertainTeed Corp.

3. Georgia-Pacific Gypsum LLC.
4. Lafarge North America Inc.
5. National Gypsum Company.
6. PABCO Gypsum.
7. USG Corporation.

B. Gypsum Board, Type X: ASTM C 1396/C 1396M.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Gypsum Ceiling Board: ASTM C 1396/C 1396M.

1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

D. Impact-Resistant Gypsum Board: ASTM C 1396/C 1396M gypsum board, tested according to ASTM C 1629/C 1629M.

1. Core: 5/8 inch, Type X.
2. Surface Abrasion: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
3. Indentation: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
4. Soft-Body Impact: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
5. Long Edges: Tapered.
6. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

E. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.

1. Core: 5/8 inch, Type X.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 EXTERIOR GYPSUM BOARD FOR CEILINGS AND SOFFITS

A. Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M, with fiberglass mat laminated to both sides and with manufacturer's standard edges.

1. Core: As indicated.

2.5 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.

1. Thickness: 5/8 inch.
2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.6 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
2. Shapes:

    a. Cornerbead.
    b. LC-Bead: J-shaped; exposed long flange receives joint compound.
    c. L-Bead: L-shaped; exposed long flange receives joint compound.
    d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
    e. Expansion (control) joint.

B. Exterior Trim: ASTM C 1047.

1. Material: Hot-dip galvanized-steel sheet, plastic, or rolled zinc.
2. Shapes:

    a. Cornerbead.
    b. LC-Bead: J-shaped; exposed long flange receives joint compound.
    c. Expansion (Control) Joint: One-piece, rolled zinc with V-shaped slot and removable strip covering slot opening.

C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Fry Reglet Corp.
    b. Gordon, Inc.
    c. Pittcon Industries.

2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.
3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

2.7 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Exterior Gypsum Soffit Board: Paper.
3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
4. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

    a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
2. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.

E. Joint Compound for Tile Backing Panels:
1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.8 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

C. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
2. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

D. Acoustical Sealant: Non drying, nonhardening, non skinning, nonstaining, gunnable, synthetic rubber sealant.

1. The following products are acceptable for non fire-rated partitions:
    a. Acoustical Sealant; U.S. Gypsum.
    b. Acoustical Sealant; Tremco Inc.
    c. BA-97, BA-98 Acoustical Sealant; Pecora Corporation.

d. Acoustical Sealant 808; Protective Treatments, Inc
e. Acoustical Caulking CC-75; Mason Industries, Inc.

2. The following products are acceptable for fire-rated partitions:
   a. CP 25 Caulk; 3M Corporation. Use 3M CP 25N/S Caulk for penetrations of vertical partitions and CP 25S/L Caulk for penetrations of horizontal partitions.
   b. Acoustical Sealant; Specified Technologies, Inc.
   c. FS 1900 Series Sealant Intumescent Elastomeric Firestop; International Protective Coatings, Inc.

3. Sealant shall have a VOC content of 250 g/L or less.
4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

K. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:

1. Wallboard Type: As indicated on Drawings.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

a. Stagger abutting end joints not less than one framing member in alternate courses of panels.

b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

3.4 APPLYING EXTERIOR GYPSUM PANELS FOR CEILINGS AND SOFFITS

A. Apply panels perpendicular to supports, with end joints staggered and located over supports.

1. Install with 1/4-inch open space where panels abut other construction or structural penetrations.
2. Fasten with corrosion-resistant screws.

3.5 APPLYING TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.

B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.6 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings and according to ASTM C 840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners unless otherwise indicated.
2. LC-Bead: Use at exposed panel edges.
3. L-Bead: Use where indicated.
4. U-Bead: Use where indicated.

D. Exterior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. LC-Bead: Use at exposed panel edges.

E. Aluminum Trim: Install in locations indicated on Drawings.

3.7 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 2: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: Where indicated on Drawings.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

1. Level 5: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.8 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 096516 - RESILIENT SHEET FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Unbacked vinyl sheet flooring.
2. Resilient base.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Data: For adhesives, indicating VOC content.

C. Shop Drawings: For each type of resilient sheet flooring.

1. Show details of special patterns.

D. Samples for Verification: For each type of resilient sheet flooring, in manufacturer's standard size, but not less than 6-by-9-inch sections of each color, texture, and pattern required.

E. Product Schedule: For resilient sheet flooring. Use same designations indicated on Drawings.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of resilient sheet flooring to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Resilient Sheet Flooring: Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, in roll form and in full roll width for each type, color, and pattern of flooring installed.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for resilient sheet flooring installation and seaming method indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by resilient sheet flooring manufacturer for installation techniques required.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.

a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store resilient sheet flooring and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store rolls upright.

1.9 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 85 deg F, in spaces to receive resilient sheet flooring during the following periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during resilient sheet flooring installation.

D. Close spaces to traffic for 48 hours after resilient sheet flooring installation.

E. Install resilient sheet flooring after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with California Building Code, Section 11B-302.1.

B. Tiles shall be stable, firm and slip-resistant.

C. Fire-Test-Response Characteristics: For resilient sheet flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

D. Flooring products shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 UNBACKED VINYL SHEET FLOORING

A. Basis-of-Design: Armstrong Medintech.

B. Product Standard: ASTM F 1913.

C. Thickness: 0.080 inch.

D. Wearing Surface: Smooth.

E. Sheet Width: As standard with manufacturer.

F. Seamless-Installation Method: Heat welded.

G. Colors and Patterns: As indicated on drawings.

2.3 THERMOSET-RUBBER BASE

A. Basis-of-Design Product: Subject to compliance with requirements, provide Johnsonite traditional rubber base or approved equal.

B. Product Standard: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).

1. Style and Location:

a. Style B, Cove: Provide in all areas except noted otherwise.

C. Thickness: 0.125 inch.

D. Height: 4 inches or as indicated on Drawings.

E. Lengths: Coils in manufacturer's standard length.

F. Outside Corners: Job formed or preformed.

G. Inside Corners: Job formed or preformed.

H. Colors: As indicated by manufacturer's designations.

2.4 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient sheet flooring manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit resilient sheet flooring and substrate conditions indicated.

1. Adhesives shall have a VOC content of 60 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Seamless-Installation Accessories:

1. Heat-Welding Bead: Manufacturer's solid-strand product for heat welding seams.

a. Colors: Match flooring.

D. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient sheet flooring manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient sheet flooring.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to resilient sheet flooring manufacturer's written instructions to ensure adhesion of resilient sheet flooring.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by resilient sheet flooring manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by resilient sheet flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient sheet flooring until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move flooring and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient sheet flooring.

3.3 RESILIENT SHEET FLOORING INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient sheet flooring.

B. Unroll resilient sheet flooring and allow it to stabilize before cutting and fitting.

C. Lay out resilient sheet flooring as follows:

1. Maintain uniformity of flooring direction.
2. Minimize number of seams; place seams in inconspicuous and low-traffic areas, at least 6 inches away from parallel joints in flooring substrates.
3. Match edges of flooring for color shading at seams.
4. Avoid cross seams.

D. Scribe and cut resilient sheet flooring to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend resilient sheet flooring into toe spaces, door reveals, closets, and similar openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on resilient sheet flooring as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install resilient sheet flooring on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.

H. Adhere resilient sheet flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

I. Seamless Installation:

1. Heat-Welded Seams: Comply with ASTM F 1516. Rout joints and heat weld with welding bead to fuse sections permanently into a seamless flooring installation. Prepare, weld, and finish seams to produce surfaces flush with adjoining flooring surfaces.

3.4 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

H. Job-Formed Corners:

1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.

   a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 12 inches in length.

   a. Miter or cope corners to minimize open joints.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient sheet flooring.

B. Perform the following operations immediately after completing resilient sheet flooring installation:

1. Remove adhesive and other blemishes from surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect resilient sheet flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Cover resilient sheet flooring until Substantial Completion.

END OF SECTION 096516

SECTION 097200 - WALL COVERINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Vinyl wall covering.
2. Custom printed wall graphics.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include data on physical characteristics, durability, fade resistance, and fire-test-response characteristics.

B. Sustainable Design Submittals:

1. Product Data: For adhesives, indicating VOC content.
2. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.

C. Shop Drawings: Show location and extent of each wall-covering type. Indicate seams and termination points.

D. Samples for Verification: For each type of wall covering and for each color, pattern, texture, and finish specified, full width by 36-inch- long in size.

E. Custom printed wall coverings: Submit a draft presentation of the graphics and the joint layout for final review by the architect and owner.

F. Product Schedule: For wall coverings.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For testing agency.

B. Product Test Reports: For each wall covering, for tests performed by a qualified testing agency.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For wall coverings to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Wall-Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed but not less than 25 lineal feet.

1.8 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for installation.

1. Build mockups for each type of wall covering on each substrate required. Comply with requirements in ASTM F 1141 for appearance shading characteristics.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install wall coverings until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at levels intended for occupants after Project completion during the remainder of the construction period.

B. Lighting: Do not install wall covering until lighting that matches conditions intended for occupants after Project completion is provided on the surfaces to receive wall covering.

C. Ventilation: Provide continuous ventilation during installation and for not less than the time recommended by wall-covering manufacturer for full drying or curing.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Wall materials shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Fire-Test-Response Characteristics: As determined by testing identical wall coverings applied with identical adhesives to substrates according to test method indicated below by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

a. Flame-Spread Index: 25 or less.
b. Smoke-Developed Index: 450 or less.

2.2 VINYL WALL COVERING

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on drawings or a comparable product by one of the following:

1. Dunn-Edwards Wallcoverings, Los Angeles, CA
2. Gencorp Products, Newcomerstown, OH
3. J. Josephson, Inc. South Hackensack, NJ. Product: Bolta Wallcoverings
4. RJF International Corporation
5. Koroseal

B. Description: Provide products in rolls from same production run and complying with the following:

1. FS CCC-W-408D and CFFA-W-101-D for Type II, Medium-Duty products.

C. Width: 54 inches.

D. Backing: Osnaburg fabric.

E. Colors, Textures, and Patterns: As indicated on drawings.

F. Custom printed wall covering: Provide digitally printed custom wall graphics on vinyl wall covering where indicated on drawings.

1. Contractor is responsible for purchasing the license and high resolution digital image file from copyright owner based on the sample images in article 3.6 at the end of this specification section.

2. Size of custom graphics: See schedule at the end of this specification section. Field verify size of each graphic and produce printed wall coverings slightly larger than the wall surface to allow for construction tolerances.

2.3 ACCESSORIES

A. Adhesive: Mildew-resistant, nonstaining adhesive, for use with specific wall covering and substrate application indicated and as recommended in writing by wall-covering manufacturer.

1. Adhesives shall have a VOC content of 50 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Wall Liner: Nonwoven, synthetic underlayment and adhesive as recommended in writing by wall-covering manufacturer.

1. Adhesives shall have a VOC content of 50 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for levelness, wall plumbness, maximum moisture content, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances that could impair bond of wall covering, including dirt, oil, grease, mold, mildew, and incompatible primers.

C. Prepare substrates to achieve a smooth, dry, clean, structurally sound surface free of flaking, unsound coatings, cracks, and defects.

1. Moisture Content: Maximum of 5 percent on new plaster, concrete, and concrete masonry units when tested with an electronic moisture meter.

2. Gypsum Board: Prime with primer as recommended in writing by primer/sealer manufacturer and wall-covering manufacturer.
3. Painted Surfaces: Treat areas susceptible to pigment bleeding.

D. Check painted surfaces for pigment bleeding. Sand gloss, semigloss, and eggshell finish with fine sandpaper.

E. Remove hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

F. Acclimatize wall-covering materials by removing them from packaging in the installation areas not less than 24 hours before installation.

3.3 WALL LINER INSTALLATION

A. Install wall liner, without gaps or overlaps. Form smooth wrinkle-free surface for finished installation. Do not begin wall-covering installation until wall liner has dried.

3.4 WALL-COVERING INSTALLATION

A. Comply with wall-covering manufacturers' written installation instructions applicable to products and applications indicated.

B. Cut wall-covering strips in roll number sequence. Change the roll numbers at partition breaks and corners.

C. Install strips in same order as cut from roll.

1. For solid-color, even-texture, or random-match wall coverings, reverse every other strip.

D. Install wall covering without lifted or curling edges and without visible shrinkage.

E. Install seams vertical and plumb at least 6 inches from outside corners and 6 inches from inside corners unless a change of pattern or color exists at corner. Horizontal seams are not permitted.

F. Trim edges and seams for color uniformity, pattern match, and tight closure. Butt seams without overlaps or gaps between strips.

G. Fully bond wall covering to substrate. Remove air bubbles, wrinkles, blisters, and other defects.

3.5 CLEANING

A. Remove excess adhesive at seams, perimeter edges, and adjacent surfaces.

B. Use cleaning methods recommended in writing by wall-covering manufacturer.

C. Replace strips that cannot be cleaned.

D. Reinstall hardware and hardware accessories, electrical plates and covers, light fixture trims, and similar items.

3.6 SAMPLE IMAGES FOR CUSTOM GRPAHICS

A. Garibaldi (Design Lab)
   1. Size: 25’-10” by 8’-2”. Field verify size.
   2. Copyright: Phillip Colla, www.oceanlight.com, Ph: 760-707-7153

B. Dolphins (Activity Center)
   1. Size: 19’-5” by 8’-2”. Field verify size.

END OF SECTION 097200

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on interior substrates.

1.3 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Sustainable Design Submittals:

1. Product Data: For paints and coatings, indicating VOC content.

C. Samples for Initial Selection: For each type of topcoat product.

D. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

E. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design: Vista Paint Corp.
1. Acceptable Manufacturers:
a. Sherwin Williams
b. Dunn Edwards

B. Products: Subject to compliance with requirements, provide product listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 50 g/L.
3. Dry-Fog Coatings: 150 g/L.
4. Primers, Sealers, and Undercoaters: 100 g/L.
5. Rust-Preventive Coatings: 100 g/L.
6. Zinc-Rich Industrial Maintenance Primers: 100 g/L.
7. Pretreatment Wash Primers: 420 g/L.

8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

D. Low-Emitting Materials: For field applications that are inside the weatherproofing system, 90 percent of paints and coatings shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Colors: As selected by Architect from manufacturer's full range.

2.3 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Fiber-Cement Board: 12 percent.
3. Masonry (Clay and CMUs): 12 percent.
4. Wood: 15 percent.
5. Gypsum Board: 12 percent.
6. Plaster: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Plaster Substrates: Verify that plaster is fully cured.

E. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

F. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

G. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.

G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

I. Aluminum Substrates: Remove loose surface oxidation.

J. Wood Substrates:

1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

K. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in equipment rooms:

a. Equipment, including panelboards and switch gear.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Tanks that do not have factory-applied final finishes.

h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

2. Paint the following work where exposed in occupied spaces:

a. Equipment, including panelboards.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
h. Other items as directed by Architect.

3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Traffic Surfaces:

1. Water-Based Concrete Floor Sealer System ~~MPI INT 3.2C~~:

   a. Basis-of-Design: WR Meadows, LIQUI-HARD

   b. Acceptable products:
      1) Paul M. Wolff Co, Orange, CA. Product: Shur-Seal
      2) Tnemec Company. Product: Chemprobe CT Densifier 201
      3) Curecrete Chemical Co., Springville, UT. Product: Ashford Formula

   ~~a. First Coat: Sealer, water based, for concrete floors, matching topcoat.~~
   ~~b. Topcoat: Sealer, water based, for concrete floors, MPI #99.~~

B. Steel Substrates:

1. Water-Based Light Industrial Coating System MPI INT 5.1B:

   a. Prime Coat: Primer, rust-inhibitive, water based MPI #107.

      1) Vista Paint – 9600 Protec Metal Prime

   b. Intermediate Coat: Light industrial coating, interior, water based, matching topcoat.

   c. Topcoat: Light industrial coating, interior, water based, gloss (MPI Gloss Level 6-7), MPI #157.

      1) Vista Paint – 9800 Protec.

C. Gypsum Board Substrates:

1. Latex over Latex Sealer System MPI INT 9.2A:

   a. Prime Coat: Primer sealer, latex, interior, MPI #50.

      1) Vista Paint- 1100 Hi-Build PVA Sealer

   b. Intermediate Coat: Latex, interior, matching topcoat.

   c. Topcoat: Latex, interior, semi-gloss (MPI Gloss Level 5), MPI #54.

      1) Vista Paint – 8400 Carefree

   d. Topcoat (Dry erase marker paint –where indicated on drawings): High performance dry erase paint over two coats of latex paint. Apply per manufacturer's recommendation.

      1) Basis-of-Design: Sherwin-Williams Dry Erase Coating.

END OF SECTION 099123

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Visual display board assemblies.

B. Related requirements:
1. Section 097200- 'WALL COVERINGS' for Vinyl facing fabric over tackboards.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.
2. Include electrical characteristics for motorized units.

B. Sustainable Design Submittals:

1. Product Data: For installation adhesives, indicating VOC content.
2. Product Data: For composite wood products, indicating that product contains no urea formaldehyde.

C. Shop Drawings: For visual display units.

1. Include plans, elevations, sections, details, and attachment to other work.
2. Show locations and layout of special-purpose graphics.
3. Include sections of typical trim members.

D. Samples: For each type of visual display unit indicated.

1. Visual Display Panel: Not less than 8-1/2 by 11 inches, with facing, core, and backing indicated for final Work. Include one panel for each type, color, and texture required.
2. Trim: 6-inch- long sections of each trim profile.
3. Support System: 6-inch- long sections.
4. Accessories: Full-size Sample of each type of accessory.

E. Product Schedule: For visual display units.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Sample Warranties: For special warranties.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tackboard-Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed but not less than 25 lineal feet.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

1. Build mockup of two panels of each type of visual display units. Include accessories.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

B. Field Measurements: Verify actual dimensions of construction contiguous with visual display units by field measurements before fabrication.

1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.9 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Surfaces lose original writing and erasing qualities.
b. Surfaces exhibit crazing, cracking, or flaking.

2. Warranty Period: Life of the building.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

2.3 VISUAL DISPLAY BOARD ASSEMBLY

A. Visual Display Board Assembly: factory fabricated.

1. Assembly: markerboard and tackboard.
2. Corners: Square.
3. Width: As indicated on Drawings.
4. Height: As indicated on Drawings.
5. Mounting Method: Manufacturer's standard.

B. Markerboard Panel: Porcelain-enamel-faced markerboard panel on core indicated.

1. Basis-of-Design:
   a. Projection Markerboards: DTS Series 'Writanium' Markerboards by Platinum Visual Systems, or approved equal.

b. Non-projection Markerboards: Claridge, Series 3 with Drop Tray, or approved equal.

2. Color: White.

C. Tackboard Panel: Vinyl-fabric-faced tackboard panel on core indicated.

1. Basis-of-Design: Chatfield-Clarke Vinyl tackboard panels with Koroseal Vinyl facing. ~~Subject to compliance with requirements, provide DTS Series by Platinum Visual Systems, or approved equal.~~

2. Fabric Wrapped Edge: Wrap edge of tackboard panel with fabric facing.
3. Color and Pattern: As ~~selected by Architect from full range of industry colors.~~ indicated on drawings.

D. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- thick, extruded aluminum; standard size and shape.

1. Aluminum Finish: Clear anodic finish.

E. Joints: Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, as indicated on approved Shop Drawings.

F. Drop-in tray: Manufacturer's standard; continuous.

1. Solid Type: Extruded aluminum with ribbed section and smoothly curved exposed ends.

2.4 FLOOR-TO-CEILING VISUAL DISPLAY ASSEMBLIES

A. Floor-to-Ceiling Tackboard Panel Assemblies: Consisting of tackboard panels with vinyl-fabric facing on core indicated, fabricated for floor-to-ceiling assemblies.

1. Edge Treatments:

a. Panel-Joint Edges: Wrapped with fabric.
b. Top-of-Wall Edges: Wrapped with fabric.
c. Bottom-of-Wall Edges: Wrapped with fabric.
d. Corners: Wrapped with fabric.

~~2. Color: As selected by Architect from full range of industry colors.~~

B. Width: As indicated on Drawings.

C. Height: As indicated on Drawings.

D. Joint Accessories: Manufacturer's standard, concealed aluminum or steel spline at butt joints.

2.5 MARKERBOARD PANELS

A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and porcelain-enamel face sheet with low-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.

1. Face Sheet Thickness: 28 gauge uncoated base metal thickness.
2. Particleboard Core: 1/2 inch thick; with 0.005-inch- thick, aluminum foil backing.
3. Medium-Density Fiberboard Core: 7/16 inch thick; with manufacturer's standard moisture-barrier backing.
4. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

2.6 TACKBOARD PANELS

A. Tackboard Panels:

1. Facing: Vinyl fabric.
   a. Basis-of-Design: Refer to specification section 097200- 'WALL COVERINGS'
   b. Colors and patterns: As indicated on drawings.
   ~~a. As indicated on drawings.~~
2. Core: Manufacturer's standard.

2.7 MATERIALS

A. Porcelain-Enamel Face Sheet: PEI-1002, with face sheet manufacturer's standard two- or three-coat process.

B. High-Pressure Plastic Laminate: NEMA LD 3.

C. Vinyl Fabric: Mildew resistant, washable, complying with FS CCC-W-408D, Type II,; weighing not less than 13 oz./sq. yd.; with surface-burning characteristics indicated.

D. Composite Wood Products: Products shall be made without urea formaldehyde.

E. Composite Wood Products: Products shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

F. Hardboard: ANSI A135.4, tempered.

G. Particleboard: ANSI A208.1, Grade M-1.

H. Medium-Density Fiberboard: ANSI A208.2, Grade 130.

I. Fiberboard: ASTM C 208 cellulosic fiber insulating board.

J. Extruded Aluminum: ASTM B 221, Alloy 6063.

K. Adhesives for Field Application: Mildew-resistant, nonstaining adhesive for use with specific type of panels, sheets, or assemblies; and for substrate application; as recommended in writing by visual display unit manufacturer.

1. Adhesives shall have a VOC content of 50 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.8 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.9 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motorized, sliding visual display units.

C. Examine walls and partitions for proper preparation and backing for visual display units.

D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.

C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

3.3 INSTALLATION

A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

B. Factory-Fabricated Visual Display Board Assemblies: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display board assemblies with fasteners at not more than 16 inches o.c. Secure tops and bottoms of boards to walls.

C. Visual Display Board Assembly Mounting Heights: Install visual display units at mounting heights indicated on Drawings, or if not indicated.

3.4 CLEANING AND PROTECTION

A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display units after installation and cleaning.

END OF SECTION 101100

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Solid surface material countertops.
2. Solid surface material backsplashes.
3. Solid surface material end splashes.

1.3 ACTION SUBMITTALS

A. Product Data: For countertop materials.

B. Sustainable Design Submittals:

1. Product Data: For adhesives, indicating VOC content.
2. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.

C. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

1. Show locations and details of joints.

D. Samples for Verification: For the following products:

1. Countertop material, 6 inches square.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For solid surface material countertops to include in maintenance manuals. Include Product Data for care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate countertops similar to that required for this Project, and whose products have a record of successful in-service performance.

B. Installer Qualifications: Fabricator of countertops.

C. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for fabrication and execution.

1. Build mockup of typical countertop as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.8 COORDINATION

A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

A. Solid Surface Material: Homogeneous-filled plastic resin complying with ICPA SS-1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. E. I. du Pont de Nemours and Company.
b. Formica Corporation.
c. Transolid Div of Trumbull Industries.
d. Wilsonart.

2. Type: Provide Standard type unless Special Purpose type is indicated.

3. Basis-of-design: Corian (DuPont) Terra Collection.
4. Colors and Patterns: As indicated on drawings.

2.2 COUNTERTOP FABRICATION

A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Custom.

B. Configuration:

1. Front: Straight, slightly eased at top, unless indicated otherwise.
2. Backsplash: Straight, slightly eased at corner.
3. End Splash: Matching backsplash.

C. Countertops: 3/4-inch- thick, solid surface material with front edge built up with same material.

D. Backsplashes: 3/4-inch- thick, solid surface material.

E. Fabricate tops with shop-applied edges and backsplashes unless otherwise indicated. Comply with solid surface material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

1. Fabricate with loose backsplashes for field assembly.
2. Install integral sink bowls in countertops in the shop.

F. Joints: Fabricate countertops without joints.

G. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

   a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch into fixture opening.
   b. Provide vertical edges, rounded to 3/8-inch radius at juncture of cutout edges with top surface of countertop, slightly eased at bottom, and projecting 3/16 inch into fixture opening.
   c. Provide 3/4-inch full bullnose edges projecting 3/8 inch into fixture opening.

2. Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.
3. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

2.3 INSTALLATION MATERIALS

A. Adhesive: Product recommended by solid surface material manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to receive solid surface material countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install countertops level to a tolerance of 1/8 inch in 8 feet, 1/4 inch maximum. Do not exceed 1/64-inch difference between planes of adjacent units.

B. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.

C. Secure countertops to subtops with adhesive according to solid surface material manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

D. Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.

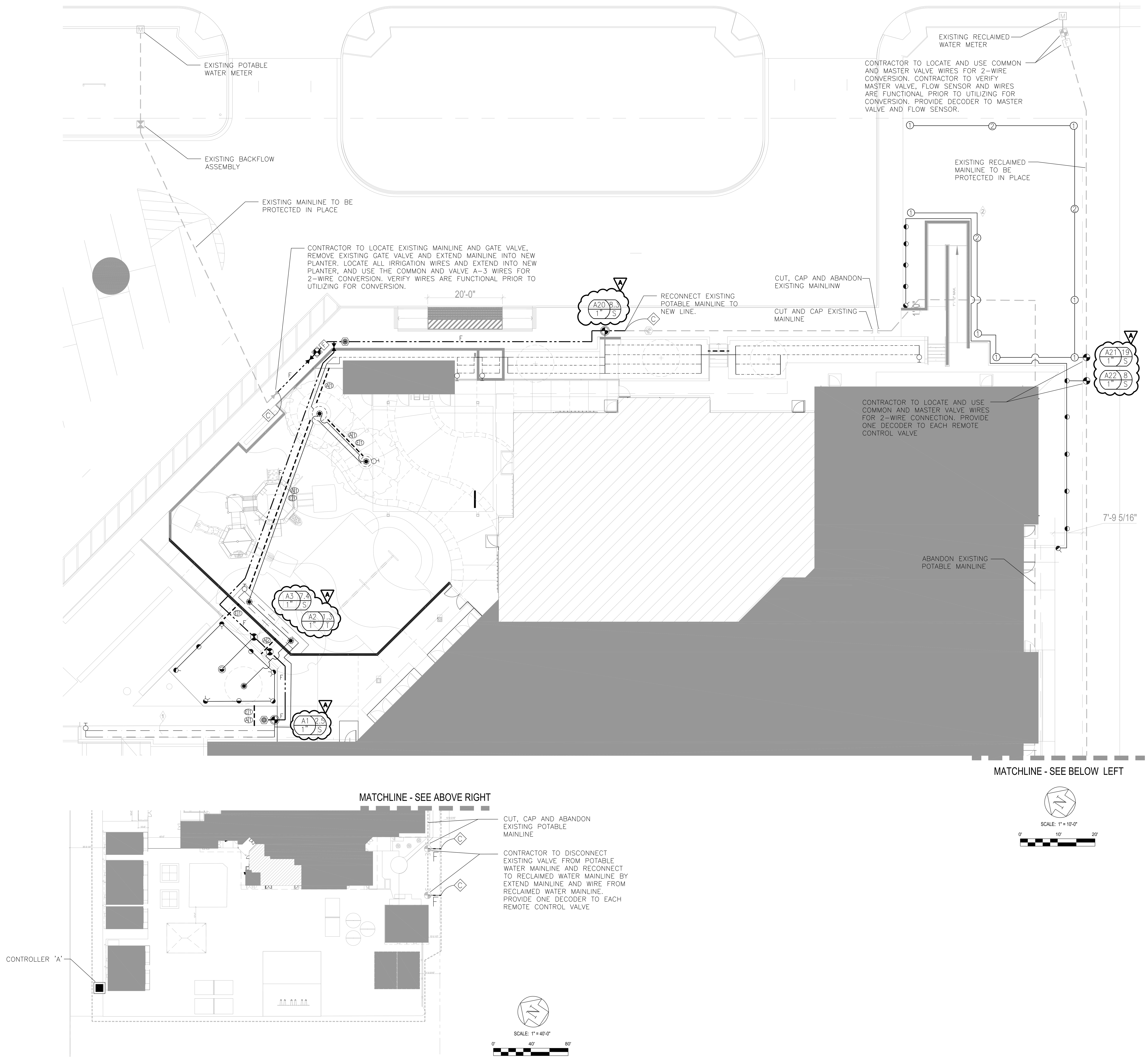
E. Install aprons to backing and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Fasten by screwing through backing. Predrill holes for screws as recommended by manufacturer.

F. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

1. Seal edges of cutouts in particleboard subtops by saturating with varnish.

G. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 123661.16


EXISTING POTABLE WATER METER
EXISTING BACKFLOW ASSEMBLY
EXISTING MAINLINE TO BE PROTECTED IN PLACE
CONTRACTOR TO LOCATE EXISTING MAINLINE AND GATE VALVE, REMOVE EXISTING GATE VALVE AND EXTEND MAINLINE INTO NEW PLANTER. LOCATE ALL IRRIGATION WIRES AND EXTEND INTO NEW PLANTER, AND USE THE COMMON AND VALVE A-3 WIRES FOR 2-WIRE CONVERSION. VERIFY WIRES ARE FUNCTIONAL PRIOR TO UTILIZING FOR CONVERSION.
20'-0"
RECONNECT EXISTING POTABLE MAINLINE TO NEW LINE.
EXISTING RECLAIMED WATER METER
CONTRACTOR TO LOCATE AND USE COMMON AND MASTER VALVE WIRES FOR 2-WIRE CONVERSION. CONTRACTOR TO VERIFY MASTER VALVE, FLOW SENSOR AND WIRES ARE FUNCTIONAL PRIOR TO UTILIZING FOR CONVERSION. PROVIDE DECODER TO MASTER VALVE AND FLOW SENSOR.
EXISTING RECLAIMED MAINLINE TO BE PROTECTED IN PLACE
CUT, CAP AND ABANDON EXISTING MAINLINW
CUT AND CAP EXISTING MAINLINE
CONTRACTOR TO LOCATE AND USE COMMON AND MASTER VALVE WIRES FOR 2-WIRE CONNECTION. PROVIDE ONE DECODER TO EACH REMOTE CONTROL VALVE
7'-9 5/16"
ABANDON EXISTING POTABLE MAINLINE
MATCHLINE - SEE BELOW LEFT
SCALE: 1" = 10'-0"
0' 10' 20'
MATCHLINE - SEE ABOVE RIGHT
CUT, CAP AND ABANDON EXISTING POTABLE MAINLINE
CONTRACTOR TO DISCONNECT EXISTING VALVE FROM POTABLE WATER MAINLINE AND RECONNECT TO RECLAIMED WATER MAINLINE BY EXTEND MAINLINE AND WIRE FROM RECLAIMED WATER MAINLINE. PROVIDE ONE DECODER TO EACH REMOTE CONTROL VALVE
CONTROLLER 'A'
SCALE: 1" = 40'-0"
0' 40' 80'

A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

DSA SUBMITTAL

LYNN CAPOUYA INC.
LANDSCAPE ARCHITECTS
17992 Mitchell South, Suite 110
T:949.756.0150 F:949.756.1635

155 Eastshore, Irvine, CA 92604

IRRIGATION PLAN
Eastshore Elementary School Measure E

L-1.01
75-17603-00
03/22/2017
Revision
s

LICENSED LANDSCAPE ARCHITECT
LYNN CAPOUYA
NO. 2314
Signature
12/31/2018
Renewal Date
Date
STATE OF CALIFORNIA

DLR Group
Architecture Engineering Planning Interiors

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WATER USE ANALYSIS (AB1881)

Maximum Allowable Water Allowance (MAWA) and Estimated Total Water Use (ETWU) Calculations

PROJ. NAME: Eastshore ES
CLIENT:
JOB NO.:
LOCATION: Irvine, CA
DATE: 2/14/2018
PREPARED BY: LCI

METER NO.: 1
CONT. NO.: A

CIMIS Station	75 Irvine
Region	South Coast Valleys

Monthly Eto

Month	Eto Inch	Precipitation Inch	Effective Precipitation
Jan	2.18	4.29	1.07
Feb	2.49	1.29	0.32
Mar	3.67	0	0.00
Apr	4.71	0.07	0.02
May	5.18	0.36	0.09
Jun	5.87	0	0.00
Jul	6.29	0	0.00
Aug	6.17	0	0.00
Sep	4.57	0.01	0.00
Oct	3.66	0	0.00
Nov	2.59	1.59	0.40
Dec	2.25	3.14	0.79
Total	**49.63**	**10.75**	**2.69**

Crop Coefficient

Coefficient Type	Coefficient Value	Landscape Area	Percentage of Total
SLA (VH)	1	0	0.0%
High (H)	0.8	3,312	68.4%
Med High(MH)	0.7	0	0.0%
Medium (M)	0.5	0	0.0%
Med Low(ML)	0.3	0	0.0%
Low (L)	0.2	1,533	31.6%
Very Low(VL)	0.1	0	0.0%
Total Landscape Area		**4,845**	100.0%
Special Landscape Area		**-**	
ET Adjustment Factor		**0.5**	
Avg. Crop Coefficient		**0.61**	

Sprinkler Efficiency

Sprinkler Type	Sprinkler Efficiency	Landscape Area	Percentage of Total
Spray	0.6	862	17.8%
Rotor	0.7	2,450	50.6%
Stream Spray	0.75	0	0.0%
Micro Spray	0.8	0	0.0%
Bubbler	0.85	80	1.7%
Drip	0.9	1,453	30.0%
Wick	0.9	0	0.0%
Total Landscape Area		**4,845**	100.0%
Avg. Irrigation Efficiency		**0.74**	

Maximum Allowable Water Allowance (MAWA)

Month	MAWA Gal.	SLA Gal.	MAWA+SLA Gal.
Jan	1,663	0	1,663
Feb	3,255	0	3,255
Mar	5,512	0	5,512
Apr	7,048	0	7,048
May	7,645	0	7,645
Jun	8,816	0	8,816
Jul	9,447	0	9,447
Aug	9,267	0	9,267
Sep	6,860	0	6,860
Oct	5,497	0	5,497
Nov	3,293	0	3,293
Dec	2,200	0	2,200
Total	**70,505**	**-**	**70,505**

Estimated Total Water Use (ETWU)

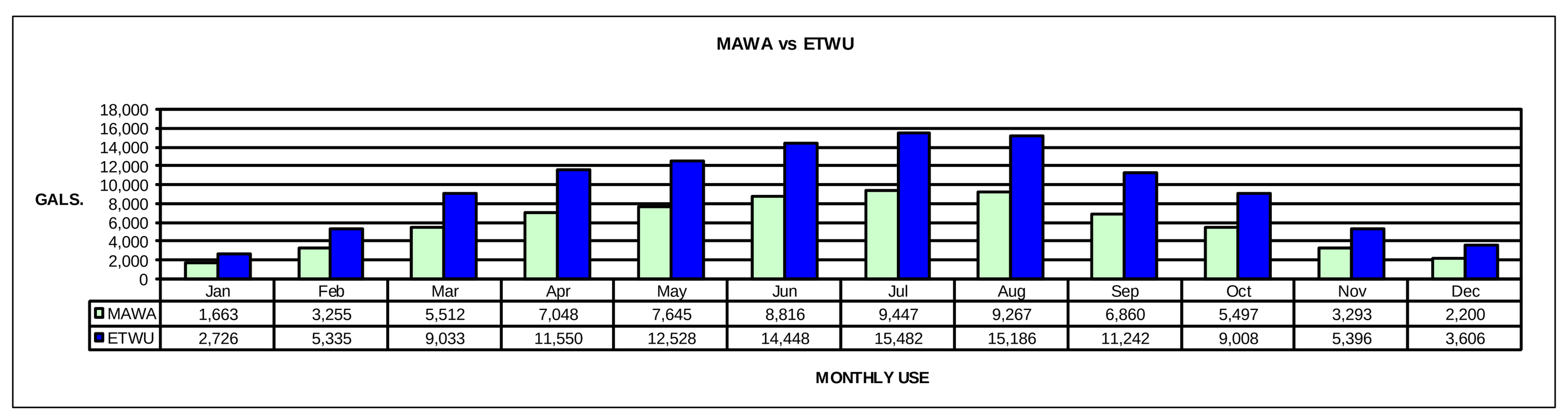
Month	ETWU Gal.	SLA Gal.	ETWU+SLA Gal.
Jan	2,726	-	2,726
Feb	5,335	-	5,335
Mar	9,033	-	9,033
Apr	11,550	-	11,550
May	12,528	-	12,528
Jun	14,448	-	14,448
Jul	15,482	-	15,482
Aug	15,186	-	15,186
Sep	11,242	-	11,242
Oct	9,008	-	9,008
Nov	5,396	-	5,396
Dec	3,606	-	3,606
Total	**115,540**	**-**	**115,540**

Maximum Allowable Water Allowance (MAWA)

	MAWA		MAWA+SLA
Gal./ year	**70,505**	-	**70,505**
HCF. / year	**94.26**	-	**9,425**
Acre-ft / year	**0.22**	-	**0.22**

Estimated Total Water Use (ETWU)

	ETWU		ETWU+SLA
Gal./ year	**115,540**	-	**115,540**
HCF. / year	**154.46**	-	**15,445**
Acre-ft / year	**0.35**	-	**0.35**



Plant Type	Root Zone in	Plant Available Water (in)	Allowable Depletion (%)	Allowable Depletion (in)
Turf	4	0.48	50%	0.24
Shrub	8	0.96	50%	0.48
Tree	12	1.44	40%	0.58

Soil Specification	
Soil Type	SANDY LOAM
Soil Water Holding Capacity (in/in)	0.12
Infiltration Rate (in/hr)	0.75

Zone/ Station	Area SqFt	Sprinkler Type	Zone Flow Rate (gpm)	Precipitation Rate (in/hr)	Sprinkler Dist. Unif. (%)	Plant Material	Hydrozone/ Microclimate	Hydrozone/ Microclimate Factor	Crop Coefficient Type	Crop Coefficient Value
1	338	Drip	3	0.71	0.85	shrub	North	0.65	L	0.20
2	80	Bubbler	1	1.56	0.80	Tree	North	0.65	L	0.20
3	445	Spray	7	1.60	0.60	Truf	North	0.65	H	0.80
4										
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20	1115	Drip	8	0.72	0.85	shrub	North	0.65	L	0.20
21	2450	Rotor	19	0.75	0.75	Turf	East	0.85	H	0.80
22	417	Spray	8	1.85	0.60	Turf	East	0.85	H	0.80
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RECOMMENDED IRRIGATION SCHEDULING FOR (ESTABLISHED) PERIOD

Plan Material	Irrigation Days Per Week											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Turf	0	0	0	0	0	0	0	0	0	0	0	0
Shrub	1	1	2	2	3	3	3	3	2	2	1	1
Tree	1	1	2	2	3	3	3	3	2	2	2	2

Zone/ Station	Runtime Per Irrigation Day											
	Jan (min)	Feb (min)	Mar (min)	Apr (min)	May (min)	Jun (min)	Jul (min)	Aug (min)	Sep (min)	Oct (min)	Nov (min)	Dec (min)
1	7	7	6	7	5	6	6	6	7	6	8	7
2	3	4	3	3	2	2	2	2	4	4	4	4
3	0	0	0	0	0	0	0	0	0	0	0	0
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Total Min / Day	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Total Hrs / Day	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

THIS IRRIGATION SCHEDULE IS MEANT TO BE USED AS A GUIDELINE ONLY, AND DOES NOT TAKE THE PLACE OF PROPER, ONGOING SYSTEM MANAGEMENT.

IRRIGATION CALCULATIONS

A

A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

DSA SUBMITTAL

LYNN CAPOUYA INC.
LANDSCAPE ARCHITECTS
17992 Mitchell South, Suite 110
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155 Eastshore, Irvine, CA 92604

IRRIGATION CALCS
Eastshore Elementary School Measure E

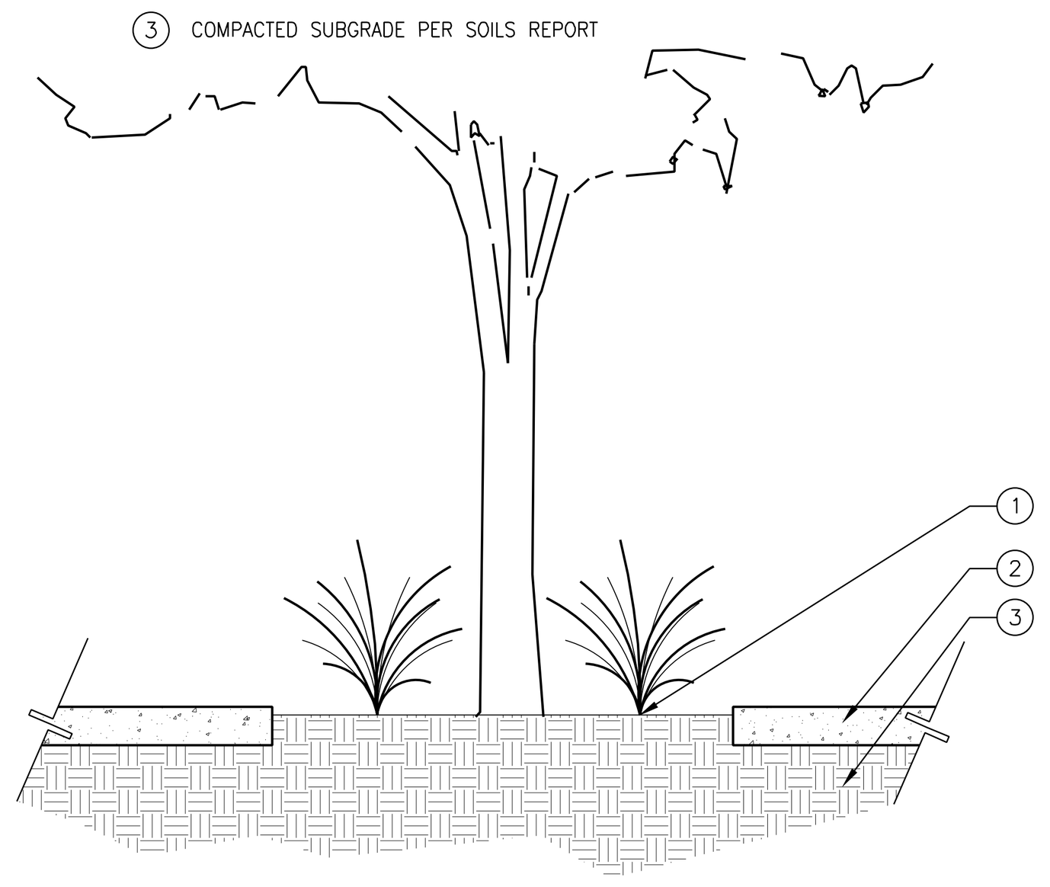
L-1.04
75-17603-00
03/22/2017
Revision
s

LICENSED LANDSCAPE ARCHITECT
LYNN CAPOUYA
NO. 2314
Signature
12/31/2018
Renewal Date
Date
STATE OF CALIFORNIA

DLR Group
Architecture Engineering Planning Interiors

LEGEND

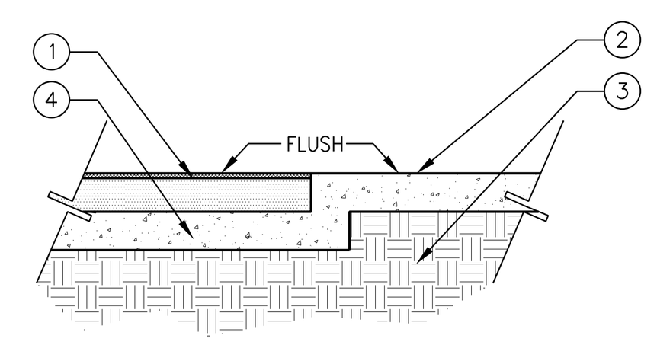
1. PLANTING AREA
2. CONCRETE WALK
3. COMPACTED SUBGRADE PER SOILS REPORT



SECTION
SCALE: NTS

LEGEND

1. POURED IN PLACE RUBBER PLAYGROUND SURFACING
2. CONCRETE WALK TO BE FLUSH WITH PLAYGROUND SURFACING
3. COMPACTED SUBGRADE UNDER CONCRETE. PLEASE SEE TABLE 1, SHEET C004
4. DEPRESSED CONCRETE UNDER RUBBER PLAYGROUND SURFACING SEE SHEET C004



SECTION
SCALE: NTS

NOTE: RUBBER PLAYGROUND SURFACING AND ADJACENT CONCRETE WALK TO BE JOINED FLUSH SO THERE IS A SMOOTH TRANSITION BETWEEN SURFACING.

B PAVING SECTION

A PAVING SECTION

CONSTRUCTION NOTES

1. THIS PLAN IS FOR THE PURPOSE OF HORIZONTAL CONTROL (STAKING) OF CONSTRUCTION FEATURES NOT LOCATED BY THE CIVIL ENGINEERING AND ARCHITECTURAL DRAWINGS; AND FOR THE CONSTRUCTION REFERENCE OF SITE FEATURES DETAILED HEREIN.
2. CONTRACTOR TO VERIFY SITE CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE AUTHORIZED REPRESENTATIVE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND VERIFICATION OF ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.
4. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION WITH OTHER SUB-CONTRACTORS AS REQUIRED TO ACCOMPLISH CONSTRUCTION OPERATIONS PER DESIGN.
6. CONSTRUCTION PERTAINING TO THESE DRAWINGS SHALL CONFORM TO GOVERNING CODES AND ORDINANCES.
7. COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS FOR MATERIALS, FINISHES, AND GRADIENTS IS THE RESPONSIBILITY OF THE CONTRACTOR WHERE SUCH STANDARDS APPLY.
8. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE LOCAL CODES AND ORDINANCES.
9. ALL NEW AND EXISTING UTILITY APPURTENANCES SUCH AS MANHOLE COVERS, VALVE BOXES, ETC. SHALL BE ADJUSTED TO FINISHED SURFACE.
10. SAMPLES: PROVIDE 3'X3' SAMPLES FOR APPROVAL FOR ALL HARDSCAPE MATERIALS TO BE INSTALLED.

ABBREVIATION LEGEND

E.J. – EXPANSION JOINT
S.L. – SCORE LINE

PAVING SCHEDULE

SYMBOL	DESCRIPTION	COLOR	FINISH	PATTERN	THK.	REBAR	MOCK-UP	BASE	JOINTING	DETAIL	SHEET
P-1	SHORELINE RIPPLES	NATURAL GRAY	BROOM	SEE PLAN	4"	SEE SHT. C004	YES	SEE SHT. C004	SEE SHT. C004	–	C004

RUBBER SURFACE SCHEDULE

SYMBOL	DESCRIPTION	COLOR	THK.	MOCK-UP	BASE	DETAIL	SHEET
R-1	SINGLE COLOR	100% ROYAL BLUE GRANULES	1/2" TOP LAYER	YES	2.5" RUBBER BASE MAT	–	–
R-2	TWO COLOR MIX	50% ROYAL BLUE, 50% SKY BLUE GRANULES	1/2" TOP LAYER	YES	2.5" RUBBER BASE MAT	–	–
R-3	THREE COLOR MIX	40% ROYAL BLUE, 40% SKY BLUE, 20% PEARL GRANULES	1/2" TOP LAYER	YES	2.5" RUBBER BASE MAT	–	–

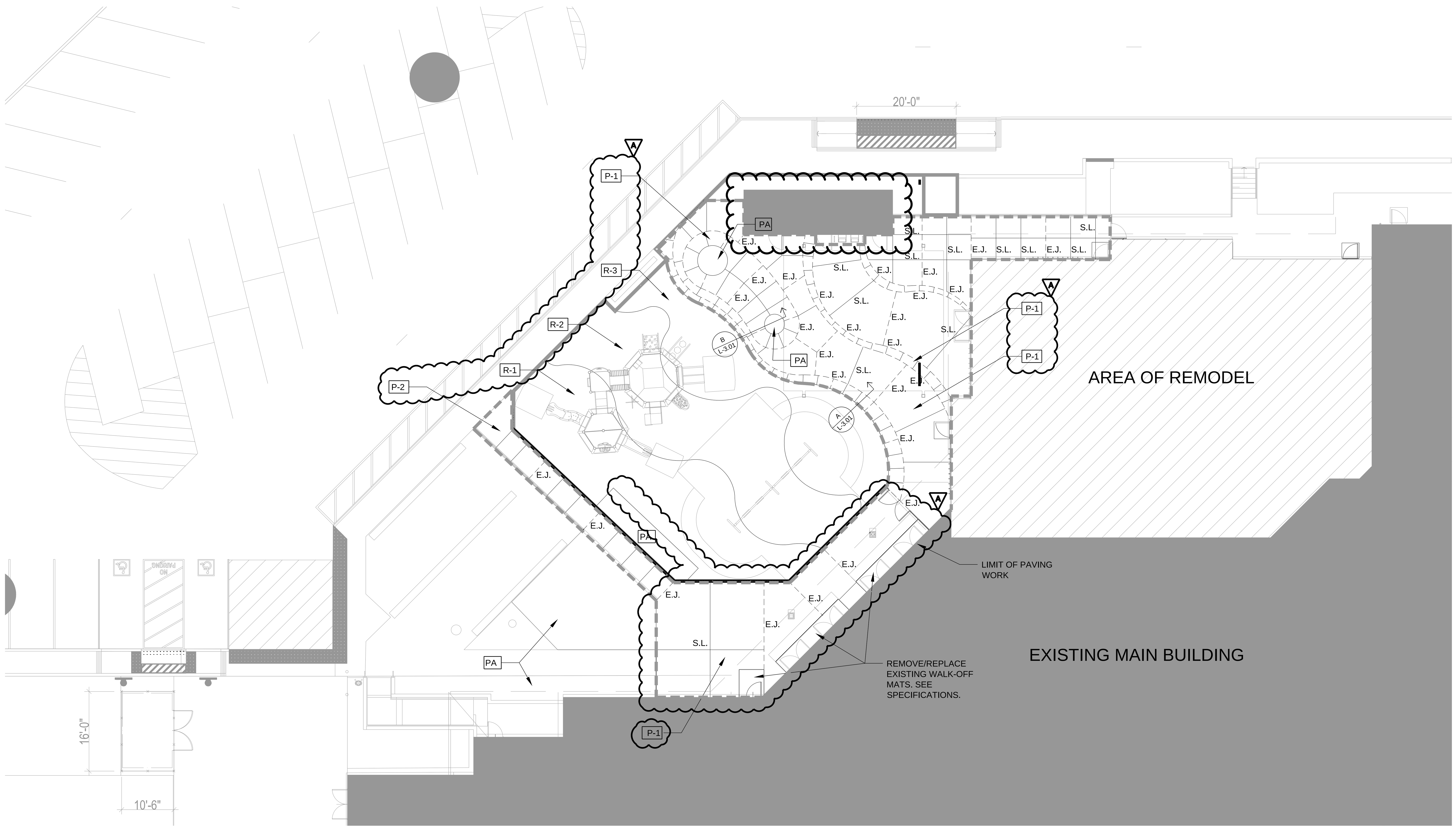
PA PLANTING AREA – SEE PLANTING PLAN, SHEET L-2.01

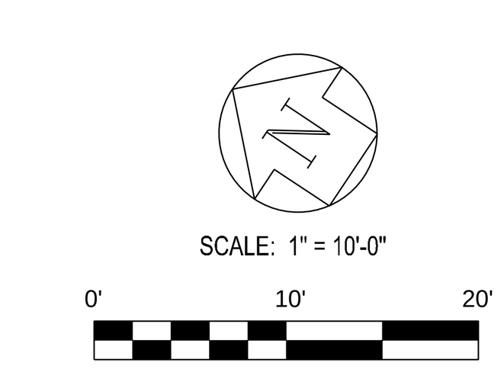
MANUFACTURERS:

CONCRETE COLOR
DAVIS COLORS
3700 EAST OLYMPIC BLVD.
LOS ANGELES, CA 90023
TEL: 323-269-7311

CONCRETE BENCH
QUICK-CRETE
731 PARKRIDGE AVE.
NORCO, CA 92860
TEL: 866-703-3434
CONTACT: BRIAN GOTZ

PLAY SURFACE
SURFACE AMERICA
3151 AIRWAY AVE.
SUITE A-3
COSTA MESA, CA 92626
TEL: 714-619-0100
CONTACT: GREGG ROGERS





A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFIC
SS:_____ FLS:_____ AC:_____
DATE: ______________
FILE NO.: 30-48

DSA SUBMITTAL

LYNN CAPOUYA INC.
LANDSCAPE ARCHITECTS
17992 Mitchell South, Suite 110
T:949.756.0150 F:949.756.1635

155 Eastshore, Irvine, CA 92604

HARDSCAPE PLAN
Eastshore Elementary School Measure E

L-3.01
75-17603-00
03/22/2017
Revisions

LICENSED LANDSCAPE ARCHITECT
LYNN CAPOUYA
NO. 2314
Signature
12/31/2018
Renewal Date
Date
STATE OF CALIFORNIA

DLR Group
Architecture Engineering Planning Interiors

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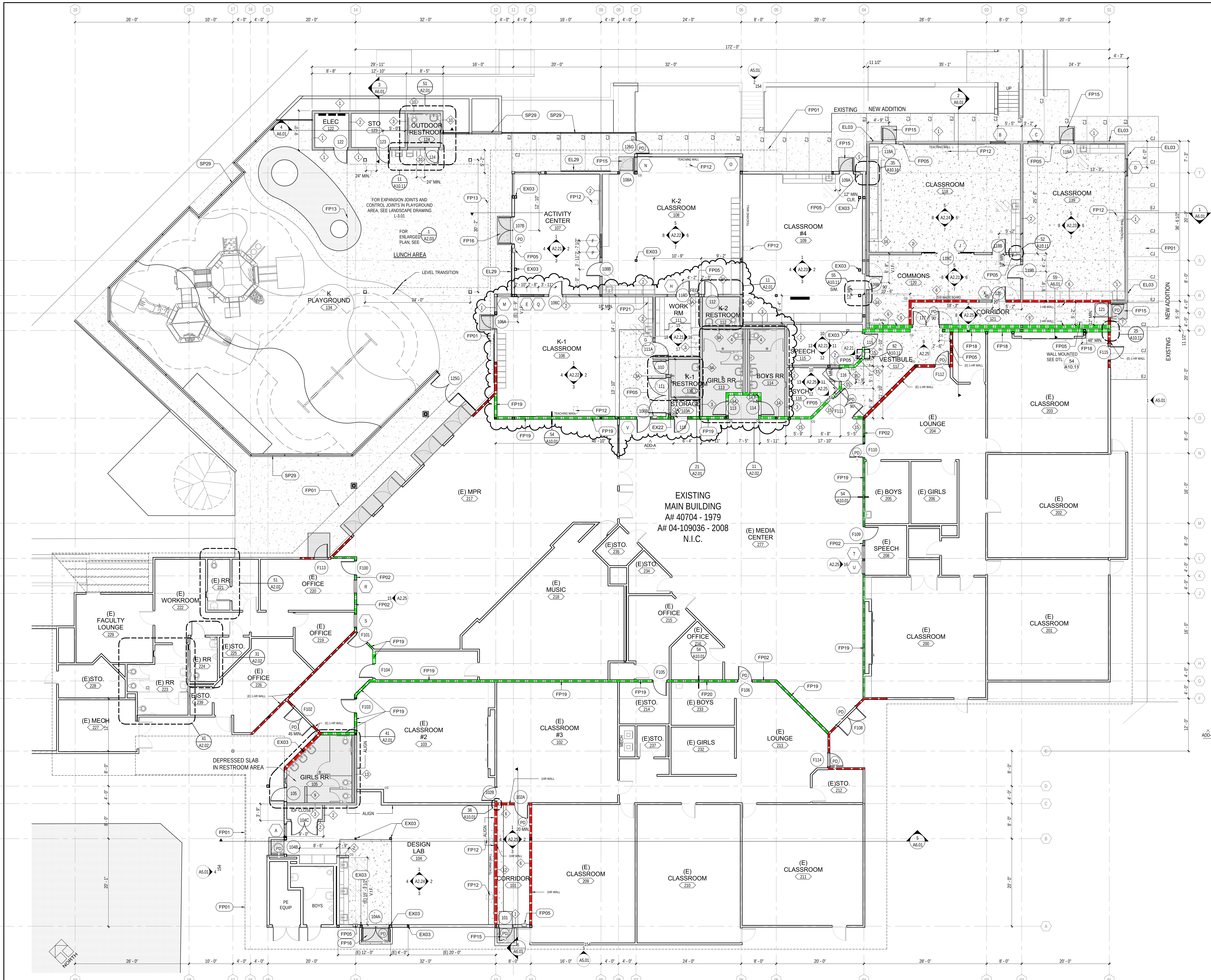

FLOOR PLAN

SCALE 1/8" = 1'-0"

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LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

GENERAL NOTES

A. GENERAL NOTES APPLY TO ALL SHEETS.
B. DIMENSIONS ARE ACTUAL AND ARE TO FACE OF STUDS, FACE OF CONCRETE WALLS, FACE OF CMU WALLS, FACE OF FRAMES OR CENTERLINE OF COLUMNS, UNLESS NOTED OTHERWISE.
C. WALL TYPES SHALL BE DESIGNED ON FLOOR PLANS. SEE SHEET A10.01 FOR WALL TYPES. INTERIOR PARTITIONS ARE 2X6 AT 16" O.C. UNLESS NOTED OTHERWISE.
D. MASONRY WALLS AND INTERIOR STUD WALLS SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE UNLESS NOTED OTHERWISE. SEE REFLECTED CEILING PLAN NOTES.
E. PROVISIONS SHALL BE MADE AT FULL HEIGHT NONBEARING WALLS FOR UP TO 1 1/4-INCH VERTICAL MOVEMENT OF BUILDING STRUCTURE WITHOUT TRANSFER OF COMPRESSIVE LOADS TO WALL. FILL IRREGULARITIES BETWEEN TOP OF WALL AND DECK ABOVE WITH FIRE SAFING INSULATION OR FIRE STOPPING MATERIALS AS REQUIRED TO MEET FIRE RATING OF RESPECTIVE WALLS. SEE DETAILS ON SHEET A10.1.
F. SEE FLOOR PLAN FOR LOCATION OF FIRE-RESISTANCE-RATED WALLS. WALLS OF FIRE-RESISTANCE-RATED CONSTRUCTION SHALL EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE.
G. SEAL PENETRATIONS THROUGH FIRE-RESISTANCE-RATED CONSTRUCTIONS WITH THROUGH- PENETRATION FIRESTOP MATERIAL AS REQUIRED TO ACHIEVE RESPECTIVE FIRE-RESISTIVE RATING AND SMOKE STOPPAGE. SEE DETAILS ON SHEET A10.11.
H. FOR WALL TYPES SEE SHEET A10.01.
I. FURNISH AND INSTALL FIRE-RETARDANT-TREATED WOOD BLOCKING OR METAL BACKING PLATE IN STEEL STUD PARTITIONS FOR PROPER ANCHORAGE OF WALL ATTACHED ITEMS; I.E. TOILET ACCESSORIES, TOILET PARTITIONS, CASEWORK, MILLWORK, WALL-MOUNTED FIXTURES, MARKERBOARDS, TACKBOARDS, DOOR STOPS, AUDIO VISUAL BRACKETS, ETC.
J. GYPSUM BOARD AND PLASTER SURFACES SHALL BE ISOLATED WITH CONTROL JOINTS WHERE INDICATED ON DRAWINGS AND/OR AS DESCRIBED IN THE SPECIFICATIONS.
K. MASONRY CONTROL JOINTS (CJ) AND CONTROL JOINTS ABOVE (CJA) SHALL BE LOCATED AS INDICATED ON FLOOR PLANS AND BUILDING ELEVATIONS, AND WHERE LARGE PLUMBING VENTS OR RISERS OCCUR IN SINGLE WYTHE MASONRY WALLS, AND WHERE MASONRY WALLS BEARING ON CONCRETE FLOOR SLABS ABUT MASONRY WALLS BEARING ON CONCRETE FOOTINGS OR AS INDICATED ON DRAWINGS.
L. INCLUDE OWNER-FURNISHED AND INSTALLED ITEMS AND OWNER FURNISHED AND CONTRACTOR INSTALLED ITEMS IN THE CONSTRUCTION SCHEDULE, AND COORDINATE WITH OWNER TO ACCOMMODATE THESE ITEMS.
M. COORDINATE MECHANICAL CHASE SIZES WITH MECHANICAL CONTRACTOR.
N. COORDINATE WITH MECHANICAL AND ELECTRICAL CONTRACTORS SIZE AND LOCATION OF EQUIPMENT PADS INDICATED ON FLOOR PLANS.
O. "MBD AND TBD" INDICATE MARKERBOARDS AND TACKBOARDS ON FLOOR PLANS. LENGTH PRECEDES THE DESIGNATION (EXAMPLE 16' MBD). BOARDS ARE 48 INCHES TALL. SEE WALL ELEVATIONS OR SPECIFICATIONS FOR MOUNTING HEIGHT.
P. ARCHITECTURAL FINISH FLOOR ELEVATION 100'-0" EQUALS ACTUAL SITE REFERENCE ELEVATION OF FINISH FLOOR SEE CIVIL DRAWING C003.
Q. EXTEND FURRING CHANNELS AND GYPSUM BOARD UP MINIMUM 6 INCHES ABOVE FINISHED CEILING ON CMU WALLS.
R. FIRE-RATED ENCLOSURES AROUND STEEL COLUMNS SHALL BE CONTINUOUS FROM FLOOR TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE FOR EACH LEVEL.
S. SCRIBE GYPSUM BOARD OF WALL AND PARTITIONS TO IRREGULARITIES OF DECK ABOVE. SEAL TIGHTLY AROUND PENETRATIONS.
T. PROVIDE SEISMIC BRACING FOR SUSPENDED CEILINGS OR AS INDICATED ON DRAWINGS.
U. FOR TYPICAL HOLDDOWN, SEE STRUCTURAL DRAWINGS: 14/S1.2, 24/S1.2 AND 34/S1.2

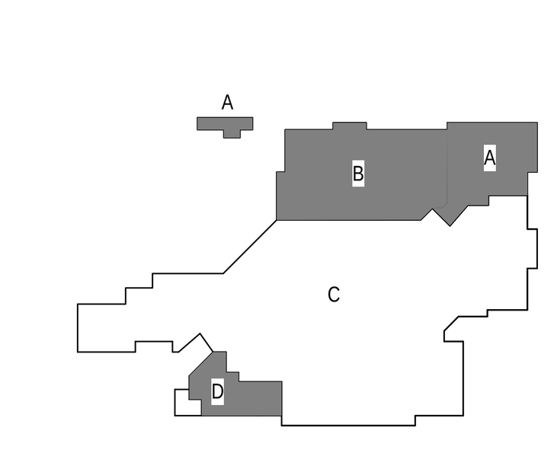
KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
EL03	DOWNSPOUT
EL29	2"X6" X 11' L WOOD WITH (10) HOOKS @ 12" O.C.
EX03	EXISTING COLUMN TO REMAIN, CLEAN/ GRIND SMOOTH EXPOSED COLUMN, AND PAINTED ACCENT COLOR
FP02	2-HR RATED FIRE WALL INFILL, PROVIDE TRIMS WHERE INDICATED AT INTERIOR ELEVATIONS
FP05	FIRE EXTINGUISHER, COORDINATE WITH EQUIPMENT LOCATION, LOCATE FEC WHERE SPACE IS AVAILABLE, V.I.F.
FP13	TRELLIS ABOVE, SEE S2.1 & S2.2 DRAWINGS FOR ADDITIONAL INFORMATION
FP15	3'-0" X 3'-6" GRATE MAT WALK-OFF
FP16	3'-0" X 6'-6" GRATE MAT WALK-OFF
FP18	CONSTRUCT WALL FINISH PER WALL TYPE, FINISH TO MATCH EXISTING
FP19	PROVIDE ONE LAYER OF 5/8" THICK GYPSUM BOARD TO EXISTING WALL TO MAKE FIRE WALL ASSEMBLY, WHERE (E) PLASTER IS REMOVED PROVIDE DOUBLE LAYERS OF 5/8" GYPSUM BOARD, SEE DETAIL 54/A10.01
FP21	CLOSURE PANEL
SP29	4FT. HEIGHT DECORATIVE METAL FENCE, SEE DETAIL 33/0.34

FLOOR PLAN LEGEND

EXISTING WALL
NEW WALL
2-HR RATED WALL
1-HR RATED WALL
PD PANIC DEVICE/HARDWARE
EJ EXPANSION JOINT, SEE CC/C004
CJ CONTROL JOINT, SEE BB/C004
CG CORNER GUARD

KEY PLAN



A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26280
STATE OF CALIFORNIA

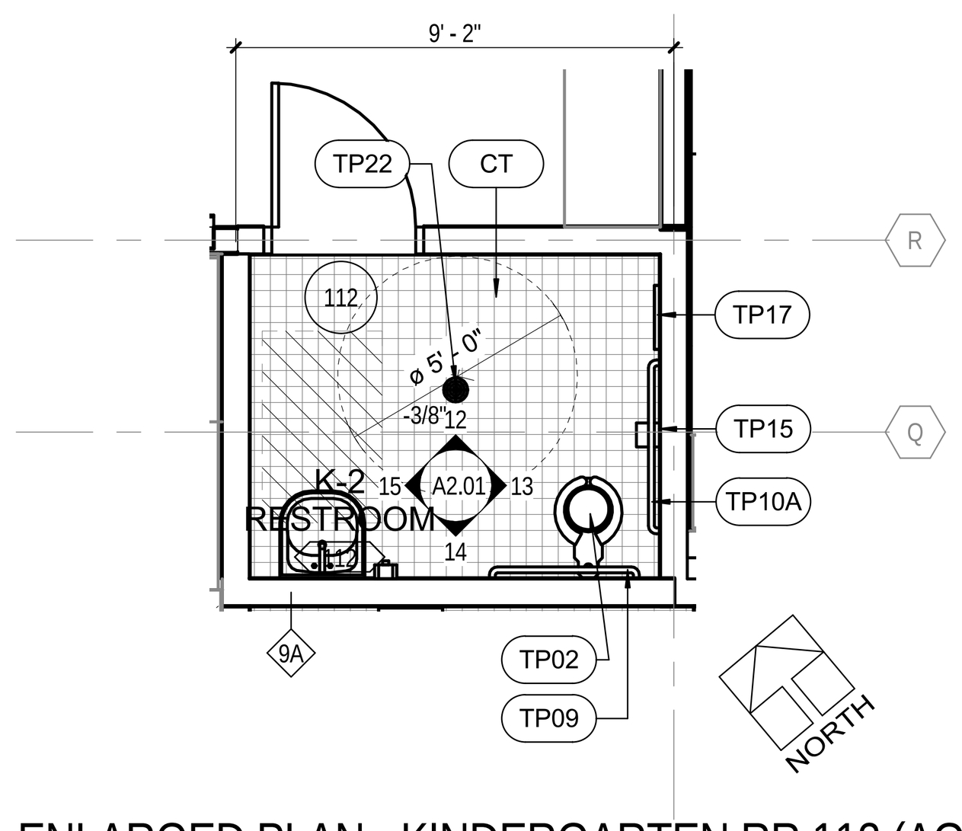
155 Eastshore, Irvine, CA 92604

FLOOR PLAN
Eastshore Elementary School Measure E

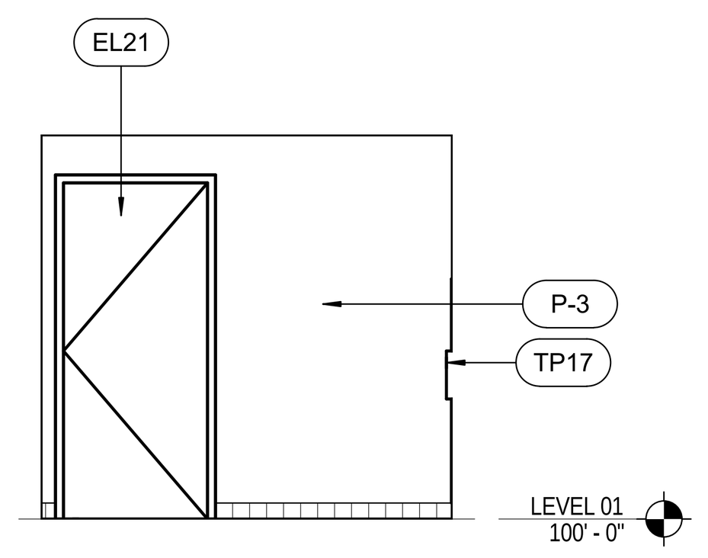
A1.01

75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

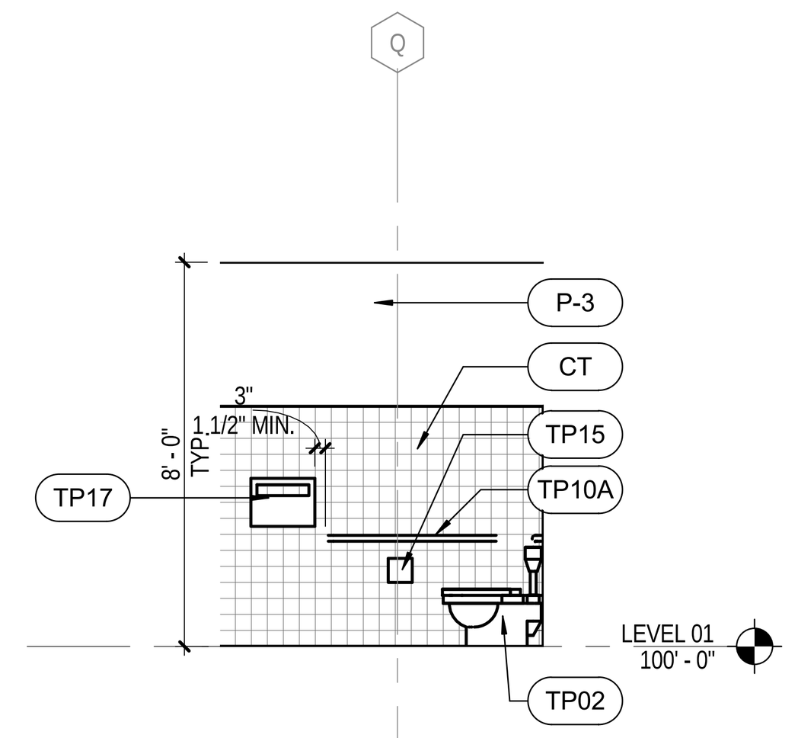
DLR Group
Architecture Engineering Planning Interiors



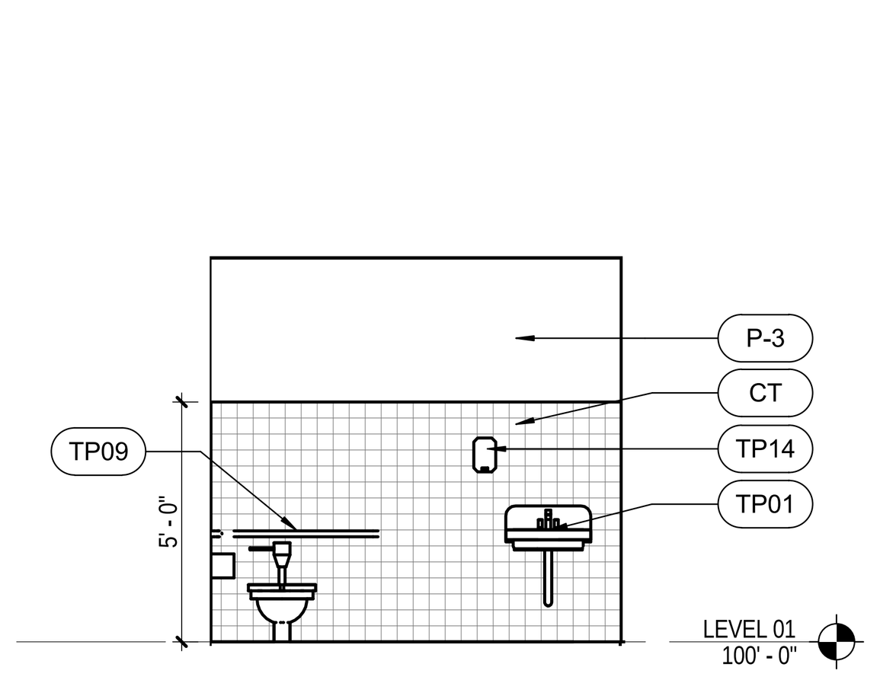
11 A2.01 ENLARGED PLAN - KINDERGARTEN RR 112 (AGE 5-8)
SCALE 1/4" = 1'-0"



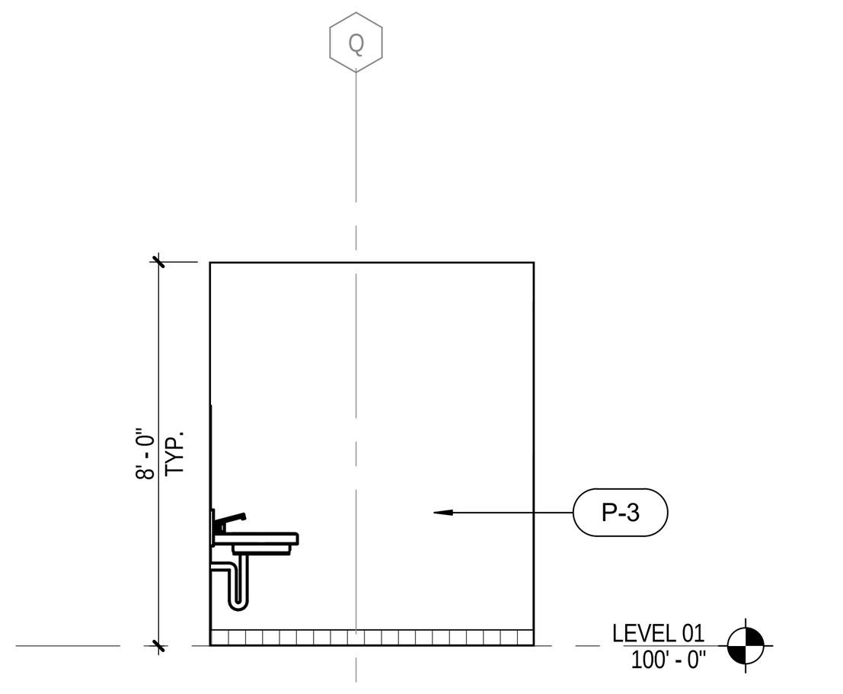
12 A2.01 NORTH ELEVATION - KINDERGARTEN RESTROOM 112
SCALE 1/4" = 1'-0"



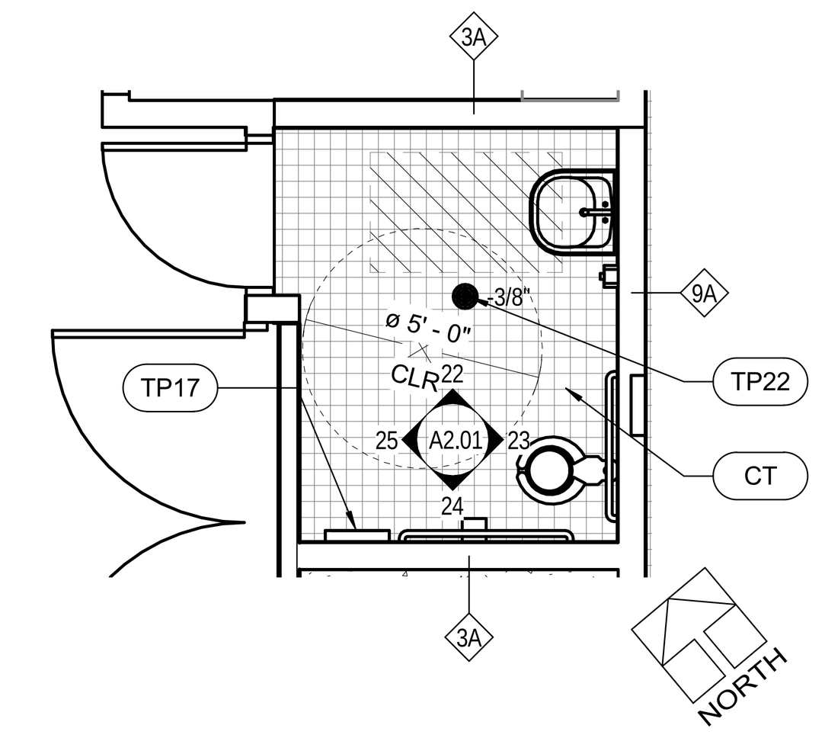
13 A2.01 EAST ELEVATION - KINDERGARTEN RESTROOM 112
SCALE 1/4" = 1'-0"



14 A2.01 SOUTH ELEVATION - KINDERGARTEN RESTROOM 112
SCALE 1/4" = 1'-0"



15 A2.01 WEST ELEVATION - KINDERGARTEN RESTROOM 112
SCALE 1/4" = 1'-0"



21 A2.01 ENLARGED PLAN - KINDERGARTEN RR 110 (AGE 5-8)
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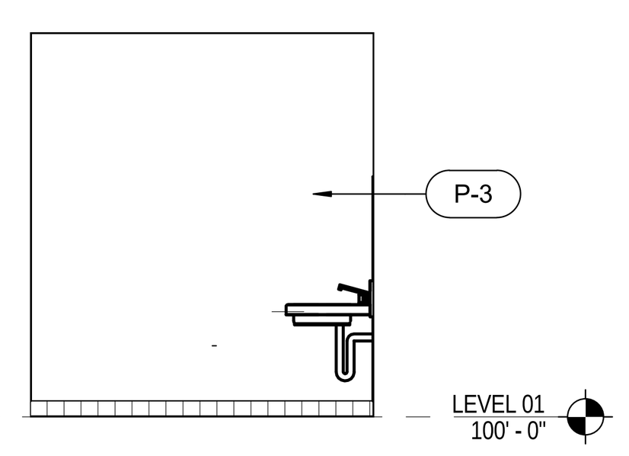
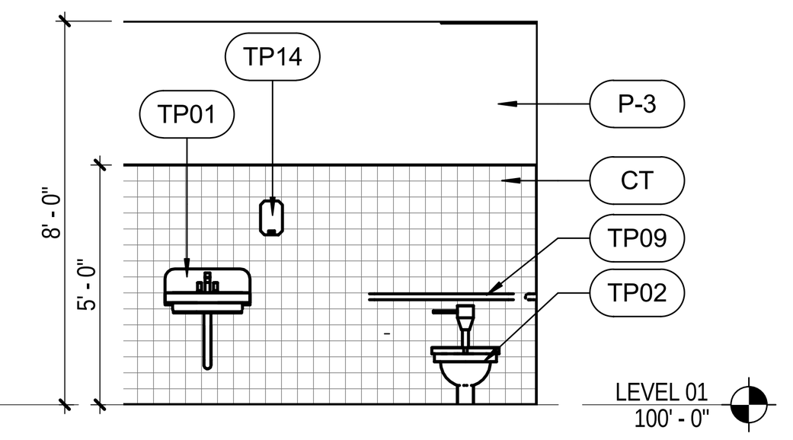
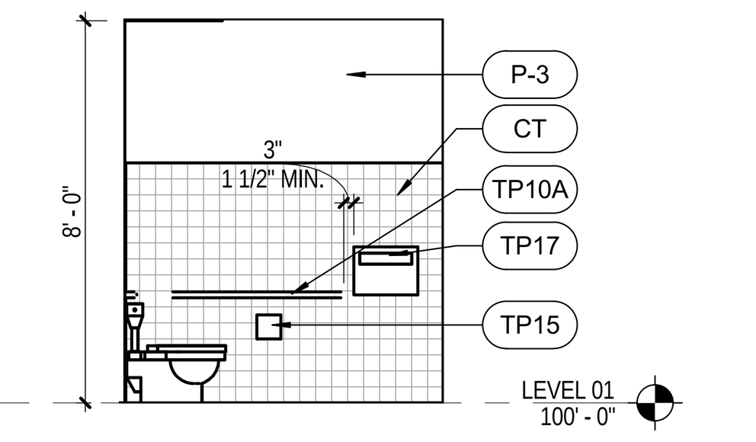


22 A2.01 NORTH ELEVATION - KINDERGARTEN RESTROOM - 110
SCALE 1/4" = 1'-0"



23 A2.01 WEST ELEVATION - KINDERGARTEN RESTROOM -110
SCALE 1/4" = 1'-0"



24 A2.01 SOUTH ELEVATION - KINDERGARTEN RESTROOM - 110
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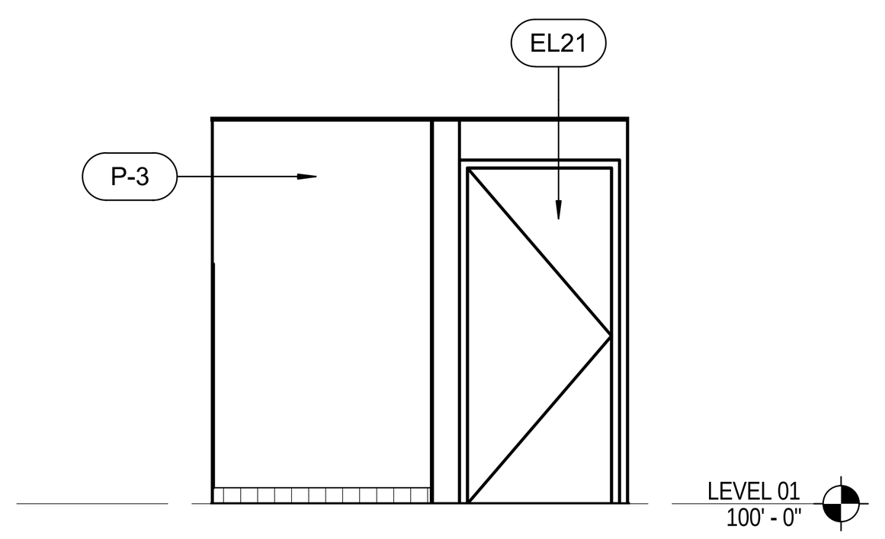
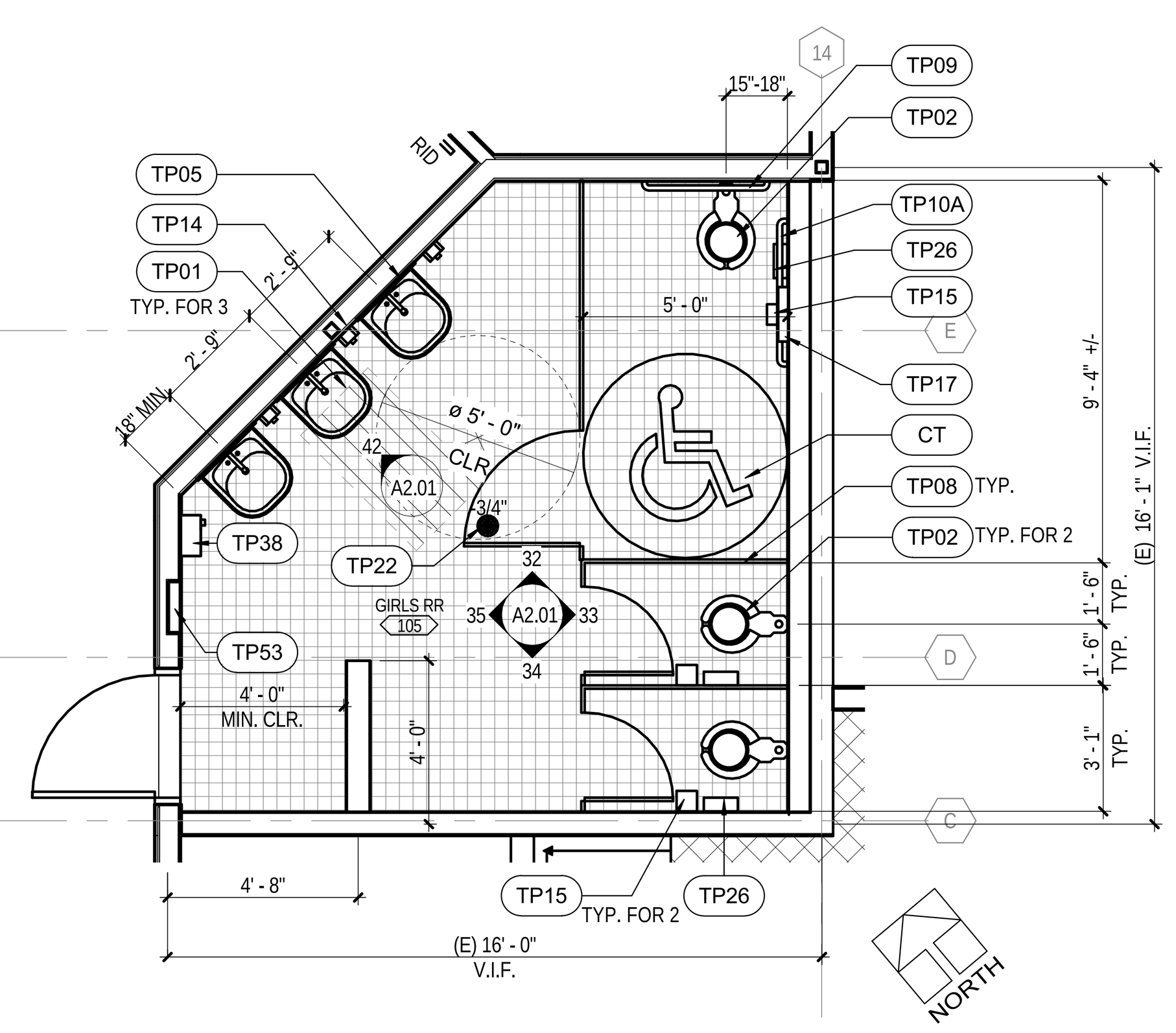
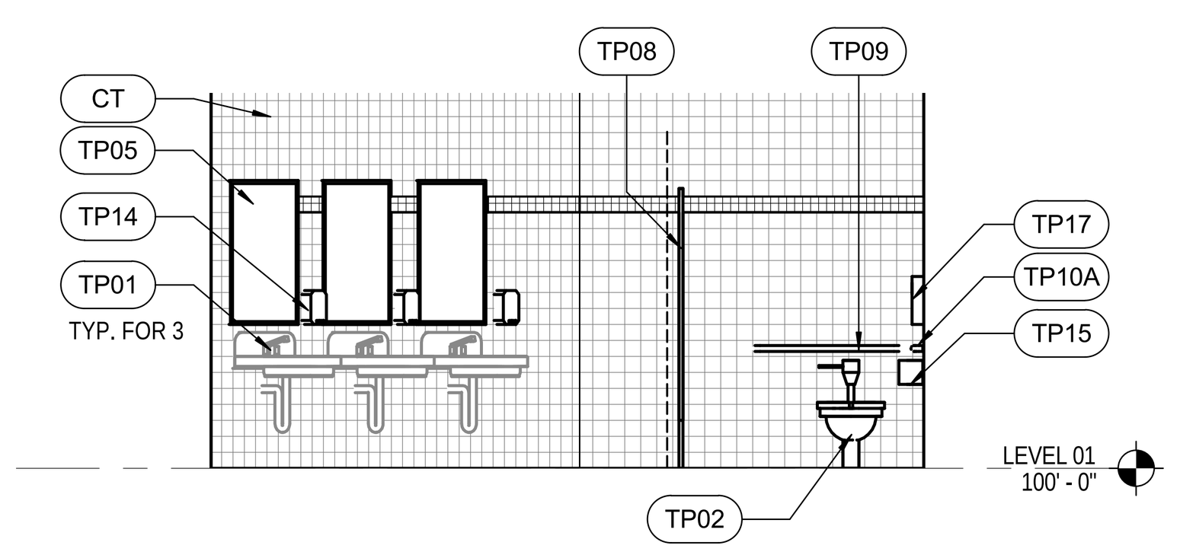


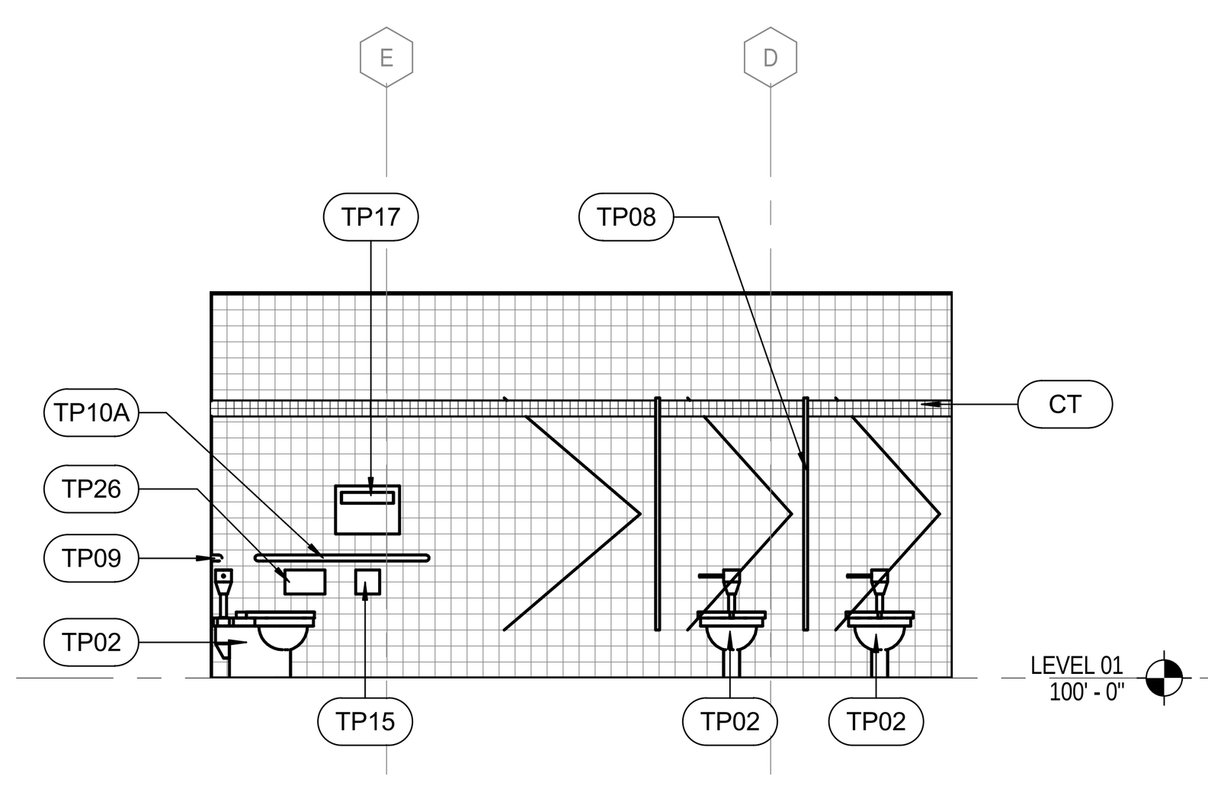
25 A2.01 EAST ELEVATION - KINDERGARTEN RESTROOM - 110
SCALE 1/4" = 1'-0"



41 A2.01 ENLARGED PLAN - GIRLS RESTROOM 105 (AGE 9-12)
SCALE 1/4" = 1'-0"

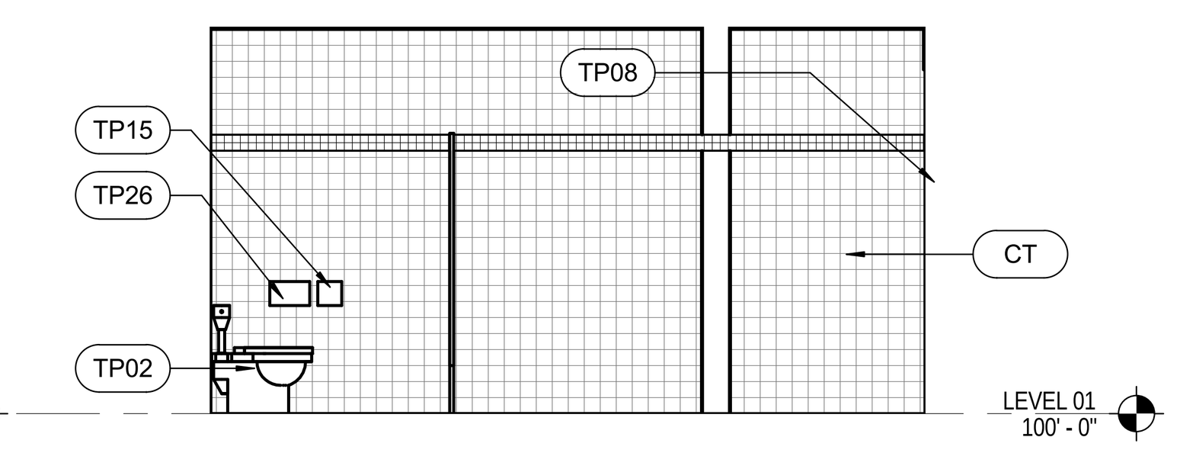


32 A2.01 NORTH ELEVATION - GIRLS RESTROOM - 105
SCALE 1/4" = 1'-0"



33 A2.01 WEST ELEVATION - GIRLS RESTROOM - 105
SCALE 1/4" = 1'-0"

TYP. FOR 2



34 A2.01 SOUTH ELEVATION - GIRLS RESTROOM - 105
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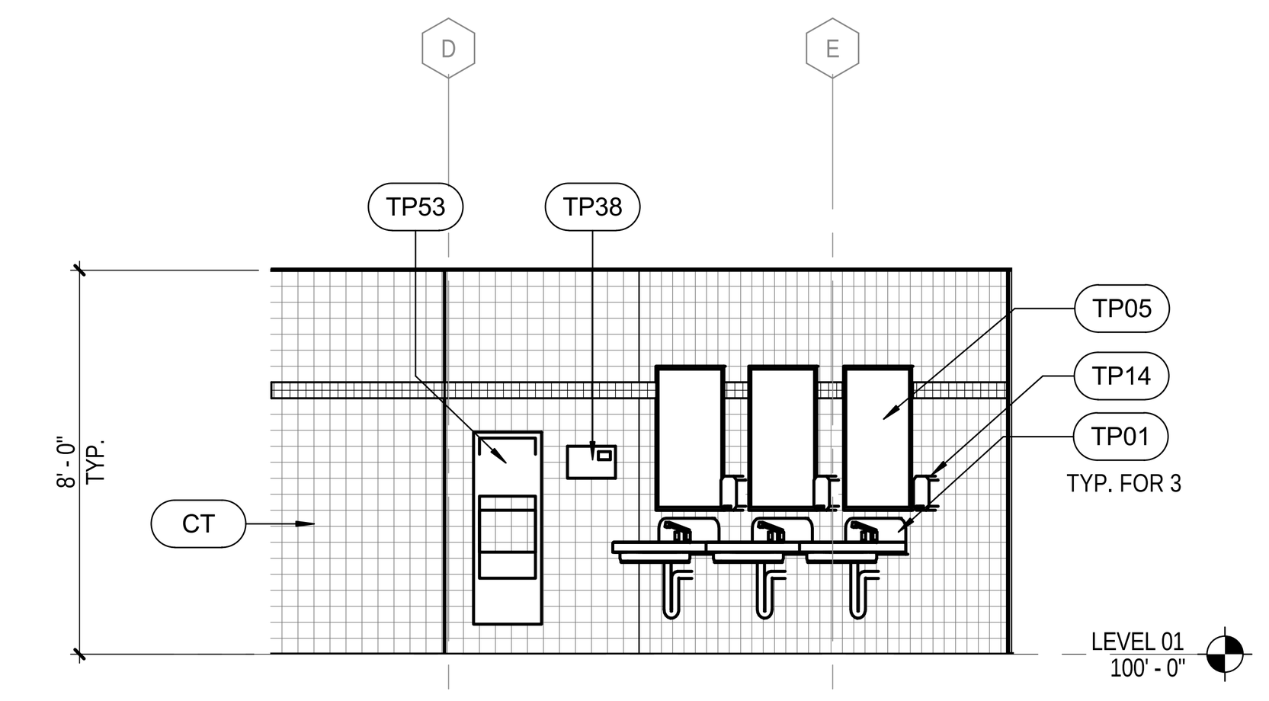
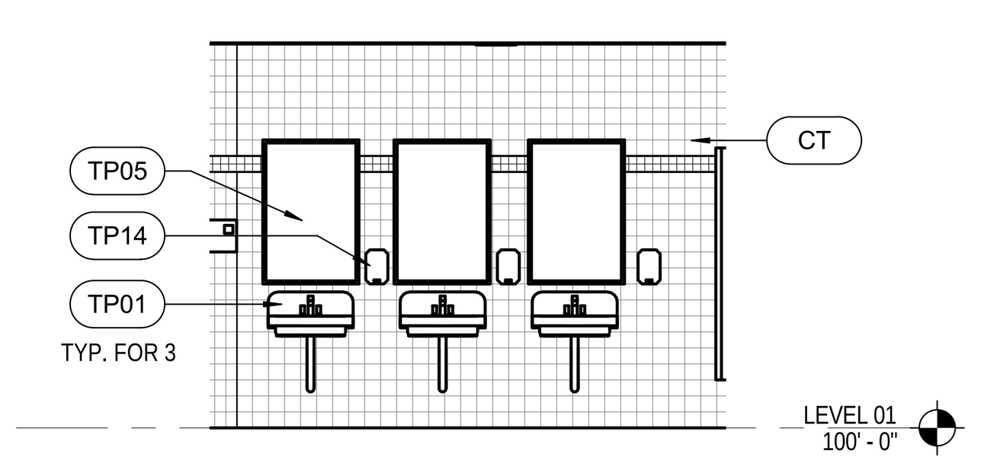
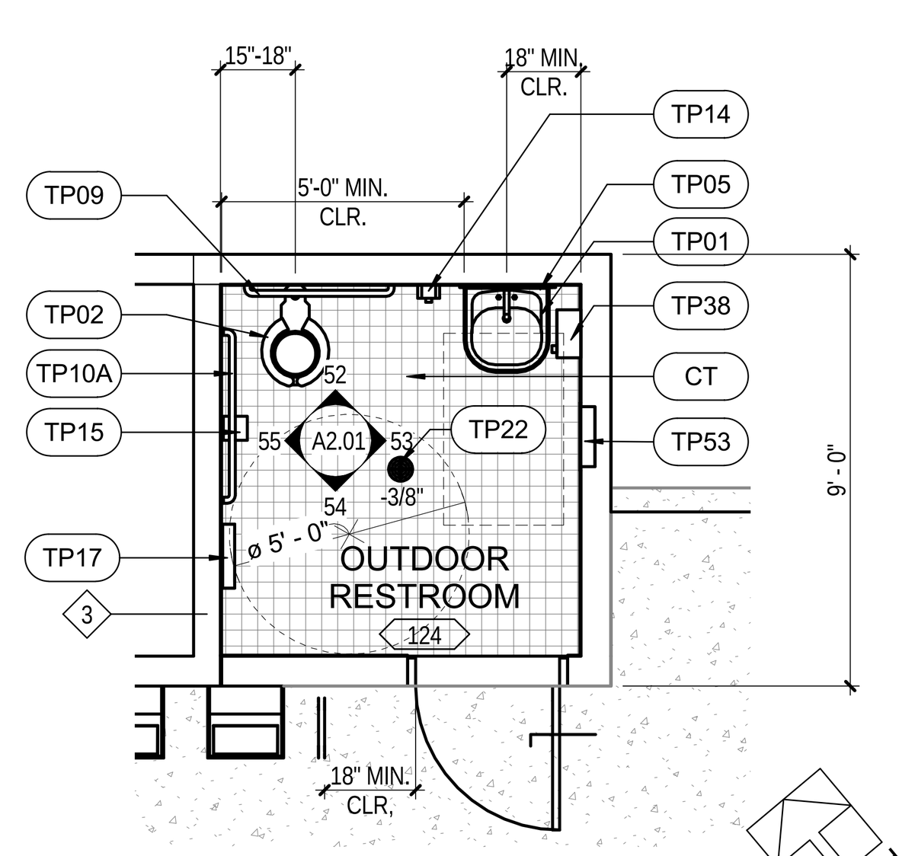


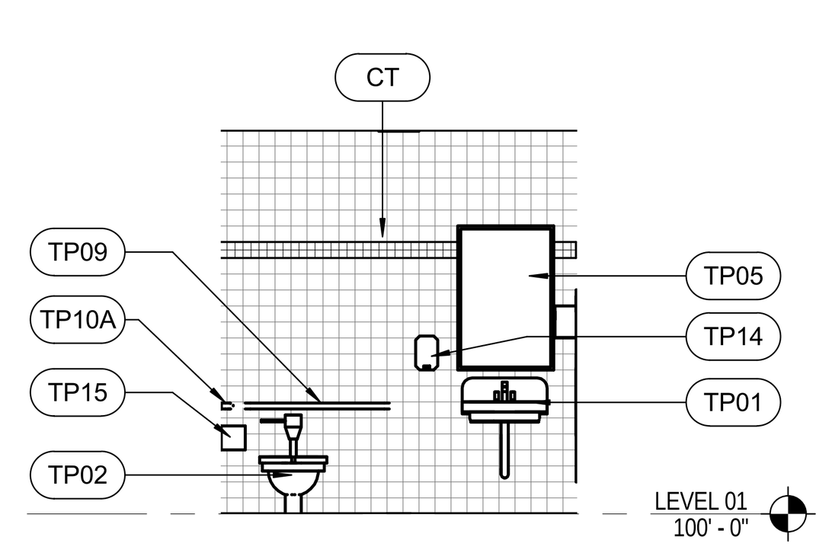
35 A2.01 EAST ELEVATION - GIRLS RESTROOM - 105
SCALE 1/4" = 1'-0"



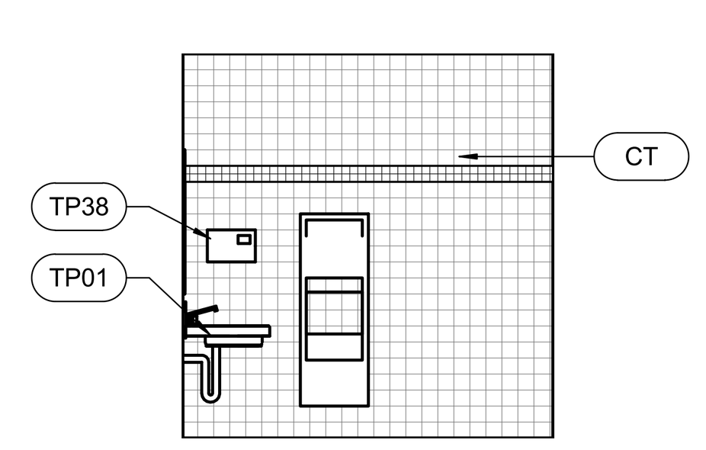
42 A2.01 NORTH EAST ELEVATION - GIRLS RESTROOM - 105
SCALE 1/4" = 1'-0"



51 A2.01 ENLARGED PLAN - PLAYGROUND RR 124 (AGE 5-8)
SCALE 1/4" = 1'-0"



52 A2.01 NORTH ELEVATION - RESTROOM - 124
SCALE 1/4" = 1'-0"



53 A2.01 EAST ELEVATION - RESTROOM - 124
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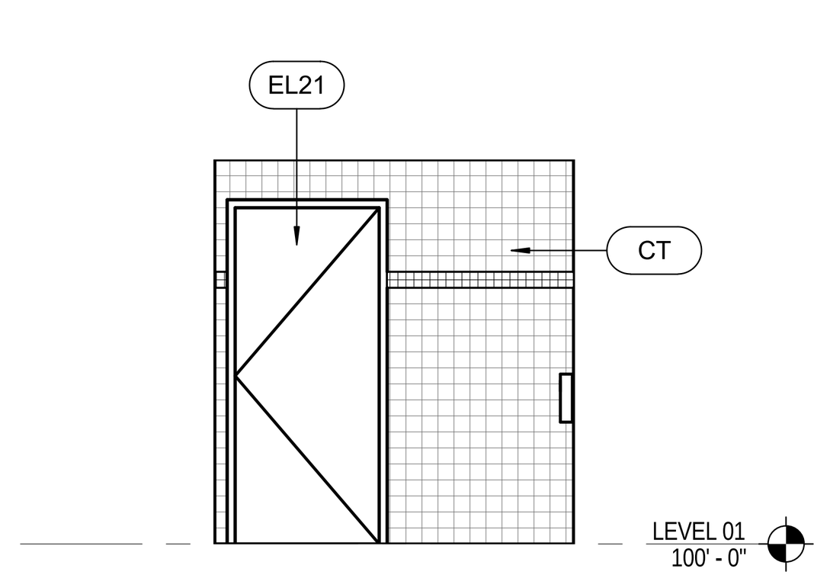
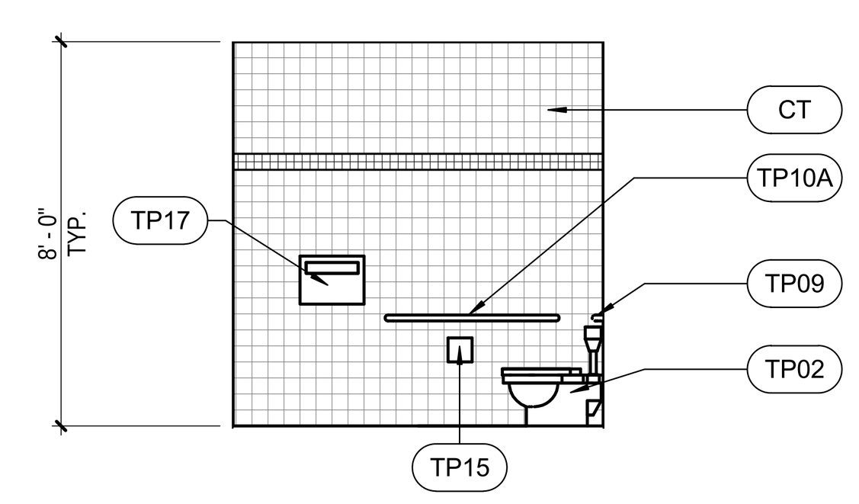


54 A2.01 SOUTH ELEVATION - RESTROOM - 124
SCALE 1/4" = 1'-0"



55 A2.01 WEST ELEVATION - RESTROOM - 124
SCALE 1/4" = 1'-0"

LEGEND NOTES

ADD-A

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
CT	CERAMIC TILE. SEE TILE PATTERN LEGEND FOR TILE ARRANGEMENT AND COLOR.
EL21	DOOR PER SCHEDULE
P-3	VISTA PAINT, WHITE FAIR OW 140, SEMI-GLASS
TP01	LAVATORY
TP02	WATER CLOSET
TP05	24" x 36" MIRROR
TP08	TOILET PARTITION
TP09	36" GRAB BAR
TP10A	42" GRAB BAR
TP14	SOAP DISPENSER
TP15	SURFACE MOUNTED TOILET TISSUE DISPENSER
TP17	SURFACE MOUNTED SEAT COVER DISPENSER
TP22	FLOOR DRAIN SLOPE TO FLOOR DRAINS TO BE 2.0% MAX., DRAIN COVERS TO HAVE 1/4" MAX OPENING,TYP.
TP26	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL
TP38	WARM AIR HAND DRYER
TP53	RECESSED TRASH RECEPTACLE & PAPER TOWEL DISPENSER COMBO

NOTES:

1. FOR GRAB BAR ATTACHMENT SEE: 22 / A10.11
2. FOR LAVATORY BACKING, SEE: 16 / A10.11
3. FOR PARTITION DETAILS, SEE: 51 / A10.11
4. SEE SHEET 0.02 FOR MOUNTING HEIGHT REQUIREMENTS.

GENERAL NOTES FOR ACCESSIBILITY

2016 CBC

A. ACCESSIBLE URINAL SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 605.3.

B. ACCESSIBLE WATER CLOSETS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 604.3.1.

C. ACCESSIBLE LAVATORIES AND SINKS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 606.2.

D. ACCESSIBLE TOILET ROOMS SHALL PROVIDE A TURNING SPACE OF 60 INCHES IN DIAMETER PER ADA SAD 2010 - 304.3.1.

E. ACCESSIBLE WATER FOUNTAINS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 602.2.

F. ACCESSIBLE TOILET PARTITION SHALL COMPLY WITH ADA SAD 2010 - 604.8.1.

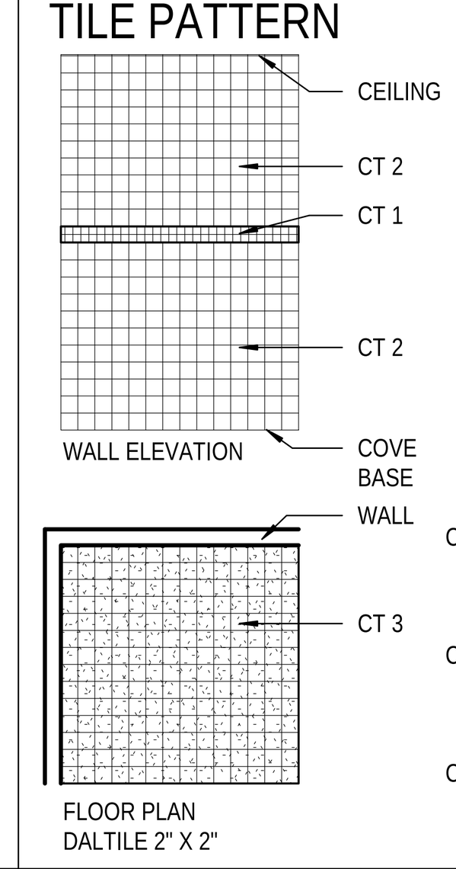
H. EXPOSED PIPES AND SURFACES UNDER LAVATORIES AND SINKS SHALL BE INSULATED PER ADA SAD 2010 - 606.5.

ACCESSORIES ABBREVIATIONS

ACC	ADA ACCESSIBLE HEIGHT
BCS	BABY CHANGING STATION
GB-1	GRAB BAR (SIDE WALL)
GB-2	GRAB BAR (BACK WALL)
GB-3	GRAB BAR (VERTICAL)
GB-4	GRAB BAR (AMBULATORY STALL)
GB-5	GRAB BAR (SHOWER)
HD	ELECTRIC HAND DRYER
MBH	MOP / BROOM HOLDER
MR	MIRROR
RH	ROBE HOOK
SCD	SEAT COVER DISPENSER
SCR	SHOWER CURTAIN ROD
SD	LIQUID SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
SNV	NAPKIN/TAMPON VENDOR
SSS	STAINLESS STEEL SHELF
TD	TOWEL DISPENSER
TD/WR	TOWEL AND WASTE RECEPTACLE
TP	TOILET PAPER DISPENSER
US	UTILITY SHELF
WR	WASTE RECEPTACLE

ADD-A

TILE PATTERN



CT 1 : DALTILE NATURAL HUES 2" X 2" AZURE QH44

CT 2 : DALTILE NATURAL HUES 4" X 4" MIST QH15

CT 3 : DALTILE KEYSTONES D200 GRAY SPECKLE

A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ________________

FILE NO.: 30-48

ENLARGED RESTROOM PLANS AND ELEVATIONS

Eastshore Elementary School Measure E

155 Eastshore, Irvine, CA 92604

A2.01
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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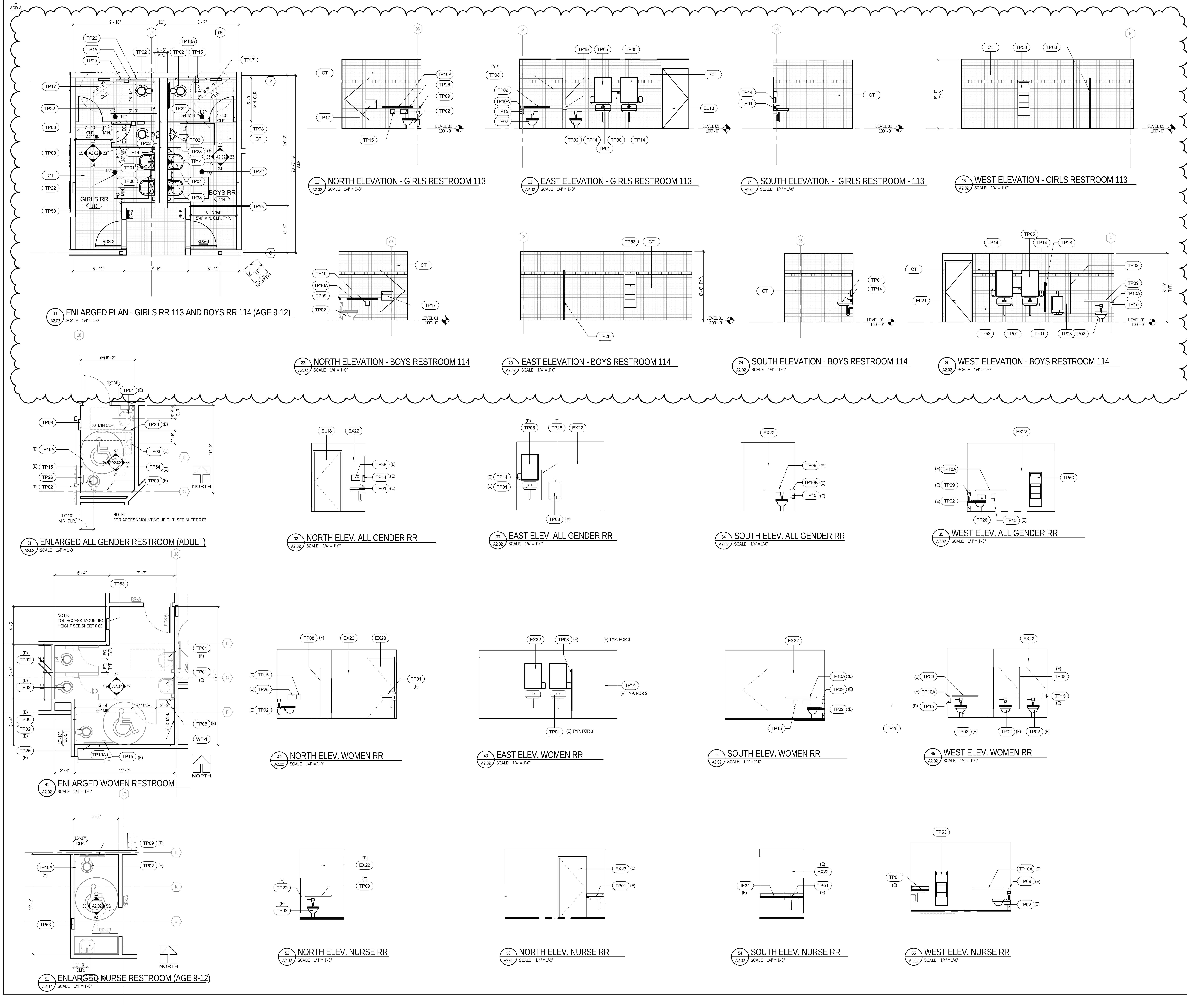


LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
CT	CERAMIC TILE. SEE TILE PATTERN LEGEND FOR TILE ARRANGEMENT AND COLOR.
EL18	(E) DOOR
EL21	DOOR PER SCHEDULE
EX22	EXISTING WALL TO REMAIN
EX23	EXISTING DOOR TO REMAIN
IE31	PLASTIC LAMINATE COUNTERTOP/BACKSPLASH
TP01	LAVATORY
TP02	WATER CLOSET
TP03	URINAL
TP05	24" x 36" MIRROR
TP08	TOILET PARTITION
TP09	36" GRAB BAR
TP10A	42" GRAB BAR
TP10B	48" GRAB BAR
TP14	SOAP DISPENSER
TP15	SURFACE MOUNTED TOILET TISSUE DISPENSER
TP17	SURFACE MOUNTED SEAT COVER DISPENSER
TP22	FLOOR DRAIN SLOPE TO FLOOR DRAINS TO BE 2.0% MAX., DRAIN COVERS TO HAVE 1/4" MAX OPENING,TYP.
TP26	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL
TP28	URINAL SCREEN
TP38	WARM AIR HAND DRYER
TP53	RECESSED TRASH RECEPTACLE & PAPER TOWEL DISPENSER COMBO
TP54	60" X 48" MINIMUM WATERCLOSET MANEUVERING SPACE
WP-1	PATCH WALL AND FINISH TO MATCH EXISTING

NOTES:

1. FOR GRAB BAR ATTACHMENT SEE: 22/A10.11
2. FOR LAVATORY BACKING, SEE: 16/A10.11
3. FOR PARTITION DETAILS, SEE: 51/A10.11
4. SEE SHEET 0.02 FOR MOUNTING HEIGHT REQUIRENMENTS

GENERAL NOTES FOR ACCESSIBILITY

2016 CBC

A. ACCESSIBLE URINAL SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 605.3.
B. ACCESSIBLE WATER CLOSETS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 604.3.1.
C. ACCESSIBLE LAVATORIES AND SINKS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 606.2.
D. ACCESSIBLE TOILET ROOMS SHALL PROVIDE A TURNING SPACE OF 60 INCHES IN DIAMETER PER ADA SAD 2010 - 304.3.1.
E. ACCESSIBLE WATER FOUNTAINS SHALL PROVIDE CLEAR FLOOR SPACE PER ADA SAD 2010 - 602.2.
F. ACCESSIBLE TOILET PARTITION SHALL COMPLY WITH ADA SAD 2010 - 604.8.1.
H. EXPOSED PIPES AND SURFACES UNDER LAVATORIES AND SINKS SHALL BE INSULATED PER ADA SAD 2010 - 606.5.

ACCESSORIES ABBREVIATIONS

ACC ADA ACCESSIBLE HEIGHT

BCS BABY CHANGING STATION

GB-1 GRAB BAR (SIDE WALL)
GB-2 GRAB BAR (BACK WALL)
GB-3 GRAB BAR (VERTICAL)
GB-4 GRAB BAR (AMBULATORY STALL)
GB-5 GRAB BAR (SHOWER)

HD ELECTRIC HAND DRYER

MBH MOP / BROOM HOLDER
MR MIRROR

RH ROBE HOOK

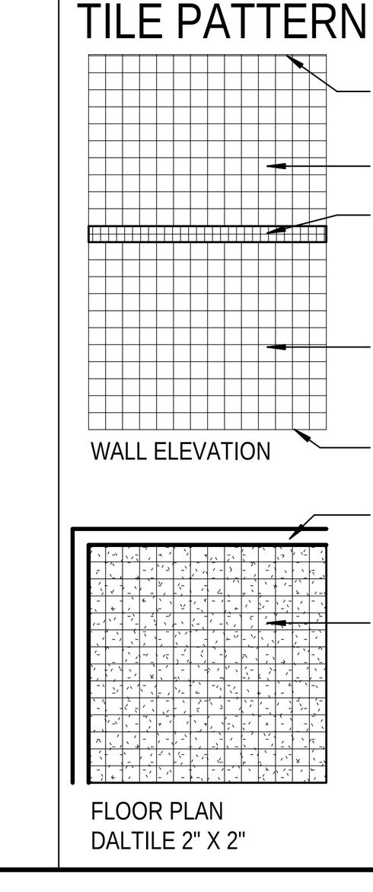
SCD SEAT COVER DISPENSER
SCR SHOWER CURTAIN ROD
SD LIQUID SOAP DISPENSER
SND SANITARY NAPKIN DISPOSAL
SNV NAPKIN/TAMPON VENDOR
SSS STAINLESS STEEL SHELF

TD TOWEL DISPENSER
TD/WR TOWEL AND WASTE RECEPTACLE
TP TOILET PAPER DISPENSER

US UTILITY SHELF

WR WASTE RECEPTACLE

TILE PATTERN



CT 1 : DALTILE NATURAL HUES 2" X 2" AZURE QH44

CT 2 : DALTILE NATURAL HUES 4" X 4" MIST QH15

CT 3 : DALTILE KEYSTONES D200 GRAY SPECKLE

A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: _______________
FILE NO.: 30-48

LICENSED ARCHITECT MICHAEL J. STEPHENS C-26450 05/31/2019 STATE OF CALIFORNIA

ENLARGED RESTROOM PLANS AND ELEVATIONS

Eastshore Elementary School Measure E

155 Eastshore, Irvine, CA 92604

A2.02

75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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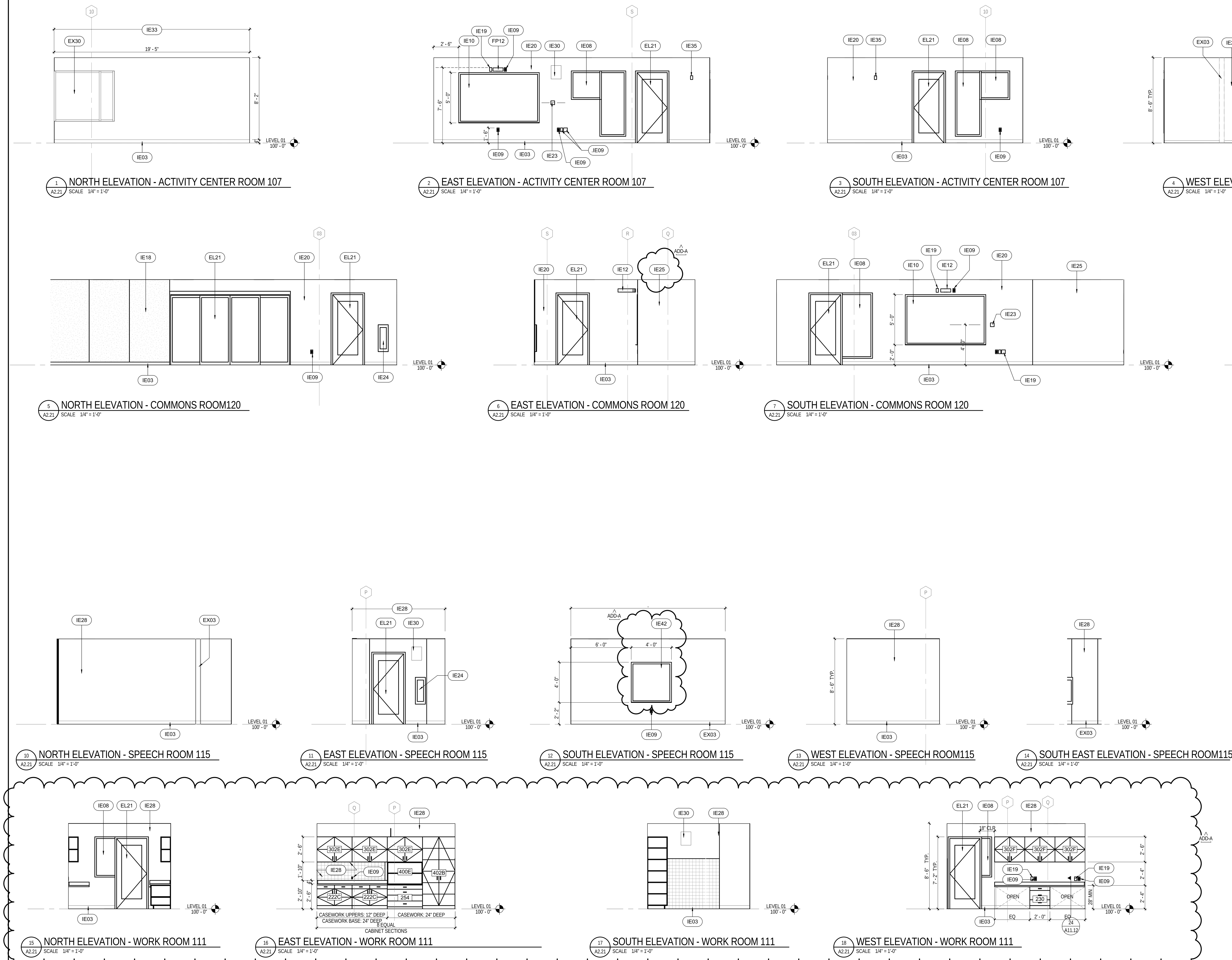


KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
EL21	DOOR PER SCHEDULE
EX03	EXISTING COLUMN TO REMAIN, CLEAN/ GRIND SMOOTH EXPOSED COLUMN, AND PAINTED ACCENT COLOR
EX30	EXISTING WINDOW TO REMAIN
FP12	OVERHEAD PROJECTOR ABOVE, SEE 16/A11.12 AND ELECTRICAL DRAWINGS
IE03	4" RUBBER WALL BASE
IE08	WINDOW, SEE FLOOR PLAN AND WINDOW SCHEDULE
IE09	ELECTRICAL OUTLET
IE10	8'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE12	WALL MOUNTED PROJECTOR, SEE ELECT. DWGS. FOR INSTALMENT SEE 16/A11.12
IE18	TACKABLE WALL SURFACE (TWC). FOR ATTACHMENT SEE 56/A11.12
IE19	DATA OUTLET
IE20	VINYL WALL COVERING (VWC)
IE23	AUDIO VISUAL CONTROL PANEL, SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION
IE24	SEMI-RECESSED FIRE EXTINGUISHER CABINET
IE25	WRITABLE SURFACE, SEE WALL FINISH/P-3 A12.01
IE28	PAINT (BASE COLOR)
IE30	WALL MOUNTED CLOCK/SPEAKER UNIT
IE33	DIGITALLY PRINTED VINYL WALL COVERING - KOROSEAL
IE35	MAGNETIC HOLD-OPEN
IE42	4'X4' MARKER BOARD, TYP. SEE DTL. 36/A11.12

ADD-A

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS.

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.

2. BASE CABINET IS 24" DEEP, U.O.N.

3. WALL HUNG CABINET IS 15" DEEP, U.O.N.

4. TALL STORAGE CABINET IS 24" DEEP, U.O.N.

5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.

6. WHERE ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE FINISHED OPENINGS. COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL CONTRACTOR.

7. PROVIDE JOINT SEALANT AT PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK, AND MILLWORK ABUT WALLS.

8. V.I.F. DIMENSIONS OF CABINET LOCATIONS IN BUILDING PRIOR TO FABRICATION.

9. PROVIDE LOCKS AT DOORS AND DRAWERS.

10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.

11. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.

12. SEE FINISH SCHEDULE FOR INTERIOR MATERIAL FINISH LIST.

13. DASHED ITEMS ARE NOT IN SCOPE.

14. NOT ALL FINISHES ARE SHOWN, SEE ROOM FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL INFORMATION.

Casework Schedule	
Model	Type
160A	36 W X 30 H X 24 D
160B	36 W X 34 H X 24 D
162M	36 W x 34 H x 24 D
180A	54 W X 32 H X 18 D
180B	72 W X 32 H X 24 D
180C	72 W X 46 H X 18 D
211A	18 W X 34 H X 24 D
222A	24 W X 34 H X 24 D
222B	36 W X 34 H X 24 D
222C	42 W X 30 H X 24 D
230	24 W X 21 1/2 H X 28 D 2
254	42 W X 30 H X 24 D
300	300 - 12W X 30 H x 16 D
301A	18 W X 30 H X 12 D

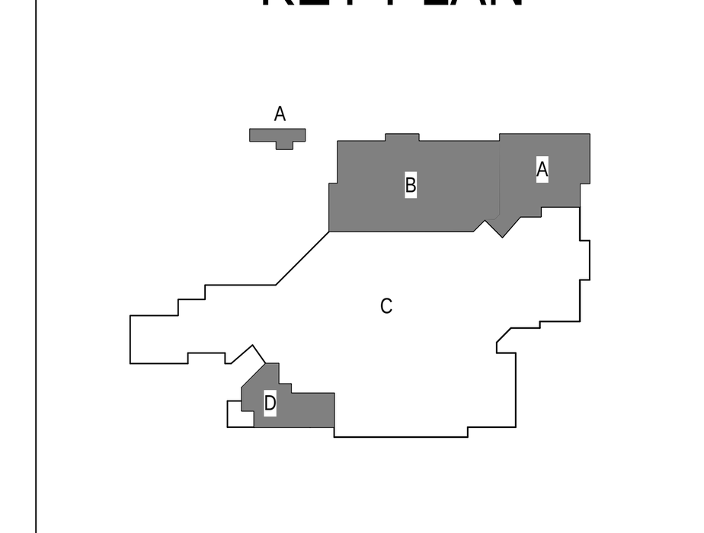
Casework Schedule	
Model	Type
301C	26 W X 34 H X 24D
302	36" x 30" x 12"
302A	24 W X 30 H X 12 D
302B	30 W X 30 H X 24 D
302C	36 W X 34 H X 24 D
302D	42 W X 34 H X 24 D
302E	42 W X 30 H X 12 D - 2'-6"
302E	42 W X 30 H X 24 D - 2'-6"
302F	36 W X 30 H X 12 D
302G	30 W X 34 H X 24 D
400+180	30 W X 56 H X 24 D
400A	26 W X 52 H X 24 D
400B	30 W X 54 H X 24 D
400C	36 W X 52 H X 24 D

Casework Schedule	
Model	Type
400D	42 W X 52 H X 24 D
400E	42 W X 26 H X 24 D
401	1'-10" WIDTH AWI 401 Tall Storage Sgl Door
402A	34 W X 86 H X 24 D
402B	36 W X 86 H X 24 D
402B	39 W X 86 H X 24 D
402C	42 W X 86 H X 24 D
446A	72 W X 54 H X 24 D

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEY PLAN



A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:____ FLS:____ AC:____
DATE: ____________

FILE NO.: 30-48

LICENSED ARCHITECT MICHAEL J. STEPHENS C-26450 05/31/2019 STATE OF CALIFORNIA

155 Eastshore, Irvine, CA 92604

INTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A2.21
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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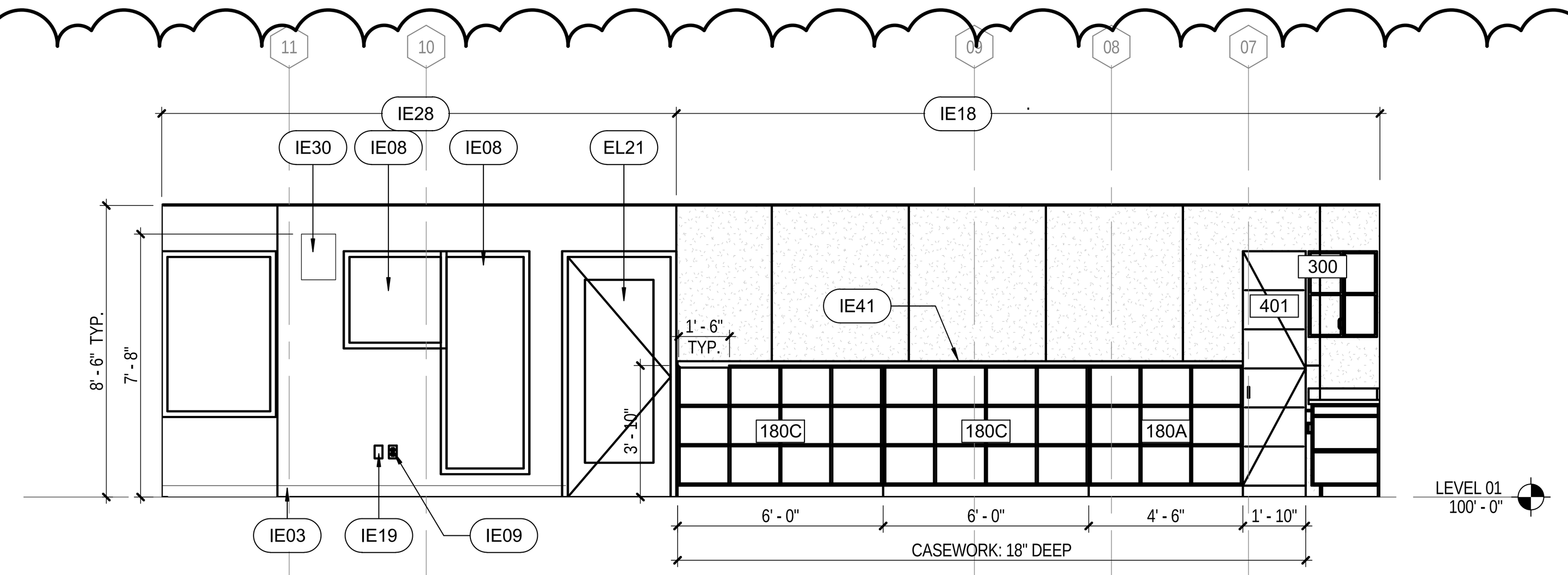
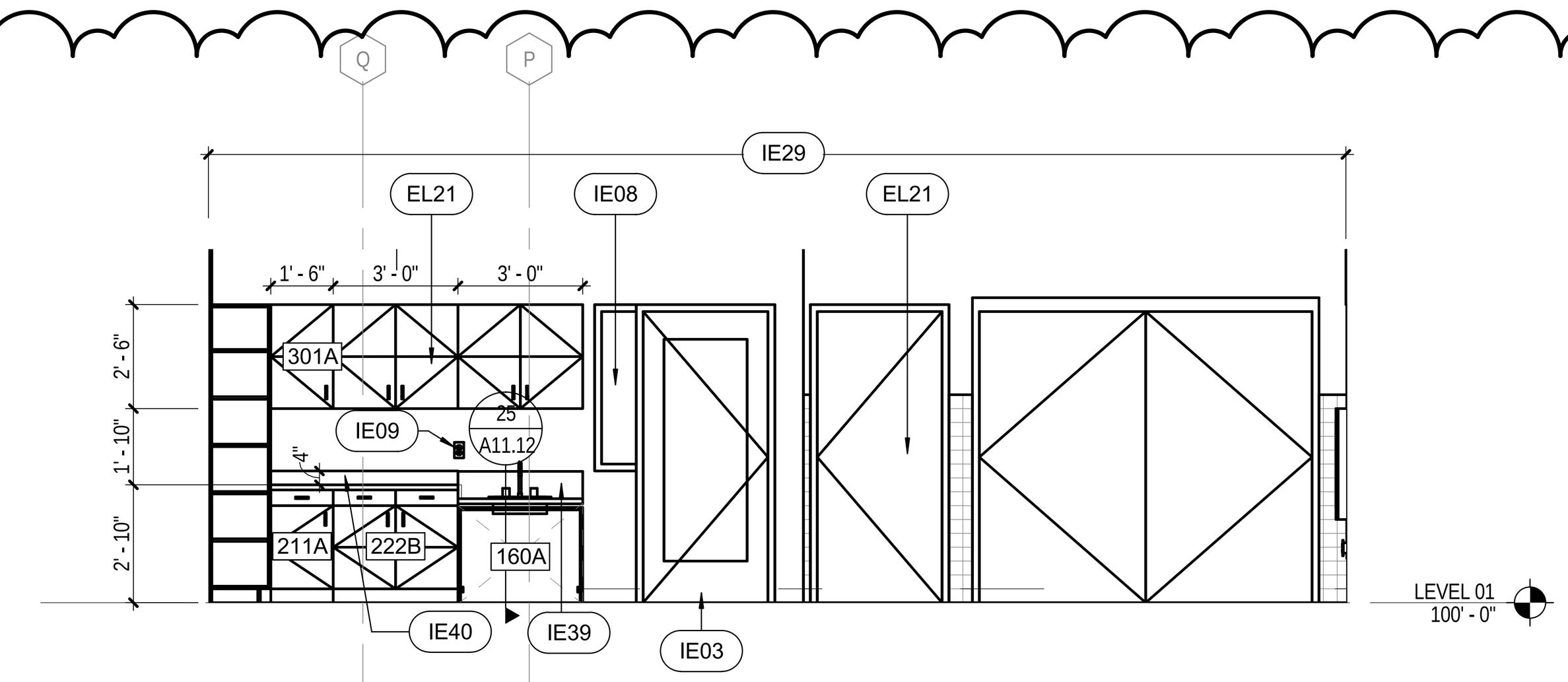
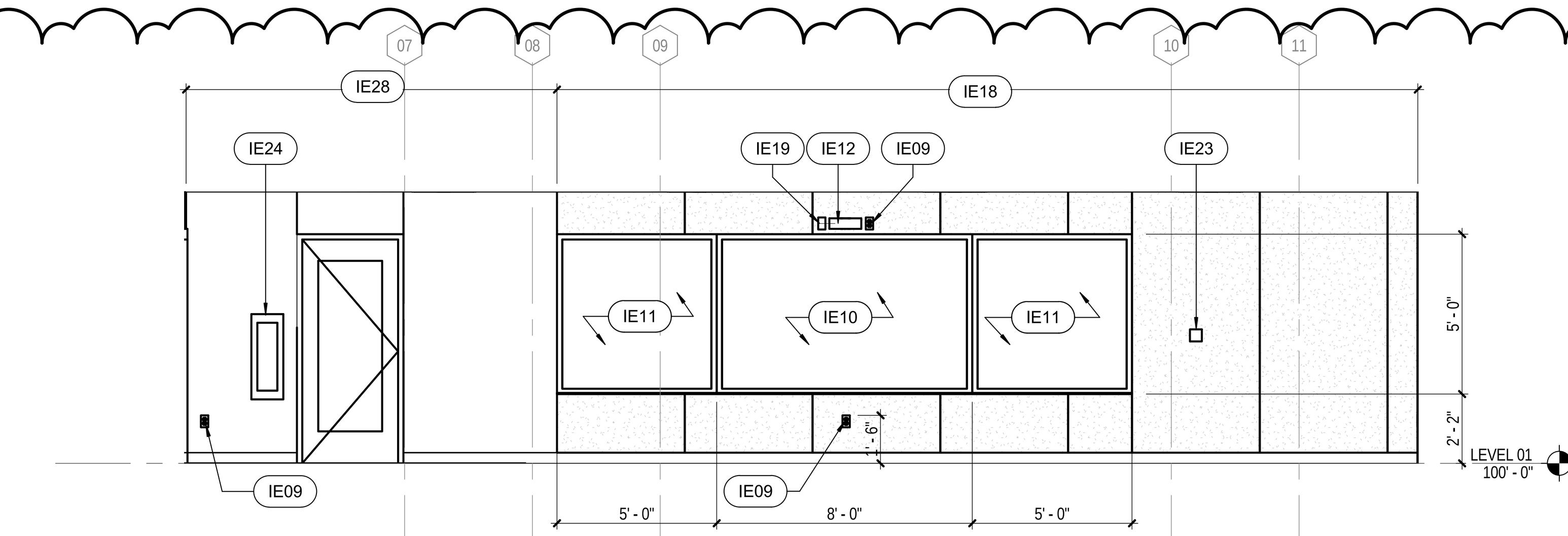


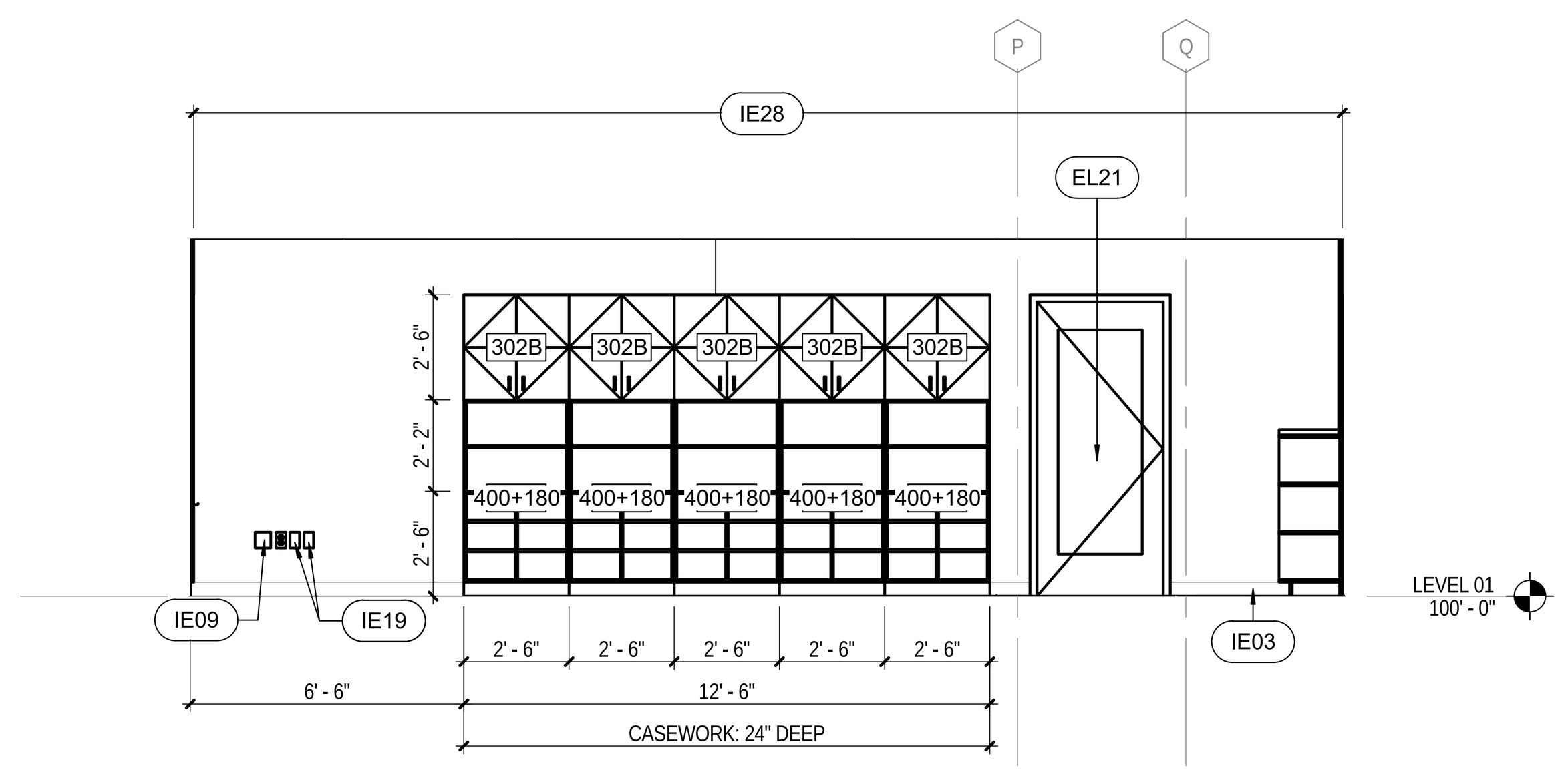
1 A2.22 NORTH ELEVATION - K CLASSROOM 106
SCALE 1/4" = 1'-0"



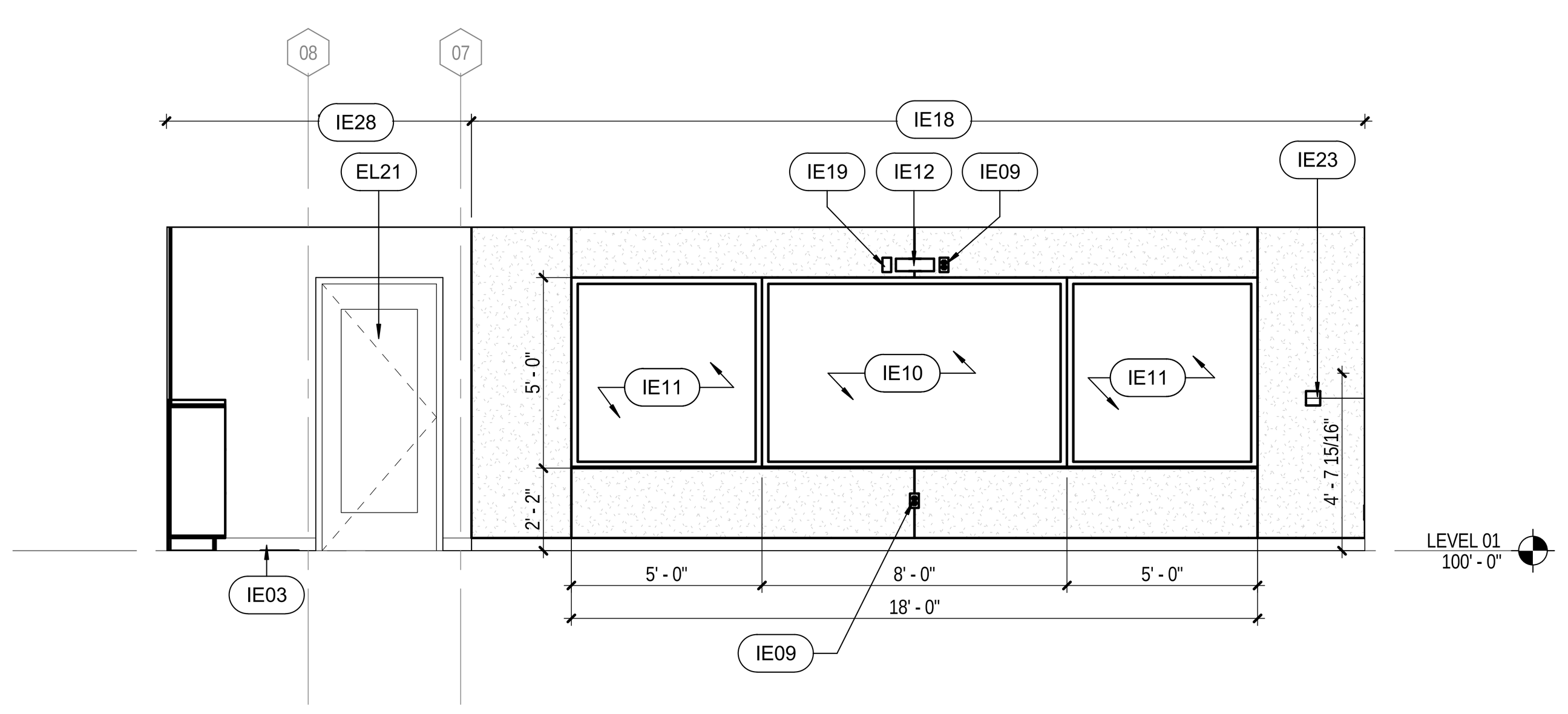
2 A2.22 EAST ELEVATION - K CLASSROOM 106
SCALE 1/4" = 1'-0"



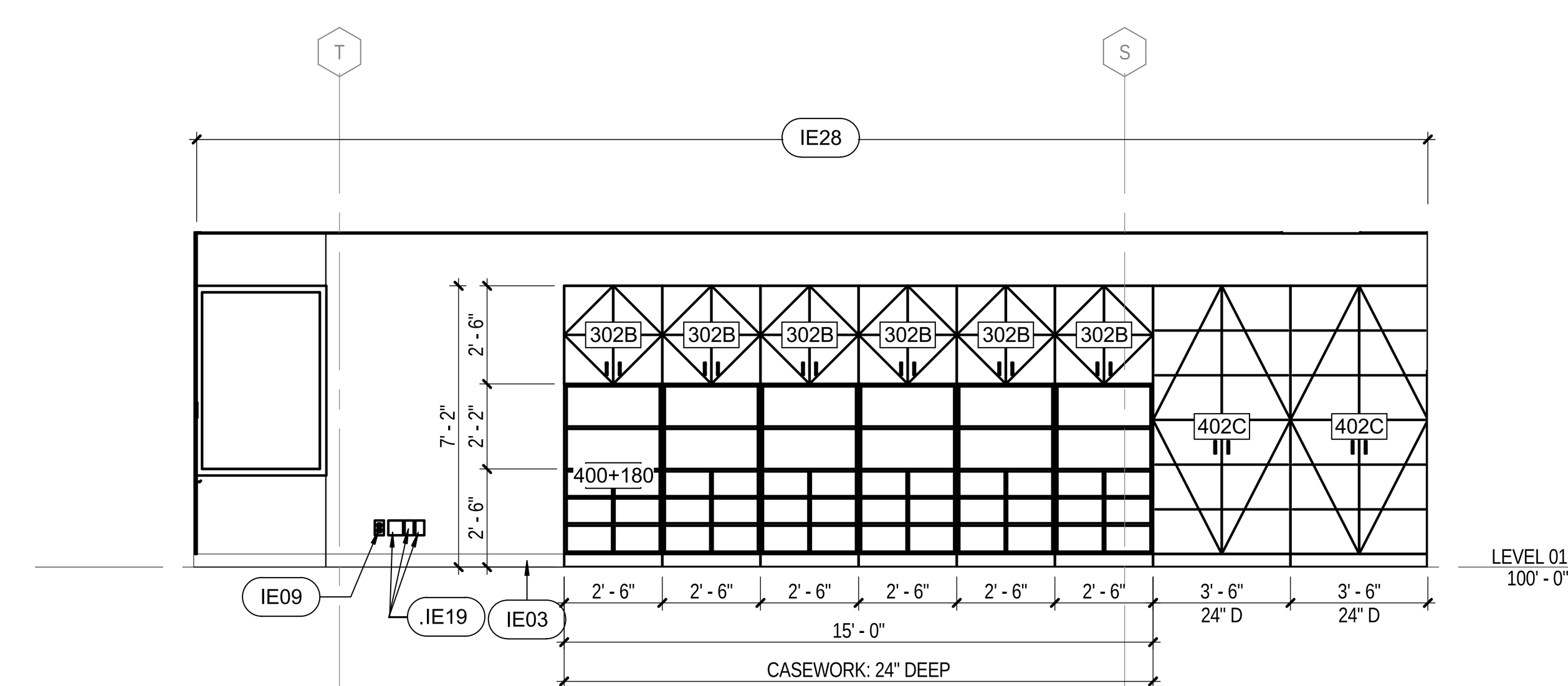
3 A2.22 SOUTH ELEVATION - K CLASSROOM 106
SCALE 1/4" = 1'-0"



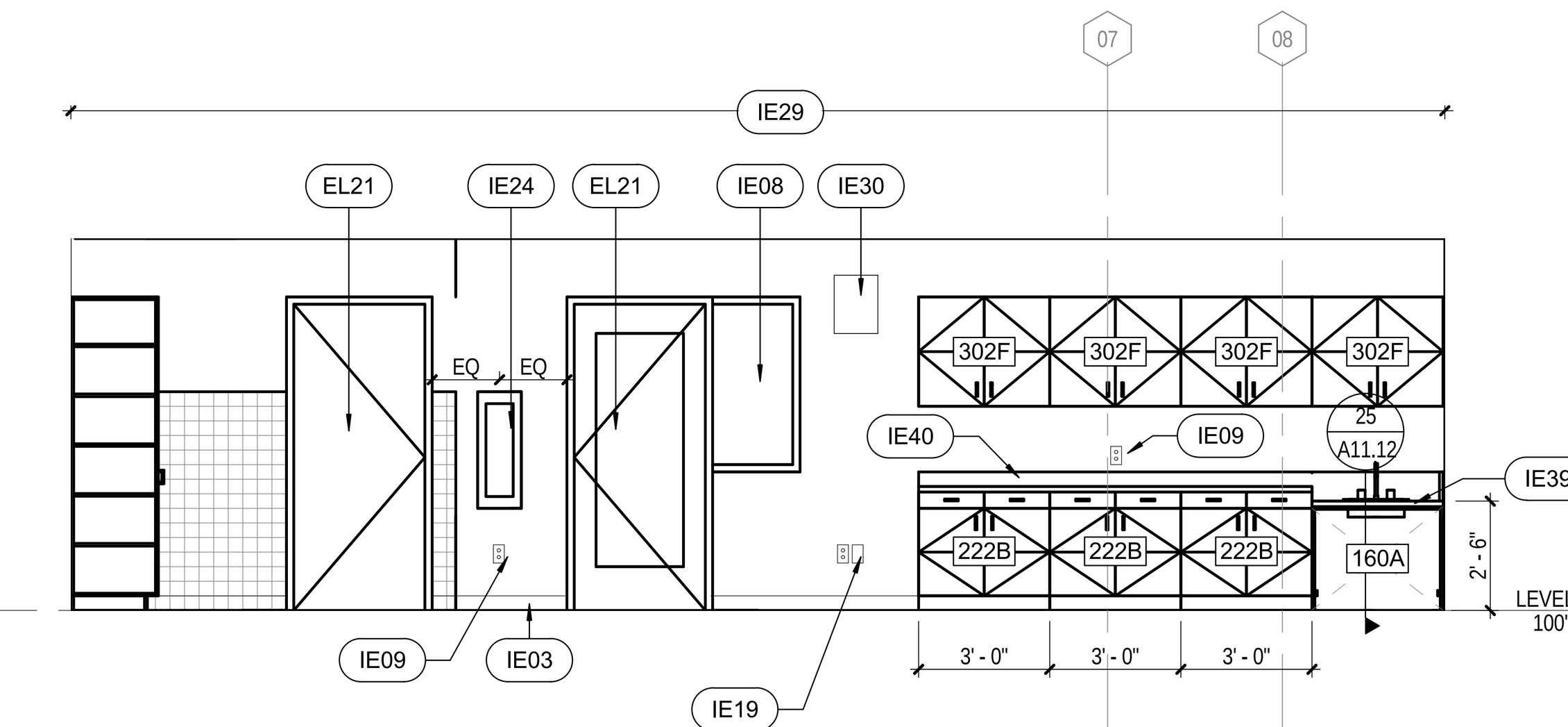
4 A2.22 WEST ELEVATION - K CLASSROOM 106
SCALE 1/4" = 1'-0"



5 A2.22 NORTH ELEVATION - K CLASSROOM 108
SCALE 1/4" = 1'-0"

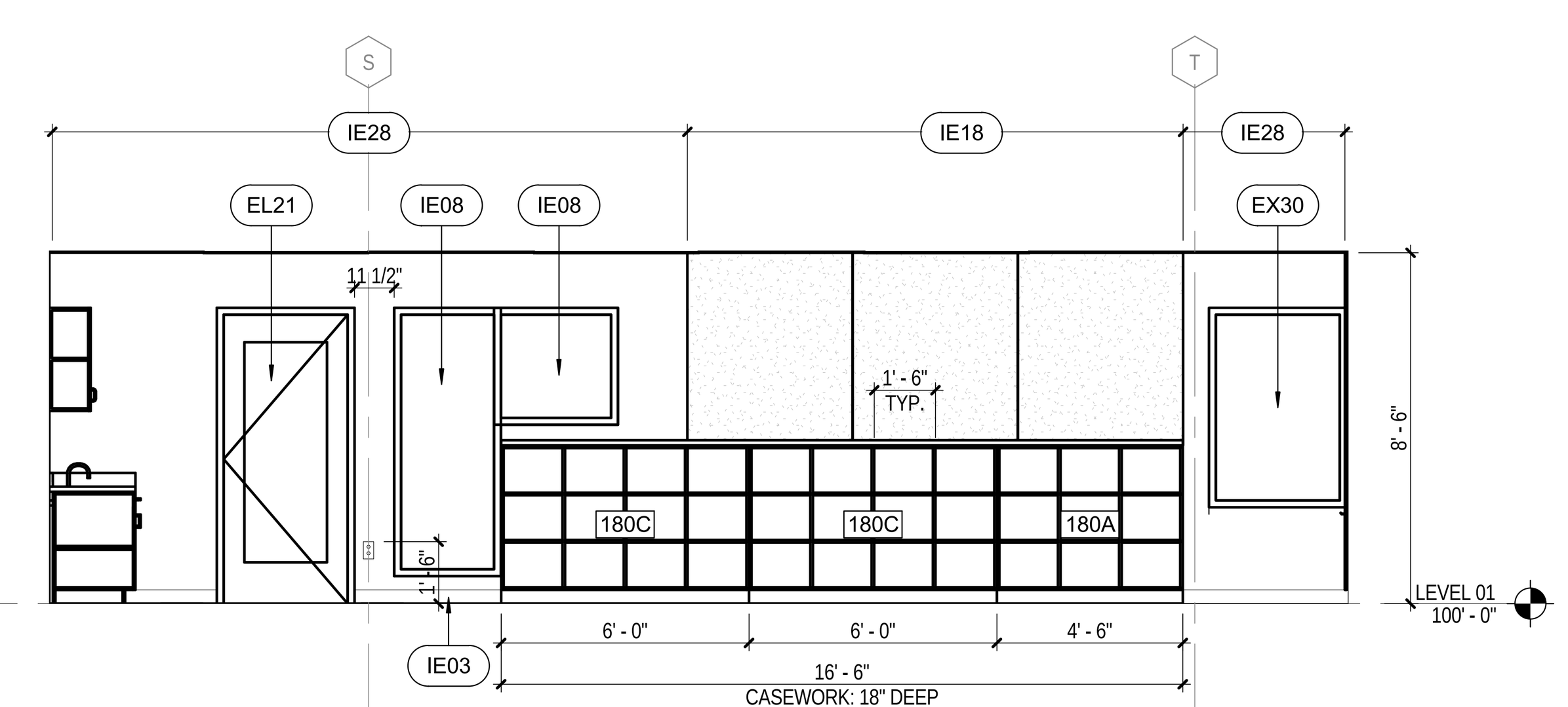


6 A2.22 EAST ELEVATION - K CLASSROOM 108
SCALE 1/4" = 1'-0"



7 A2.22 SOUTH ELEVATION - K CLASSROOM 108
SCALE 1/4" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
EL21	DOOR PER SCHEDULE
EX30	EXISTING WINDOW TO REMAIN
IE03	4" RUBBER WALL BASE
IE08	WINDOW, SEE FLOOR PLAN AND WINDOW SCHEDULE
IE09	ELECTRICAL OUTLET
IE10	8'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE11	5'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE12	WALL MOUNTED PROJECTOR, SEE ELECT. DWGS. FOR INSTALMENT SEE 16/A11.12
IE18	TACKABLE WALL SURFACE (TWC). FOR ATTACHMENT SEE 56/A11.12
IE19	DATA OUTLET
IE23	AUDIO VISUAL CONTROL PANEL, SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION
IE24	SEMI-RECESSED FIRE EXTINGUISHER CABINET
IE28	PAINT (BASE COLOR)
IE29	PAINT (ACCENT COLOR)
IE30	WALL MOUNTED CLOCK/SPEAKER UNIT
IE39	SOLID SURFACE COUNTERTOP/ PLAM BACKSPLASH AT SINK
IE40	PLAM COUNTERTOP/ BACKSPLASH AT WORK COUNTERS
IE41	COUNTERTOP



8 A2.22 WEST ELEVATION - K CLASSROOM 108
SCALE 1/4" = 1'-0"

ADD-A

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS.

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.
2. BASE CABINET IS 24" DEEP, U.O.N.
3. WALL HUNG CABINET IS 15" DEEP, U.O.N.
4. TALL STORAGE CABINET IS 24" DEEP, U.O.N.
5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.
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12. SEE FINISH SCHEDULE FOR INTERIOR MATERIAL FINISH LIST.
13. DASHED ITEMS ARE NOT IN SCOPE.
14. NOT ALL FINISHES ARE SHOWN, SEE ROOM FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL INFORMATION.

Casework Schedule	
Model	Type
160A	36 W X 30 H X 24 D
160B	36 W X 34 H X 24 D
162M	36 W x 34 H x 24 D
180A	54 W X 32 H X 18 D
180B	72 W X 32 H X 24 D
180C	72 W X 46 H X 18 D
211A	18 W X 34 H X 24 D
222A	24 W X 34 H X 24 D
222B	36 W X 34 H X 24 D
222C	42 W X 30 H X 24 D
230	24 W X 21 1/2 H X 28 D 2
254	42 W X 30 H X 24 D
300	300 - 12W X 30 H x 16 D
301A	18 W X 30 H X 12 D

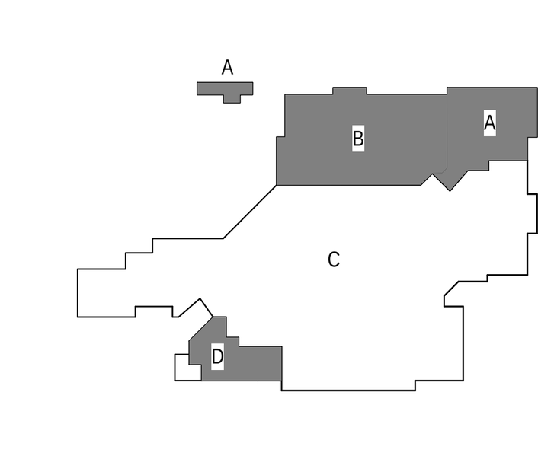
Casework Schedule	
Model	Type
301C	26 W X 34 H X 24D
302	36" x 30" x 12"
302A	24 W X 30 H X 12 D
302B	30 W X 30 H X 12 D
302C	36 W X 34 H X 24 D
302D	42 W X 34 H X 24 D
302E	42 W X 30 H X 12 D - 2'-6"
302E	42 W X 34 H X 24 D - 2'-6"
302F	36 W X 30 H X 12 D
302G	30 W X 34 H X 24 D
400+180	30 W X 56 H X 24 D
400A	26 W X 52 H X 24 D
400B	30 W X 54 H X 24 D
400C	36 W X 52 H X 24 D

Casework Schedule	
Model	Type
400D	42 W X 52 H X 24 D
400E	42 W X 26 H X 24 D
401	1'-10" WIDTH AWI 401 Tall Storage Sgl Door
402A	34 W X 86 H X 24 D
402B	36 W X 86 H X 24 D
402B	39 W X 86 H X 24 D
402C	42 W X 86 H X 24 D
446A	72 W X 54 H X 24 D

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEY PLAN



A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26840
5/31/2019
STATE OF CALIFORNIA

155 Eastshore, Irvine, CA 92604

INTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A2.22
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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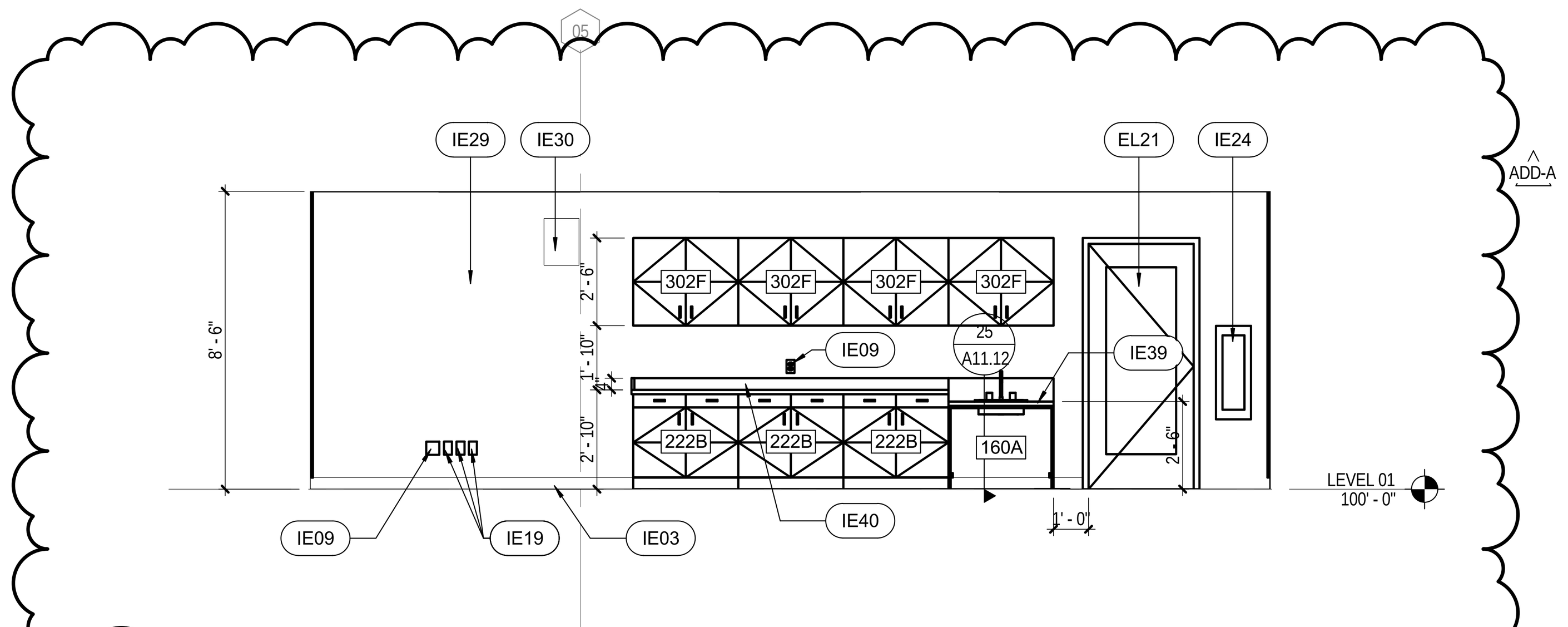
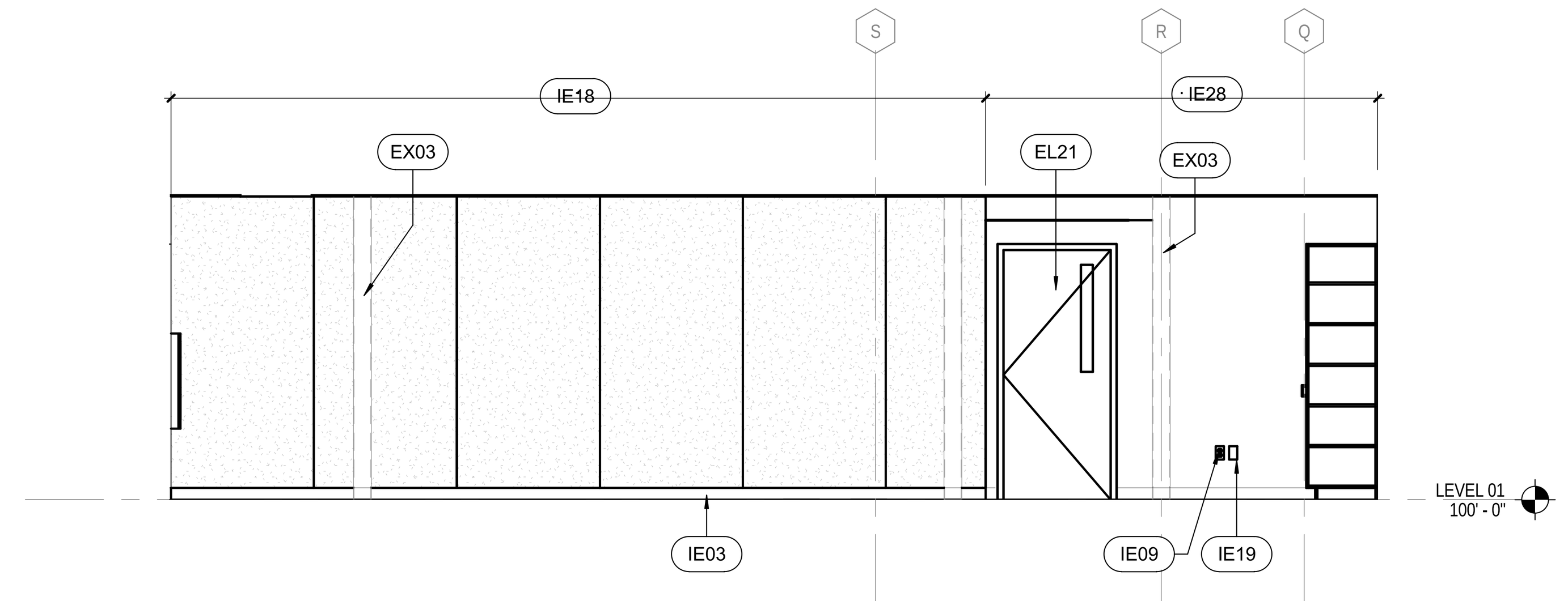
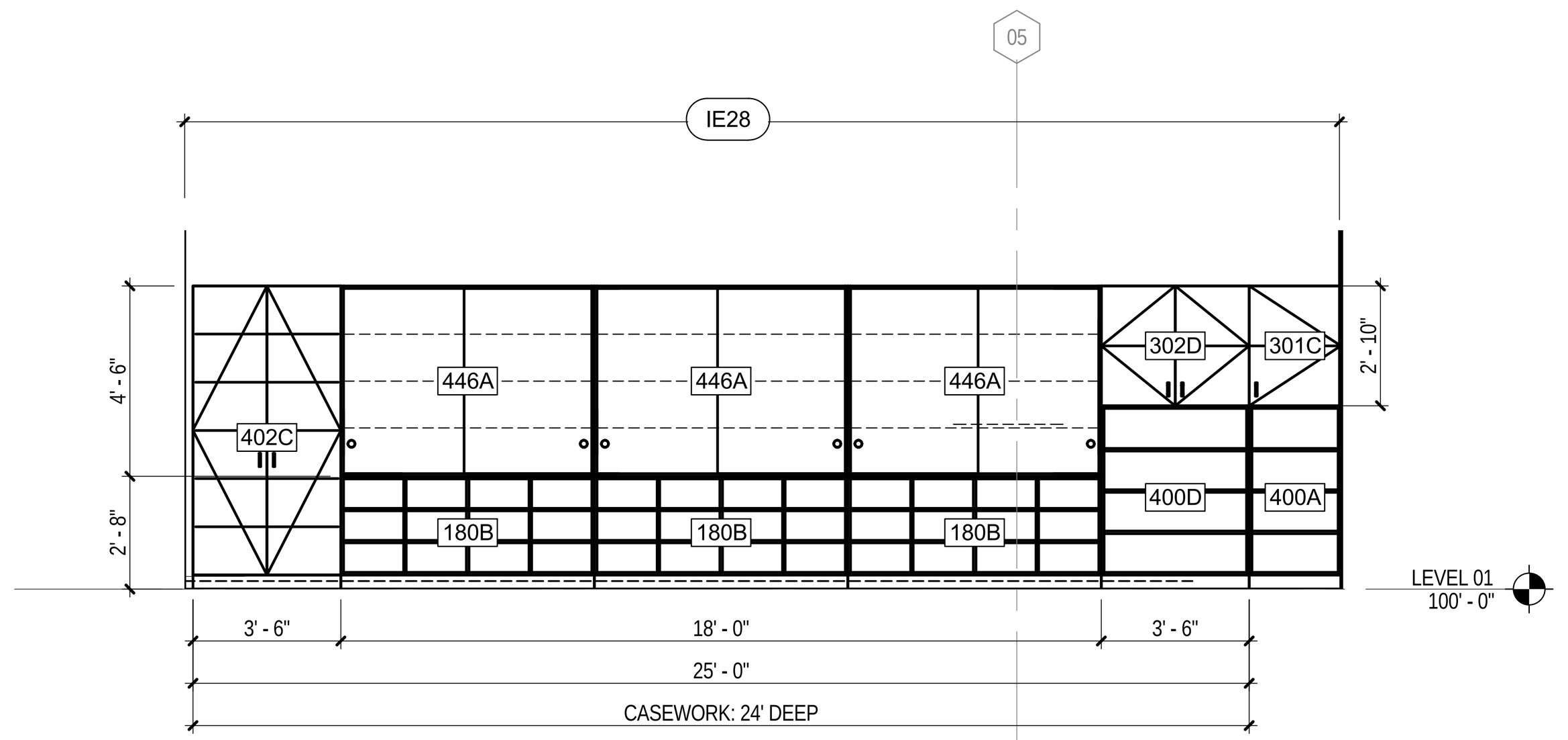


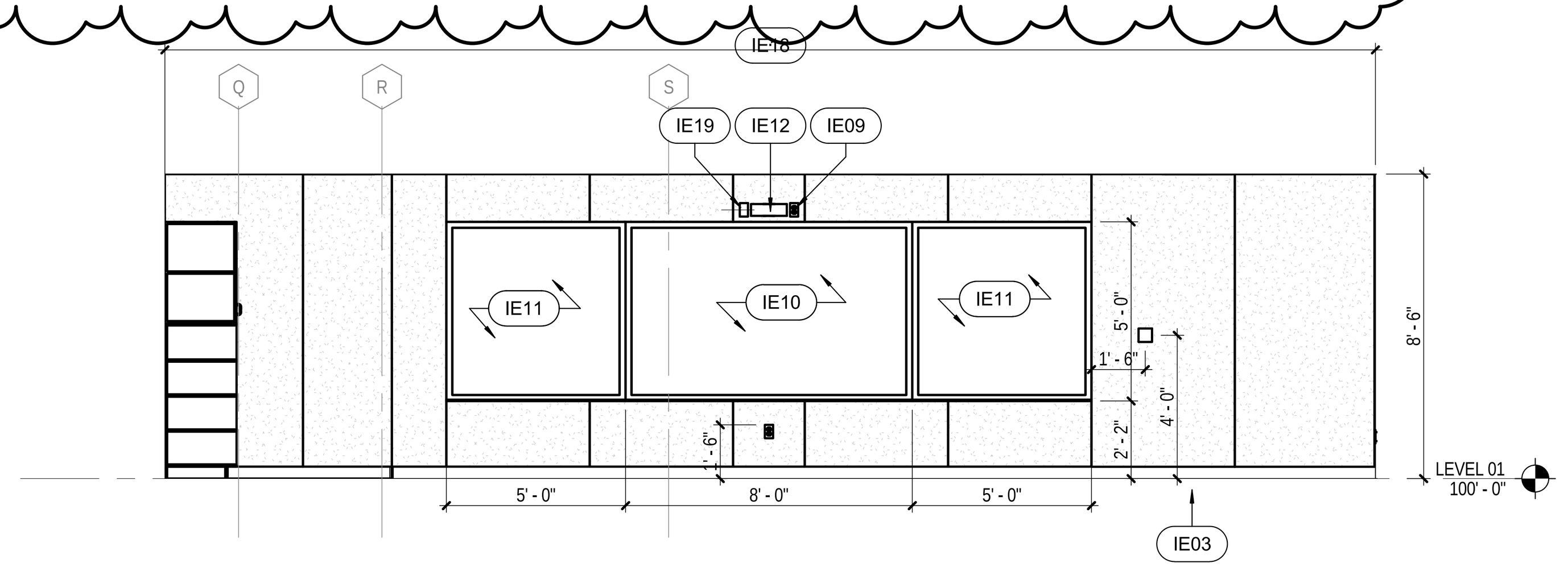
1 / A2.23 NORTH ELEVATION - CLASSROOM 109
SCALE 1/4" = 1'-0"



2 / A2.23 EAST ELEVATION - CLASSROOM 109
SCALE 1/4" = 1'-0"

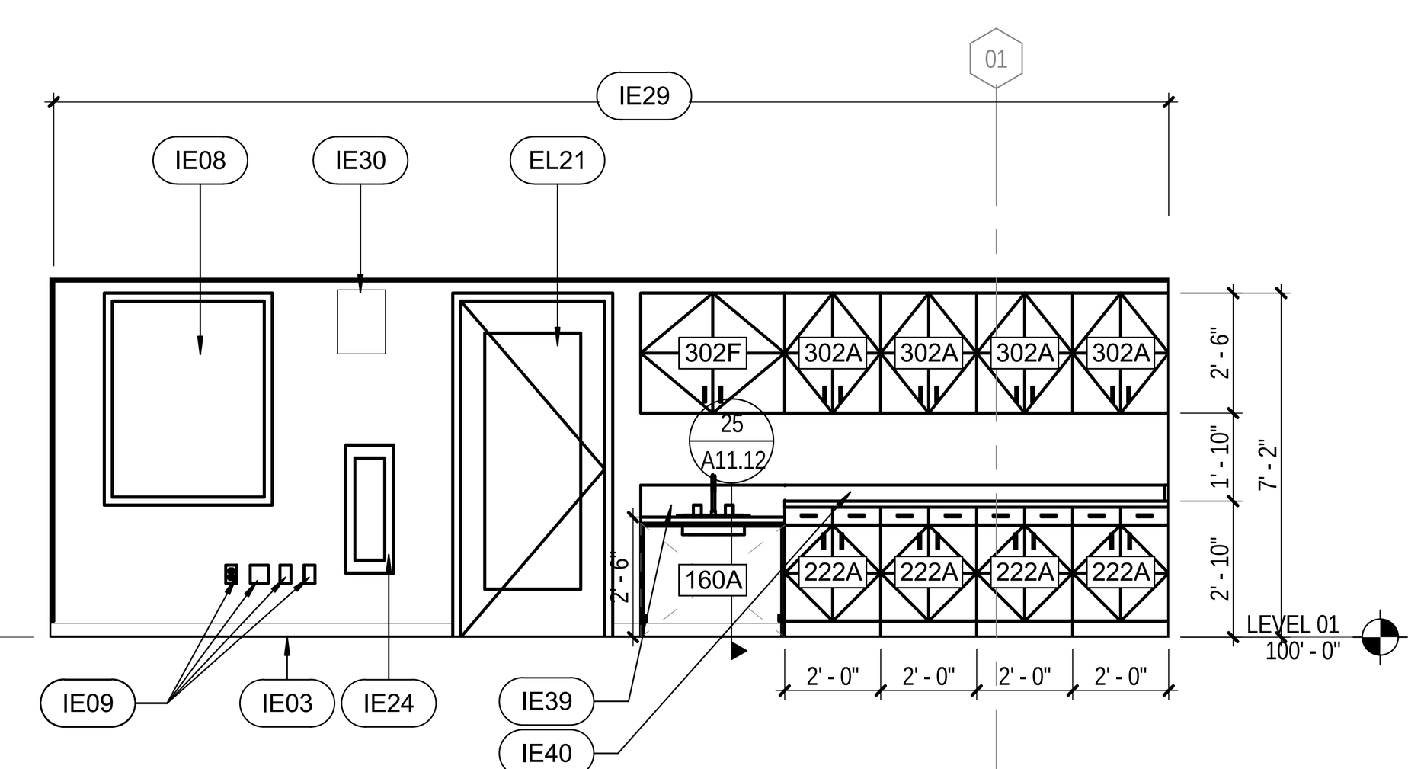


3 / A2.23 SOUTH ELEVATION - CLASSROOM 109
SCALE 1/4" = 1'-0"

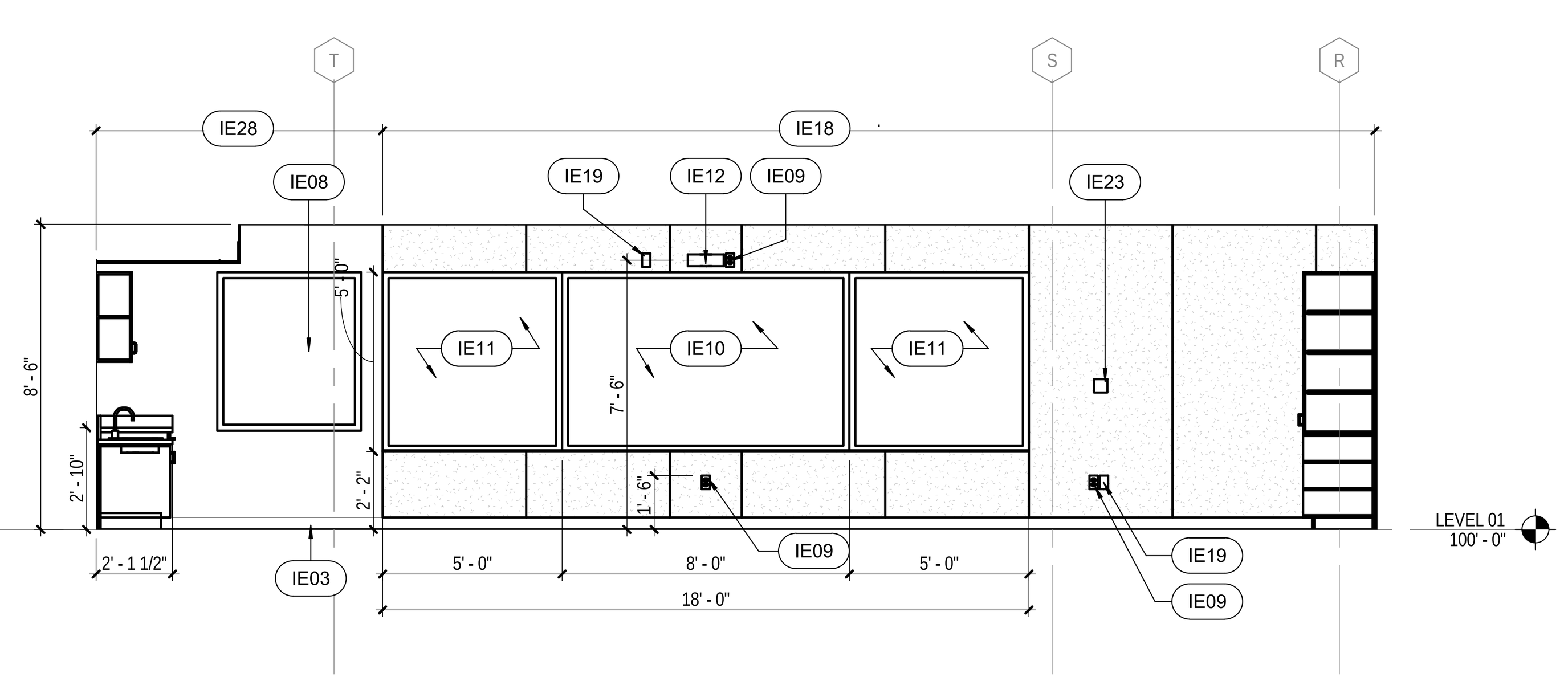


4 / A2.23 WEST ELEVATION - CLASSROOM 109
SCALE 1/4" = 1'-0"

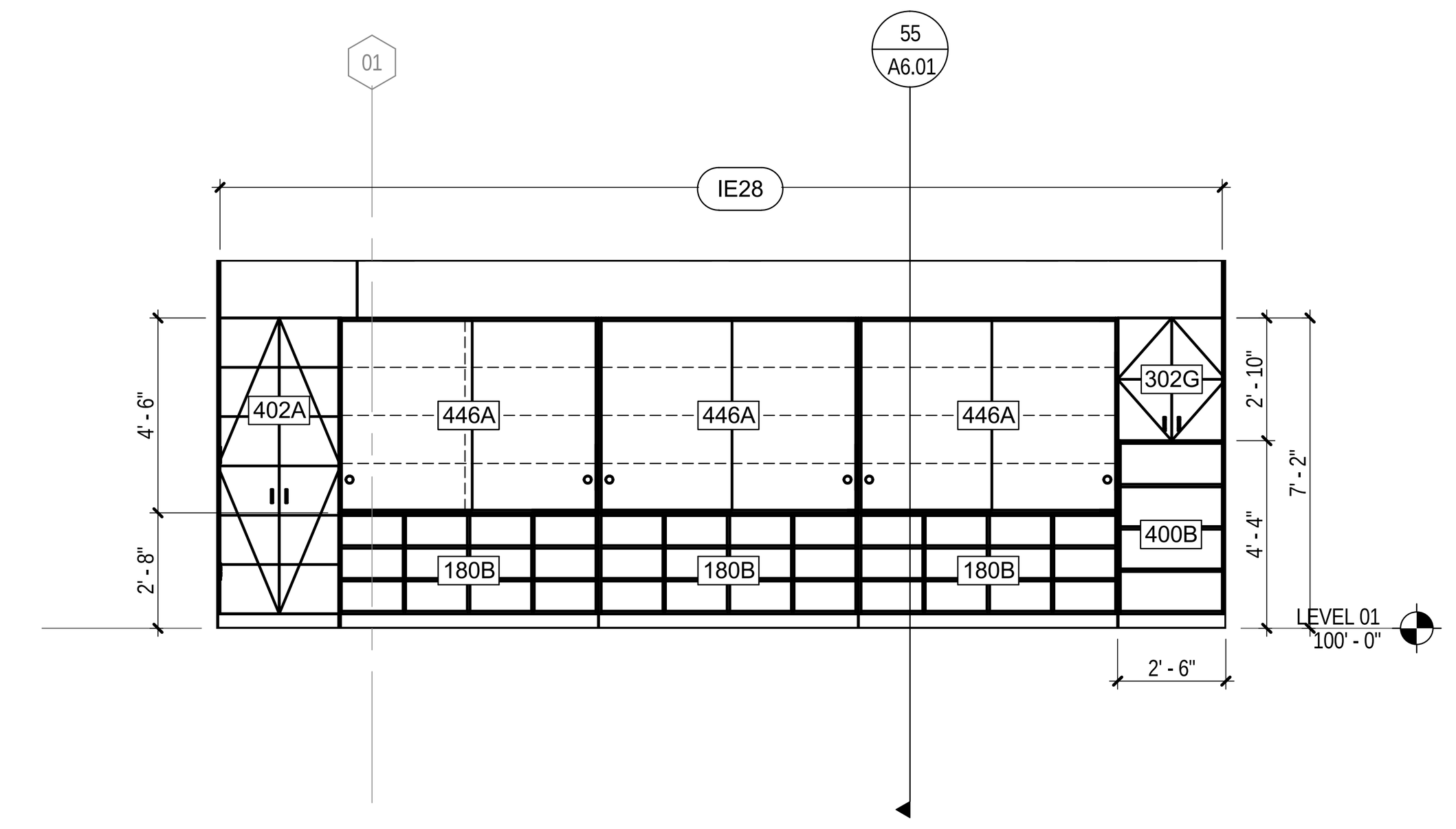
KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
EL21	DOOR PER SCHEDULE
EX03	EXISTING COLUMN TO REMAIN, CLEAN/ GRIND SMOOTH EXPOSED COLUMN, AND PAINTED ACCENT COLOR
IE03	4" RUBBER WALL BASE
IE08	WINDOW, SEE FLOOR PLAN AND WINDOW SCHEDULE
IE09	ELECTRICAL OUTLET
IE10	8'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE11	5'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE12	WALL MOUNTED PROJECTOR, SEE ELECT. DWGS. FOR INSTALMENT SEE 16/A11.12
IE18	TACKABLE WALL SURFACE (TWC). FOR ATTACHMENT SEE 56/A11.12
IE19	DATA OUTLET
IE23	AUDIO VISUAL CONTROL PANEL, SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION
IE24	SEMI-RECESSED FIRE EXTINGUISHER CABINET
IE28	PAINT (BASE COLOR)
IE29	PAINT (ACCENT COLOR)
IE30	WALL MOUNTED CLOCK/SPEAKER UNIT
IE39	SOLID SURFACE COUNTERTOP/ PLAM BACKSPLASH AT SINK
IE40	PLAM COUNTERTOP/ BACKSPLASH AT WORK COUNTERS



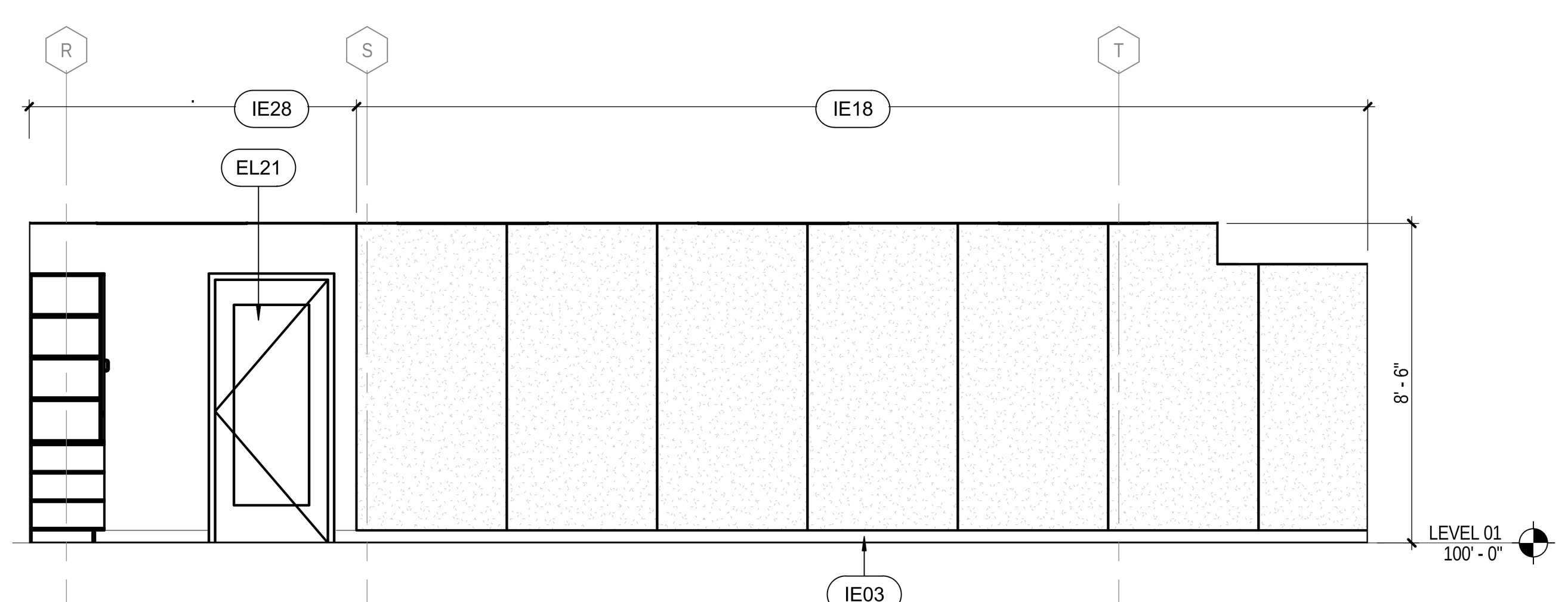
5 / A2.23 NORTH ELEVATION - CLASSROOM 119
SCALE 1/4" = 1'-0"



6 / A2.23 EAST ELEVATION - CLASSROOM 119
SCALE 1/4" = 1'-0"



7 / A2.23 SOUTH ELEVATION - CLASSROOM 119
SCALE 1/4" = 1'-0"



8 / A2.23 WEST ELEVATION - CLASSROOM 119
SCALE 1/4" = 1'-0"

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS.

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.
2. BASE CABINET IS 24" DEEP, U.O.N.
3. WALL HUNG CABINET IS 15" DEEP, U.O.N.
4. TALL STORAGE CABINET IS 24" DEEP, U.O.N.
5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.
6. WHERE ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE FINISHED OPENINGS. COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL CONTRACTOR.
7. PROVIDE JOINT SEALANT AT PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK, AND MILLWORK ABUT WALLS.
8. V.I.F. DIMENSIONS OF CABINET LOCATIONS IN BUILDING PRIOR TO FABRICATION.
9. PROVIDE LOCKS AT DOORS AND DRAWERS.
10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.
11. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.
12. SEE FINISH SCHEDULE FOR INTERIOR MATERIAL FINISH LIST.
13. DASHED ITEMS ARE NOT IN SCOPE.
14. NOT ALL FINISHES ARE SHOWN, SEE ROOM FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL INFORMATION.

Casework Schedule	
Model	Type
160A	36 W X 30 H X 24 D
160B	36 W X 34 H X 24 D
162M	36 W x 34 H x 24 D
180A	54 W X 32 H X 18 D
180B	72 W X 32 H X 24 D
180C	72 W X 46 H X 18 D
211A	18 W X 34 H X 24 D
222A	24 W X 34 H X 24 D
222B	36 W X 34 H X 24 D
222C	42 W X 30 H X 24 D
230	24 W X 21 1/2 H X 28 D 2
254	42 W X 30 H X 24 D
300	300 - 12W X 30 H x 16 D
301A	18 W X 30 H X 12 D

Casework Schedule	
Model	Type
301C	26 W X 34 H X 24D
302	36" x 30" x 12"
302A	24 W X 30 H X 12 D
302B	30 W X 30 H X 24 D
302C	36 W X 34 H X 24 D
302D	42 W X 34 H X 24 D
302E	42 W X 30 H X 12 D - 2'-6"
302E	42 W X 30 H X 24 D - 2'-6"
302F	36 W X 30 H X 12 D
302G	30 W X 34 H X 24 D
400+180	30 W X 56 H X 24 D
400A	26 W X 52 H X 24 D
400B	30 W X 54 H X 24 D
400C	36 W X 52 H X 24 D

Casework Schedule	
Model	Type
400D	42 W X 52 H X 24 D
400E	42 W X 26 H X 24 D
401	1'-10" WIDTH AWI 401 Tall Storage Sgl Door
402A	34 W X 86 H X 24 D
402B	36 W X 86 H X 24 D
402B	39 W X 86 H X 24 D
402C	42 W X 86 H X 24 D
446A	72 W X 54 H X 24 D

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
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DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
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LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26450
05/31/2019
STATE OF CALIFORNIA

155 Eastshore, Irvine, CA 92604

INTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A2.23
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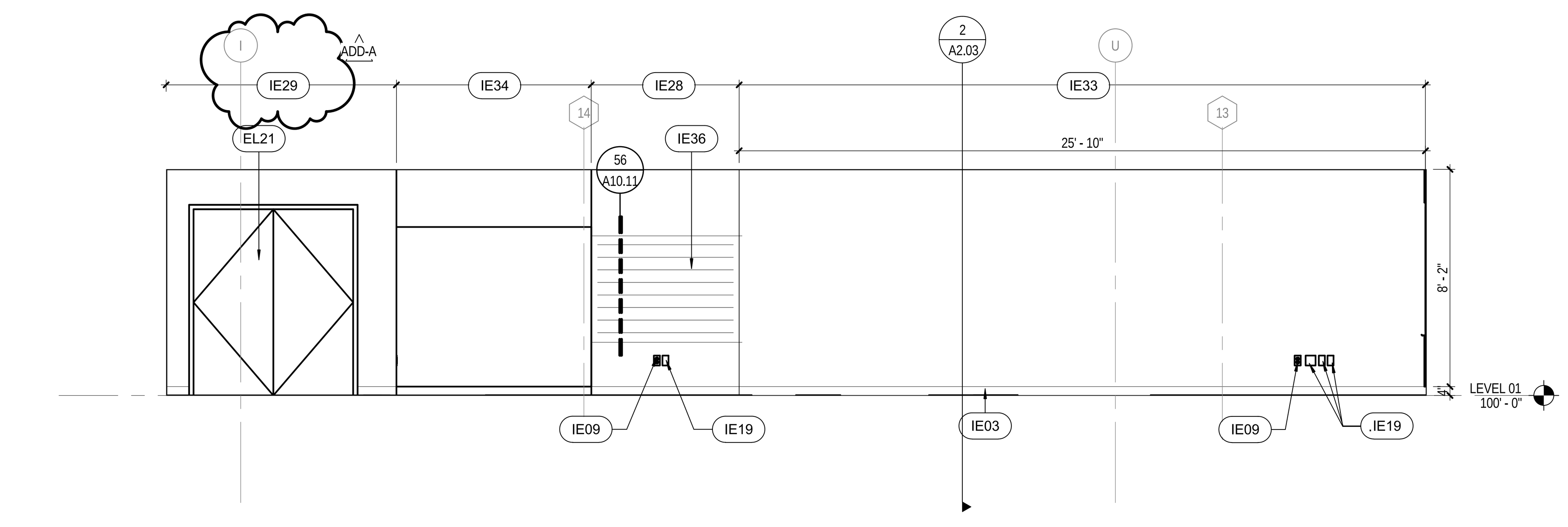
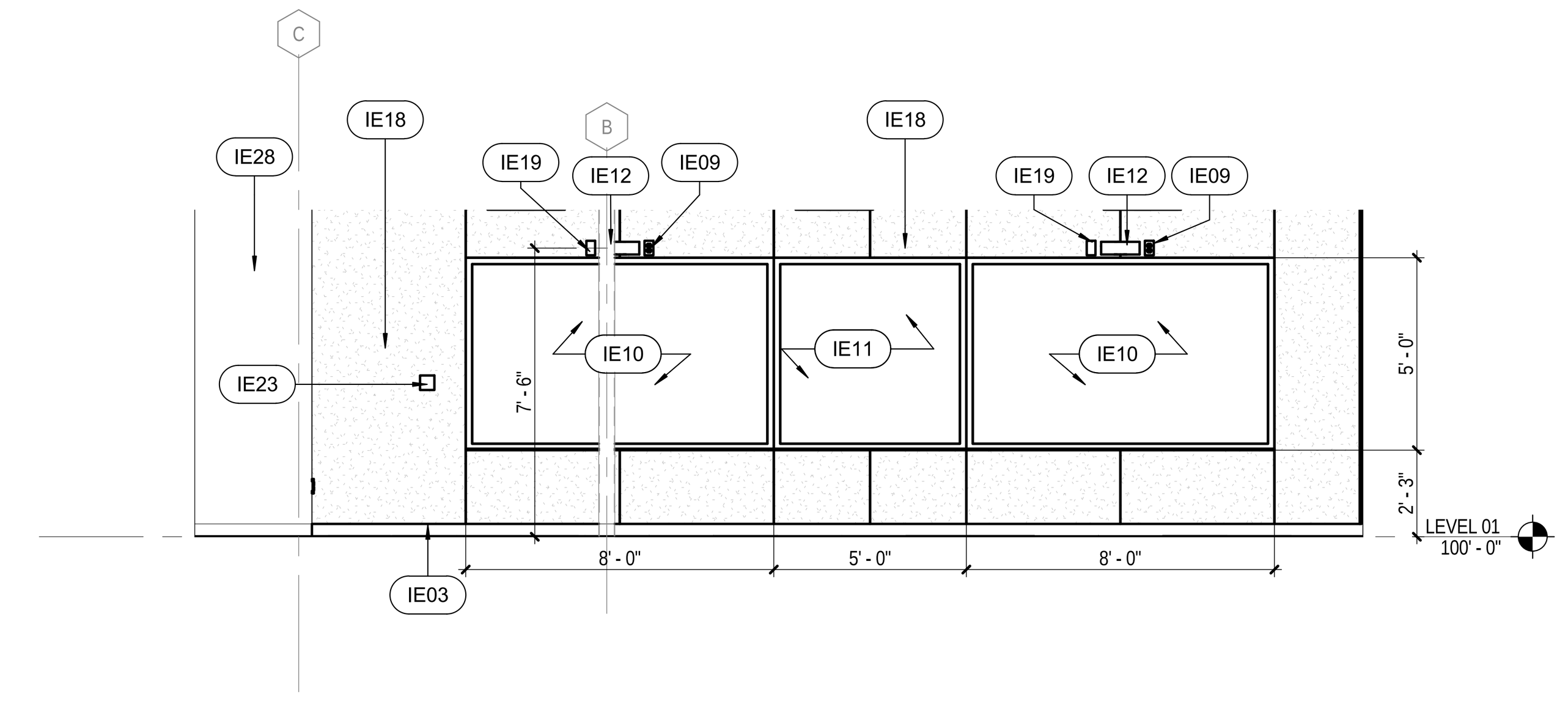
Revision
ADD-A 2/16/2018 ADDENDUM A

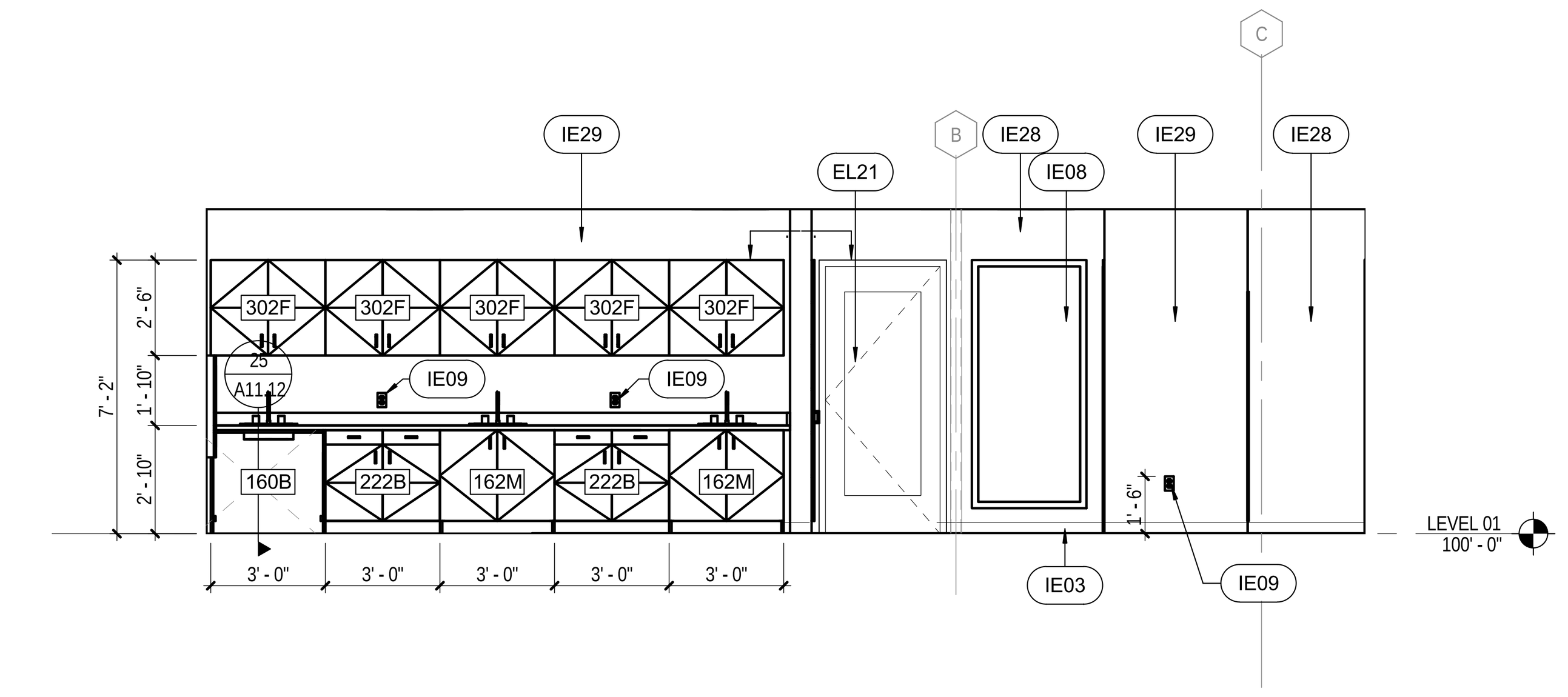
DLR Group
Architecture Engineering Planning Interiors



1 A2.24 DESIGN LAB 104 - 1
SCALE 1/4" = 1'-0"



2 A2.24 DESIGN LAB 104 - 2
SCALE 1/4" = 1'-0"



4 A2.24 DESIGN LAB 104 - 4
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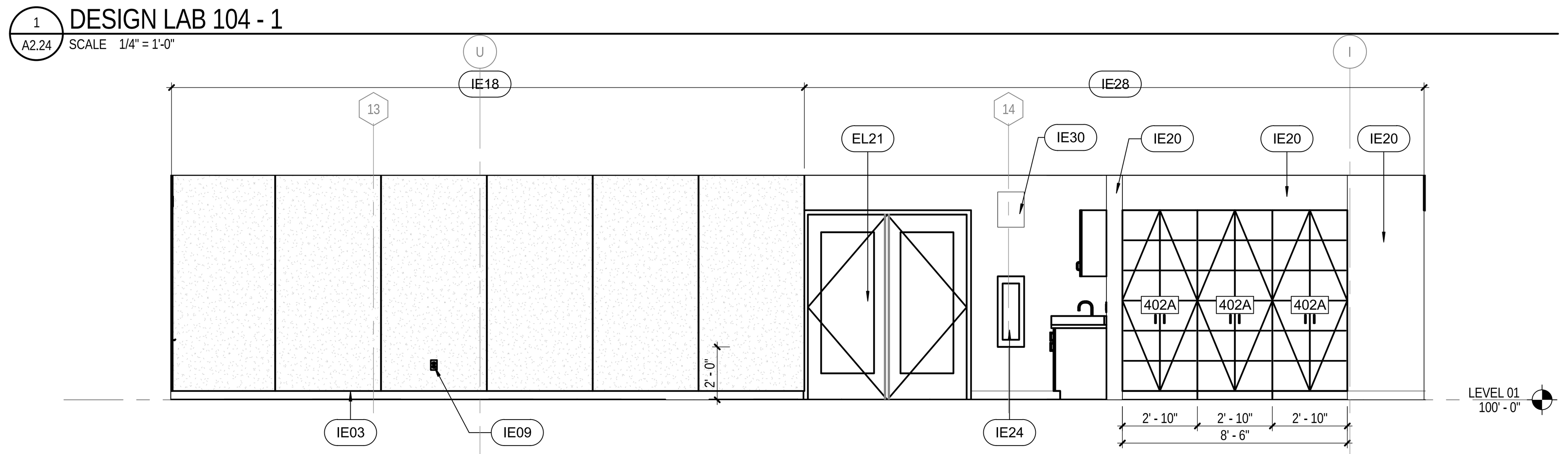

3 A2.24 DESIGN LAB 104 - 3
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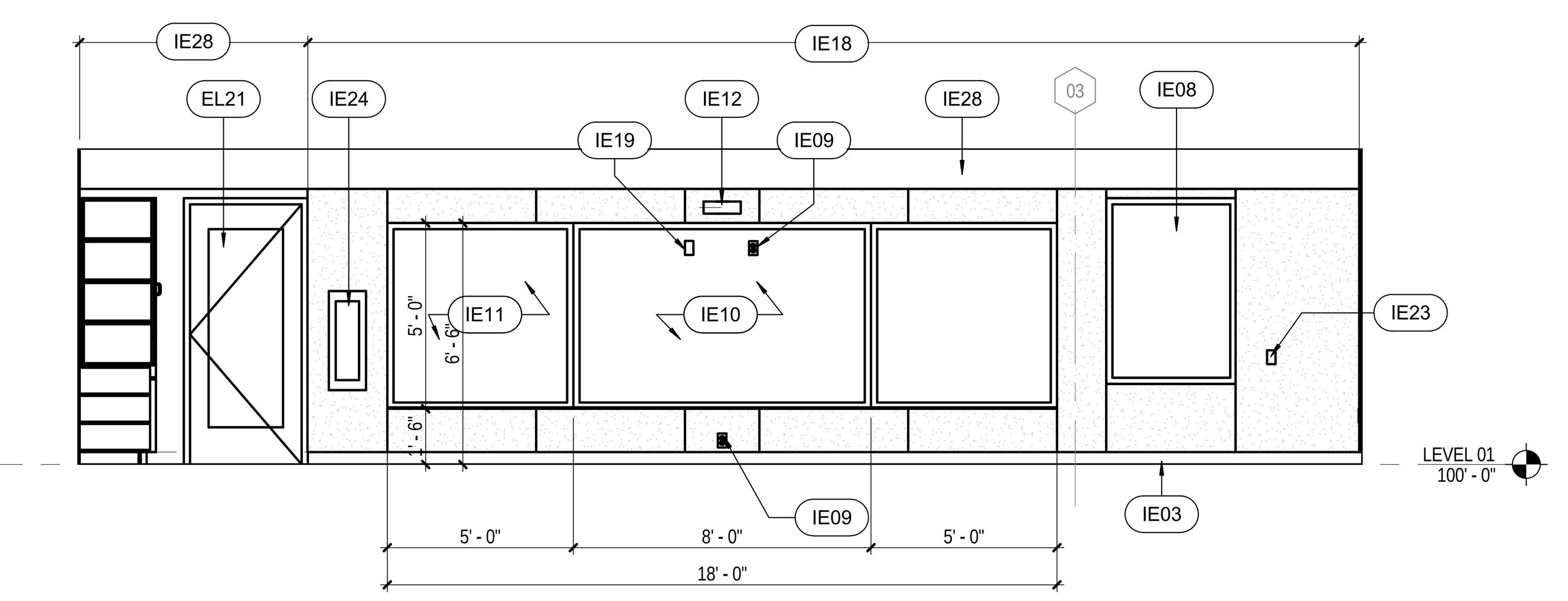
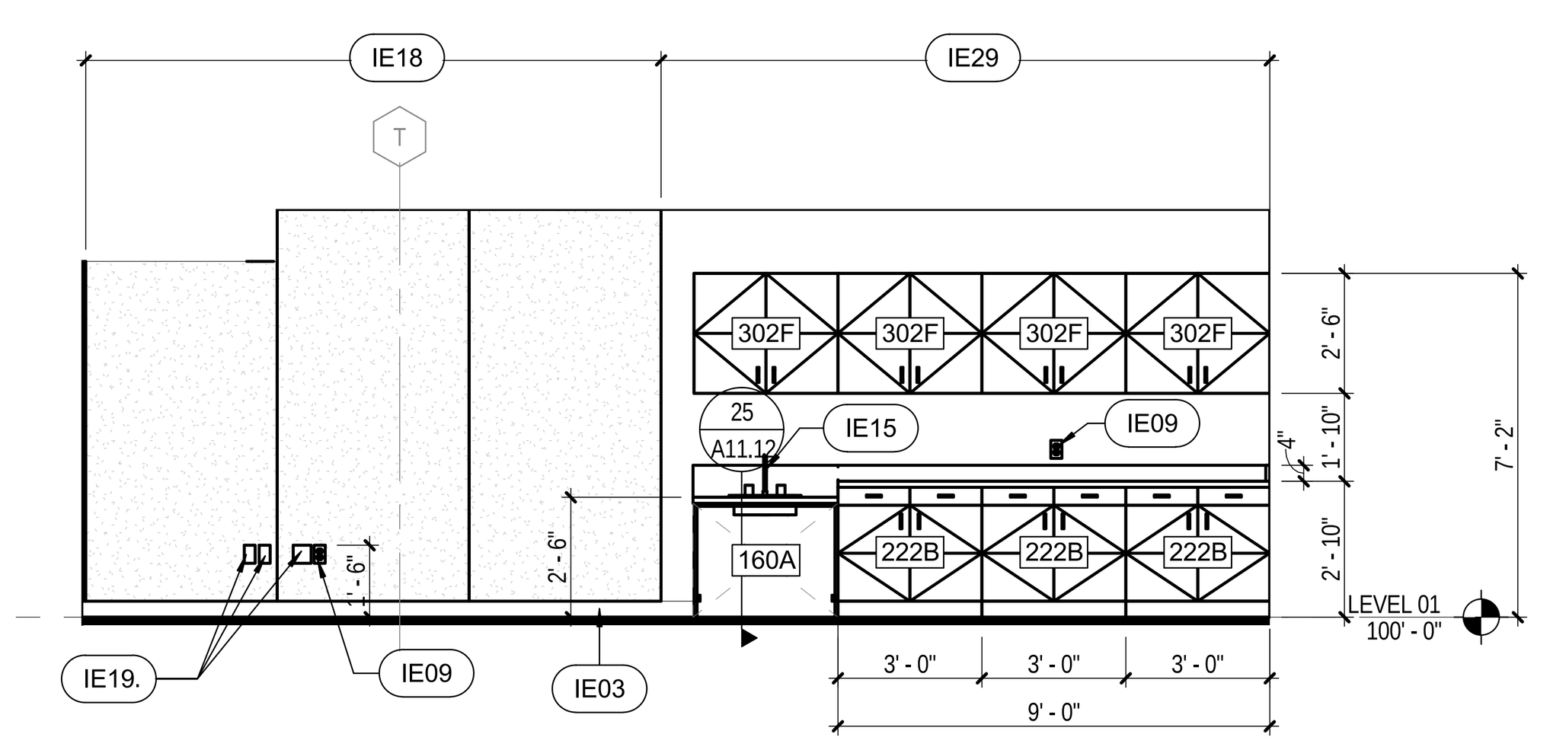
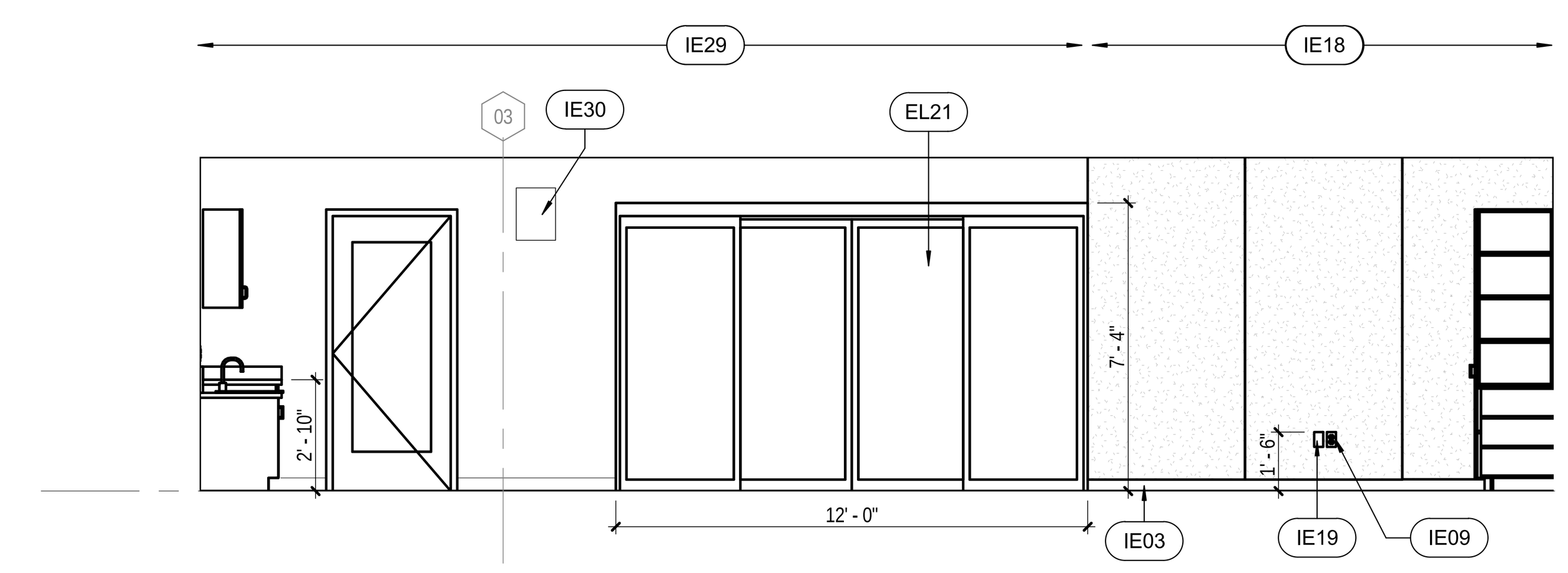


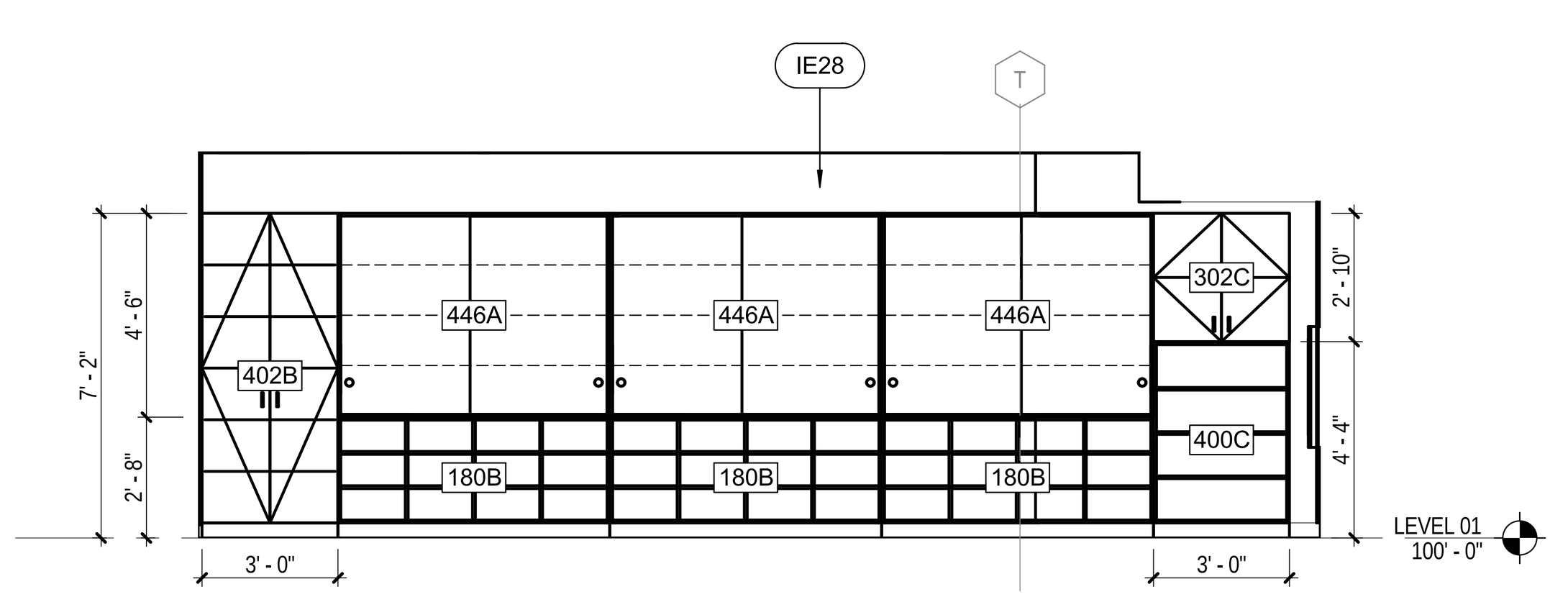
5 A2.24 NORTH ELEVATION - CLASSROOM 118
SCALE 1/4" = 1'-0"



6 A2.24 EAST ELEVATION - CLASSROOM 118
SCALE 1/4" = 1'-0"



7 A2.24 SOUTH ELEVATION - CLASSROOM 118
SCALE 1/4" = 1'-0"



8 A2.24 WEST ELEVATION - CLASSROOM 118
SCALE 1/4" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
EL21	DOOR PER SCHEDULE
IE03	4" RUBBER WALL BASE
IE08	WINDOW, SEE FLOOR PLAN AND WINDOW SCHEDULE
IE09	ELECTRICAL OUTLET
IE10	8'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE11	5'X5' MARKER BOARD/TACK BOARD, FOR ATTACHMENT TO WALL, SEE DETAIL 36/A11.12
IE12	WALL MOUNTED PROJECTOR, SEE ELECT. DWGS. FOR INSTALMENT SEE 16/A11.12
IE15	PLUMBING FIXTURE, SEE PLUMBING DRAWINGS
IE18	TACKABLE WALL SURFACE (TWC). FOR ATTACHMENT SEE 56/A11.12
IE19	DATA OUTLET
IE20	VINYL WALL COVERING (VWC)
IE23	AUDIO VISUAL CONTROL PANEL, SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION
IE24	SEMI-RECESSED FIRE EXTINGUISHER CABINET
IE28	PAINT (BASE COLOR)
IE29	PAINT (ACCENT COLOR)
IE30	WALL MOUNTED CLOCK/SPEAKER UNIT
IE33	DIGITALLY PRINTED VINYL WALL COVERING - KOROSEAL
IE34	DRY ERASE MARKER PAINT
IE36	SLAT WALL

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS.

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.

2. BASE CABINET IS 24" DEEP, U.O.N.

3. WALL HUNG CABINET IS 15" DEEP, U.O.N.

4. TALL STORAGE CABINET IS 24" DEEP, U.O.N.

5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.

6. WHERE ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE FINISHED OPENINGS. COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL CONTRACTOR.

7. PROVIDE JOINT SEALANT AT PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK, AND MILLWORK ABUT WALLS.

8. V.I.F. DIMENSIONS OF CABINET LOCATIONS IN BUILDING PRIOR TO FABRICATION.

9. PROVIDE LOCKS AT DOORS AND DRAWERS.

10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.

11. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.

12. SEE FINISH SCHEDULE FOR INTERIOR MATERIAL FINISH LIST.

13. DASHED ITEMS ARE NOT IN SCOPE.

14. NOT ALL FINISHES ARE SHOWN, SEE ROOM FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL INFORMATION.

Casework Schedule

Model	Type
160A	36 W X 30 H X 24 D
160B	36 W X 34 H X 24 D
162M	36 W x 34 H x 24 D
180A	54 W X 32 H X 18 D
180B	72 W X 32 H X 24 D
180C	72 W X 46 H X 18 D
211A	18 W X 34 H X 24 D
222A	24 W X 34 H X 24 D
222B	36 W X 34 H X 24 D
222C	42 W X 30 H X 24 D
230	24 W X 21 1/2 H X 28 D 2
254	42 W X 30 H X 24 D
300	300 - 12W X 30 H x 16 D
301A	18 W X 30 H X 12 D

Casework Schedule

Model	Type
301C	26 W X 34 H X 24D
302	36" x 30" x 12"
302A	24 W X 30 H X 12 D
302B	30 W X 30 H X 24 D
302C	36 W X 34 H X 24 D
302D	42 W X 34 H X 24 D
302E	42 W X 30 H X 12 D - 2'-6"
302E	42 W X 30 H X 24 D - 2'-6"
302F	36 W X 30 H X 12 D
302G	30 W X 34 H X 24 D
400+180	30 W X 56 H X 24 D
400A	26 W X 52 H X 24 D
400B	30 W X 54 H X 24 D
400C	36 W X 52 H X 24 D

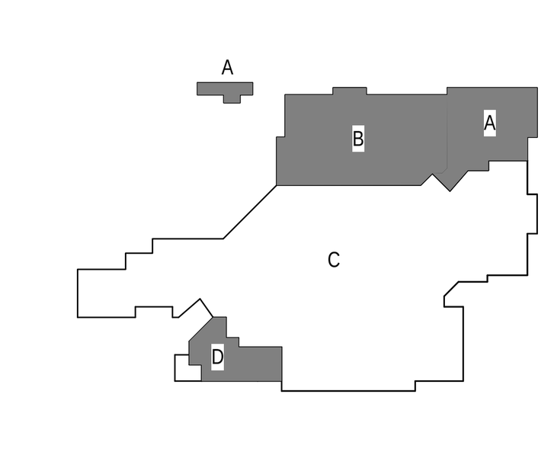
Casework Schedule

Model	Type
400D	42 W X 52 H X 24 D
400E	42 W X 26 H X 24 D
401	1'-10" WIDTH AWI 401 Tall Storage Sgl Door
402A	34 W X 86 H X 24 D
402B	36 W X 86 H X 24 D
402B	39 W X 86 H X 24 D
402C	42 W X 86 H X 24 D
446A	72 W X 54 H X 24 D

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEY PLAN



A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

155 Eastshore, Irvine, CA 92604

INTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A2.24
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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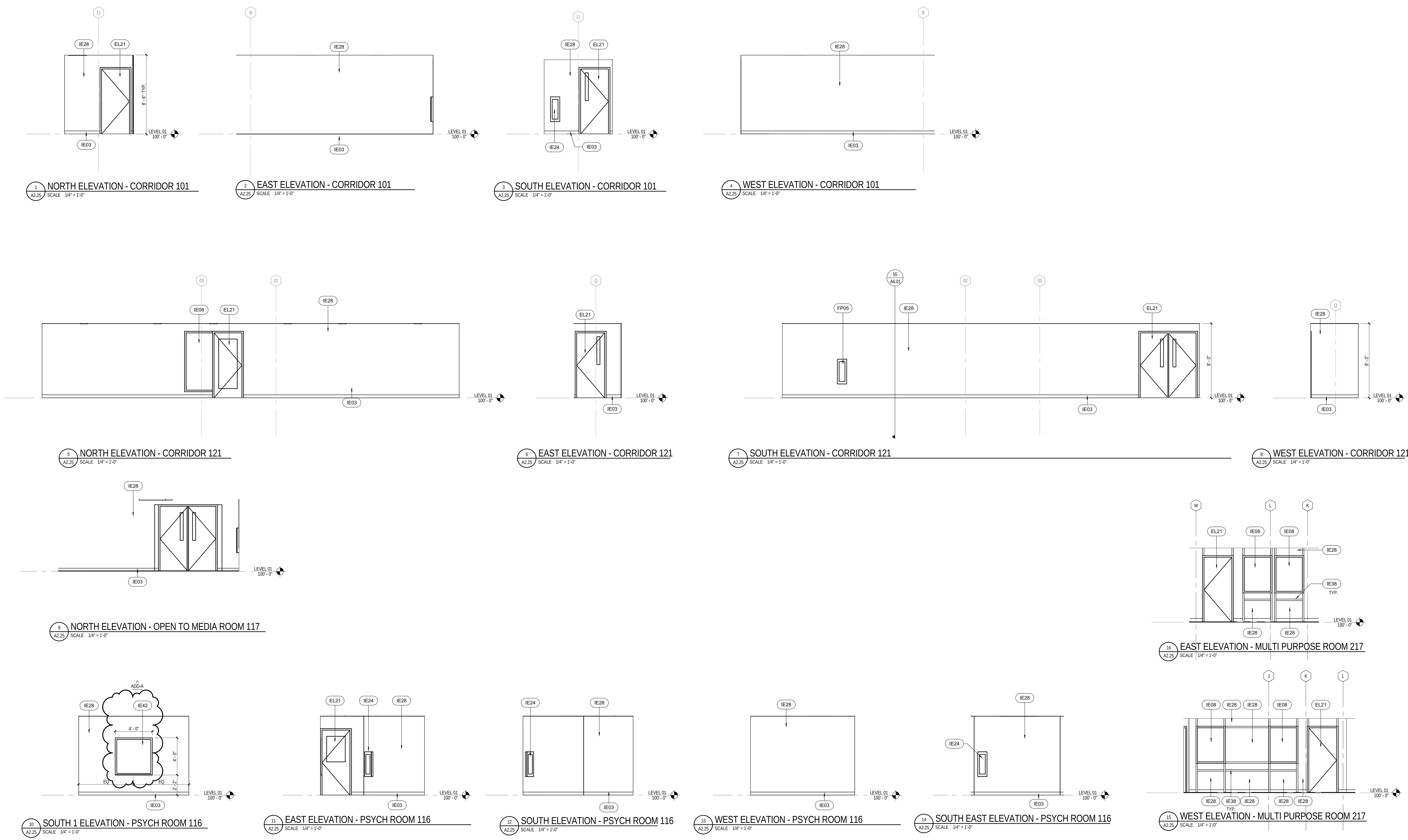
A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ________________

FILE NO.: 30-48



SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS.

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.
2. BASE CABINET IS 24" DEEP, U.O.N.
3. WALL HUNG CABINET IS 15" DEEP, U.O.N.
4. TALL STORAGE CABINET IS 24" DEEP, U.O.N.
5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.
6. WHERE ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE FINISHED OPENINGS. COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL CONTRACTOR.
7. PROVIDE JOINT SEALANT AT PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK, AND MILLWORK ABUT WALLS.
8. V.I.F. DIMENSIONS OF CABINET LOCATIONS IN BUILDING PRIOR TO FABRICATION.
9. PROVIDE LOCKS AT DOORS AND DRAWERS.
10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.
11. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.
12. SEE FINISH SCHEDULE FOR INTERIOR MATERIAL FINISH LIST.
13. DASHED ITEMS ARE NOT IN SCOPE.
14. NOT ALL FINISHES ARE SHOWN, SEE ROOM FINISH SCHEDULE AND FINISH PLANS FOR ADDITIONAL INFORMATION.

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEYNOTE LEGEND

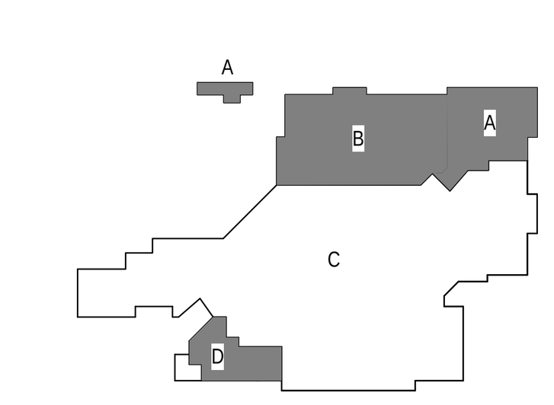
KEY VALUE	KEYNOTE TEXT
EL21	DOOR PER SCHEDULE
FP05	FIRE EXTINGUISHER, COORDINATE WITH EQUIPMENT LOCATION, LOCATE FEC WHERE SPACE IS AVAILABLE, V.I.F.
IE03	4" RUBBER WALL BASE
IE08	WINDOW, SEE FLOOR PLAN AND WINDOW SCHEDULE
IE24	SEMI-RECESSED FIRE EXTINGUISHER CABINET

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
IE28	PAINT (BASE COLOR)
IE38	WOOD TRIM
IE42	4'X4' MARKER BOARD, TYP. SEE DTL. 36/A11.12

ADD-A

KEY PLAN



155 Eastshore, Irvine, CA 92604

INTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A2.25
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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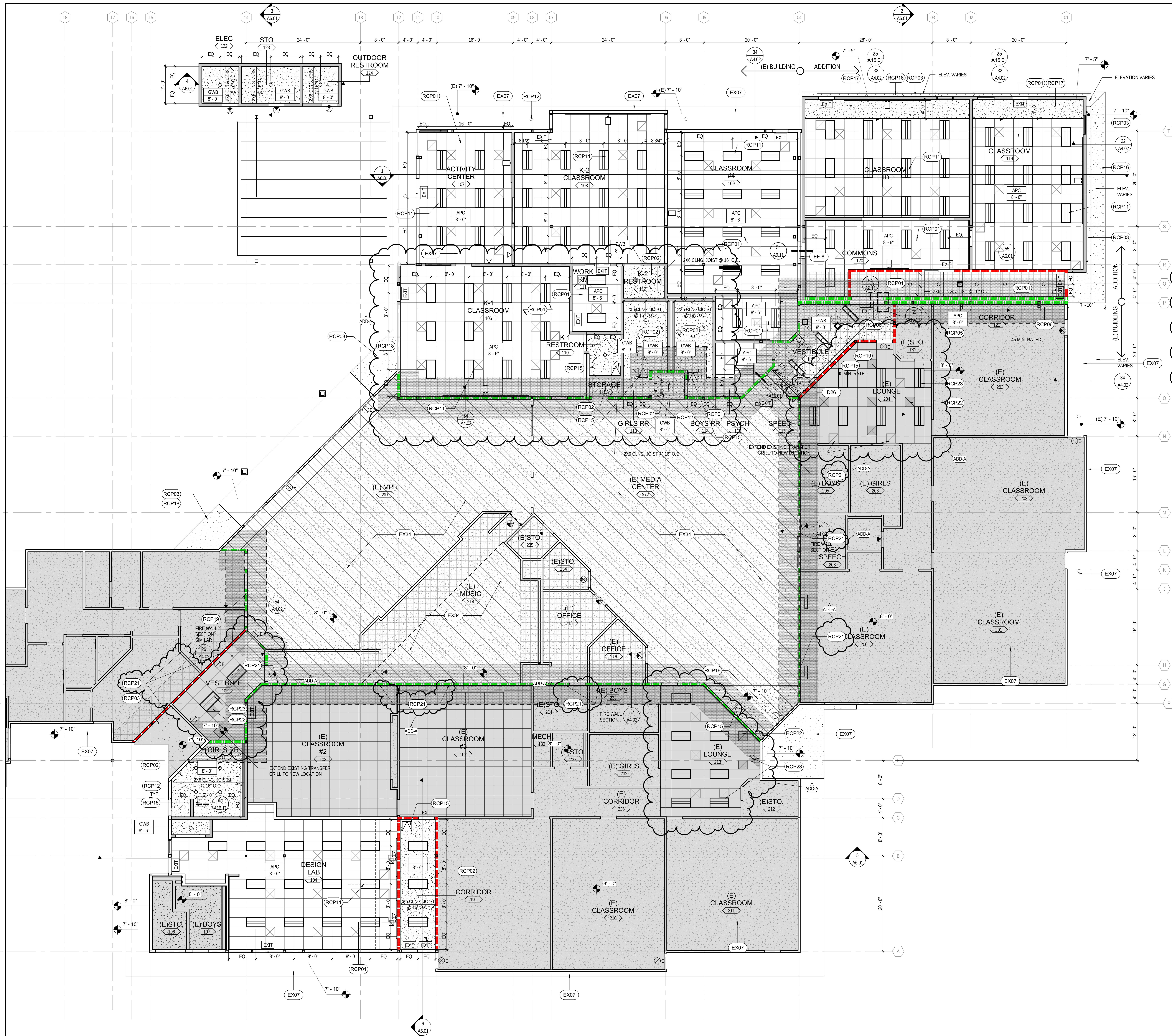

REFLECTED CEILING PLAN
SCALE 1/8" = 1'-0"

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KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
D26	REMOVE EXISTING LIGHTING FIXTURE
EF-8	EXTERIOR CEMENT PLASTER O/ PAPER-BACKED METAL LATH
EX07	EXISTING CEILING TO REMAIN
EX34	(E) 5/8" TYPE 'X' GYPSUM BOARD AT UNDERSIDE OF ROOF STRUCTURE.
RCP01	2'X4' SUSPENDED ACOUSTIC CEILING TILE
RCP02	GYPSUM BOARD CEILING
RCP03	EXTERIOR CEMENT PLASTER CEILING
RCP05	PATCH AND REPAIR (E) CEILING, FINISH TO MATCH EXISTING
RCP06	AUTOMATIC ROLL DOWN DOOR
RCP08	EXPANSION JOINT COVER
RCP11	2'X4' RECESSED LED LINEAR LIGHT FIXTURE
RCP12	RECESSED DOWN LIGHT
RCP15	CEILING ACCESS PANEL
RCP16	4" WIDE ATTIC VENTILATION
RCP17	GYPSUM BOARD SOFFIT
RCP18	FIRE RATED EXTERIOR CEILING
RCP19	FIRE RATED INTERIOR CEILING (1 HOUR)
RCP21	AT NEW FIREWALL LOCATIONS, MODIFY AND/OR RECONSTRUCT (E) CEILING TO MATCH EXISTING FRAMING, MATERIAL AND FINISH.
RCP22	INSTALL NEW REGISTERS, EXTEND DUCT AND RECONNECT TO EXISTING MECHANICAL SYSTEM
RCP23	INSTALL NEW LIGHTING FIXTURES AND RECONNECT TO EXISTING LIGHTING CIRCUITS. REINSTALL, RECONNECT AND REINSTATE ALL ILLUMINATED SIGNS, SENSORS AND RELATED ITEMS TO EXISTING CIRCUITRY.

ADD-A

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

REFLECTED CEILING PLAN NOTES:

1. CEILING GRIDS/PANELS SHALL BE CENTERED IN EACH ROOM UNLESS NOTED OTHERWISE.
2. CEILING HEIGHTS ARE AS NOTED ON THE REFLECTED CEILING PLAN UNLESS NOTED OTHERWISE.
3. ELECTRICAL FIXTURES, SPEAKERS, SMOKE AND THERMAL DETECTORS, MECHANICAL GRILLES, SPRINKLER HEADS, ETC.. SHALL BE CENTERED BETWEEN CEILING GRIDS UNLESS NOTED OTHERWISE. SPRINKLER HEADS SHALL BE WITHIN A 3" RADIUS CENTERED BETWEEN CEILING GRIDS. SHALL ALIGN ON CENTER, AND BE CENTERED BETWEEN LIGHT FIXTURES IN HARD LID CEILINGS AND EXPOSED CEILINGS UNLESS NOTED OTHERWISE.
4. PROVIDE SUSPENSION SYSTEM AROUND ELECTRICAL FIXTURES, MECHANICAL GRILLES, DIFFUSERS, ETC. AT ACOUSTICAL PANEL CEILINGS.
5. ALL DIMENSIONS ON REFLECTED CEILING PLANS ARE ACTUAL AND ARE TO THE FOLLOWING UNLESS NOTED OTHERWISE:
   1. FACE OF FINISHED WALL
   2. FACE OF FINISHED BULKHEADS
   3. CENTERLINE OF COLUMNS
   4. CENTERLINE OF TEES
6. LIGHTING FIXTURES TO BE CENTERED IN ROOM UNLESS NOTED OTHERWISE.
7. FOR LOW-LEVEL EXIT SIGN, SEE ELECTRICAL.
8. EXISTING CEILINGS OUTSIDE SCOPE OF WORK ARE NOT SHOWN. GENERAL CONTRACTOR TO VERIFY EXISTING CONDITIONS TO COORDINATE INSTALL AND RENOVATION OF FULL SCOPE OF WORK.
9. SEE FINISH SCHEDULE FOR INTERIOR MATERIALS LIST.
10. PROVIDE ACCESS PANELS FOR ACCESS TO ALL CSFD'S, VAV'S AND OTHER UTILITIES. CONTRACTOR TO COORDINATE FRAMING, LOCATION & SUPPORT.

CEILING LEGEND

ACT-1
2X4 ACOUSTICAL CEILING TILE
CLASS A FLAME SPREAD AND MAX. 450 SMOKE DENSITY. RE: A15.01 AND A15.02

GWB
GYPSUM BOARD
FOR FRAMING SUPPORT, RE: STRUCTURAL DRAWING 15/S1.3

PLAS
PLASTER
FOR DETAILS, RE: 26/A15.01

EXISTING CEILING
N.I.C. UNLESS NOTED OTHERWISE.

4'-0" AREA EACH SIDE OF 2-HOUR WALLS SHALL BE CLEAR OF PENETRATIONS. PATCH AND RELOCATE PENETRATIONS.

EXISTING 5/8" TYPE 'X' GYPSUM BOARD AT UNDERSIDE OF ROOF FRAMING.

NEW 5/8" TYPE 'X' GYPSUM BOARD AT UNDERSIDE OF ROOF FRAMING

LIGHTING LEGEND

LIGHTING FIXTURE, REFER TO ELECTRICAL DRAWINGS

PROJECTION SCREEN, FOR MOUNTING AT WALL, SEE DETAIL: 13/A15.01

PROJECTOR, REFER TO ELECTRICAL DRAWING, FOR MOUNTING SEE DETAIL: 32/A10.11

REGISTERS, SEE MECHANICAL DRAWINGS

ACCESS PANEL, SEE MECHANICAL SEE DETAIL

ELECTRIAL FIXTURES, SEE ELECTRICAL

ILLUMINATED EXIT SIGN, CEILING LEVEL

ILLUMINATED EXIT SIGN, FLOOR LEVEL

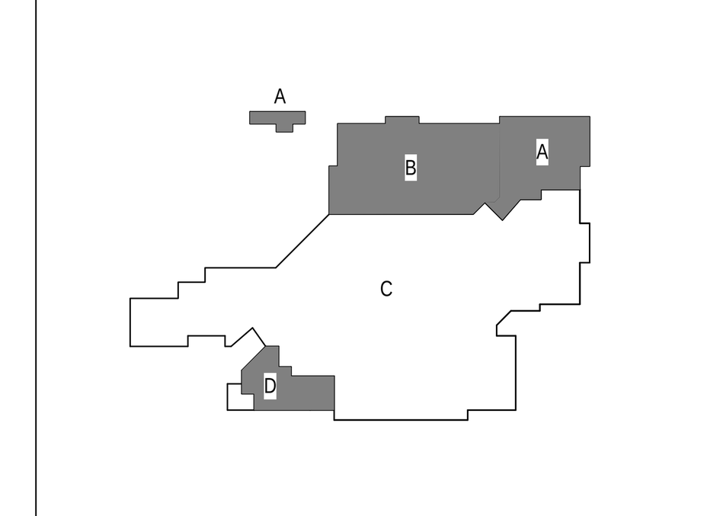
EXISTING EXIT SIGN (V.I.F.)

PAINT FINISH
FACE OF SOFFIT TO MATCH CEILING U.O.N.

EXPANSION JOINT COVER

CEILING ACCESS PANEL

KEY PLAN



A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26450
08/31/2019
STATE OF CALIFORNIA

155 Eastshore, Irvine, CA 92604

REFLECTED CEILING PLAN
Eastshore Elementary School Measure E

A3.01

75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

NORTH

A 04-116540
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
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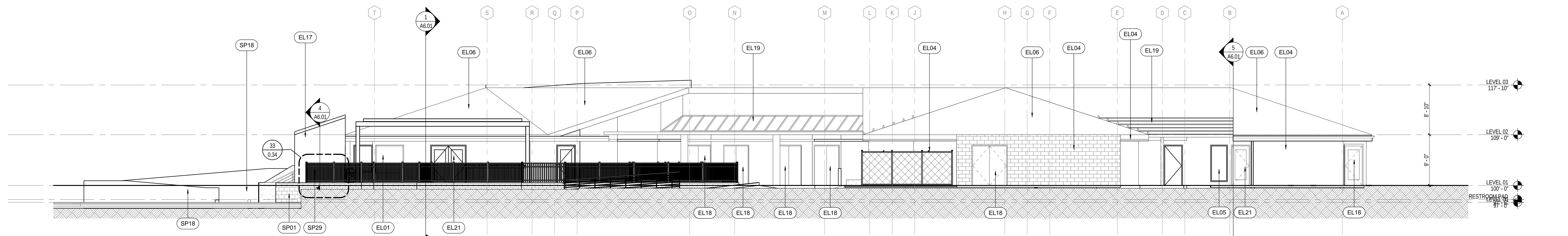
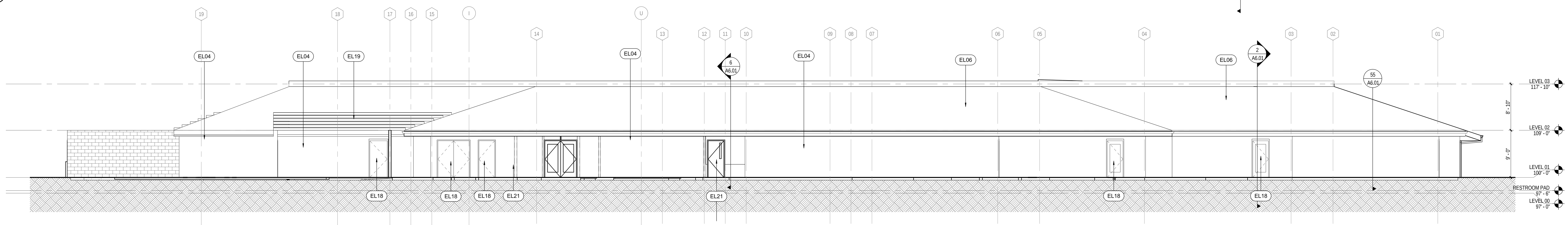
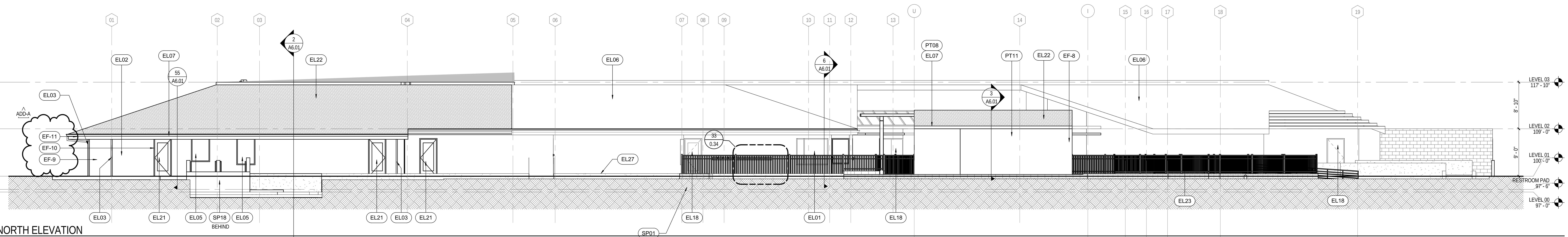


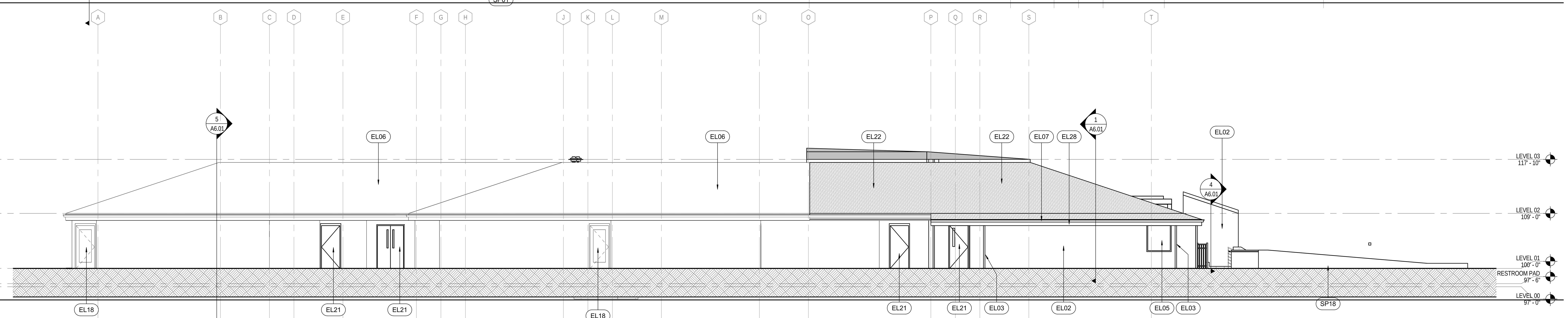
4 A5.01 WEST ELEVATION
SCALE 1/8" = 1'-0"



3 A5.01 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



2 A5.01 NORTH ELEVATION
SCALE 1/8" = 1'-0"



1 A5.01 EAST ELEVATION
SCALE 1/8" = 1'-0"

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
EF-8	EXTERIOR CEMENT PLASTER O/ PAPER-BACKED METAL LATH
EF-9	VISTA PAINT, FLAT, BEIGE GRAY AT EXTERIOR WALLS, TYP.
EF-10	VISTA PAINT, SEMI-GLASS, NORTHWOOD BLUE AT DOOR FRAME, TYP.
EF-11	VISTA PAINT, FLAT, SPANISH BROWN AT WOOD TRIM/GUTTER, TYP.
EL01	(E) WINDOW
EL02	PLASTER WALL
EL03	DOWNSPOUT
EL04	(E) WALL ASSEMBLY
EL05	WINDOW PER SCHEDULE
EL06	(E) ROOF
EL07	ROOF GUTTER
EL17	WALL ASSEMBLY

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
EL18	(E) DOOR
EL19	(E) CANOPY
EL21	DOOR PER SCHEDULE
EL22	ASPHALT SHINGLE ROOFING
EL23	BRICK VENEER OVER CONCRETE WALL
EL27	12" RETAINING WALL
EL28	FASCIA
PT08	KYNAR FINISH
PT11	PAINT EXTERIOR PLASTER
SP01	CMU WALL
SP18	CONCRETE RAMP
SP29	4FT. HEIGHT DECORATIVE METAL FENCE, SEE DETAIL 33/0.34

155 Eastshore, Irvine, CA 92604

EXTERIOR ELEVATIONS
Eastshore Elementary School Measure E

A5.01
75-17603-00
12-05-2017
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DLR Group
Architecture Engineering Planning Interiors

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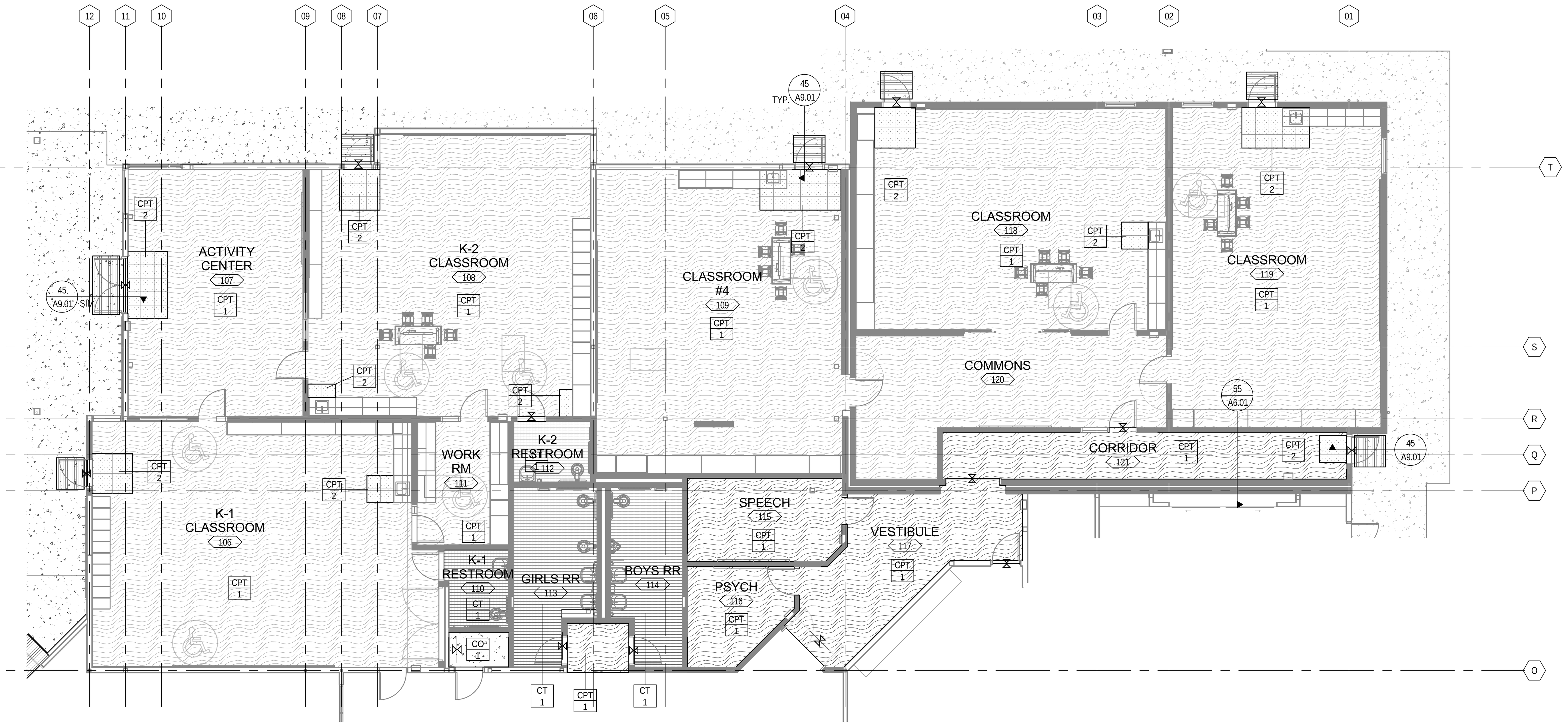
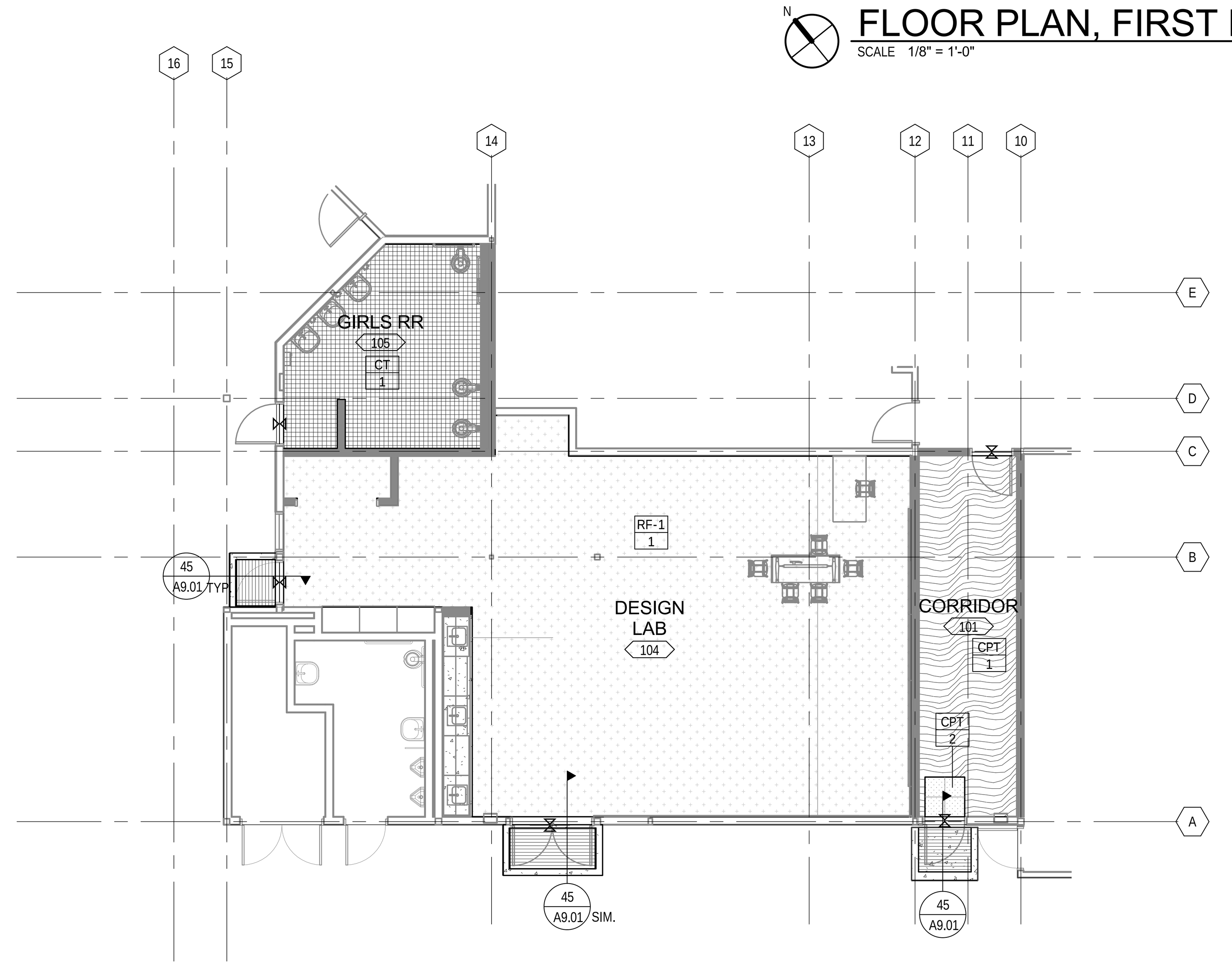


FLOOR PLAN, FIRST LEVEL - AREA A

SCALE 1/8" = 1'-0"



FLOOR PLAN, FIRST LEVEL - AREA B

SCALE 1/8" = 1'-0"

FLOOR FINISH

CT-3 CERAMIC TILE
MANU: DALTILE
STYLE: KEYSTONES
COLOR: GRAY SPECKLE D200
SIZE: 2" x 2"
GROUT: LATICRETE SMOKE GREY 89
CONTACT: JESSICA VELASCO - (323) 314 - 3244 jessica.velasco@daltile.com

CPT-1 CARPET TILE
MANU: TANDUS CENTIVA
STYLE: ARAGON
COLOR: BLUE SHADOW 16019
SIZE: 24" x 24"
CONTACT: ANGELA LUMAYE - (310) 736- 8011 - Angela.LuMaye@tarkett.com

CPT-2 CARPET TILE W/ LINOLEUM
MANU: TANDUS CENTIVA
STYLE: GEOTILE
COLOR: CHARCOAL 00154
SIZE: 18" x 18"
CONTACT: ANGELA LUMAYE - (310) 736- 8011 - Angela.LuMaye@tarkett.com

CO-1 SEALED CONCRETE
MANU: FLOROCK
STYLE: THIN FILM URETHANE FLOOR COATING
COLOR: NATURAL
SIZE:
CONTACT:

RF-1 RESILIENT FLOORING
MANU: ARMSTRONG
Style: MEDINTECH
Color: SILVER GREY 84197
Size: SHEET FLOORING

RB-01 RUBBER WALL BASE
MANU: JOHNSONITE
Color: NAVY BLUE 18

ICTB INTEGRATED COVE TILE BASE
MANU: DALTILE ACCESSORIES - TRIM
Style: COVE BASE Q-3446
Color: MIST QH15
Size: 4" X 4"

WALL FINISH

VWC-1 VINYL WALL COVERING
MANU: KOROSEAL MALBOROUGH 4851-79

TWC-1 TACKABLE WALL SURFACE
MANU: CHATFIELD-CLARKE
STYLE: Type I - Group 2
COLOR: SPECIAL ORDER - VWC-1 INSTALLED ON TACKABLE SUBSTRATE BY MANUFACTURER
CONTACT:

PT-1 PAINT (BASE COLOR)
MANU: VISTA PAINT
Style: SEMI GLOSS
Color: WHITE FAIR OW 140
NOTE:

PT-2 PAINT (ACCENT COLOR)
MANU: VISTA PAINT
Style: SEMI GLOSS
Color: NORTHWOOD BLUE
NOTE:

PT-3 PAINT
MANU: SHERWIN WILLIAMS
Style: SEMI GLOSS
Color: SW 7006 EXTRA WHITE
NOTE: DRY-ERASE COATING

CASEWORK FINISH

CW-1 SOLID SURFACE COUNTERTOP AT SINKS
MANU: DUPONT
Style: CORIAN TERRA COLLECTION
Color: SILVER BIRCH

CW-2 STANDARD COUNTERTOP
MANU: WILSONART
Color: GREY GLACE 4142-60

CW-3 CABINET FACE
MANU: WILSONART
Color: RUSKIN OAK 17001K-57

NOTES:
1. REFERENCE FINISH PLANS A13.1 AND A13.2 FOR ADDITIONAL INFORMATION.
2. REFERENCE SPECIFICATIONS FOR MATERIAL INFORMATION.
3. REFERENCE REFLECTED CEILING PLANS A3.1 FOR ADDITIONAL INFORMATION.
4. REFERENCE ENLARGED RESTROOM PLANS ON SHEET A2.01 AND A2.02
5. REFER TO INTERIOR ELEVATIONS FOR WALL FINISHES

ROOM FINISH SCHEDULE

ROOM		FLOOR FINISH	BASE FINISH	WALL			
NUMBER	NAME			NORTH	EAST	SOUTH	WEST
101	CORRIDOR	CPT-01	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
104	DESIGN LAB	RF-1	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
105	GIRLS RR	CT-3	ICTB	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
106	K-1 CLASSROOM	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
107	ACTIVITY CENTER	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
108	K-2 CLASSROOM	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
109	CLASSROOM #4	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
110	K-1 RESTROOM	CT-3	ICTB	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
110A	STORAGE	CO-1	RB-01	PT-1	PT-1	PT-1	PT-1
111	WORK RM	CPT-01	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
112	K-2 RESTROOM	CT-3	ICTB	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
113	GIRLS RR	CT-3	ICTB	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
114	BOYS RR	CT-3	ICTB	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
115	SPEECH	CPT-01	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
116	PSYCH	CPT-01	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
117	VESTIBULE	CO-01	RB-01	PT-1	PT-1	PT-1	PT-1
118	CLASSROOM	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
119	CLASSROOM	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
120	COMMONS	CPT-01	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
121	CORRIDOR	CPT-01/CPT-02	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
122	ELEC	CO-1	RB-01	PT-1	PT-1	PT-1	PT-1
123	STO	CO-1	RB-01	PT-1	PT-1	PT-1	PT-1
124	OUTDOOR RESTROOM	CO-1	RB-01	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.	SEE INTERIOR ELE.
178	VESTIBULE	CO-1	RB-01	PT-1	PT-1	PT-1	PT-1

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

INTERIOR FINISH PLAN GENERAL NOTES

A. INTERIOR PLAN GENERAL NOTES APPLY TO ALL INTERIORFINISH PLAN SHEETS.
B. NOT ALL FLOOR AND WALL FINISHES ARE NOTED ON THE INTERIOR FINISH PLANS. SEE ROOM FINISH SCHEDULE FOR FLOOR AND WALL FINISHES NOT NOTED.
C. FLOOR PATTERN DIMENSIONS AND LOCATIONS ARE APPROXIMATE. MINOR ADJUSTMENTS MAY BE MADE FOR LAYOUT AND TO MINIMIZE WASTE AS LONG AS THE DESIGN INTENT IN MAINTAINED.
D. FOR FLOOR TILE PRODUCTS, ADJUST LAYOUT AS NECESSARY TO AVOID USING CUT WIDTHS THAT EQUAL LESS THAN ONE-HALF OF A TILE AT ROOM PERIMETER.

ROOM FINISH SHEET NOTES

1. ROOM FINISH SCHEDULE GENERAL NOTES APPLY TO ALLROOM FINISH SCHEDULE SHEETS.
2. SEE SPECIFICATIONS FOR PAINTING OF ITEMS NOT NOTED IN THE ROOM FINISH SCHEDULE.
3. EXPOSED CONCRETE FLOOR SLABS NOT SCHEDULED TO RECEIVE A FINISH SHALL RECEIVE A CURING AND SEALING COMPOUND UNLESS OTHERWISE NOTED.
4. ALL GYPSUM WALLBOARD BULKHEADS SHALL BE PAINTED UNLESS OTHERWISE NOTED.
5. CEILING HEIGHTS, AS NOTED ON THE REFLECTED CEILING, PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.
6. CONTRACTOR SHALL FURNISH AND INSTALL WALL BASE AROUND CASEWORK AND MILLWORK.
7. WHERE FLOOR FINISH CHANGES FROM ONE ROOM TO ANOTHER, SET JOINT OF THE MATERIALS AT THE CENTER OF THE COMMUNICATING DOOR.
8. FOR TYPICAL TACKWALL DETAILS SEE 56/A11.12
9. SEE REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHT.
10. ALL FINISHES SHALL COMPLY WITH CBC, CFC AND TITLE 19 CCR.

RM. FINISH SCHEDULE NOTES

THESE NOTES ARE REFERENCED IN THE "NOTES" COLUMN OF THE ROOM FINISH SCHEDULES

FLOOR NOTES:

F1. DEPRESS CONCRETE SLAB 4" INCHES FOR CERAMIC/QUARRY TILE AND SETTING BED. SEE DETAIL 41/S1.1

F2. DEPRESS CONCRETE SLAB 3/8 INCH FOR RECESS FLOOR MAT AND FRAME. VERIFY RECESS DEPTH WITH MANUFACTURER.

F3. THIN-SET CERAMIC TILE FLOORS.

F4. FOR FLOOR PATTERN SEE ENLARGED FLOOR PLAN.

WALL NOTES:

W1. FOR CERAMIC TILE WALL (CTW) SEE ELEVATIONS SHEET.

W3. PAINT JANITOR'S CLOSET WALLS BUT NOT INSIDE CHASE AREA.

W5. PAINT EXPOSED STEEL COLUMNS AND CROSS BRACING P-X.

W7. PROVIDE PLYWOOD BACKBOARD WHERE INDICATED ON SPECIAL SYSTEMS PLANS. PLYWOOD TO BE 4'x8', 3/4" THICK, INTERIOR-GRADE, FIRE-RETARDANT-TREATED AND PAINTED P-X. MOUNT 4" A.F.F.

CEILING NOTES:

C1. SEE REFLECTED CEILING PLANS FOR CEILING ACCENT PAINT COLORS AND LOCATIONS.

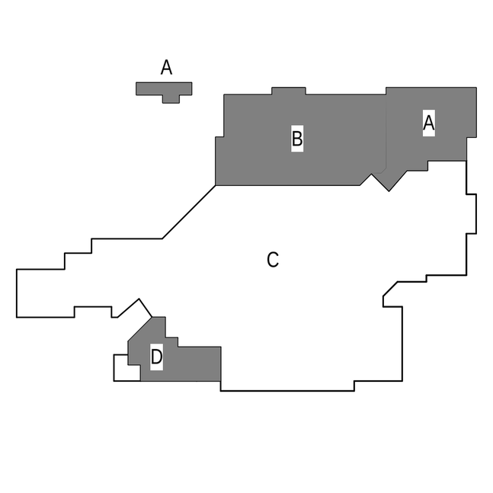
LEGEND - INTERIOR FINISHES

X/X/# FLOOR FINISH TAG, INDICATES FLOOR FINISH, SEE GENERAL NOTES AND FINISH LEGEND A13.0 FOR FINISH ABBREVIATIONS & A13.3 FOR INTERIOR MATERIALS

XX/# WALL FINISH TAG, INDICATES WALL FINISH, SEE INTERIOR MATERIAL LIST A13.3 FOR FINISH ABBREVIATIONS

LEVEL TRANSITION

KEY PLAN



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LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE:_____________

FILE NO.: 30-48

155 Eastshore, Irvine, CA 92604

FINISH FLOOR PLAN & FINISH SCHEDULE
Eastshore Elementary School Measure E

A12.01
75-17603-00
12-05-2017
Revision
ADD-A 2/16/2018

DLR Group
Architecture Engineering Planning Interiors

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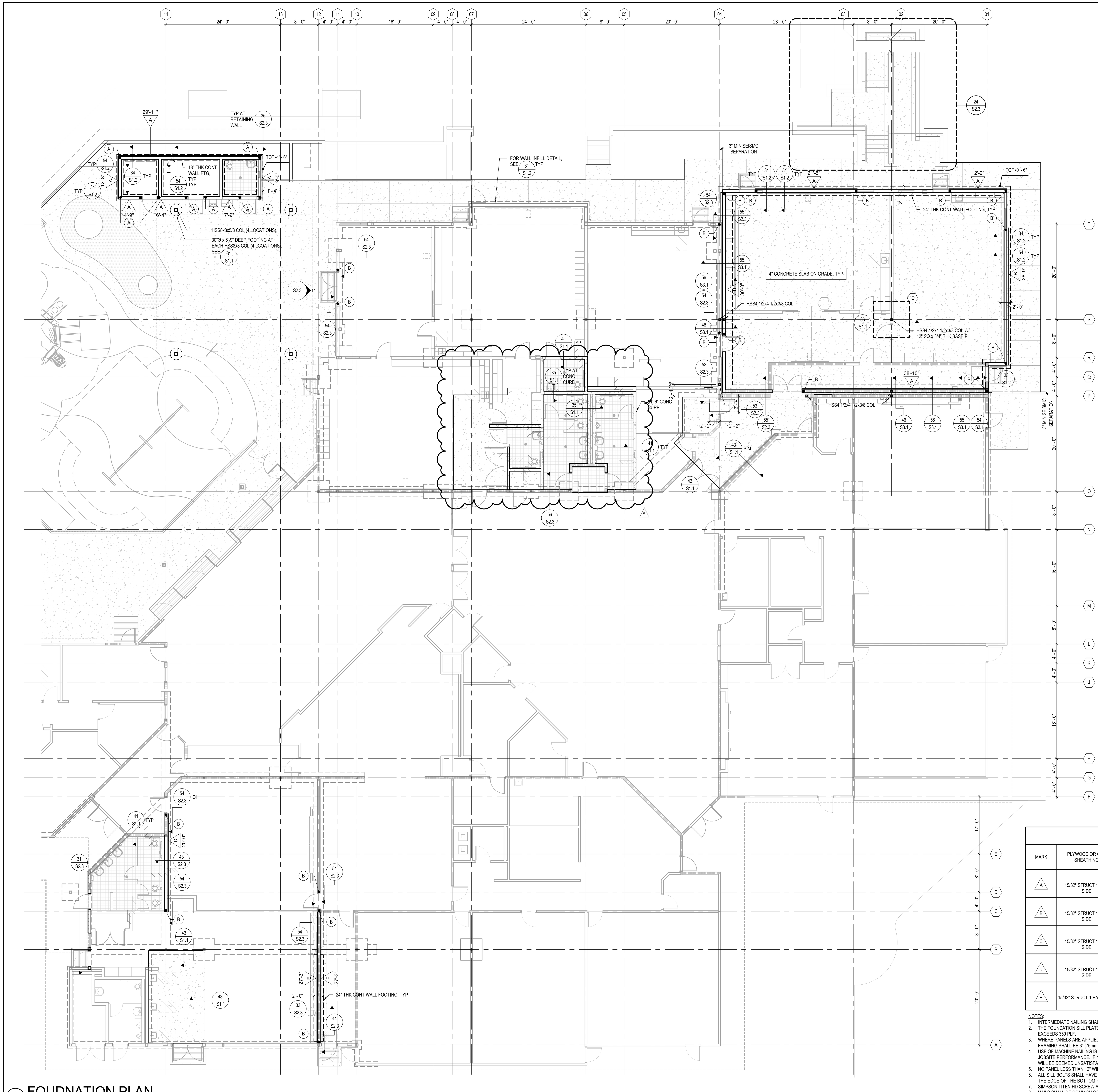

1 S2.1 FOUDNATION PLAN

SCALE 1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. FOR GENERAL NOTES, SEE SHEETS S0.1 AND S0.2.
2. FOR TYPICAL DETAILS, SHEETS S1.1 THRU S1.3.
3. FOR ANY DIMENSION INFORMATION NOT SHOWN, SEE ARCHITECTURAL DRAWINGS.
4. FOR ELEVATION OF FINISH FLOOR, SEE CIVIL DRAWINGS (DATUM ELEVATION) = 0'-0"
5. SEE GEOTECHNICAL REPORT FOR ALL SITE AND SUBGRADE PREPARATION.
6. ALL INTERIOR SLAB ON GRADE ARE 4" THICK, UNO, REINFORCED WITH #4 REBARS @ 18" OC AT MID-DEPTH OF SLAB, OVER 2" SAND, OVER 10 MIL, MIN VAPOR BARRIER, OVER 4" CRUSHED ROCK FILL, OVER PREPARED BUILDING PAD.
5. SEE ARCHITCTURAL AND CIVIL DRAWINGS FOR ALL EXTERIOR CONCRETE PAVING, SLAB, BASES, CURBS, SITE WALLS, ETC.
6. SEE PLANS AND ARCHTECTURAL DRAWINGS FOR DEPRESSIONS, SLOPES, OPENINGS, DRAINS, TRENCHES, SLAB EDGE LOCATIONS.
7. CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO PLACING CONCRETE.
8. SEE PLAN FOR CONCRETE PADS CURBS ABOVE CONCRETE SLAB. SEE TYPICAL PAD AND CURB DETAILS UNLESS NOTED OTHERWISE. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS FOR EXACT LOCATION, SIZE AND HEIGHT FOR ALL PADS AND CURBS.
9. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND LOCATING ALL OPENINGS THROUGH THE SLAB INCLUDING BUT NOT LIMITED TO ELECTRICAL, MECHANICAL, PLUMBING, SPRINKLER AND TELEPHONE. SUBMIT TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO SUBMITTAL OF REINFORCING STEEL SHOP DRAWINGS
9. 4x AND 6x POSTS SHALL HAVE A (S) BCO AT THE BASE ON TOP OF SILL PLATE AND (S) PC OR EPC AT TOP WHERE HEADER OCCURS, UNO ON PLANS OR DETAILS.

LEGEND:

- A — INDICATES SPREAD FOOTING TYPE PER SCHEUDLE ON THIS SHEET, SEE 36/S1.1 FOR DETAIL.
- -X"- — INDICATES TOP OF FOOTING (TOF) ELEVATION.
- INDICATES CHANGE IN ELEVATION.
- INDICATES EXTENT OF WOOD STUD WALL.
- ? — INDICATES HOLDOWN PER SCHEDULE THIS SHEET.
- ? — INDICATES SHEARWALL TYPE PER SCHEDULE THIS SHEET.
- ?'-?" — INDICATES MINIMUM LENGTH REQUIRED (SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS)
- INDICATES 6x6 WOOD POST, UNO.
- INDICATES (N) CONC SLAB

SPREAD FOOTING SCHEDULE

MARK	THICKNESS	SIZE	REINFORCING
A	1'-0"	3'-0" SQ	3-#4 E.W.
B	1'-0"	4'-0" SQ	4-#4 E.W.
C	1'-0"	5'-0" SQ	5-#4 E.W.
E	1'-4"	7'-6" SQ	6-#6 E.W.

HOLDOWN SCHEDULE

MARK	HOLDOWN	ANCHOR	MINIMUM ANCHOR EMBEDMENT	HOLDOWN POST, UNO	HOLDOWN-TO-POST FASTENERS
A	SIMPSON HDU4	5/8"Ø HEAVY HEX HEAD ASTM F1554 GR 55	12"	(2) 2x STUDS	(10) SIMPSON 1/4"x2 1/2" SDS SCREWS
B	SIMPSON HDU8	7/8"Ø HEAVY HEX HEAD ASTM F1554 GR 55	12"	6x POST	(20) SIMPSON 1/4"x2 1/2" SDS SCREWS
C	SIMPSON HDU11	1"Ø HEAVY HEX HEAD ASTM F1554 GR 55	12"	6x POST	(30) SIMPSON 1/4"x2 1/2" SDS SCREWS

NOTES:

1. SEE TYPICAL HOLDOWN DETAILS 14/S1.2, 23/S1.2 & 24/S1.2 FOR MORE INFORMATION.
2. FOR (2) 2x FULL-HEIGHT POSTS AT HOLDOWNS, PROVIDE STUD-TO-STUD FACE NAILING TO MATCH SILL NAILING.
3. HOLDOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.

SHEAR WALL SCHEDULE

MARK	PLYWOOD OR OSB SHEATHING	EDGE NAILING (EN)	SILL NAILING (SN)	SILL BOLTING (SB)	FOUNDATION SILL PL	OTHER SILL PL	TOP PL	CAPACITY (ASD)
A	15/32" STRUCT 1 ONE SIDE	10d @ 6" OC	16d @ 6" OC OR SIMPSON SDS 1/4"x4 1/2" @ 12" OC	5/8"Øx9" EMBED CAST-IN-PLACE ANCHOR BOLT OR 5/8"x8" SIMPSON TITEN HD SCREW ANCHOR @ 48" OC	2x	2x	(2) 2x	340 PLF
B	15/32" STRUCT 1 ONE SIDE	10d @ 4" OC	16d @ 4" OC OR SIMPSON SDS 1/4"x4 1/2" @ 9" OC	5/8"Øx9" EMBED CAST-IN-PLACE ANCHOR BOLT OR 5/8"x8" SIMPSON TITEN HD SCREW ANCHOR @ 32" OC	2x	2x	(2) 2x	510 PLF
C	15/32" STRUCT 1 ONE SIDE	10d @ 3" OC	16d @ 3" OC OR SIMPSON SDS 1/4"x4 1/2" @ 6" OC	5/8"Øx9" EMBED CAST-IN-PLACE ANCHOR BOLT OR 5/8"x8" SIMPSON TITEN HD SCREW ANCHOR @ 24" OC	3x	2x	(2) 2x	665 PLF
D	15/32" STRUCT 1 ONE SIDE	10d @ 2" OC	16d @ 2" OC OR SIMPSON SDS 1/4"x4 1/2" @ 4" OC	5/8"Øx9" EMBED CAST-IN-PLACE ANCHOR BOLT OR 5/8"x8" SIMPSON TITEN HD SCREW ANCHOR @ 16" OC	3x	3x	(2) 2x	870 PLF
E	15/32" STRUCT 1 EACH SIDE	10d @ 4" OC	SIMPSON SDS 1/4"x4 1/2" @ 3" OC	5/8"Øx9" EMBED CAST-IN-PLACE ANCHOR BOLT OR 5/8"x8" SIMPSON TITEN HD SCREW ANCHOR @ 12" OC	3x	3x	(2) 2x	1020 PLF

NOTES:

1. INTERMEDIATE NAILING SHALL BE 10d @ 12"OC, UNO.
2. THE FOUNDATION SILL PLATE AND FRAMING, INCLUDING BLOCKING, AT ADJOINING PANEL EDGES SHALL BE 3x MIN AND NAILS SHALL BE STAGGERED WHERE SHEARWALL CAPACITY INDICATED ABOVE EXCEEDS 350 PLF.
3. WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6"OC (152mm) ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3" (76mm) NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
4. USE OF MACHINE NAILING IS SUBJECT TO APPROVAL BY THE PROJECT STRUCTURAL ENGINEER. WITH APPROVAL, MACHINE NAILING IS SUBJECT TO THE DEMONSTRATION OF CONTINUOUS SATISFACTORY JOBSITE PERFORMANCE. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF MINIMUM EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
5. NO PANEL LESS THAN 12" WIDE SHALL BE USED IN VERTICAL PLYWOOD SHEARWALLS.
6. ALL SILL BOLTS SHALL HAVE A 0.229" x 3" SQ MIN PLATE WASHER UNDER NUT. WHERE SHEARWALL CAPACITY INDICATED ABOVE EXCEEDS 200 PLF, THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.
7. SIMPSON TITEN HD SCREW ANCHORS SHALL BE INSTALLED PER ICC ESR-2713.
8. NAILS SHALL BE COMMON OR GALVANIZED (HOT-DIPPED OR TUMBLED) BOX AND SHALL BE LOCATED 3/8", MINIMUM, FROM PANEL EDGES.
9. PLYWOOD EN & SN SHALL BE STAGGERED.
10. FOUNDATION SILL PLATES ARE THOSE PLACED AGAINST CONCRETE & RECEIVING SILL BOLTING.

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Irvine, CA 92604

FOUNDATION PLAN
Eastshore Elementary School Measure E

S2.1
75-17603-00
08/01/2017
Revision
A 02/16/18 Addendum A

REGISTERED PROFESSIONAL ENGINEER SIU FUNG YIU No. S 5801 Exp. 12-31-18 STRUCTURAL STATE OF CALIFORNIA

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Architecture Engineering Planning Interiors

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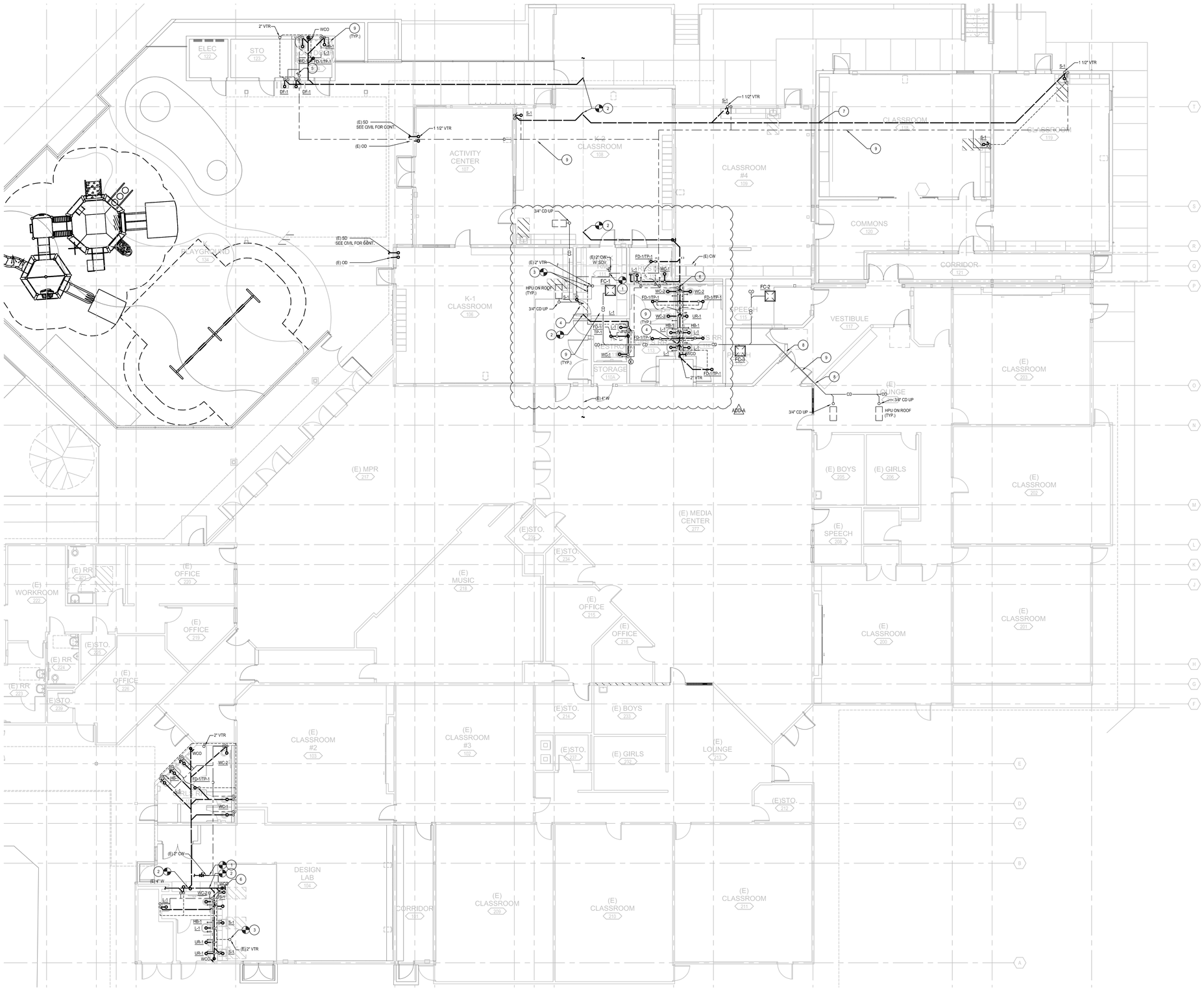

NORTH

PLUMBING PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. PLUMBING DRAWINGS ARE DIAGRAMMATIC. PLUMBING CONTRACTOR SHALL INSPECT AND VERIFY ALL CONDITIONS AND AND COORDINATE WITH ALL TRADES PRIOR TO STARTING WORK.
2. CLEANOUTS REQUIRED ON ALL HORIZONTAL WASTE LINES OVER 5'-0" FROM THE MAIN LINE AND ON ALL HORIZONTAL SINK AND URINAL WASTES REGARDLESS OF LENGTH. (UPC 707)
3. ALL WASTE AND VENT PIPING ABOVE OR BELOW FLOOR SHALL BE OF SERVICE WEIGHT HUBLESS CAST IRON PIPES AND FITTINGS, WRAPPED WITH 5 MIL. PLASTIC.
4. GENERAL/PLUMBING CONTRACTOR SHALL HYDRO JET ALL SEWER LINES AT COMPLETION OF PROJECT.
5. GENERAL/PLUMBING CONTRACTOR SHALL INCLUDE IN THEIR BASE BID REPLACEMENT OF ALL FLOOR CLEAN-OUT COVERS WITH "(VERIFY MFG/MODEL)". GENERAL/PLUMBING CONTRACTOR SHALL ALSO INCLUDE COST TO RAISE ALL CLEAN-OUTS TO BE FLUSH WITH NEW SURFACE OF NEW FLOOR COVERINGS - AS REQUIRED.
6. GENERAL/PLUMBING CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL INFORMATION CONTAINED ON ALL DRAWINGS.
7. GENERAL/PLUMBING SHALL BE RESPONSIBLE FOR ALL TRENCHING AND BACK FILLING.
8. THE PLUMBING CONTRACTOR IN CONJUCTION WITH THE GENERAL CONTRACTOR SHALL, PRIOR TO ANY SEWER PIPE LAYOUT WORK ON THIS PROJECT, PHYSICALLY DIG DOWN TO THE POINT OF CONNECTION FLOW LINE OF THE EXISTING OR NEW SEWER POC(S) AND VERIFY THAT THE PERCENTAGE OF SLOPE USED ON THE ENTIRE BUILDING LAYOUT WILL FLOW BY GRAVITY IN CONFORMANCE WITH ALL CODES WITHOUT THE USE OF ANY PUMP LIFT STATIONS. SHOULD THERE BE ANY DISCREPANCY WITH THE DESIGN DRAWINGS AS RELATES TO THE SEWER SLOPES USED IN THE DESIGN, TO ACCOMPLISH THE ABOVE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE MECHANICAL ENGINEER AND THE ARCHITECT FOR DIRECTION PRIOR TO PROCEEDING WITH ANY WORK.
9. ALL FLOOR SINKS MUST BE AT LEAST HALF-EXPOSED UNDER THE CURB MOUNTED EQUIPMENT, OR BE IN LINE WITH THE FRONT FACE OF ELEVATED FREESTANDING EQUIPMENT, AND LOCATED WITHIN 15 FEET OF THE CONDENSATE PRODUCING EQUIPMENT.
10. FLOOR DRAINS ARE REQUIRED WHERE APPROVED SLIP RESISTANT FLOOR SURFACES ARE INSTALLED. SLIP RESISTANT AGENTS OR FLOORING MAY ONLY BE ADDED OR INSTALLED IN TRAFFIC AREA, IT MAY NOT BE ADDED OR INSTALLED UNDER EQUIPMENT OR ON COVED BASES.
11. ALL WORK, PRACTICES, PROCEDURES, INSTALLATIONS AND MATERIALS SHALL COMPLY WITH THE CALIFORNIA PLUMBING CODE 2016 (CPC2016).
12. INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WITH SECTION 317.0 CPC.
13. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
14. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY APPROVED LISTING AGENCY.
15. DURING UNDERGROUND PLUMBING LINE ROUGH-IN, CONTRACTOR TO REVIEW REFRIGERATED CASE CATALOG CUTS (RE: REFRG. DRAWINGS.) CONTRACTOR TO VERIFY REFRIGERATED CASE LAYOUT AND PROVIDE ALL PLUMBING LINES BETWEEN STRUTS. THE BETWEEN THE STRUTS (1-1/8") IS FOR VERTICAL PLUMBING, REFRIGERATION AND ELECTRICAL LINES.
16. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.9 OF THE PLUMBING CODE.

KEYED NOTES

1. POINT OF CONNECTION TO (E) 2" CW AND ROUTE NEW COLD WATER PIPING TO NEW FIXTURES AS SHOWN. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
2. POINT OF CONNECTION TO (E) 4" W AND ROUTE NEW WASTE PIPING BELOW GRADE TO NEW FIXTURES AS SHOWN. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
3. POINT OF CONNECTION TO (E) 2" VTR AND ROUTE NEW VENT PIPING ABOVE GRADE TO NEW FIXTURES AS SHOWN. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
4. 3/4" CD DOWN TO LAVATORY TAILPIECE. SEE DETAIL 11/P5.1.
5. 1" CW UP FROM BELOW GRADE W/ SHUT OFF VALVE. CONCEAL/RECESS SHUT OFF VALVE IN A LOCKED BOX.
6. 2" CW DOWN IN CHASE WALL TO CW HEADER SUPPLYING ALL FIXTURES ALONG WALL. SEE PLUMBING FIXTURE SCHEDULE ON P5.2 FOR CW CONNECTION SIZES.
7. SEE STRUCTURAL DRAWINGS, DETAIL #4/G/S1.1 FOR INFORMATION.
8. SEE DETAIL 32/P5.1 FOR FIRE RATED WALL PENETRATIONS, FIRE SAFING REQUIRED AT ALL FIRE RATED WALL PENETRATIONS.
9. SEE DETAIL 13.22.23 ON P5.1 FOR PIPE SUPPORT AND HANGER DETAIL. SEE P0.0 FOR SEISMIC NOTES. SEE P0.1 SPECIFICATION SECTION 3.04, PART A.B.C.

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PLUMBING PLAN
Eastshore Elementary School Measure E FPP

P1.1

75-17603-00
08.01.2017
Revisions:
ADD'A 2.16.2018 ADDENDUM A

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MECH. GENERAL NOTES

1. REUSE (E) ROOF PENETRATIONS WHENEVER POSSIBLE.
2. THERMOSTATS SHALL BE INSTALLED 48" ABOVE FINISHED FLOOR. FINAL THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT AND ENGINEER.
3. ALL THERMOSTATS INSTALLED ON EXTERIOR WALLS OR COLUMNS SHALL HAVE AN INSULATED BACKING INSTALLED BEHIND THE THERMOSTAT.
4. CONTRACTOR SHALL INSTALL ZONE/BYPASS DAMPERS AND AIR HANDLING UNITS IN SUCH A MANNER AS TO ALLOW FOR 48" CLEARANCE IN FRONT OF THE CONTROLLERS, COMPONENT ACCESS AND ELECTRICAL DISCONNECTS.
5. ALL LOW PRESSURE DUCTWORK SHALL BE SPRIAL DUCTWORK, UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL VERIFY ALL WALL PENETRATIONS TYPES, CEILING TYPES AND RATINGS IN ORDER TO PROVIDE COMBINATIONS FIRE/SMOKE DAMPERS AND FIRE STOPPING AT PENETRATIONS TO FIRE RATED AREAS IN ACCORDANCE WITH THE 2013 MECHANICAL CODE.
7. CONTRACTOR SHALL COORDINATE EQUIPMENT LAYOUT IN ORDER TO AVOID EXISTING/NEW FIRE SPRINKLER LINES.
8. FINAL DIFFUSER TYPES AND LOCATIONS SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT AND ENGINEER.
9. CONTRACTOR SHALL COORDINATE FINAL MECHANICAL DISTRIBUTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CLEARANCE ISSUES PRIOR TO INSTALLATION.
10. CONTRACTOR SHALL PROVIDE AND INSTALL A FULLY DUCTED RETURN AIR SYSTEM FOR PROPER RETURN AIRFLOW BACK TO THE MAIN HEAT PUMP UNIT RETURN, AS THE EXISTING BUILDING IS A COMBUSTIBLE STRUCTURE.
11. PROVIDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT OUTLET. DAMPER SHALL BE LOCATED AS CLOSE TO BRANCH TAKEOFF AS POSSIBLE AND IN AN ACCESSIBLE LOCATION. CONTRACTOR SHALL TAG ALL VOLUME DAMPERS WITH RED OR YELLOW RIBBONS.
12. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL NEW AND EXISTING EQUIPMENT, INCLUDING DAMPERS AND VALVES, LOCATED ABOVE HARD LID CEILING. ALL ACCESS PANELS, INCLUDING THOSE IN ACCESSIBLE CEILINGS SHALL BE DESIGNATED AND PROPERLY FRAMED TO ALLOW PROPER ACCESS WITHOUT DRAGGING THE CEILING TILE OR GRID. AVOID LOCATING ANY CONDUIT DIRECTLY ABOVE ACCESS TO EQUIPMENT. COORDINATE FINAL LOCATION OF ACCESS PANELS WITH ARCHITECT AND ENGINEER.
13. ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO SILENTFLEX II OR EQUAL. CONTRACTOR SHALL PROVIDE MINIMUM 5 FEET ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSERS AND VOLUME DAMPERS.
14. ALL DUCT AND PIPING PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE ACOUSTICALLY SEALED.
15. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL SUPPLY, RETURN AND EXHAUST DUCT CONNECTIONS TO FAN COIL UNITS AND EXHAUST FANS.
16. SUPPLY AND RETURN DUCTWORK WITHIN 15 FEET OF THE ROOF PENETRATION INTO THE BUILDING SHALL BE INTERNALLY ACOUSTICALLY LINED (1" MIN.).
17. ALL ROOF-MOUNTED SUPPLY AND RETURN AIR DUCTWORK SHALL BE FURNISHED WITH 2" R-8 INTERNAL DUCT LINING.
18. CONTRACTOR SHALL PROVIDE 1/2" THICK CLOSED CELL ARMAFLEX INSULATION FOR ALL REFRIGERANT PIPING. OUTDOOR REFRIGERANT PIPING SHALL BE INSULATED WITH WATER PROOF JACKET.

MECH. KEYNOTES

1. (E)WATER-SOURCE HEAT PUMP SHALL BE WRAPPED WITH ACOUSTICAL LAGGING FOR SOUND ATTENUATION. ENSURE PROPER SERVICE ACCESS TO EACH UNIT.

SHOP DRAWING NOTE:

CONTRACTOR SHALL PROVIDE FIELD LAYOUT SHOPDRAWINGS FOR ARCHITECT/ENGINEER REVIEW PRIOR TO FABRICATION AND INSTALLATION.

MECHANICAL FLOOR PLAN

SCALE: **1/8" = 1'-0"**

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155 Eastshore
Irvine, CA 92604

MECHANICAL FLOOR PLAN
Eastshore Elementary School Measure E FPP

M2.3

75-17603-00
08/01/2017
Revisions
ADD-A 2/16/2018 ADDENDUM A

Exp. 12/31/18

DLR Group
Architecture Engineering Planning Interiors

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Addendum A

DLR Group
Architecture Engineering Planning Interiors

1650 Spruce Street
Suite 300
Riverside, CA 92507

o: 951/682-0470
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Project Reference:	Venado Middle School Measure E	Date:	2/16/2018
DLR Group Project №:	75-17602-00 | DSA A#04-116541 | File 30-48		
Submitted By:	Robert Demmond		
To:	All Bidders		
Attention:	Authorized Representative		
Notice to Bidders:	Changes to the Project Manual and Drawings for the above reference project as follows:		

Notice to General Contractor:
The Contractor shall assure himself that all changes and specifications within this Addendum have been correctly listed and described. The General Conditions and Supplementary Conditions Sections of the Specifications shall apply to the work of this Addendum as though printed herein.

Item: Description:

1.0 PROJECT MANUAL

1.1 DOCUMENT 000110 - Table of Contents
- 1.1.1 Updated per changes in Addendum A.
- 1.1.2 Remove Section '283100 Intrusion Detection' from Table of Contents

1.2 DOCUMENT 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS
- 1.2.1 This section is not needed in Venado.

1.3 DOCUMENT 079200 - JOINT SEALANTS
- 1.3.1 added reference to '092900 - GYPSUM BOARD' for acoustical sealants.

1.4 DOCUMENT 092900 - GYPSUM BOARD
- 1.4.1 Added acceptable products for acoustic sealants.

1.5 DOCUMENT 099123 - INTERIOR PAINTING
- 1.5.1 Added concrete sealer BoD.

1.6 DOCUMENT 101100 - VISUAL DISPLAY UNITS
- 1.6.1 Updated BOD for tackboard and linked to 'Wall Coverings' specification section for vinyl fabric.

1.7 DOCUMENT 123553.19 - WOOD LABORATORY CASEWORK
- 1.7.1 Added language for 'custom sizes' where needed.

1.8 DOCUMENT 281600 – INTRUSION ALARM SYSTEM
- Added new specification section.

2.0 DRAWINGS

2.1 SHEET A2.01– ENLARGED RESTROOM PLAN, AND ELEVATIONS

2.1.1 Replace Sheet A2.01 with attached Sheet A2.01 indicating revisions to:
2.1.1.1 Revised Tile Patterns.

2.2 SHEETS A2.21 and A2.22 – INTERIOR ELEVATIONS

2.2.1 Replace Sheet A2.21 and A2.22 with attached Sheet A2.21 and A2.22 indicating revisions to Keynotes IE42 and IE39.

2.3 SHEETS A5.01 – EXTERIOR ELEVATIONS

2.3.1.1 Replace Sheet A5.01 with attached Sheet A5.01 indicating revisions to Keynotes: EL02 and EL03 and new keynote EL23

2.4 SHEETS A9.10 – DOOR / WINDOW SCHEDULE & DETAILS

2.4.1.1 Replace Sheet A9.10 with attached Sheet A9.10 indicating revisions DOOR AND WINDOW NOTES

2.5 SHEETS A12.01 – FINISH FLOOR PLAN & FINISH SCHEDULE

2.5.1 Replace Sheet A12.01 with attached Sheet A12.01.

2.6 SHEETS M1.02 – MECHANICAL FLOOR PLAN

2.6.1 Replace Sheet M1.2 with attached Sheet M1.2:

2.6.1.1 Added 1” lining on all supply and return ductwork serving classrooms

Sincerely,

Robert Demmond

DLR Group

00 01 10 – TABLE OF CONTENTS

DIVISION 12 - FURNISHINGS

DIVISIONS 13 – 21 – NOT USED

DIVISION 22 – PLUMBING

DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Butyl joint sealants.
5. Latex joint sealants.

B. Related Requirements:
1. Section 092900 "Gypsum Board" for sealing joints in sound-rated construction.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product, including backer rods.

B. Sustainable Design Submittals:

1. Product Data: For sealants, indicating VOC content.

C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

D. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

E. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.
5. Primer and cleaner
6. Backer rod type.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Product Test Reports: For each kind of joint sealant, for tests performed by a qualified testing agency.

C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

D. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 PRECONSTRUCTION TESTING

A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with masonry substrates.
4. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
5. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
6. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
7. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

1.7 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content: Sealants and sealant primers shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.

2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.
3. Sealants and sealant primers for porous substrates shall have a VOC content of 775 g/L or less.

4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

C. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Basis-of-Design: Subject to compliance with requirements, provide Dow Corning 795, or approved equal.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, NS, 25, NT: Single-component, nonsag, nontraffic-use, plus 25 percent and minus 25 percent movement capability, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonalastic TX1.
b. Bostik, Inc.; Chem-Calk.
c. ER Systems, an ITW Company; Pacific Polymers Elasto-Thane 230 MP.
d. Pecora Corporation; Dynatrol I-XL.
e. Polymeric Systems, Inc.; Flexiprene 1000.
f. Schnee-Morehead, Inc., an ITW company; Permathane SM7108.
g. Sherwin-Williams Company (The); Stampede-1.
h. Sika Corporation U.S.; Sikaflex Textured Sealant.
i. Tremco Incorporated; Dymonic.

B. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade P, Class 25, Uses T and NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonolastic SL 1.
b. Pecora Corporation; NR-201.
c. Polymeric Systems, Inc.; Flexiprene 952.
d. Schnee-Morehead, Inc.; an ITW company; Permathane SM7101.
e. Sherwin-Williams Company (The); Stampede 1SL.

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Dow Corning Corporation; 786-M White.
b. GE Construction Sealants; SCS1700 Sanitary.
c. May National Associates, Inc., a subsidiary of Sika Corporation U.S.; Bondaflex Sil 100 WF.
d. Soudal USA; RTV GP.
e. Tremco Incorporated; Tremsil 200.

2.5 BUTYL JOINT SEALANTS

A. Butyl-Rubber-Based Joint Sealants: ASTM C 1311.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Bostik, Inc.; Chem-Calk 300.
b. Pecora Corporation; BC-158.

2.6 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems; Sonolac.
b. May National Associates, Inc., a subsidiary of Sika Corporation U.S.; Bondaflex 600.
c. Pecora Corporation; AC-20.
d. Sherwin-Williams Company (The); 850A, 950A or PowerHouse.

e. Tremco Incorporated; Tremflex 834.

2.7 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. BASF Construction Chemicals, LLC, Building Systems.
b. Construction Foam Products, a division of Nomaco, Inc.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.8 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Concrete.
    b. Masonry.
    c. Unglazed surfaces of ceramic tile.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

    a. Metal.
    b. Glass.
    c. Porcelain enamel.
    d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

3.4 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:

   a. Perform 1 tests for each kind of sealant and joint substrate.

2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

   a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

3. Inspect tested joints and report on the following:

   a. Whether sealants filled joint cavities and are free of voids.

b. Whether sealant dimensions and configurations comply with specified requirements.
c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.

4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.

B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces .

1. Joint Locations:
   a. Isolation and contraction joints in cast-in-place concrete slabs.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Construction joints in cast-in-place concrete.
    b. Control and expansion joints in unit masonry.
    c. Joints between different materials listed above.
    d. Perimeter joints between materials listed above and frames of doors, windows and louvers.
    e. Control and expansion joints in ceilings and other overhead surfaces.
    f. Other joints as indicated on Drawings.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:

    a. Isolation joints in cast-in-place concrete slabs.
    b. Control and expansion joints in tile flooring.
    c. Other joints as indicated on Drawings.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Control and expansion joints on exposed interior surfaces of exterior walls.
    b. Tile control and expansion joints.
    c. Vertical joints on exposed surfaces of unit masonry walls.
    d. Other joints as indicated on Drawings.

2. Joint Sealant: Urethane, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.

1. Joint Locations:

    a. Control joints on exposed interior surfaces of exterior walls.
    b. Perimeter joints between interior wall surfaces and frames of interior doors, windows and elevator entrances.
    c. Other joints as indicated on Drawings.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

F. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
b. Tile control and expansion joints where indicated.
c. Other joints at wet areas.

2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

G. Joint-Sealant Application: Concealed mastics.

1. Joint Locations:

a. Aluminum thresholds.
b. Sill plates.
c. Other joints as indicated on Drawings.

2. Joint Sealant: Butyl-rubber based.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Tile backing panels.

~~B. Related Requirements:~~

~~1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.~~

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Data: For recycled content, indicating postconsumer and preconsumer recycled content and cost.
2. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
3. Product Data: For adhesives and sealants, indicating VOC content.

C. Samples for Verification: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.

1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

C. Ceiling and wall materials shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 GYPSUM BOARD, GENERAL

A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Regional Materials: Products shall be manufactured within 500 miles of Project site.

C. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. American Gypsum.
2. CertainTeed Corp.

3. Georgia-Pacific Gypsum LLC.
4. Lafarge North America Inc.
5. National Gypsum Company.
6. PABCO Gypsum.
7. USG Corporation.

B. Gypsum Board, Type X: ASTM C 1396/C 1396M.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

C. Gypsum Ceiling Board: ASTM C 1396/C 1396M.

1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

D. Impact-Resistant Gypsum Board: ASTM C 1396/C 1396M gypsum board, tested according to ASTM C 1629/C 1629M.

1. Core: 5/8 inch, Type X.
2. Surface Abrasion: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
3. Indentation: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
4. Soft-Body Impact: ASTM C 1629/C 1629M, meets or exceeds Level 2 requirements.
5. Long Edges: Tapered.
6. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

E. Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.

1. Core: 5/8 inch, Type X.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.

1. Thickness: 5/8 inch.
2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
2. Shapes:

a. Cornerbead.
b. LC-Bead: J-shaped; exposed long flange receives joint compound.
c. L-Bead: L-shaped; exposed long flange receives joint compound.
d. U-Bead: J-shaped; exposed short flange does not receive joint compound.
e. Expansion (control) joint.

B. Exterior Trim: ASTM C 1047.

1. Material: Hot-dip galvanized-steel sheet, plastic, or rolled zinc.
2. Shapes:

a. Cornerbead.
b. LC-Bead: J-shaped; exposed long flange receives joint compound.
c. Expansion (Control) Joint: One-piece, rolled zinc with V-shaped slot and removable strip covering slot opening.

C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Fry Reglet Corp.
b. Gordon, Inc.
c. Pittcon Industries.

2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, Alloy 6063-T5.
3. Finish: Corrosion-resistant primer compatible with joint compound and finish materials specified.

2.6 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

D. Joint Compound for Tile Backing Panels:
1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.7 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

C. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
2. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

D. Acoustical Sealant: Non drying, nonhardening, non skinning, nonstaining, gunnable, synthetic rubber sealant.

1. The following products are acceptable for non fire-rated partitions:
   a. Acoustical Sealant; U.S. Gypsum.
   b. Acoustical Sealant; Tremco Inc.
   c. BA-97, BA-98 Acoustical Sealant; Pecora Corporation.
   d. Acoustical Sealant 808; Protective Treatments, Inc
   e. Acoustical Caulking CC-75; Mason Industries, Inc.

2. The following products are acceptable for fire-rated partitions:
   a. CP 25 Caulk; 3M Corporation. Use 3M CP 25N/S Caulk for penetrations of vertical partitions and CP 25S/L Caulk for penetrations of horizontal partitions.
   b. Acoustical Sealant; Specified Technologies, Inc.
   c. FS 1900 Series Sealant Intumescent Elastomeric Firestop; International Protective Coatings, Inc.

3. Sealant shall have a VOC content of 250 g/L or less.
4. Sealant shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

K. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:

1. Wallboard Type: As indicated on Drawings.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

    a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer

joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

3.4 APPLYING TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.

B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings and according to ASTM C 840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners unless otherwise indicated.
2. LC-Bead: Use at exposed panel edges.
3. L-Bead: Use where indicated.
4. U-Bead: Use where indicated.

D. Exterior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. LC-Bead: Use at exposed panel edges.

E. Aluminum Trim: Install in locations indicated on Drawings.

3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 2: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 4: Where indicated on Drawings.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

1. Level 5: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on interior substrates.

1.3 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Sustainable Design Submittals:

1. Product Data: For paints and coatings, indicating VOC content.

C. Samples for Initial Selection: For each type of topcoat product.

D. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

E. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft..
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.

2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design: Vista Paint Corp.
1. Acceptable Manufacturers:
a. Sherwin Williams
b. Dunn Edwards

B. Products: Subject to compliance with requirements, provide product listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 50 g/L.
3. Dry-Fog Coatings: 150 g/L.
4. Primers, Sealers, and Undercoaters: 100 g/L.
5. Rust-Preventive Coatings: 100 g/L.
6. Zinc-Rich Industrial Maintenance Primers: 100 g/L.
7. Pretreatment Wash Primers: 420 g/L.

8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

D. Low-Emitting Materials: For field applications that are inside the weatherproofing system, 90 percent of paints and coatings shall comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

E. Colors: As selected by Architect from manufacturer's full range.

2.3 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Fiber-Cement Board: 12 percent.
3. Masonry (Clay and CMUs): 12 percent.
4. Wood: 15 percent.
5. Gypsum Board: 12 percent.
6. Plaster: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Plaster Substrates: Verify that plaster is fully cured.

E. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

F. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

G. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.

G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

I. Aluminum Substrates: Remove loose surface oxidation.

J. Wood Substrates:

1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
2. Sand surfaces that will be exposed to view, and dust off.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

K. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in equipment rooms:

a. Equipment, including panelboards and switch gear.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Tanks that do not have factory-applied final finishes.

h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.

2. Paint the following work where exposed in occupied spaces:

a. Equipment, including panelboards.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Plastic conduit.
g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
h. Other items as directed by Architect.

3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Traffic Surfaces:

1. Water-Based Concrete Floor Sealer System ~~MPI INT 3.2C~~:

a. Basis-of-Design: WR Meadows, LIQUI-HARD

b. Acceptable products:
1) Paul M. Wolff Co, Orange, CA. Product: Shur-Seal
2) Tnemec Company. Product: Chemprobe CT Densifier 201
3) Curecrete Chemical Co., Springville, UT. Product: Ashford Formula

~~a. First Coat: Sealer, water based, for concrete floors, matching topcoat.~~
~~b. Topcoat: Sealer, water based, for concrete floors, MPI #99.~~

B. Steel Substrates:

1. Water-Based Light Industrial Coating System MPI INT 5.1B:

a. Prime Coat: Primer, rust-inhibitive, water based MPI #107.

1) Vista Paint – 9600 Protec Metal Prime

b. Intermediate Coat: Light industrial coating, interior, water based, matching topcoat.

c. Topcoat: Light industrial coating, interior, water based, gloss (MPI Gloss Level 6-7), MPI #157.

1) Vista Paint – 9800 Protec.

C. Gypsum Board Substrates:

1. Latex over Latex Sealer System MPI INT 9.2A:

a. Prime Coat: Primer sealer, latex, interior, MPI #50.

1) Vista Paint- 1100 Hi-Build PVA Sealer

b. Intermediate Coat: Latex, interior, matching topcoat.

c. Topcoat: Latex, interior, semi-gloss (MPI Gloss Level 5), MPI #54.

1) Vista Paint – 8400 Carefree

d. Topcoat (All-Gender toilet and other locations indicated on drawings): Latex, interior, gloss (MPI Gloss Level 6, except minimum gloss of 65 units at 60 degrees), MPI #114.

1) Vista Paint – 8500 Carefree

END OF SECTION 099123

SECTION 101100 - VISUAL DISPLAY UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Visual display board assemblies.

B. Related requirements:

~~2.~~1. Section 097200- 'WALL COVERINGS' for Vinyl facing fabric over tackboards.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for visual display units.
2. Include electrical characteristics for motorized units.

B. Sustainable Design Submittals:

1. Product Data: For installation adhesives, indicating VOC content.
2. Product Data: For composite wood products, indicating that product contains no urea formaldehyde.

C. Shop Drawings: For visual display units.

1. Include plans, elevations, sections, details, and attachment to other work.
2. Show locations and layout of special-purpose graphics.
3. Include sections of typical trim members.

D. Samples: For each type of visual display unit indicated.

1. Visual Display Panel: Not less than 8-1/2 by 11 inches, with facing, core, and backing indicated for final Work. Include one panel for each type, color, and texture required.
2. Trim: 6-inch- long sections of each trim profile.
3. Support System: 6-inch- long sections.
4. Accessories: Full-size Sample of each type of accessory.

E. Product Schedule: For visual display units.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Sample Warranties: For special warranties.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tackboard-Covering Materials: For each type, color, texture, and finish, full width by length to equal to 5 percent of amount installed but not less than 25 lineal feet.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install visual display units until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

B. Field Measurements: Verify actual dimensions of construction contiguous with visual display units by field measurements before fabrication.

1. Allow for trimming and fitting where taking field measurements before fabrication might delay the Work.

1.9 WARRANTY

A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

   a. Surfaces lose original writing and erasing qualities.
   b. Surfaces exhibit crazing, cracking, or flaking.

2. Warranty Period: Life of the building.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of visual display unit from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

2.3 VISUAL DISPLAY BOARD ASSEMBLY

A. Visual Display Board Assembly: factory fabricated.

1. Assembly: markerboard and tackboard.
2. Corners: Square.
3. Width: As indicated on Drawings.
4. Height: As indicated on Drawings.
5. Mounting Method: Manufacturer's standard.

B. Markerboard Panel: Porcelain-enamel-faced markerboard panel on core indicated.

1. Basis-of-Design:
   a. Projection Markerboards: DTS Series 'Writanium' Markerboards by Platinum Visual Systems, or approved equal.
   b. Non-projection Markerboards: Claridge, Series 3 with Drop Tray, or approved equal.

2. Color: White.

C. Tackboard Panel: Vinyl-fabric-faced tackboard panel on core indicated.

1. Basis-of-Design: ~~Subject to compliance with requirements, provide product indicated on drawings, or approved equal.~~Chatfield-Clarke Vinyl tackboard panels with Koroseal Vinyl facing.

2. Fabric Wrapped Edge: Wrap edge of tackboard panel with fabric facing.
3. Color and Pattern: As ~~selected by Architect from full range of industry colors.~~indicated on drawings.

D. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- thick, extruded aluminum; standard size and shape.

1. Aluminum Finish: Clear anodic finish.

E. Joints: Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, as indicated on approved Shop Drawings.

F. Drop-in tray: Manufacturer's standard; continuous.

1. Solid Type: Extruded aluminum with ribbed section and smoothly curved exposed ends.

2.4 FLOOR-TO-CEILING VISUAL DISPLAY ASSEMBLIES

A. Floor-to-Ceiling Tackboard Panel Assemblies: Consisting of tackboard panels with vinyl-fabric facing on core indicated, fabricated for floor-to-ceiling assemblies.

1. Edge Treatments:

a. Panel-Joint Edges: Wrapped with fabric.
b. Top-of-Wall Edges: Wrapped with fabric.
c. Bottom-of-Wall Edges: Wrapped with fabric.
d. Corners: Wrapped with fabric.

~~2. Color: As selected by Architect from full range of industry colors.~~

B. Width: As indicated on Drawings.

C. Height: As indicated on Drawings.

D. Joint Accessories: Manufacturer's standard, concealed aluminum or steel spline at butt joints.

2.5 MARKERBOARD PANELS

A. Porcelain-Enamel Markerboard Panels: Balanced, high-pressure, factory-laminated markerboard assembly of three-ply construction, consisting of moisture-barrier backing, core material, and porcelain-enamel face sheet with low-gloss finish. Laminate panels under heat and pressure with manufacturer's standard, flexible waterproof adhesive.

1. Face Sheet Thickness: 28 gauge uncoated base metal thickness.
2. Particleboard Core: 1/2 inch thick; with 0.005-inch- thick, aluminum foil backing.
3. Medium-Density Fiberboard Core: 7/16 inch thick; with manufacturer's standard moisture-barrier backing.
4. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

2.6 TACKBOARD PANELS

A. Tackboard Panels:

1. Facing: Vinyl fabric.
   a. Basis-of-Design: ~~Koroseal 'Ceres' by RJF International Corp.~~Refer to specification section 097200- 'WALL COVERINGS'
   ~~a.~~b. Colors and patterns: As indicated on drawings.
2. Core: Manufacturer's standard.

2.7 MATERIALS

A. Porcelain-Enamel Face Sheet: PEI-1002, with face sheet manufacturer's standard two- or three-coat process.

B. High-Pressure Plastic Laminate: NEMA LD 3.

C. Vinyl Fabric: Mildew resistant, washable, complying with FS CCC-W-408D, Type II,; weighing not less than 13 oz./sq. yd.; with surface-burning characteristics indicated.

D. Composite Wood Products: Products shall be made without urea formaldehyde.

E. Composite Wood Products: Products shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

F. Hardboard: ANSI A135.4, tempered.

G. Particleboard: ANSI A208.1, Grade M-1.

H. Medium-Density Fiberboard: ANSI A208.2, Grade 130.

I. Fiberboard: ASTM C 208 cellulosic fiber insulating board.

J. Extruded Aluminum: ASTM B 221, Alloy 6063.

K. Adhesives for Field Application: Mildew-resistant, nonstaining adhesive for use with specific type of panels, sheets, or assemblies; and for substrate application; as recommended in writing by visual display unit manufacturer.

1. Adhesives shall have a VOC content of 50 g/L or less.
2. Adhesive shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.8 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.9 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, surface conditions of wall, and other conditions affecting performance of the Work.

B. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motorized, sliding visual display units.

C. Examine walls and partitions for proper preparation and backing for visual display units.

D. Examine walls and partitions for suitable framing depth where sliding visual display units will be installed.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer's written instructions for surface preparation.

B. Clean substrates of substances, such as dirt, mold, and mildew, that could impair the performance of and affect the smooth, finished surfaces of visual display boards.

C. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, projections, depressions, and substances that will impair bond between visual display units and wall surfaces.

3.3 INSTALLATION

A. General: Install visual display surfaces in locations and at mounting heights indicated on Drawings, or if not indicated, at heights indicated below. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.

B. Factory-Fabricated Visual Display Board Assemblies: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display board assemblies with fasteners at not more than 16 inches o.c. Secure tops and bottoms of boards to walls.

C. Visual Display Board Assembly Mounting Heights: Install visual display units at mounting heights indicated on Drawings, or if not indicated.

3.4 CLEANING AND PROTECTION

A. Clean visual display units according to manufacturer's written instructions. Attach one removable cleaning instructions label to visual display unit in each room.

B. Touch up factory-applied finishes to restore damaged or soiled areas.

C. Cover and protect visual display units after installation and cleaning.

END OF SECTION 101100

SECTION 123553.19 - WOOD LABORATORY CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wood laboratory casework.
2. Laboratory countertops.
3. Laboratory sinks.
4. Water, laboratory gas, and electrical service fittings.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood blocking for anchoring laboratory casework.
2. Section 092216 "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring laboratory casework.
3. Section 096513 "Resilient Base and Accessories" for resilient base applied to wood laboratory casework.

1.3 DEFINITIONS

A. Exposed Surfaces of Casework: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 48 inches above floor, and visible surfaces in open cabinets or behind glass doors.

1. Ends of cabinets, including those installed directly against walls or other cabinets, are defined as "exposed."
2. Ends of cabinets indicated to be installed directly against and completely concealed by walls or other cabinets are defined as "concealed."

B. Semiexposed Surfaces of Casework: Surfaces behind opaque doors, such as cabinet interiors, shelves, and dividers; interiors and sides of drawers; and interior faces of doors. Tops of cases 78 inches or more above floor and bottoms of cabinets more than 24 inches but less than 48 inches above floor are defined as semiexposed.

C. Concealed Surfaces of Casework: Include sleepers, web frames, dust panels, and other surfaces not usually visible after installation.

D. MDF: Medium-density fiberboard.

E. Hardwood Plywood: A panel product composed of layers, or plies, of veneer, or of veneers in combination with lumber core, hardboard core, MDF core, or particleboard core, joined with adhesive and faced both front and back with hardwood veneers.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

B. Keying Conference: Conduct conference at Project site. Incorporate keying conference decisions into final keying requirements.

1.5 COORDINATION

A. Coordinate layout and installation of framing and reinforcements for support of laboratory casework.

B. Coordinate installation of laboratory casework with installation of fume hoods and other laboratory equipment.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Certificates: For regional materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project and cost for each regional material.
2. Chain-of-Custody Certificates: For certified wood products. Include statement of costs.
3. Chain-of-Custody Qualification Data: For manufacturer and vendor.
4. Product Data: For adhesives, indicating that product contains no urea formaldehyde.
5. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.
6. Product Data: For composite wood products, indicating that product contains no urea formaldehyde.
7. Laboratory Test Reports: For composite wood products, indicating compliance with requirements for low-emitting materials.

C. Shop Drawings: For laboratory casework. Include plans, elevations, sections, and attachment details.

1. Indicate types and sizes of cabinets.
2. Indicate locations of hardware and keying of locks.
3. Indicate locations and types of service fittings.

4. Indicate locations of blocking and reinforcements required for installing laboratory casework.
5. Include details of utility spaces showing supports for conduits and piping.
6. Include details of support framing system.
7. Include details of exposed conduits, if required, for service fittings.
8. Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and other laboratory equipment.
9. Include coordinated dimensions for laboratory equipment specified in other Sections.

D. Product Schedule:

1. Include schematic keying diagram, and index each key set to unique designations that are coordinated with the Contract Documents.

E. Samples for Verification: For each type of cabinet finish and each type of countertop material, in manufacturer's standard sizes.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Product Test Reports:

1. Casework: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory casework with requirements of specified product standard.
2. Countertop Surface Material: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory countertop surface materials with requirements specified for chemical and physical resistance.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish complete touchup kit for each type and color of wood laboratory casework provided. Include scratch fillers, stains, finishes, and other materials necessary to perform permanent repairs to damaged laboratory casework finish.

B. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Cabinet Mounting Clips and Related Hardware: Quantity equal to 5 percent of amount installed, but no fewer than 20 of each type.

1.9 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that produces casework of types indicated for this Project that has been tested for compliance with SEFA 8 W.

B. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

C. Vendor Qualifications: A vendor that is certified for chain of custody by an FSC-accredited certification body.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Protect finished surfaces during handling and installation with protective covering of polyethylene film or other suitable material.

1.11 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install laboratory casework until building is enclosed, utility roughing-in and wet work are complete and dry, and temporary HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Locate concealed framing, blocking, and reinforcements that support casework by field measurements before being enclosed, and indicate measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 CASEWORK MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Kewaunee Scientific Corporation; #111 Barnwood Oak, Style-1 wood casework or a comparable product by one of the following:

1. Dow Diversified, Costa Mesa, CA
2. Thermo Fisher Scientific, Two Rivers, WI
3. Approved equal.

B. Source Limitations: Obtain laboratory casework from single source from single manufacturer unless otherwise indicated.

1. Obtain countertops, sinks, accessories and, service fittings from casework manufacturer.

C. Product Designations: Drawings indicate sizes and configurations of laboratory casework ~~by referencing designated manufacturer's catalog numbers~~. Provide stock or custom sizes as indicated on drawings. Other manufacturers' laboratory casework of similar sizes and similar door and drawer configurations and complying with Specifications may be considered. See Section 016000 "Product Requirements."

2.2 PERFORMANCE REQUIREMENTS

A. Conform to Table 1601.1 California Building Code for lateral restraint, all cabinet work.

B. System Structural Performance: Laboratory casework and support framing system shall withstand the effects of the following gravity loads and stresses without permanent deformation, excessive deflection, or binding of drawers and doors:

1. Support Framing System: 600 lb/ft..
2. Suspended Base Cabinets (Internal Load): 160 lb/ft..
3. Work Surfaces (Including Tops of Suspended Base Cabinets): 160 lb/ft..
4. Wall Cabinets (Upper Cabinets): 160 lb/ft..
5. Shelves: 40 lb/sq. ft..

2.3 CASEWORK, GENERAL

A. Casework Product Standard: Comply with SEFA 8 W, "Laboratory Grade Wood Casework."

B. Flammable Liquid Storage: Where cabinets are indicated for solvent or flammable liquid storage, provide units that are listed and labeled as complying with requirements in NFPA 30 by a testing and inspecting agency acceptable to authorities having jurisdiction or FM Approvals.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Regional Materials: Wood products shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

E. Regional Materials: Wood products shall be manufactured within 500 miles of Project site.

F. Certified Wood: Wood products shall be certified as "FSC Pure" according to FSC STD-01-001 and FSC STD-40-004.

2.4 WOOD CASEWORK

A. Design: Lipped overlay with radiused edges.

B. Wood Species/finish: Refer to Basis-of-Design.

C. Cut: Plain sliced/sawn.

D. Matching:

1. Provide veneers for each cabinet from a single flitch, book or slip matched.

a. Provide continuous matching of adjacent drawer fronts within each cabinet.

E. Grain Direction:

1. Vertical on doors, horizontal on drawer fronts.
2. Lengthwise on face frame members.
3. Vertical on end panels.
4. Side to side on bottoms and tops of units.
5. Vertical on knee-space panels.
6. Horizontal on aprons and table frames.

F. Exposed Materials:

1. General: Provide materials that are selected and arranged for compatible grain and color. Do not use materials adjacent to one another that are noticeably dissimilar in color, grain, figure, or natural character markings.
2. Plywood: Hardwood plywood, either veneer core or particleboard core, made without urea formaldehyde with face veneer of species indicated. Grade A exposed faces, at least 1/50 inch thick, and Grade J crossbands. Provide backs of same species as faces.
3. Solid Wood: Clear hardwood lumber of species indicated.

G. Semiexposed Materials:

1. Solid Wood: Sound hardwood lumber, selected to eliminate appearance defects, of same species as exposed solid wood.
2. Plywood: Hardwood plywood of same species as exposed plywood. Grade B faces and Grade J crossbands. Provide backs of same species as faces.
3. Provide solid wood or hardwood plywood for semiexposed surfaces unless otherwise indicated.
4. Metal for Steel Drawer Pans: Cold-rolled, carbon-steel sheet complying with ASTM A 1008/A 1008M; matte finish; suitable for exposed applications.

H. Concealed Materials:

1. Solid Wood: Any species, with no defects affecting strength or utility.
2. Plywood: Hardwood plywood. Provide backs of same species as faces.
3. Particleboard.
4. MDF.
5. Hardboard.

2.5 WOOD CABINET MATERIALS

A. General:

1. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.

B. Composite Wood Products: Products shall be made without urea formaldehyde.

C. Composite Wood Products: Products shall comply with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

D. Hardwood Plywood: HPVA HP-1, particleboard core except where veneer core is indicated.

E. Hardboard: ANSI A135.4, Class 1 Tempered.

F. Adhesives: Do not use adhesives that contain urea formaldehyde.

G. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

H. Edgebanding for Wood-Veneered Construction: Minimum 1/8-inch- thick, solid wood of same species as face veneer.

1. Select wood edgebanding for grain and color compatible with face veneers.

2.6 AUXILIARY CABINET MATERIALS

A. Acid Storage-Cabinet Lining: 1/4-inch- thick, polyethylene, polypropylene, epoxy, or phenolic-composite lining material.

B. Glass for Glazed Doors: Clear tempered glass complying with ASTM C 1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3; not less than 5.0 mm thick.

2.7 COUNTERTOP AND SINK MATERIALS

A. Epoxy: Factory-molded, modified epoxy-resin formulation with smooth, nonspecular finish.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Kewaunee, Kemresin or comparable product by one of the following:

a. Epoxyn Products, Mountain Home, AR
b. Durcon Incorporated.
c. Insul-Serv Inc. (ISI), Scottsdale, AZ
d. Thermo Fisher Scientific, Inc.

2. Physical Properties:

a. Flexural Strength: Not less than 10,000 psi.
b. Modulus of Elasticity: Not less than 2,000,000 psi.
c. Hardness (Rockwell M): Not less than 100.
d. Water Absorption (24 Hours): Not more than 0.02 percent.
e. Heat Distortion Point: Not less than 260 deg F.

3. Chemical Resistance: Epoxy-resin material has the following ratings when tested with indicated reagents according to NEMA LD 3, Test Procedure 3.4.5:

a. No Effect: Acetic acid (98 percent), acetone, ammonium hydroxide (28 percent), benzene, carbon tetrachloride, dimethyl formamide, ethyl acetate, ethyl alcohol,

ethyl ether, methyl alcohol, nitric acid (70 percent), phenol, sulfuric acid (60 percent), and toluene.

b. Slight Effect: Chromic acid (60 percent) and sodium hydroxide (50 percent).

4. Color: Grey.

2.8 FABRICATION

A. Construction: Provide wood-faced laboratory casework complying with SEFA 8 W.

B. Tables: Solid-hardwood legs, not less than 2 inches square with solid-hardwood stretchers as needed to comply with product standard. Bolt stretchers to legs and cross-stretchers, and bolt legs to table aprons. Provide leveling device at bottom of each leg.

1. Leg Shoes: Black vinyl or rubber, open-bottom, slip-on type.

C. Utility-Space Framing: Steel framing units consisting of two steel slotted channels complying with MFMA-4, not less than 1-5/8 inches square by 0.105-inch nominal thickness, and connected at top and bottom by U-shaped brackets made from 1-1/4-by-1/4-inch steel flat bars. Framing units may be made by welding specified channel material into rectangular frames instead of using U-shaped brackets.

D. Removable Backs: Provide backs that can be removed from within cabinets at utility spaces.

E. Filler and Closure Panels: Provide where indicated and as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as adjacent exposed cabinet surfaces unless otherwise indicated.

1. Provide knee-space panels (modesty panels) at spaces between base cabinets, where cabinets are not installed against a wall or where space is not otherwise closed.
2. Provide utility-space closure panels at spaces between base cabinets where utility space would otherwise be exposed, including spaces below countertops.
3. Provide closure panels at ends of utility spaces where utility space would otherwise be exposed.

2.9 WOOD FINISH

A. Preparation: Sand lumber and plywood before assembling. Sand edges of doors, drawer fronts, and molded shapes with profile-edge sander. Sand after assembling for uniform smoothness at least equivalent to that produced by 220-grit sanding and without machine marks, cross sanding, or other surface blemishes.

B. Chemical-Resistant Finish: Apply laboratory casework manufacturer's standard two or three-coat, chemical-resistant, transparent finish. Sand and wipe clean between coats. Topcoat(s) may be omitted on concealed surfaces.

1. Chemical and Physical Resistance of Finish System: Finish complies with acceptance levels of cabinet surface finish tests in SEFA 8 W. Acceptance level for chemical spot test shall be no more than four Level 3 conditions.

2.10 HARDWARE

A. General: Provide laboratory casework manufacturer's standard, commercial-quality, heavy-duty hardware complying with requirements indicated for each type.

B. Butt Hinges: Stainless-steel, five-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide two for doors 48 inches high or less and three for doors more than 48 inches high.

C. Hinged Door and Drawer Pulls: Stainless-steel back-mounted pulls. Provide two pulls for drawers more than 24 inches wide.

1. Design: As selected from manufacturer's full range.
2. Overall Size: 1 by 4-1/2 inches, unless indicated otherwise.

D. Door Catches: Nylon-roller spring catches. Provide two catches on doors more than 48 inches high.

E. Drawer Slides: Side mounted, epoxy-coated steel, self-closing; designed to prevent rebound when drawers are closed; complying with BHMA A156.9, Type B05091.

1. Provide Grade 1HD-100; for drawers not more than 6 inches high and 24 inches wide.
2. Provide Grade 1HD-200; for drawers more than 6 inches high or 24 inches wide.
3. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Full-extension, ball-bearing type.

F. Label Holders: Stainless steel, aluminum, or chrome plated; sized to receive standard label cards approximately 1 by 2 inches, attached with screws or rivets. Provide on all drawers.

G. Locks: Cam type, brass with chrome-plated finish; complying with BHMA A156.11, Type E07281 or Type E07261.

1. Provide a minimum of six keys per lock and two master keys.
2. Provide on all drawers and doors.
3. Keying: Key locks as directed.
4. Master Key System: Key all locks to be operable by master key.

H. Adjustable Shelf Supports: Powder-coated steel shelf rests complying with BHMA A156.9, Type B04013.

I. Adjustable Wall Shelf Supports: Surface-type steel standards and steel shelf brackets, with epoxy powder-coated finish, complying with BHMA A156.9, Type B04102 and Type B04112.

2.11 COUNTERTOPS AND SINKS

A. Countertops, General: Provide units with smooth surfaces in uniform plane, free of defects. Make exposed edges and corners straight and uniformly beveled. Provide front and end overhang of 1 inch, with continuous drip groove on underside 1/2 inch from edge.

B. Sinks, General: Provide sizes indicated or laboratory casework manufacturer's closest standard size of equal or greater volume, as approved by Architect.

1. Provide 18 by 15 by 12 inch deep sink at non-ADA locations. Provide shallow depth sink at ADA locations to comply with ADA clearance requirements.
2. Outlets: Provide with strainers and tailpieces, NPS 1-1/2, unless otherwise indicated.
3. Overflows: For each sink except cup sinks, provide overflow of standard beehive or open-top design with separate strainer. Height 2 inches less than sink depth. Provide in same material as strainer.

C. Epoxy Countertops and Sinks:

1. Countertop Fabrication: Fabricate with factory cutouts for sinks, holes for service fittings and accessories, and butt joints assembled with epoxy adhesive and concealed metal splines.

a. Countertop Configuration: Flat, 1 inch thick, with beveled or rounded edge and corners, and with drip groove and integral coved backsplash.
b. Countertop Construction: Uniform throughout full thickness.

2. Sink Fabrication: Molded in one piece with smooth surfaces, coved corners, and bottom sloped to outlet; 1/2-inch minimum thickness.

a. Provide with polypropylene strainers and tailpieces.
b. Provide sinks for drop-in installation with 1/4-inch- thick lip around perimeter of sink.
c. Provide manufacturer's recommended adjustable support system for table- and cabinet-type installations.

2.12 WATER AND LABORATORY GAS SERVICE FITTINGS

A. Service Fittings: Provide units that comply with SEFA 7, "Laboratory and Hospital Fixtures - Recommended Practices." Provide fittings complete with washers, locknuts, nipples, and other installation accessories. Include wall and deck flanges, escutcheons, handle extension rods, and similar items.

1. Provide units that comply with "Vandal-Resistant Faucets and Fixtures" recommendations in SEFA 7.

B. Materials: Fabricated from cast or forged red brass unless otherwise indicated.

1. Reagent-Grade Water Service Fittings: Polypropylene, PVC, or PVDF for parts in contact with water.

C. Finish: Chromium plated unless otherwise indicated.

D. Water Valves and Faucets: Provide units complying with ASME A112.18.1, with renewable seats, designed for working pressure up to 80 psig.

1. Vacuum Breakers: Provide ASSE 1035 vacuum breakers on water fittings with serrated outlets.
2. Aerators: Provide aerators on water fittings that do not have serrated outlets.
3. Self-Closing Valves: Provide self-closing valves where indicated.

E. Ball Valves: Chrome-plated ball and PTFE seals. Handle requires no more than 5 lbf to operate. Provide units designed for working pressure up to 75 psig, with serrated outlets.

F. Needle Valves: Provide units with renewable, self-centering, floating cones and renewable seats of stainless steel or Monel metal, with removable serrated outlets.

1. Provide units designed for working pressure up to 125 psig.

G. Hand of Fittings: Furnish right-hand fittings unless fitting designation is followed by "L."

H. Service-Outlet Identification: Provide color-coded plastic discs with embossed identification, secured to each service-fitting handle to be tamper resistant. Comply with SEFA 7 for colors and embossed identification.

2.13 ELECTRICAL SERVICE FITTINGS

A. Service Fittings, General: Provide units complete with metal housings, receptacles, switches, pilot lights, cover plates, accessories, and gaskets required for mounting on laboratory casework.

B. Electrical Wiring Devices: Comply with requirements in Section 262726 "Wiring Devices" for receptacles, switches, pilot lights, cover plates, and accessories.

C. Finishes for Service-Fitting Components: Provide housings or boxes for pedestal- and line-type fittings with manufacturer's standard baked-on, chemical-resistant enamel in color as selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of reinforcements, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF CABINETS

A. Comply with installation requirements in SEFA 2.3. Install level, plumb, and true; shim as required, using concealed shims. Where laboratory casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical. Do not exceed the following tolerances:

1. Variation of Tops of Base Cabinets from Level: 1/16 inch in 10 feet.
2. Variation of Bottoms of Upper Cabinets from Level: 1/8 inch in 10 feet.
3. Variation of Faces of Cabinets from a True Plane: 1/8 inch in 10 feet.
4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch.
5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch.

B. Utility-Space Framing: Secure to floor with two fasteners at each frame. Fasten to partition framing, wood blocking, or metal reinforcements in partitions and to base cabinets.

C. Base Cabinets: Fasten cabinets to utility-space framing, partition framing, wood blocking, or reinforcements in partitions, with fasteners spaced not more than 16 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform.

1. Where base cabinets are installed away from walls, fasten to floor at toe space at not more than 24 inches o.c. and at sides of cabinets with not less than two fasteners per side.

D. Wall Cabinets: Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Fasten each cabinet through back, near top, at not less than 16 inches o.c.

E. Install hardware uniformly and precisely. Set hinges snug and flat in mortises.

F. Adjust laboratory casework and hardware so doors and drawers align and operate smoothly without warp or bind and contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF COUNTERTOPS

A. Comply with installation requirements in SEFA 2.3. Abut top and edge surfaces in one true plane with flush hairline joints and with internal supports placed to prevent deflection. Locate joints only where indicated on Shop Drawings.

B. Field Jointing: Where possible, make in same manner as shop-made joints using dowels, splines, fasteners, adhesives, and sealants recommended by manufacturer. Shop prepare edges for field-made joints.

1. Use concealed clamping devices for field-made joints in plastic-laminate countertops. Locate clamping devices within 6 inches of front and back edges and at intervals not exceeding 24 inches. Tighten according to manufacturer's written instructions to exert a uniform heavy pressure at joints.

C. Fastening:

1. Secure epoxy countertops to cabinets with epoxy cement, applied at each corner and along perimeter edges at not more than 48 inches o.c.
2. Where necessary to penetrate countertops with fasteners, countersink heads approximately 1/8 inch and plug hole flush with material equal to countertop in chemical resistance, hardness, and appearance.

D. Provide required holes and cutouts for service fittings.

E. Provide scribe moldings for closures at junctures of countertop, curb, and splash with walls as recommended by manufacturer for materials involved. Match materials and finish to adjacent laboratory casework. Use chemical-resistant, permanently elastic sealing compound where recommended by manufacturer.

F. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

3.4 INSTALLATION OF SINKS

A. Comply with installation requirements in SEFA 2.3.

B. Drop-in Installation of Epoxy Sinks: Rout groove in countertop to receive sink rim if not shop prepared. Set sink in adhesive and fill remainder of groove with sealant or adhesive. Use procedures and products recommended by sink and countertop manufacturers. Remove excess adhesive and sealant while still wet and finish joint for neat appearance.

3.5 INSTALLATION OF LABORATORY ACCESSORIES

A. Install accessories according to Shop Drawings, installation requirements in SEFA 2.3, and manufacturer's written instructions.

3.6 INSTALLATION OF SERVICE FITTINGS

A. Comply with requirements in other Sections for installing water and laboratory gas service fittings and electrical devices.

B. Install fittings according to Shop Drawings, installation requirements in SEFA 2.3, and manufacturer's written instructions. Set bases and flanges of sink- and countertop-mounted fittings in sealant recommended by manufacturer of sink or countertop material. Securely anchor fittings to laboratory casework unless otherwise indicated.

3.7 CLEANING AND PROTECTING

A. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.

B. Protect countertop surfaces during construction with 6-mil plastic or other suitable water-resistant covering. Tape to underside of countertop at a minimum of 48 inches o.c.

END OF SECTION 123553.19

SECTION 28 16 00 - INTRUSION ALARM SYSTEM

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. The work under this section includes all final design, all labor, material, equipment, supplies, labor, testing, and accessories required to modify and expand the existing campus Intrusion Detection / Burglar Alarm System (referred to as intrusion alarm) as indicated on the drawings and as specified herein.

B. It is the intent of the Drawings and Specifications for the Contractor to design, provide and install a complete, fully operational, and tested system.

C. All miscellaneous system components including, but not limited to, cables, termination equipment, punch blocks, patch panels, backboards, and any other related items shall be furnished and installed complete under this section. All miscellaneous items and accessories required for such installation, whether or not each such item or accessory is shown on the plans or mentioned in these specifications.

D. It shall be the responsibility of each Bidder to examine the plans and specifications carefully before submitting his bid. Any questions or discrepancies discovered shall be brought to the attention of the Architect/Engineer, prior to bid, and resolved by way of addendum.

E. All materials, equipment and apparatus provided shall be new and of the latest design or model offered for sale by the manufacturer.

1.02 RELATED WORK

A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and sections of Divisions 1 and 26 of these specifications.

B. All applicable portions of Section 26 00 00 and Section 27 10 00 shall apply to this section as though written herein completely.

1.03 GENERAL REQUIREMENTS

A. Equipment

1. This specification is based on the equipment of the manufacturer who’s equipment is compatible with the existing District Wide Intrusion Detection Network, AES radio system, and Security Management Software. Due to this fact, the herein named manufacturer’s equipment shall be considered the District Standard for Intrusion Detection. No substitutions shall be accepted.

2. The District Standard for Intrusion Detection Equipment for Irvine Unified School District is Digital Monitoring Products (DMP).

3. All equipment shall conform to applicable codes and ordinances.

4. All equipment shall bear the label of a Nationally Recognized Testing Laboratory (NRTL) such as Intertek Testing Services NA, Inc. (ITSNA - formerly ETL) or Underwriters Laboratories Inc. (UL) and be listed by their re-examination service.

B. Contractor: The term "Contractor" shall be defined as the company, or group of companies, that actually provides the products per Section 2 and installs the products per Section 3 of this document. The Contractor selected to provide the installation of this system shall be certified by the manufacturer in all aspects of design, installation and testing of the products described herein.

1. The Contractor (and any sub-contractor) shall hold a valid State of California C-7 Low-Voltage license and Department of Consumer Affairs Bureau of Security and Investigative Services (BSIS) "Alarm Company Operator's" License, and shall have completed at least twenty (20) projects of equal scope, shall have been in business of furnishing and installing systems of this scope and magnitude for at least the past five (5) consecutive years, and capable of being bonded to assure the Owner's Project Manager of performance and satisfactory service during the guarantee period.

2. All work shall be performed under the supervision of a company accredited and trained by the manufacturer and such accreditation must be presented with the bid submittal. Contractor must be accredited a minimum of 180 days prior to bid submittal date.

3. The Contractor shall be a manufacturer's Authorized Installer and Warranty Station for the equipment offered and shall maintain a fully equipped service organization capable of furnishing adequate repair service to the equipment.

4. The Contractor selected for this Project shall adhere to the engineering, installation and testing procedures and utilize the authorized manufacturer components and distribution channels in provisioning this Project.

5. The Contractor shall hold all other licenses required by the legally constituted authorities having jurisdiction (AHJ) over the work.

6. The Contractor shall maintain and provide appropriate liability and worker's compensation insurance coverage.

1.04 PRODUCT SUBSTITUTION/EQUAL

A. It is the intent of these specifications to establish an installation standard of quality for labor and materials. For any proposed product(s) substitution, or when the Contractor intends to include a "Substitution/or-equal" product in the bid pricing, the Contractor shall provide a "Substitution/Equal Request" submittal to the Owner's representative for review. This documentation must be received by the Owner's representative no later than five (5) business days prior to Bid submittal. This document shall include all of the following items:

1. Description of how the proposed product(s) will impact meeting the project completion date, indicate all item(s) with lead times and expected delivery date(s).

2. Proposed product specifications and manufacturer's product literature (cut sheets).

3. Itemized cost comparisons between the proposed product(s) and the listed product(s).

4. Detailed technical analysis of the electrical and mechanical specification differences between the proposed product(s) and the listed product(s).

5. Itemized comparison to each of the product's functions as described in this section, electrical characteristics, and mechanical characteristics. Include in that document how the proposed product(s) compares to the specified product(s) on a line by line basis, using one of the following criteria: "exceeds", "matches", or "unequal".

6. Provide either ETL "Verified" or UL "Verified" test lab documentation for the proposed product(s) and assemblies proposed.

7. Name, address and contact information of several (minimum of two) similar projects where the substituted product(s) have been used.

8. Name, address and contact information of the proposed product(s) manufacturer's local representative.

9. Sample proposed product(s) manufacturer's component and application extended warranty. Detailed warranty requirements are described in Section 1.07 System Warranty of this document.

B. Failure to provide all items listed in Section 1.04.A.1 through 9 for review by the Owner's Design Team shall result in rejection of the substitution/or-equal request.

C. All proposed product documentation listed above shall be sent to the Owner's representative via one of the following methods: mail, fax machine, or email. The contractor will include the project name, contractor's contact information, and the specification section number to which the proposed product(s) is comparable.

D. The Owner's Design Team/Project Manager must approve any proposed product(s) substitution/or-equal item in writing. All approved substitutions / equals will be published in addendum form prior to the bid date.

E. The Owner's Design Team/Project Manager reserves the right to require a complete sample of any proposed product(s) and may request a sample tested by an independent testing consultant to prove equality. The decision of the Owner's Design Team/Project Manager regarding equality of proposed product(s) items will be final.

F. Failure to receive written approval for product installed that deviates from the products called for in this specification and/or on the project plan drawings will result in the Contractor having to replace the unapproved materials and equipment with the originally specified products and no additional cost to the Owner.

1.05 PRE AWARD SUBMITTAL REQUIREMENT

A. In the Contractor's bid package, the Contractor shall submit all items required in Division 1 of the bid package.

1.06 PRE INSTALLATION SUBMITTAL REQUIREMENTS

A. Within fifteen (15) calendar days after the date of award of the Contract, the Contractor shall submit the following:

1. Submittal Binder: Submit one (1) digital electronic copy of the complete Submittal package for review. The binder shall consist of five (5) major sections.

a. The FIRST section shall include a COVER SHEET on the Contractors Company letter head including, Contractor's name, Contractor's license number, Project name, Specification number and description, Date documentation was submitted.

b. The SECOND section shall include the Bill of Materials spreadsheet with a full material list of products and equipment included in the Contractor's bid price. This spreadsheet shall provide columns with the following information, manufacturer's name, part number, short description, quantity to be installed, corresponding specification subsection or drawing sheet number where product is referenced.

c. The THIRD section shall include manufacturer cut sheets for all listed in the Contractor's Bill of Materials spreadsheet. The cut sheets shall be placed in the same order and listed on the spreadsheet. Cut sheets shall represent the latest version, part number, and revision of the product. Where multiple products or part numbers appear on a page, a bold arrow or circle shall indicate which product or part numbers are to be used as part of the installation.

d. The FORTH section shall include the following items:

1) A copy of the low voltage Contractor's valid State of California C-7 Low-Voltage license.

2) Proof (written documentation) that the low voltage Contractor has been regularly engaged in the business of low voltage contracting consisting of, but not limited to, engineering, fabrication, installation, and servicing of communication systems of the type specified herein for at least the past five (5) consecutive years.

3) Provide a statement summarizing any pending litigation involving any officer or principal of/or the company, the nature of the litigation and what effect the litigation may carry as it relates to this work in the worst-case scenario. Non-disclosure of this item, if later discovered, may result, at the Owner's discretion, in the Contractor bearing all costs and any cost related to the associated delays in the progress of the work.

4) Copy of low voltage Contractor's current liability insurance, workers compensation, and state industrial insurance certificates in conformance with the contract documents.

5) A project list containing at least ten (10) California installations completed within the last five (5) years by the low voltage Contractor that are comparable in scope and nature to that specified in the contract document. Provide up-to-date contact information for each project listed including contact's name, title, email address and phone number.

6) Documentation indicating in detail that the low voltage Contractor has competent engineering, installation, service personnel and facilities with reasonable stock of service parts within 75 air miles of the job site. Do not submit a sales brochure as documentation.

7) Letter(s) from the low voltage equipment manufacturer on the manufacturer's letterhead stating that the bidding Contractor is a Factory Authorized Distributor/Installer, and is trained and certified for the equipment he proposes to use on this project, and is licensed to purchase and install software required to provide the specified functions.

8) Provide manufacturer-issued training certifications for the Project Foreman, and at least 50% of the installation crew that will be assigned to this project. Provide a statement that these personnel are in the local facility, and will be maintained at that facility throughout the project and the warranty period.

9) A fingerprint check must be provided for all personnel working on school sites, performed by the Department of Justice, pursuant to California Education Code Section 45125.1. Fingerprinting shall be performed prior to start of project. All costs associated with DOJ fingerprinting/background checks shall be the full responsibility of the Contractor.

e. The FIFTH section shall include a sample for each product and component label to be installed on this project.

B. When submitting multiple specifications sections, the contractor must provide digital bookmarks in their submittal for ease of review. Bookmarks must be provided for major section divisions and product changes.

C. Failure to comply with any of the requirements listed above may result in the rejection of the entire submittal package.

1.07 SYSTEM WARRANTY

A. Prior to Owner acceptance, the contractor shall provide to Owner, a manufacturers product and performance warranty. This will require a submittal of the required pre-job certification registration forms as well as the required project closing information. The

Owner will only acknowledge acceptance upon submittal of a valid manufacturer's warranty.

B. The warranty shall commence from the date of final written acceptance by the Owner.

C. All conditions for obtaining the manufacturers warranty shall be the sole responsibility of the contractor.

D. The contractor shall maintain a competent service organization and shall, if requested, submit a service maintenance agreement to the owner after the end of the guarantee period.

E. A typewritten notice shall be posted at the equipment rack that shall indicate the firm, address and telephone number to call when service is necessary. The notice shall be mounted in a neatly finished metal frame with a clear plastic window and securely attached to the inside of the door.

F. The entire system shall be warranted free of mechanical or electrical defects for a period of one (1) year after final acceptance of the installation. Any material showing mechanical or electrical defects shall be replaced promptly at no expense to the Owner.

1.08 MANUFACTURER

A. Manufacturer of control panel and associated equipment shall be: Digital Monitoring Products to match District Standards.

B. Its is the responsibility of the bidder to insure that the proposed product meets or exceeds every standard set forth in these specifications and the equipment's technical data sheets.

C. The functions and features specified are vital to the operation of this facility. Therefore, inclusion of a component's manufacturer in the list of acceptable manufacturers does not release the contractor from strict compliance with the requirements of this specification.

D. All basic electronic equipment (not including cable) specified herein shall be produced by a single manufacturer of established reputation and experience who shall have produced similar apparatus for at least three or more years and who shall be able to refer to similar installations rendering satisfactory service.

PART 2 - PRODUCTS

2.01 SYSTEM REQUIREMENTS

A. Electronic Components

1. All system electronic components shall be solid-state type, mounted on printed circuit boards. Light duty relays and similar switching devices shall be solid-state type or electromechanical.

2. The panel shall have an over-current notification LED that lights when devices connected to the Keypad Bus and LX-Bus(es) draw more current than for which the panel is rated. When the over-current LED lights, the LX-Bus(es) and Keypad bus are shut down.

B. Control Unit

1. The networked control panel shall provide the following capabilities:

   a. Expansion to a total of at least 10,000 user codes with 99 user profile definitions.

   b. Sixteen (16) independent door/keypad addresses, each with four zones.

   c. Twenty (20) Holiday Dates for custom holiday scheduling by area.

   d. A total door access granted event buffer of at least 10,000 events.

   e. Anti-passback access control selectable by area and user.

   f. Four (4) shift schedules per area.

   g. A total of at least 100 programmable output relay schedules.

   h. Thirty-two (32) individual reporting areas.

   i. Built-in bell and telephone line supervision.

   j. Require two-man access code or credentials.

   k. Support programming to require the same or different access code entered within a programmed delay time of 1 to 15 minutes after disarming before activating a silent ambush alarm.

   l. Support area programming that disables schedule and time-of-day changes while system is armed so that area can only be disarmed during scheduled times.

2. Control unit shall be capable of operating and supervising notification appliance devices as well as addressable initiating detection devices and an integrated supervised dual line digital communicator.

3. Control unit must be “Flash ROM” updatable, and program must be held in non-volatile RAM. The panel shall be able to function while the update is in process.

4. Control unit shall be capable of sending information to and receiving instructions from the existing District Wide Security Management Software via the District’s Wide Area Network (WAN).

5. Control unit shall be capable of operating using an optional built in Encrypted Alarm Router for SCIF (Sensitive Compartmented Information Facility) applications that is certified by NIST (National Institute of Standards and Technology) for 128 Bit AES Rijndael Encryption communications.

6. The optional built-in Encrypted Alarm Router shall be capable of compliance with DCID 6/9 and UL 2050 standards.

C. Control Designations

1. Controls shall be provided to ensure ease of operation of all specified characteristics. Where applicable, clockwise rotation of controls shall result in an increasing function. Controls, switches, visual signals and indicating devices, input and output connectors, terminals and test points shall be clearly marked or labeled on the hardware to permit quick identification of intended use and location.

D. Test Modes

1. The system shall include a provision that permits testing from any alphanumeric keypad. The test shall include standby battery, alarm bell or siren, and communication to the District Police Station.

2. The system shall include a provision for an automatic, daily, weekly, thirty (30) day, or up to sixty (60) day communication link test from the control panel installation site to the central station.

3. The system shall include a provision for displaying the internal system power and wiring conditions. Internal monitors shall include the bell circuit, AC power, battery voltage level, charging voltage, panel box tamper, phone trouble line 1, phone trouble line 2, transmit trouble, and network trouble.

E. Serial Interface

1. The control panel shall be capable of a serial interface to output information to a standard serial printer or serial interface to a communication port on a standard computer. Through control panel programming the system shall include a provision to allow the selection of which reports are to be output.

F. Power Supplies

1. Power supplies for the control unit shall operate from 120 VAC, supplied at the respective protected areas. Standby batteries shall be supplied to power the system in the event of a utility power failure. Batteries shall be sized to provide 105% capacity for eight hours. Standby batteries shall be sealed lead-acid. Power supplies shall be all Solid State.

2. Controls shall be designed to maintain full battery charge when alternating current is available. Batteries shall be recharged to 85% capacity within 24 hours from battery use. The system shall be automatically transferred to battery power upon loss of alternating current power and return to alternating current power upon restoration. Intrusion alarms shall not be initiated during switch over; a signal shall be initiated upon failure of battery or alternating current power.

3. Approved power supplies shall meet or exceed the following power supply model specifications:

a. UL Listed DMP 505-12: 12VDC 5 amp with transformer and enclosure.

b. UL Listed DMP 504-24: 24 VDC 4 amps with transformer and enclosure.

G. Software

1. The system shall have the capability to interface with computer software with the capability to fully program the panel by connecting to the panel through:

   a. Direct cable connection interface card

   b. Receiver phone line connection

   c. Standard phone line connection

   d. Ethernet network connection

   e. Network connection across the Internet

2. The system shall interface with the existing District Wide Security Management Software via the District Wide Area Network (WAN).

3. The system shall interface with computer software capable of exporting reports in the following file formats:

   a. Excel spreadsheet (*.xls)

   b. Rich Text (*.rtf)

   c. Windows Metafile (*.wmf)

   d. QuickReport (*.qrp)

   e. Text (*.txt)

   f. Comma-separated (*.csv)

   g. HTML document (*.htm)

4. The system shall interface with computer software capable of printing custom, filtered reports including:

   a. All Events

   b. Zone Action

   c. Arming/Disarming

   d. Area Late to Close

   e. User Code Changes

   f. Door Access Granted

g. Door Access Denied

h. Opening/Closing Schedule Changes

i. System Monitors

j. System Events

H. INTEGRATED INTRUSION ALARM AND ACCESS CONTROL OPERATION

1. Access Authority Levels

a. The system shall be capable of programming access credentials authority levels to check whether the user has access to a specific area and also has the authority to disarm or arm the area. If the user access credential has access and disarm/arm authority the system shall provide the user the option to disarm the area simultaneously upon opening the door, or to open the door and begin an entry delay timer. With the timer option the user then disarms the area using an intrusion control keypad inside the area. If the user only has access authority to the area and the area is in an armed condition, the user is denied access to the area.

2. Door Open Schedule Override

a. The system shall be capable of programming certain area doors to be scheduled to unlock and lock at specific times of the day or night. The lock/unlock function shall be capable of an override option depending upon the area armed/disarmed status. If the area remains in an armed status at the scheduled unlock time the armed status overrides the unlock schedule ensuring the doors remain locked and armed in situations where the business might open late, close early, is affected by inclement weather, or another emergency.

3. Common Area

a. The system shall be capable of programming a common area to be armed when the last area in the system is armed and disarmed when the first area in the system is disarmed. To ensure the common area works properly it shall not have any user codes assigned to the common area. The system shall also be capable of programming multiple common areas.

4. Early Morning Ambush

a. The system shall be capable of programming an area to require two user codes be entered within a programmed number of minutes to prevent an ambush message from being sent to the Central Station Receiver. If both user codes are not entered within the time an ambush message is sent to the central station receiver.

b. Both user codes shall have the authority to disarm the specific area and must be entered at the same keypad or reader. The keypad shall not display any indication that the ambush timer is running.

c. The system shall be capable of programming an output to provide an external indicator that an ambush situation is taking place.

5. Two-Man Rule

a. The system shall be capable of programming an area to require two separate user codes be entered in order to disarm and/or allow access to a specific area. Both required codes shall have at least the same or greater authority level. Both required codes shall be entered within 30 seconds or an alarm shall activate.

6. UL Bank Safe & Vault Operation

a. The system shall be capable of being programmed to only be disarmed during scheduled times regardless of the authority level of any user code or user profile in the system. The schedule and time and date set for this area shall not be capable of being changed while the area is armed. Zones assigned to Bank Safe & Vault areas shall not be able to be bypassed or force armed.

7. Panic Button Summary Test

a. The system shall have the ability to test panic buttons without sending a panic alarm to the Central Station Receiver.

b. The system shall also have the ability to send panic zone test verification and failure results to the Central Station Receiver.

c. During the test, each time a panic zone trips, the display number shall increment and the keypad buzzer sound for two seconds.

d. The number of panic zones tripped shall constantly display until the test ends or no panic zone activity has occurred for 20 minutes.

e. When the Panic Zone Test ends and a zone failed (did not trip) during the test, the keypad shall be able to display the zone name and number and have the buzzer sounds for one second. Additional zone failed zones shall display when a button is pressed.

I. FALSE ALARM REDUCTION FEATURES

1. The system shall be capable of providing false alarm reduction features, functions, capabilities, or processes that either require alarms be verified or potential alarms be corrected before a system or zone can be placed into an armed state.

2. Exit Error Alert and Reporting

a. The panel shall be able to provide an automatic function to prevent a false alarm from occurring if an exit door does not properly close after the system is armed.

3. Entry and Exit Delay Annunciation

a. When arming, the system shall provide clear annunciation indicators to the user about the need to exit the premises prior to the exit delay time expiring.

b. When disarming, the system shall notify the user the need to disarm the system prior to the entry delay time expiring.

4. Remote Annunciation

a. The system shall be able to provide entry and exit delay time period notification. This notification can be from DMP keypads, remote annunciators, or bell tests.

5. Abort Reporting

a. The system shall be capable of sending an Abort report to the central station if the system is disarmed while the alarm is still sounding. The Abort report shall be sent after the alarm report to notify the central station that an authorized user has cancelled the alarm.

6. System Testing

a. The system shall offer testing features that are simple, quick, and complete and provide the highest measure of safety by ensuring that alarm conditions are detected and communicated to the proper authorities in a timely manner and on a regularly scheduled basis.

7. Ambush Code

a. The system shall offer ambush codes for those dangerous encounters where the user is instructed to either arm or disarm the system under threat of harm. The duress code shall disarm the system without giving local indication of an alarm that might put the user well-being in jeopardy.

8. Two-Button Panic Feature

a. The system shall support DMP keypads that provide the option to use only two-button panic codes. The user shall be required to press and hold two designated keys for approximately two seconds before the system generates a panic alarm.

9. Fire Verify Zones

a. The system shall support Fire Verify zones to help the panel verify the existence of an actual fire condition before it sends an alarm report to

the central station. The Fire Verify zone shall require the panel to perform a Sensor Reset whenever a device connected to a Fire Verify zone initiates an alarm. This shall begin a verification period during which the panel waits for a second alarm initiation. If the original zone or any other Fire Verify zone on the panel initiates an alarm within the next 120 seconds, the panel shall recognize this as an actual alarm and send an alarm report to the central station.

10. Cross-Zoning Protection

    a. The system shall support cross-zoning as a means of requiring two device trips to occur within a short period of time before sounding an alarm and sending an alarm report to the central station. Supported device trips shall be from one device that trips two times, or from two devices that each trip once.

11. Swinger Zone Bypassing

    a. The system shall be capable of automatically bypassing a zone if it goes into an alarm or trouble condition a specified number of times within a one-hour period. The panel shall be able to track the number of times the zone trips while armed and compare that against a programmed number. When that number is reached, the panel shall be able to automatically bypass the zone. The panel shall be capable of resetting the zone when the area to which it is assigned disarms, is manually reset from the keypad or remotely, or remains normal for one hour.

12. Recently Armed Report

    a. The system shall be capable sending a System Recently Armed report, along with a zone alarm report, to the central station any time an alarm occurs within five minutes of the system arming. The System Recently Armed report allows the central station operator to follow a "call the subscriber first" procedure instead of immediately dispatching the police to what could be a false alarm.

13. Transmit Delay

    a. The system shall be capable of programming the panel to wait up to 60 seconds before sending burglary alarm reports to the central station. If an alarm is accidental, the user shall be able to disarm the system within the programmed Transmit Delay time. An Abort report shall be sent in place of an alarm report after the system disarms. During the alarm, sirens and panel relay outputs shall not be delayed and shall still provide local condition annunciation.

14. Call Waiting Cancel

    a. The system shall be capable of being programmed to cancel call waiting any time the panel dials the receiver number to send a report.

2.02 SYSTEM CAPABILITIES

A. System Description

1. The system user shall be capable of selectively arming and disarming any one or more of 32 areas within the intrusion detection system based on the user PIN code and/or keypad used. Each of the 574 zones shall be able to be assigned to any of the 32 available areas. The system shall be capable of having up to a sixteen (16) character length name programmed for each area.

2. The system user shall be capable of assigning an opening and closing schedule to all areas or to each of the 32 areas separately. Each area shall be able to arm or disarm automatically by a schedule. The system shall have the capacity for common areas that automatically disarm when any other area disarms and that automatically arm when all others areas arm.

3. The networked system shall have the ability to comply with Bank Safe & Vault application. The networked system shall also have the ability to use a two-man rule for disarming or allowing door access to an area. The system shall have the ability to operate a Common Area application.

4. The system shall have a minimum of eight (8) grounded burglary zones available from the control panel.

5. The system areas and zones shall be programmable, and the system shall store, log, display, and transmit specific custom designations for system areas, zones, and user names.

6. To ensure continued, one-call support, the system shall be constructed of sensing components provided directly by the system manufacturer, such as power supplies, motion detectors, door and window position switches, glass break detectors, or other sensing devices that the manufacturer offers.

7. The system controller, user interfaces, zone input devices, relay output devices, and the system signal receiving equipment shall be engineered, manufactured, assembled, and must be distributed from a location within the United States of America.

8. The system shall support user interaction by way of a keypad, web browser, system software, key switch, or radio frequency wireless control, using integrated or auxiliary devices provided by the system manufacturer.

9. The system shall support controller zone input connections, system keypads, system zone expansion modules, and wireless zone input modules, and must support zone input connections by way of at least two competitive products. The system shall offer a seamless integrated compatibility with hard-wire and/ or wireless zone expansion equipment for at least 200 wireless zones and/ or a maximum of 574 hardwired zones.

10. The system shall be capable of offering at least five zone expansion buses, each of which can support the connection of up to 15,000 feet of four-wire cable. Zone expansion and keypad data buses that exceed 2,500 feet of cable must include splitter/repeater modules to boost data voltage and maintain data integrity.

11. The system shall provide a seamless capability to provide a minimum of 500 addressable relays, which can be located at any connection location upon a zone expansion bus.

12. System relay outputs shall have the capability of being triggered as a result of a command from the user interface, changes in system status, changes in zone status, or by a programmable schedule.

13. System relay output states shall be programmable for momentary, maintained, pulsed, or must follow the state of an associated system zone input.

14. The system shall be completely programmable either locally from a keypad or remotely through a standard dial-up, and network connections by way of a LAN, WAN, and/or by way of the Internet.

15. The control unit shall be completely programmable remotely using remote annunciators, and/ or using upload/ download software that communicates using SDLC 300 baud, 2400 baud, or IP Addressed data network. On-site programming from a personal computer shall also be permitted.

16. The control unit shall be equipped with an anti-reversing circuit breaker to prevent damage due to accidental reversal of battery leads.

B. Input/Output Capacity

1. This system shall be capable of monitoring a maximum of 574 individual zones and controlling a maximum of 502 output relays.

2. The control panel shall have, as an integral part of the assembly, 2 SPDT Form C relays rated at 1 Amp at 30 VDC and four open collector 12 VDC outputs rated at 50mA each. It shall also have the capacity of a maximum of 125 output expander modules with 500 switched ground, open collector outputs, 50mA maximum and 502 auxiliary relays (Form C rated at 1.0 Amp at 30 VDC).

3. The panel shall also provide 100 programmable output schedules, and include an integral bell alarm circuit providing at least 1.5 Amps of steady, pulsed, or temporal bell output. Output type shall be programmable by zone type. Relays and voltage outputs shall be capable of being independently programmed to turn on and/or off at selected times each day.

C. User/Authorization Level Capacity

1. The system shall be capable of operation by 10,000 unique Personal Identification Number (PIN) codes with each code having one (1) of ninety-nine (99) custom user profiles. This allows for limitation of certain functions to authorized users. The operation of all keypads shall be limited to authorized users.

D. Keypads

1. The system shall support a maximum of sixteen (16) keypads with alphanumeric display. Each keypad shall be capable of arming and disarming any system area

based on a pass code or Proximity key authorization. The keypad alphanumeric display shall provide complete prompt messages during all stages of operation and system programming and display all relevant operating and test data.

2. Communication between the control panel and all keypads and zone expanders shall be multiplexed over a non-shielded multi-conductor cable, as recommended by the manufacturer. This cable shall also provide the power to all keypads, zone expanders, output expanders, and other power consuming detection devices.

3. If at any time a keypad does not detect polling, the alphanumeric display shall indicate "SYSTEM TROUBLE". If at any time two devices are programmed for the same address, the alphanumeric keypad shall display “4 WIRE BUS TROUBLE”. If at any time a keypad detects polling but not for its particular address, the alphanumeric display shall indicate "NON POLLED ADDR". The system shall display all system troubles at selected keypads with distinct alphanumeric messages.

4. The keypad shall include self-test diagnostics enabling the installer to test all keypad functions: display test, key test, zone test, LED test, relay test, tone test, and address test.

5. The keypad shall provide an easy-to-read English text display. The text shall exactly match the text seen in all software reports, keypad displays, and central station reports.

6. The keypad user interface shall be a simple-to-use, menu-driven help system that is completely user friendly.

7. The control panel shall support a keypad interface accessible on the World Wide Web in a browser window. The web-accessible keypad interface shall provide at least five (5) programmable hyperlinks for camera access or other use.

8. The system shall support sub-control keypads with four (4) built-in zones and capable of functioning in the following modes:

   a. Panel monitors all four (4) keypad zones independently with a maximum of 125 keypads attached to the control panel

   b. Panel assigns one (1) zone to each keypad and monitors all keypad zones as a single zone with a maximum of 500 keypads attached to the control panel

   c. Stand-alone mode allowing keypad to operate as a self-contained security system independent of the control panel

E. Zone Configuration

1. A minimum of 4 Class B ungrounded zones shall be available at each keypad or zone expander on the system. The system shall have the capacity for a maximum of sixteen (16) keypads and a maximum of 125 four (4) zone expanders or 500

single zone expanders. It shall also have the capacity of a maximum of 125 supervised relay output expanders.

2. Each zone shall function in any of the following configurations: Night, Day, Exit, Fire, Supervisory, Emergency, Panic, Auxiliary 1, Auxiliary 2, Fire Verification, Cross Zone, Priority, and Key Switch Arming.

3. The LX bus and the keypad bus shall be able to operate at a maximum wiring distance of 2500 feet from the control panel on unshielded, non-twisted cable. This distance may be extended to a total of 15,000 feet when bus splitter/repeater modules are installed.

4. The system shall have the capability to incorporate up to 500 addressable zone expander points.

5. Each zone shall function in any of the following configurations:

   a. Night

   b. Day

   c. Exit

   d. Fire

   e. Supervisory

   f. Emergency

   g. Panic

   h. Auxiliary 1

   i. Auxiliary 2

   j. Fire Verification

   k. Cross-Zone

   l. Priority

   m. Arming

F. Communication

1. The system shall be capable of signaling to two remote monitoring station receivers, four telephone numbers of 32 digits each using two separate switched telephone network lines such that if two unsuccessful attempts are made on the first line to the first number, the system shall make two attempts on first line to the second number. If these two attempts are unsuccessful, the system shall make two further attempts on the first line of the first number. After the tenth unsuccessful attempt, dialing shall stop and the alphanumeric keypad shall

display trouble. Should another event occur that requires a report to be transmitted, the dialing process shall be repeated. The system shall have a programmable option to dial a second set of telephone numbers after the first ten attempts using the same sequence.

2. The system shall be capable of communication using the IBM Synchronous Data Link Control format, and at least two other standard industry formats.

3. The system shall be capable of supporting Network communication with digital dialer backup, existing Ethernet or token ring data networks, satellite communication, fiber optic networks, local area networks, wide area networks, cellular communication, and retail data networks.

G. Network Communication

1. The control panel shall be capable of asynchronous network communication with a retry time between 3 and 15 seconds for a total of one (1) minute. If communication is unsuccessful the control panel shall be capable of attempting backup communication through any of the available communication methods to the same receiver or a backup receiver.

2. Network communication between the control panel and the receiver shall be in a proprietary communication format.

3. The control panel shall be capable of supporting Dynamic Host Communication Protocol (DHCP) Internet Protocol (IP) addressing.

4. Underwriters Laboratories (UL) shall list network communication by the control panel for Grade AA High-Line Security.

5. The control panel shall be capable of two-way network communication using standard Ethernet 10BaseT in a LAN, WAN, or Internet configuration.

6. The control panel shall be capable of communication by means of a 128 Bit AES Rijndael Encryption process certified by NIST (National Institute of Standards and Technology) to an SCS-1R receiver with a built-in Encryption Alarm Router.

7. The control panel shall be capable of meeting DCID 6/9 and UL 2050 standards.

H. TCP/IP Network Trapping

1. The control panel shall be capable of having communication set to Network operation. When a trap is set in Remote Link, the software shall be capable of sending a panel trap message with the panel account number to the iCOM or iCOM-E installed in an SCS-1R receiver.

2. The receiver iCOM or iCOM-E shall store the trap and monitor the panel for the next message. When the panel sends its next message, the receiver iCOM or iCOM-E shall then send a message to the panel to contact Remote Link at the IP address contained in the original trap message.

3. The trap message shall be stored in the receiver iCOM or iCOM-E for up to four hours. If the trap message is not sent to the panel within the four-hour window, the panel trap message shall be discarded and a new trap message must be sent from Remote Link.

4. The user shall be able to view the trap status in the receiver iCOM or iCOM-E in Remote Link using the Trap Query function.

J. NAC Circuit Configuration

1. The system shall be capable of additional Class B NAC circuits utilizing the Model 867 Notification Module. Each module shall be controlled and supervised via the SLC loop and monitor for short circuits, open circuits, and ground faults. The NAC circuits shall monitor for external NAC trouble conditions.

2. The system shall be capable of providing Class A NAC circuits utilizing the Model 865 Notification Module. Each module shall monitor for short circuits, open circuits, and ground faults. The NAC circuits shall monitor for external NAC trouble conditions and have a manual bell silence switch.

2.03 SYSTEM COMPONENT

A. Head End Equipment

1. Intrusion Alarm Control Panel

a. DMP - Model No. XR550DNL-G

1) Complete with large enclosure

2) Complete with Dialer

3) Quantity of (1) one required.

B. LCD Keypad with Integrated Proximity Card Reader

1. DMP – Thinline Series Model No. 7073N-W

a. 32-character alphanumeric LCD display with blue backlit keyboard, self-diagnostic, three 2-button panics,four Class B zones, Form C door access relay, supervised or unsupervised operation, alert sounder, built-in proximity card reader, armed and AC LED.

b. The intrusion alarm system shall be designed to include a predetermined time delay between entry and alarm. Operation of the keypad shall abort the alarm condition and disable the system until re-armed.

c. During an alarm condition, the alphanumeric readout on the keypad shall indicate, by room name and number, the location of the alarm and the keypad turns red.

d. Quantity and locations as indicated on plans

C. Remote Power Supplies

1. DMP 505-12L with Battery supply.

a. Power supply for passive infrared detectors, 12VDC provide one in each building. Provide power supply, terminal cabinet, transformer and battery as required for a complete and operable system.

1) Terminal cabinet enclosure

a) DMP – Model No. 350-G or equal

2) Transformer 120VAC-12VDC

a) DMP - Model No. 321

3) Battery

a) Yuasa – Model No. NP7-12 or equal

D. Data Bus Splitter/Repeater

1. DMP – Model No. 710

a. Expands the typical LX-Bus installation number of devices and the length of the wire.

b. Quantity as required.

E. Single Point Zone Expander

1. DMP - Model No. 711 – Single Point Zone Expander

a. The single point zone expander module provides a single addressable point and serves as the interface between the 4-wire LX Bus from the control panel and the conventional initiation devices (i.e. motion sensors and door switches). Install in dedicated intrusion alarm terminal cabinets within MDF or IDF rooms.

F. Multi-Point Zone Expander

1. DMP – Model No. 714-8 - Eight-point Zone Expander

a. The eight-point zone expander module provides eight addressable points and serves as the interface between the 4-wire LX Bus from the control panel and the conventional initiation devices (i.e. motion sensors and door switches). .

2. DMP – Model No. 714-16 - Sixteen-point Zone Expander

a. The sixteen-point zone expander module provides eight addressable points and serves as the interface between the 4-wire LX Bus from the control panel and the conventional initiation devices (i.e. motion sensors and door switches).

G. Motion Sensors

1. Ceiling Motion Sensor - DMP KX-08.

2. Wall Motion Sensor - DMP FG-730.

H. Glass Break Sensors: DMP FG-730

I. Door Contacts

1. Exterior Steel Door - DMP 1076C.

2. Rollup/Overhead Door - DMP 2205A.

J. Siren

1. ATW Security – Model No. DS-301SET

a. 25 watt siren in indoor/outdoor stainless steel enclosure.

b. Sirens shall be provided only if indicated on plans.

K. Wire/Cable

1. Indoor Device Cable or indoor LX Bus/Keypad Bus Cable

a. Falcon Wire - Model No. 590422R or equal

1) 22/4-conductor stranded CMR with white jacket

2. Outdoor/Underground LX Bus/Keypad Bus Cable

a. Falcon Wire - Model No. 400418H20 or equal

1) 18/4-conductor stranded FPL with black jacket

2) Water-blocked cable construction

PART 3 – EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

A. Motion detectors shall be "on" at all times, unless noted otherwise. Main security key switch turns zone alarms on and off and reports to the central station. Alarms are annunciated at all times in the site annunciator when the switch is either in the "ON" or "OFF" position, but will not report to the central station when the switch is in the "OFF" position.

B. 90 degree motion detector shall be located at the corner of a room, facing away from sunlight, heating elements, HVAC outlets and any turbulent air movements. 360 degree motion detectors shall be located in the center of the room. The District Inspector shall confirm these on site.

C. Provide lock-on device on all circuit breakers serving security equipment. Determine panel locations.

D. The wiring of the system shall be executed in accordance with the drawings and the equipment manufacturer's wiring diagrams. Should any variations in these requirements occur, the contractor shall notify the architect before making any changes. It shall be the responsibility of the factory-authorized distributor of the approved equipment to install the equipment and guarantee the system to operate as per plans and specifications.

E. Furnish all conduit, junction boxes, conductors, equipment plugs, terminal strips, etc., and labor to install a complete and operable system.

F. The cables within racks or cabinets shall be carefully cabled and laced with no. 12 Cord waxed linen lacing twine or ty-raps. All cables shall be numbered for identification.

G. Splices of conductors in underground pull boxes are not permitted.

H. The labor employed by the contractor shall be regularly employed in the installation and repair of the specified systems and shall be acceptable to the owner and architect to engage in the installation and service of this system.

I. The contractor shall thoroughly clean all equipment and materials. All exposed parts of the equipment, cabinets, and other equipment shall be left in a clean condition, unblemished and free of all dirt, dust, smudges, spots, fingerprints, etc., The contractor shall remove all debris and rubbish occasioned by the electronic systems work from the site. The contractor shall thoroughly clean all buildings of any dirt, debris, rubbish, marks, etc., Caused by the performance of this work.

J. The system must meet all local and other prevailing codes.

K. All cabling installations shall be performed by qualified technicians.

L. All cabling shall be splice free.

M. In order to ensure proper terminations, it is required that all cables shall be stripped using a special tool approved by the manufacturer of the cable / terminating device.

N. The contractor shall use the proper lubricants (i.e. Polywater) to facilitate the installation of cables in conduits. The contractor shall verify the acceptability of the lubricant to be used with the cable manufacturer, prior to using such a lubricant.

O. Twisted or Shielded cable shall not be utilized for this system. No exceptions.

P. Plenum rated cable may be run exposed above ceilings, provided the cabling is supported independent of other utilities such as conduits, pipes, and the ceiling support systems. The cables shall not be laid directly on the ceiling panels. The use of cable ties shall be

done in accordance with the cable manufacturer's requirements. The cable jacket composition must meet local and all other prevailing fire and safety codes.

Q. All firewalls penetrated by system cabling shall be sealed by use a non-permanent fire blanket or other method in compliance with the current edition of National Fire Protection Association (NFPA) and the National Electric Code (NEC) or other prevailing code. The contractor must not use concrete or other non-removable substance for fire stopping on cable trays, wireways or conduits. Contractors who use this method will be required to replace all cables affected and provide the original specified access to each effected area.

R. Materials shall be installed in strict compliance with local building codes. All work shall be performed in accordance with the Digital Monitoring Products, Inc. instructions and in a manner satisfactory to the Owner's representative.

S. The installer shall be fully qualified and factory trained by Digital Monitoring Products, Inc. in the installation, operation, and programming of the system.

T. System shall be, with out exception, be installed in a individual exact point identification fashion. This means that each and every point to be announciated and reported as to it’s exact device.

3.02 SYSTEM START-UP

A. All start-up programming and system commissioning shall be performed by a manufacturer’s trained and certified technician.

3.03 SYSTEM VERIFICATION

A. Subsequent to system start-up the system installer shall perform a pre-test to verify that the following features are functioning properly.

1. All initiation devices

2. All monitor modules

3. Local audible devices

4. Network connection and communication link to School District Police Department.

3.04 TESTING AND ACCEPTANCE

A. The system installer shall, in the presence of the Inspector of Record (IOR), perform 100% testing as noted in System Verification above.

B. The system shall not be deemed accepted without the approval of Irvine Unified School District Facilities Department, the Inspector of Record (IOR) and the Irvine Unified School District Police Department or department representative.

3.05 IN SERVICE TRAINING

A. The Contractor shall instruct personnel designated by the District in the proper use, basic care and maintenance of the system beyond the warranty period. Contractor shall provide up to eight (8) hours of in-service training with this system.

3.06 FACTORY TRAINING & CERTIFICATION

A. The manufacturer shall provide factory certified training to two (2) technicians from the District. These technicians shall be trained and certified as manufacturers certified technicians capable of performing any work on the system after the installation of the system.

B. All cost for training including travel, lodging, meals and per diem shall be included in the System Installer's base bid.

3.07 CONTRACT CLOSE-OUT DOCUMENTATION

A. Contractor shall provide the following:

1. One reproducible hard copy of project record drawings.

2. One copy of manufacturer's maintenance and operation manuals.

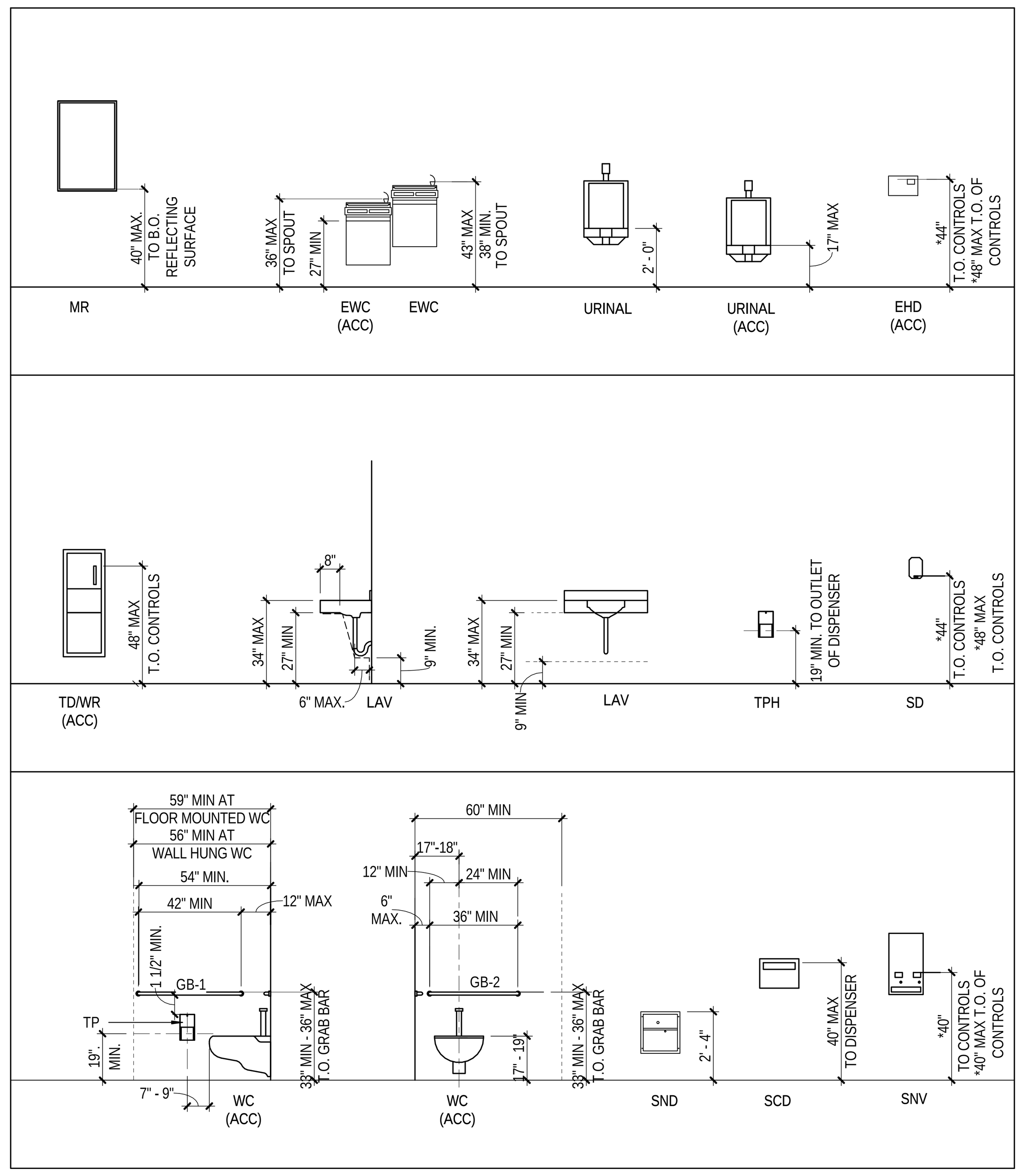
3. One copy of system warranty

3.08 WARRANTY

A. The Contractor shall warrant the equipment to be new and free from defects in material and workmanship, and will, within one year from the date of installation, repair or replace any equipment found to be defective. This warranty shall not apply to any equipment that has been subject to misuse, abuse, negligence or unauthorized modification.

END OF SECTION

ADULT MOUNTING HEIGHTS



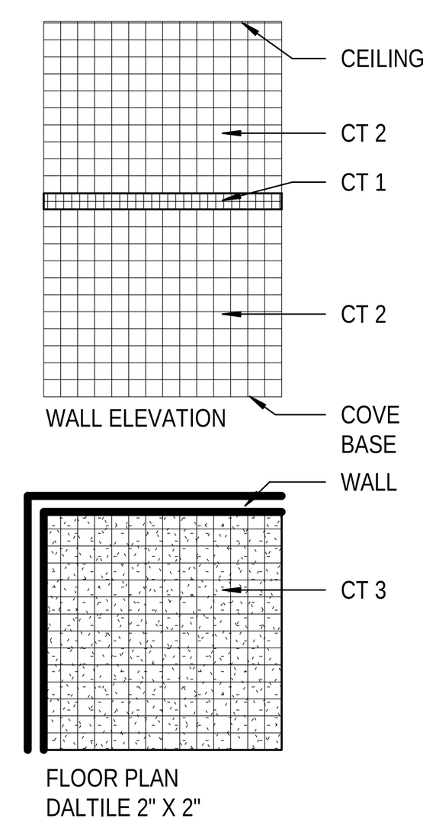
MOUNTING HEIGHTS

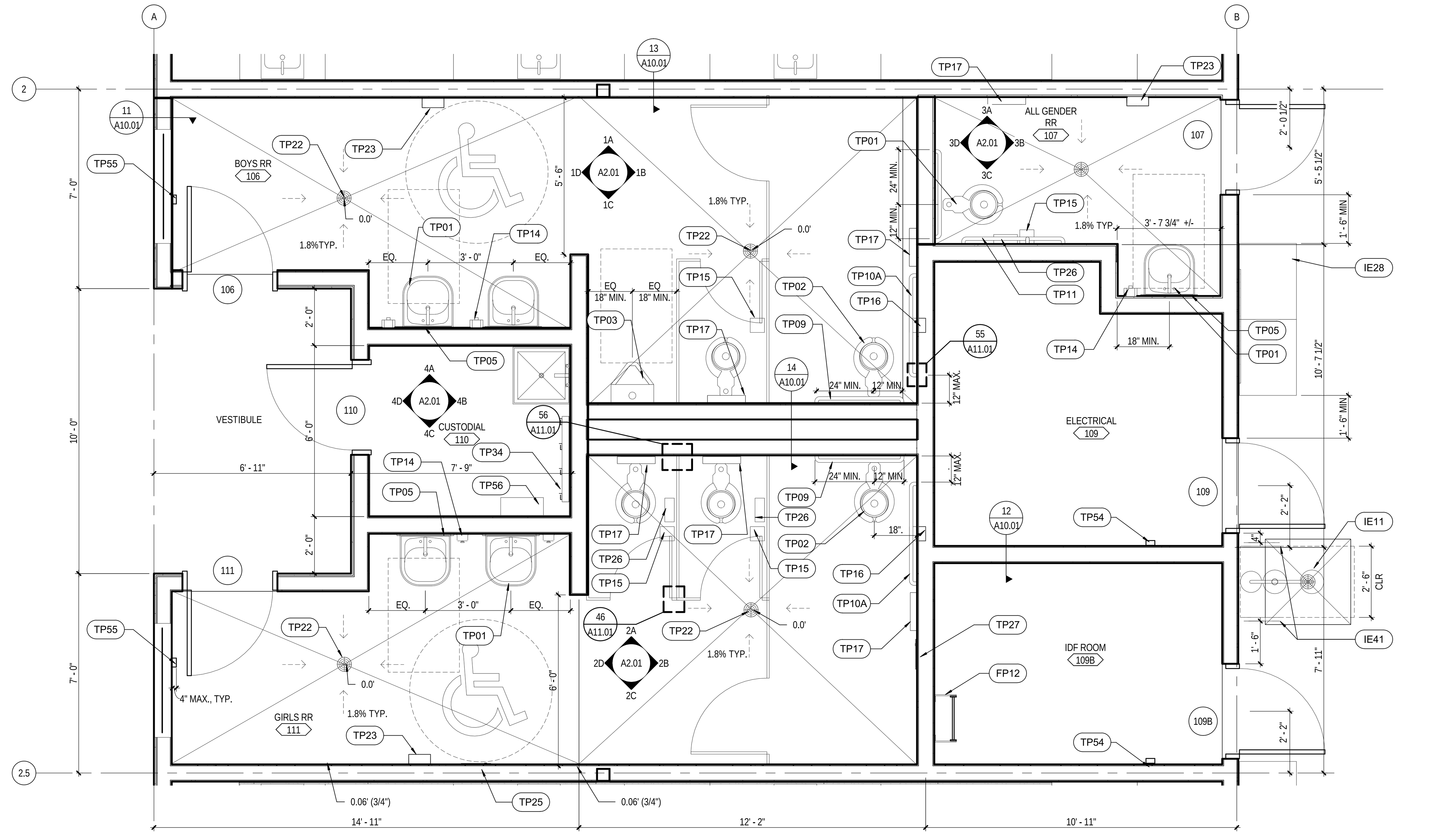
TILE PATTERNS

CT 1 : DALTILE NATURAL HUES 2" X 2" MIDNIGHT BLUE QF57

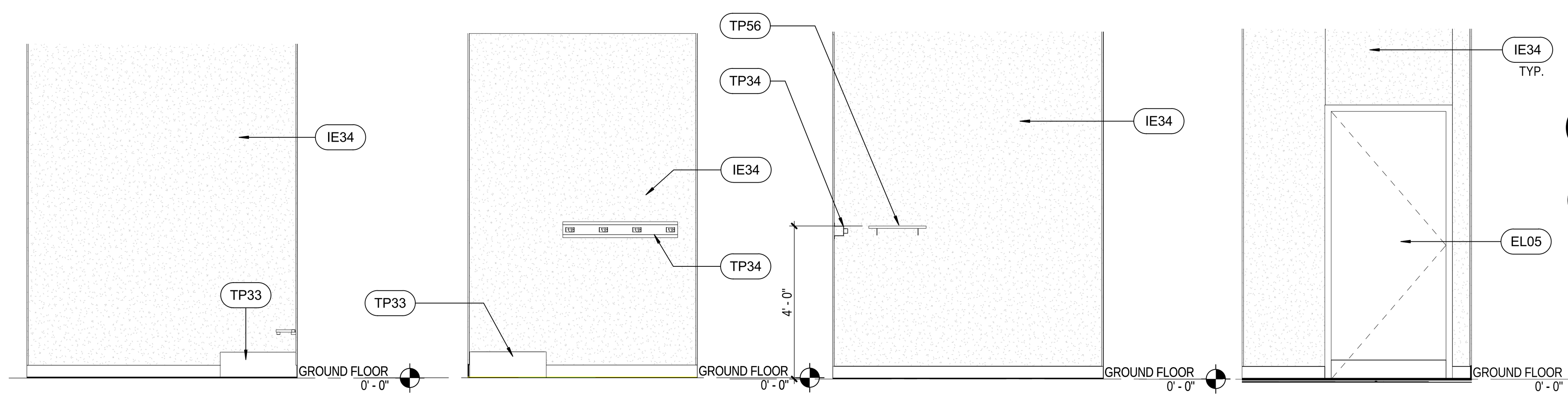
CT 2 : DALTILE NATURAL HUES 4" X 4" MIST QH15

CT 3 : DALTILE KEYSTONES D200 GRAY SPECKLE





26 A2.01 ENLARGED TOILET PLANS SCALE 3/8" = 1'-0"

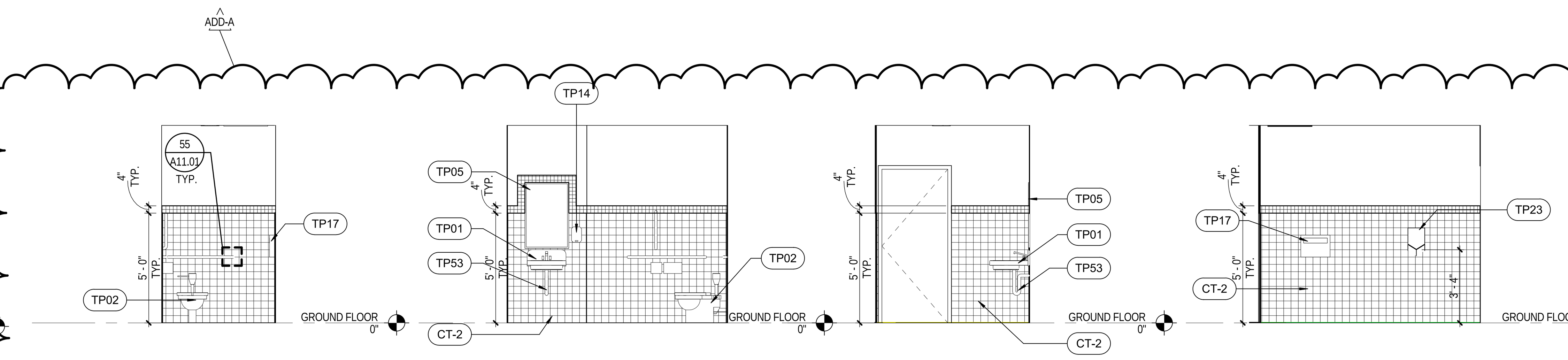


4A A2.01 CUSTODIAL NORTH SCALE 3/8" = 1'-0"

4B A2.01 CUSTODIAL EAST SCALE 3/8" = 1'-0"

4C A2.01 CUSTODIAL SOUTH SCALE 3/8" = 1'-0"

4D A2.01 CUSTODIAL WEST SCALE 3/8" = 1'-0"

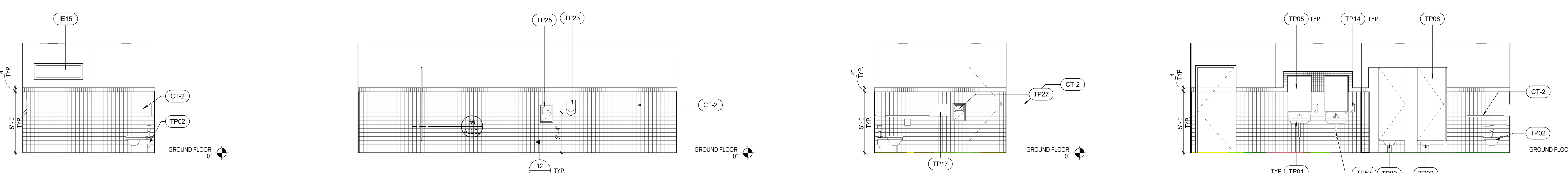


3D A2.01 ALL GENDER R.R. - NORTH ELEV. SCALE 1/4" = 1'-0"

3C A2.01 ALL GENDER R.R. - WEST ELEV. SCALE 1/4" = 1'-0"

3B A2.01 ALL GENDER R.R. - SOUTH ELEV. SCALE 1/4" = 1'-0"

3A A2.01 ALL GENDER R.R. - EAST ELEV. SCALE 1/4" = 1'-0"

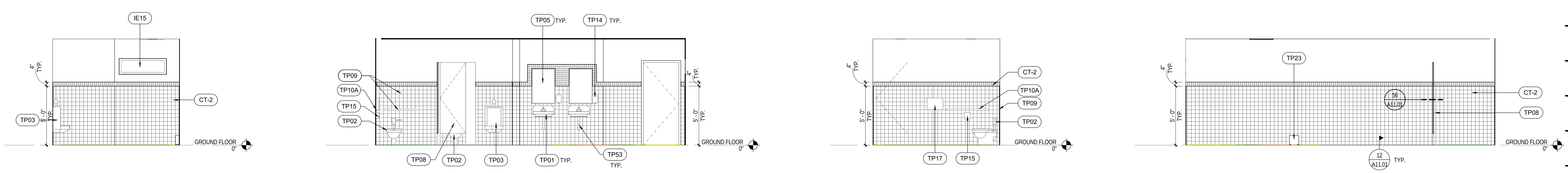


2D A2.01 GIRLS R.R. - NORTH ELEVATION SCALE 1/4" = 1'-0"

2C A2.01 GIRLS R.R. - WEST ELEVATION SCALE 1/4" = 1'-0"

2B A2.01 GIRLS R.R. - SOUTH ELEVATION SCALE 1/4" = 1'-0"

2A A2.01 GIRLS R.R. - EAST ELEVATION SCALE 1/4" = 1'-0"



1D A2.01 BOYS R.R. - NORTH ELEVATION SCALE 1/4" = 1'-0"

1C A2.01 BOYS R.R. - WEST ELEVATION SCALE 1/4" = 1'-0"

1B A2.01 BOYS R.R. - SOUTH ELEVATION SCALE 1/4" = 1'-0"

1A A2.01 BOYS R.R. - EAST ELEVATION SCALE 1/4" = 1'-0"

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LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

SHEET NOTES

1. ACCESSIBLE URINAL SHALL PROVIDE CLEAR FLOOR SPACE PER CBC 11B-605.3.
2. ACCESSIBLE WATER CLOSETS SHALL BE IN ACCORDANCE WITH CBC 11B-604.
3. ACCESSIBLE LAVATORIES AND SINKS SHALL PROVIDE CLEAR FLOOR SPACE PER CBC 11B-606.
4. ACCESSIBLE TOILET ROOMS SHALL PROVIDE A TURNING SPACE OF 60 INCHES IN DIAMETER PER CBC 11B-304.3.1.
5. ACCESSIBLE DRINKING FOUNTAINS SHALL BE IN ACCORDANCE WITH CBC 11B-211.
6. ACCESSIBLE TOILET COMPARTMENTS SHALL BE IN ACCORDANCE WITH CBC 11B-604.
7. EXPOSED PIPES AND SURFACES UNDER LAVATORIES AND SINKS SHALL BE INSULATED PER CBC 11B-606.5.
8. <-- SLOPE TO FLOOR DRAIN SHALL BE 2.0% MAXIMUM, FLOOR DRAIN COVER TO HAVE 1/4" MAXIMUM OPENING TYPICAL.

KEYNOTE LEGEND

#	KEYNOTE
CT-2	CERAMIC TILE;SEE SPEC. 093013
EL05	DOOR PER SCHEDULE, TYP.
FP12	STEEL LADDER; SEE 35/A11.01
IE11	EMERGENCY SHOWER & EYE/FACEWASH, REFER TO P1.1 PLUMBING PLAN
IE15	WINDOW, REFER TO WINDOW SCHEDULE & DETAILS.
IE28	FIRE EXTINGUISHER RECESSED CABINET; SEE SPEC. 104413 & 104416, AND 13/A11.01, TYP.
IE34	'FRP' WALL/ WAINSCOT; SEE SPECIFICATION SECTION 066400
IE41	2" DIA. GALV. DRINKING FOUNTAIN RAILING; SEE 44/A11.01
TP01	LAVATORY, SEE PLUMBING DRAWINGS, TYP.
TP02	WATER CLOSET, SEE PLUMBING DRAWINGS, TYP.
TP03	ACCESSIBLE URINAL, SEE PLUMBING DRAWINGS, TYP.
TP05	24" x 36" MIRROR, SEE DETAIL 15/A10.12 TYP.
TP08	TOILET PARTITION; SEE SPEC. 102113.17
TP09	36" GRAB BAR; SEE SPEC. 102800
TP10A	42" GRAB BAR; SEE SPEC. 102800
TP11	CONTINUOUS L-SHAPED GRAB BAR; SEE SPEC. 102800
TP14	WALL MOUNTED SOAP DISPENSER, TYP.; SEE SPEC. 102800
TP15	SURFACE MOUNTED TOILET TISSUE DISPENSER, TYP.; SEE SPEC. 102800
TP16	RECESSED TOILET TISSUE DISPENSER; SEE SPEC. 102800
TP17	SURFACE MOUNTED SEAT COVER DISPENSER, TYP.; SEE SPEC. 102800
TP22	FLOOR DRAIN; 1/4" MAX. GRATE OPENING SEE PLUMBING DWGS.
TP23	WARM AIR DRYER; SEE ELECTRICAL DWGS. & SPEC. 102800
TP25	SEMI-RECESSED SANITARY NAPKIN VENDOR, 4" MAXIMUM PROJECTION; SEE SPEC. 102800
TP26	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL, TYP.; SEE SPEC. 102800
TP27	RECESSED SANITARY NAPKIN DISPOSAL, TYP.; SEE SPEC. 102800
TP33	MOP SINK; SEE PLUMBING DWGS.
TP34	MOP RACK/BROOM HOLDER; SEE SPEC. 102800
TP53	DRAIN & HOT WATER PIPES UNDER LAVATORIES & SINKS TO BE INSULATED, TYP.; SEE SPEC. 102800
TP54	WALL STOP; SEE DOOR SCHEDULE & SPEC. 087100
TP55	FLOOR STOP; SEE DOOR SCHEDULE & SPEC. 087100
TP56	UTILITY SHELF; SEE SPEC. 102800

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ____________

FILE NO.: 30-48

LICENSED ARCHITECT MICHAEL J. STEPHENS C-26450 05/31/2019 STATE OF CALIFORNIA

DSA SUBMITTAL

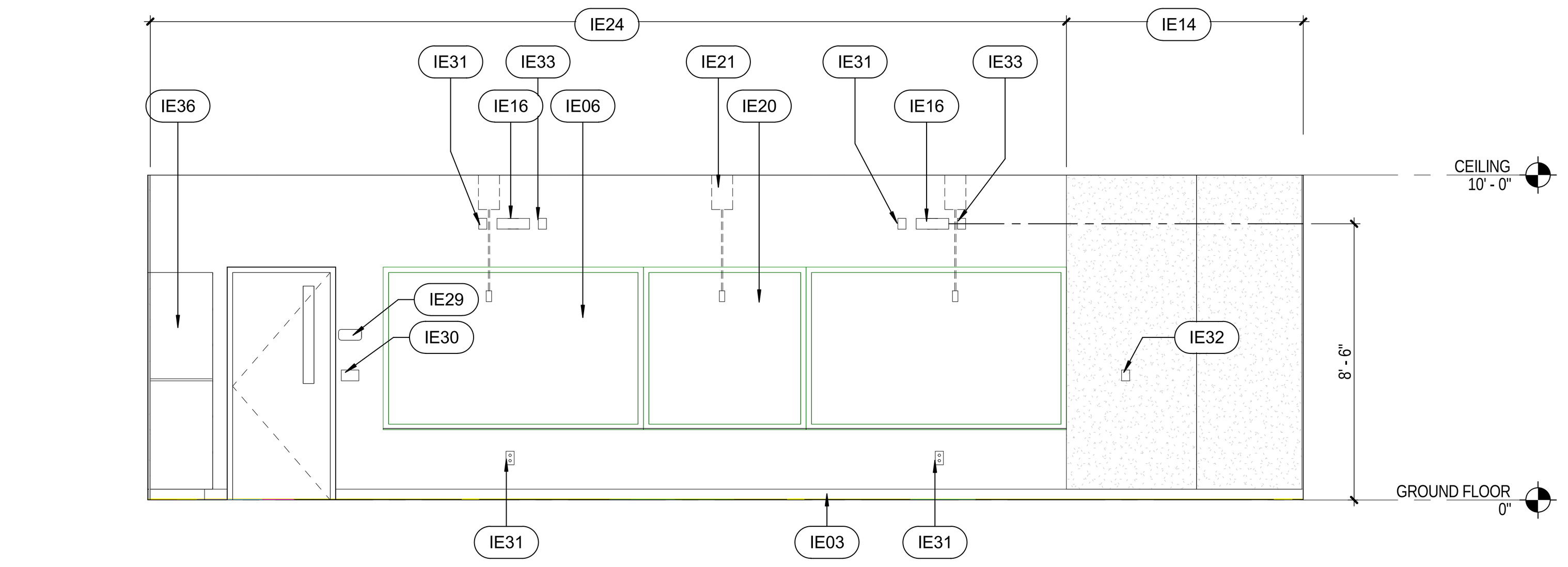
4 Deerfield Ave, Irvine, CA 92604

ENLARGED RESTROOM PLAN, AND ELEVATIONS
VENADO MIDDLE SCHOOL MEASURE E

A2.01

75-17602-00
06/12/2017
Revisions
ADD-A 2/19/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors



8 A2.21 RM. 103, 104 - ELEVATION 8
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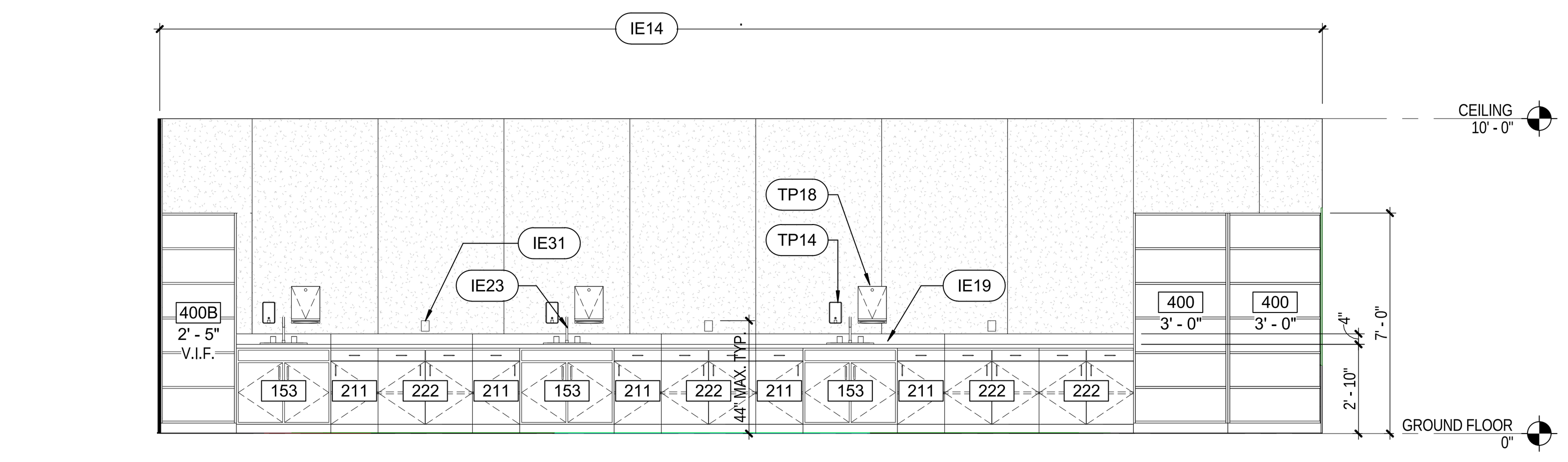

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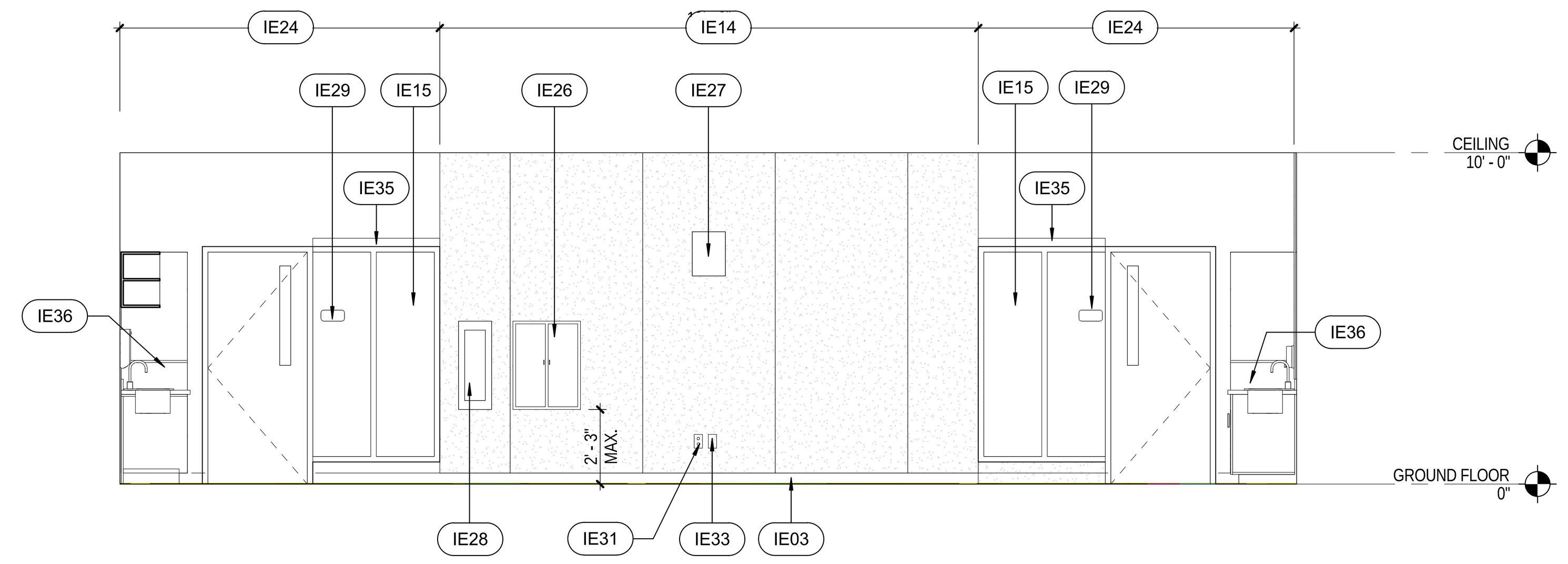
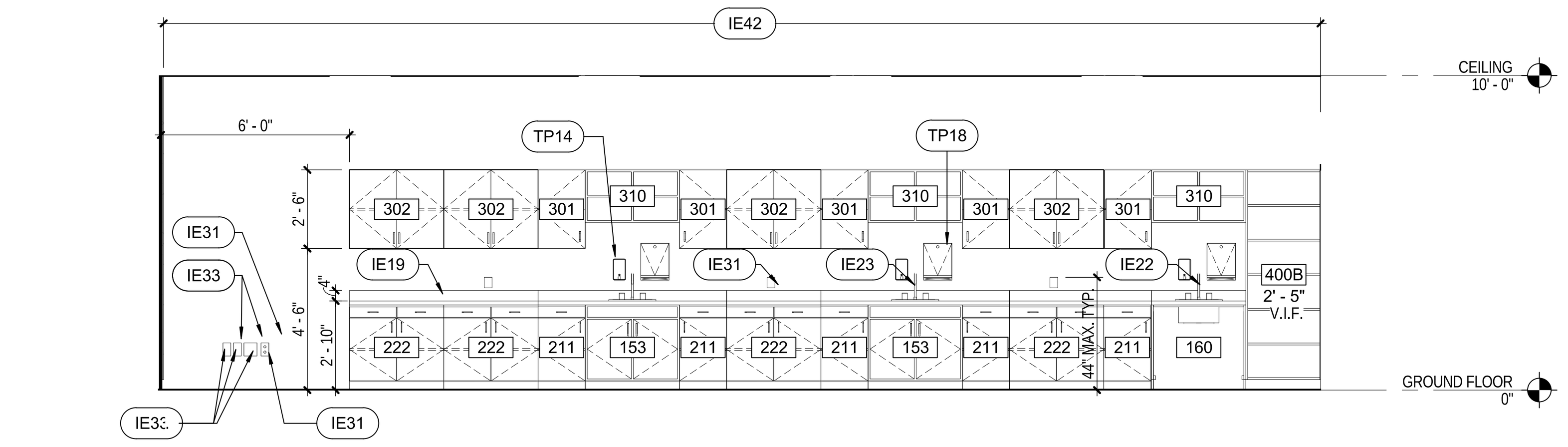


6 A2.21 RM. 103 & 104 - ELEVATION 6
SCALE 1/4" = 1'-0"



5 A2.21 RM. 103 , 104 - ELEVATION 5
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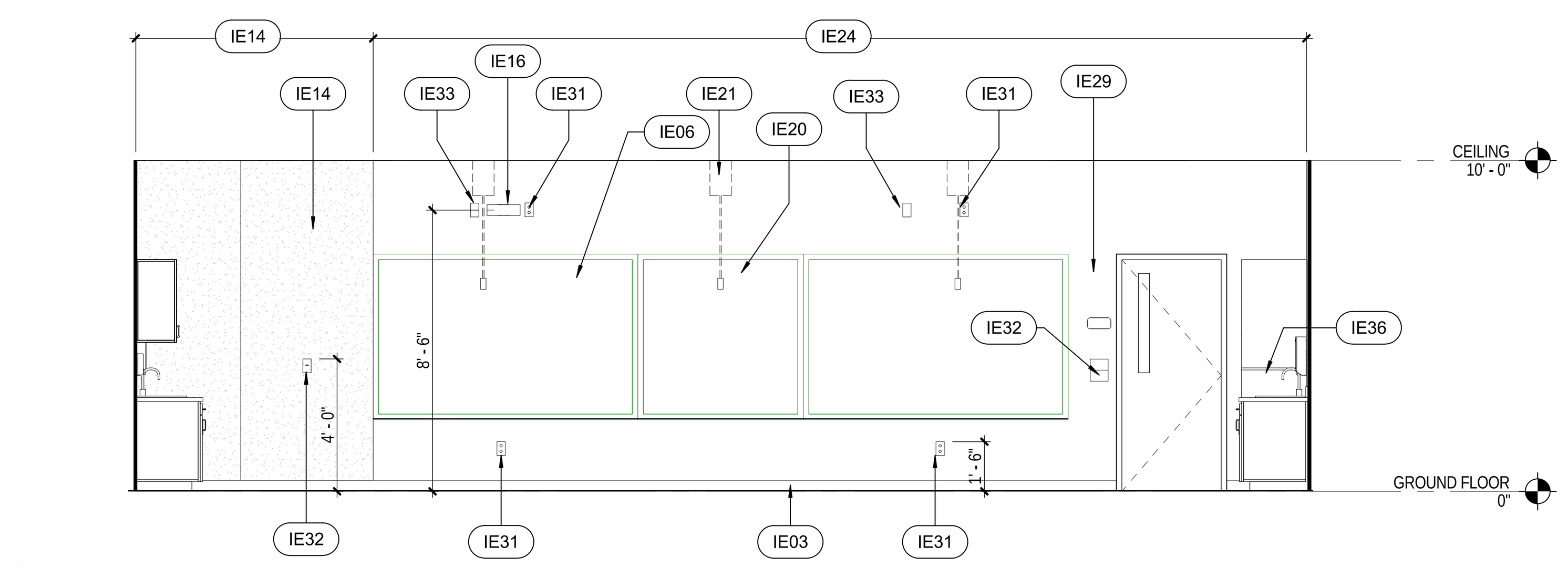
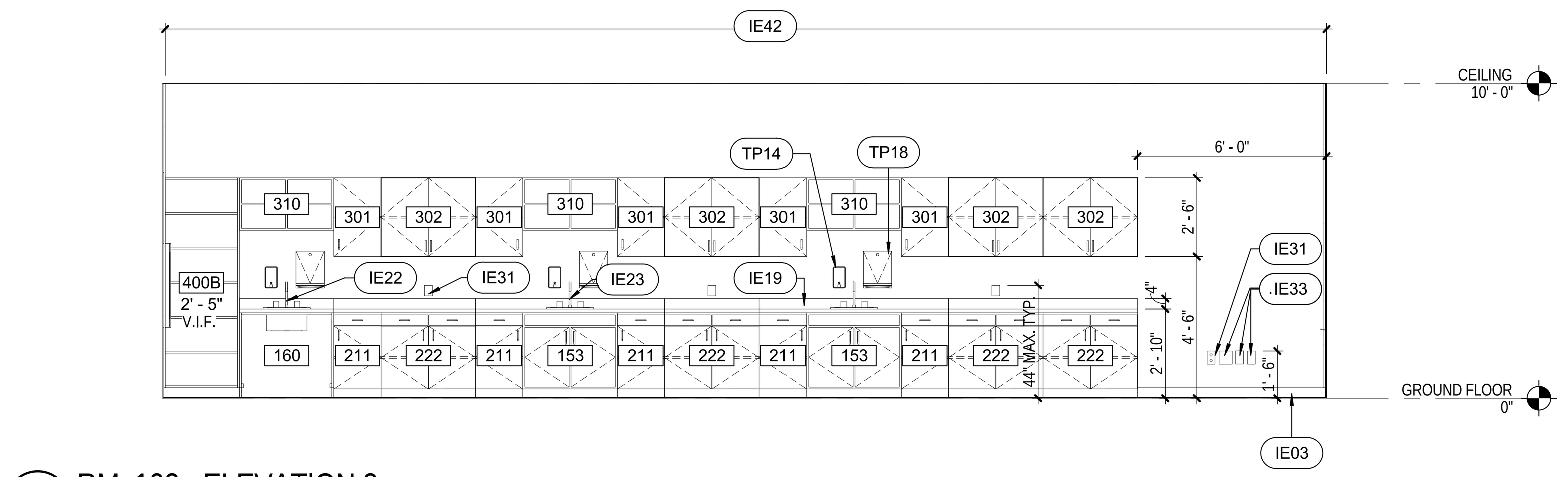
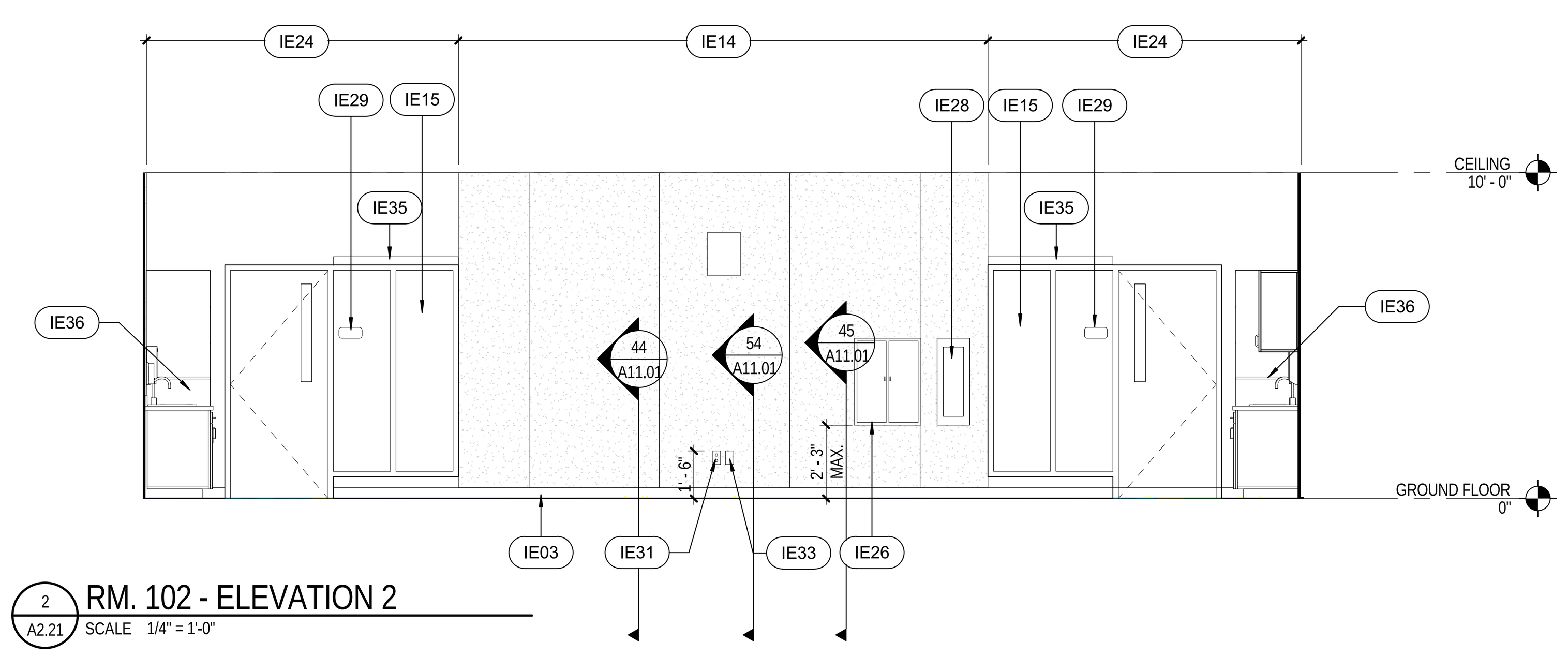


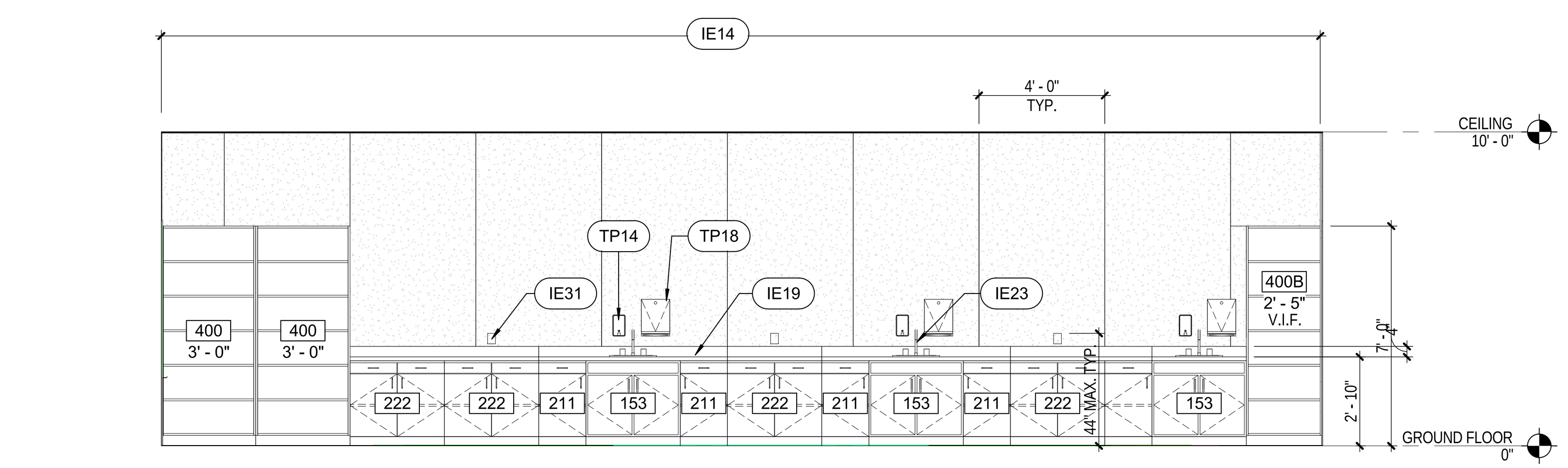
4 A2.21 RM 102 - ELEVATION 4
SCALE 1/4" = 1'-0"



3 A2.21 RM. 102 - ELEVATION 3
SCALE 1/4" = 1'-0"



2 A2.21 RM. 102 - ELEVATION 2
SCALE 1/4" = 1'-0"



1 A2.21 RM. 102 - ELEVATION 1
SCALE 1/4" = 1'-0"

LEGEND NOTES

KEYNOTE LEGEND	
#	KEYNOTE
IE03	4" RUBBER WALL BASE; SEE SPEC. 096513
IE06	8'X5' WHITEBOARD, FOR ATTACHMENT TO WALL SEE DETAIL 44/A10.11 & SPEC. 101100
IE14	TACKABLE WALL SURFACE, TYP., SEE A12.01 FOR ROOM FINISH SCHEDULE
IE15	WINDOW, REFER TO WINDOW SCHEDULE & DETAILS.
IE16	WALL MOUNTED ULTRA SHORT THROW PROJECTOR; TYP.; OFCI; SEE 16/A11.01
IE19	EPOXY COUNTER TOP; TYP.; SEE SPEC. 123553.19
IE20	5'X5' WHITEBOARD; SEE SPEC. 101100 & 44/A10.11
IE21	OVERHEAD POWER REEL; TYP.; SEE ELECTRICAL DWGS. & 11/A14.01
IE22	ACCESSIBLE SINK WITH 6 1/2" DEEP BASIN; SEE 24/A10.11 & PLUMBING DWGS.
IE23	SINK WITH 6 1/2" DEEP BASIN; SEE 24/A10.11 & PLUMBING DWGS.
IE24	VINYL WALL COVERING; SEE A12.01 FOR ROOM FINISH SCHEDULE
IE26	EYE GOGGLE SANITIZER, SEE 16/A10.11 FOR BLOCKING; SEE SPEC. 115300
IE27	WALL MOUNTED CLOCK/ SPEAKER UNIT; SEE T2.0; PROVIDE BACKING SIM. TO 16/A10.11
IE28	FIRE EXTINGUISHER RECESSED CABINET; SEE SPEC. 104413 & 104416, AND 13/A11.01, TYP.
IE29	SIGNAGE PER PLAN, SEE 0.31, TYP.
IE30	ELECTRICAL SWITCH; SEE ELECTRICAL DRAWINGS
IE31	ELECTRICAL OUTLET; SEE ELECTRICAL DRWINGS
IE32	EXTRON CONTROLLER; SEE T2.0
IE33	DATA OUTLET, SEE T2.0
IE35	CHAIN-OPERATED WINDOW SHADE; SEE SPEC. 122413; PROVIDE BACKING SIM. TO 16/A10.11
IE36	CASEWORK BEYOND
IE42	PAINT, ACCENT COLOR; SEE SPEC. 099113 @ EXTERIOR, 099123 @ INTERIOR
TP14	WALL MOUNTED SOAP DISPENSER, TYP.; SEE SPEC. 102800
TP18	SURFACE MOUNTED PAPER TOWEL DISPENSER; SEE SPEC. 102800

ADD-A

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS

1. ELEVATIONS DENOTED AS MILLWORK ARE SPECIFIED UNDER DIVISION 06. OTHERS CONSIDERED CASEWORK SPECIFIED UNDER DIVISION 12, U.O.N.

2. BASE STORAGE CABINET IS 24" DEEP, U.O.N.

3. WALL CABINET IS 14" DEEP, U.O.N.

4. TALL STORAGE UNITS TO BE 24" DEEP, U.O.N.

5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.

6. SEE ELEVATIONS FOR CASEWORK HEIGHT AND WIDTH.

7. WHERE ELECTRICAL DEVICES ARE LOCATED IN CASEWORK, CASEWORK CONTRACTOR SHALL PROVIDE FINISHED OPENINGS. COORDINATE LOCATION AND QUANTITY WITH ELECTRICAL CONTRACTOR.

8. PROVIDE JOINT SEALANT AT PERIMETER JOINTS WHERE COUNTERTOPS, BACK AND SIDE SPLASHES, CASEWORK, AND MILLWORK ABUT WALLS.

9. V.I.F. DIMENSIONS OF CABINET LOCATIONS IN BUILDING PRIOR TO FABRICATION.

10. PROVIDE LOCKS AT DOORS AND DRAWERS.

11. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.

12. ALL EXPOSED SURFACES IN OPEN SHELVING SHALL BE PLASTIC LAMINATE COVERED.

13. DASHED ITEMS ARE NOT IN SCOPE.

14. CASEWORK TO BE KEWAUNEE, IN COLOR 201 NATURAL MAPLE WITH KEMRESIN WORKTOPS IN COLOR GREY.

15. NOT ALL FINISHES ARE SHOWN, SEE A12.01 FOR ROOM FINISH SCHEDULE AND FINISH PLANS.

CASEWORK SCHEDULE					
TYPE	MODEL	DETAIL REFERENCE	FINISH	Height	Width
AWI	153	24/A10.11 SIM.	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	155	24/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	160	24/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	211	25/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	1' - 6"
AWI	222	25/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	301	13/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 6"	1' - 6"
AWI	302	13/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 6"	3' - 0"
AWI	310	14/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	1' - 8"	3' - 0"
AWI	400	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	SEE ELEVATIONS	3' - 0"
AWI	400A	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	2' - 8"
AWI	400B	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	2' - 5"
AWI	402	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	3' - 0"

LEGEND NOTES

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ________________

FILE NO.: 30-48

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA 92604

INTERIOR ELEVATIONS
VENADO MIDDLE SCHOOL MEASURE E

A2.21
75-17602-00
06/12/2017
Revisions
ADD-A 2/19/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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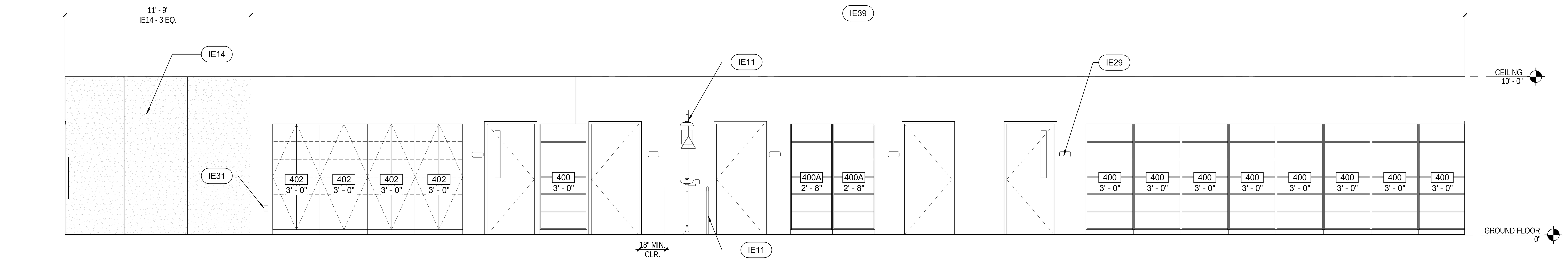
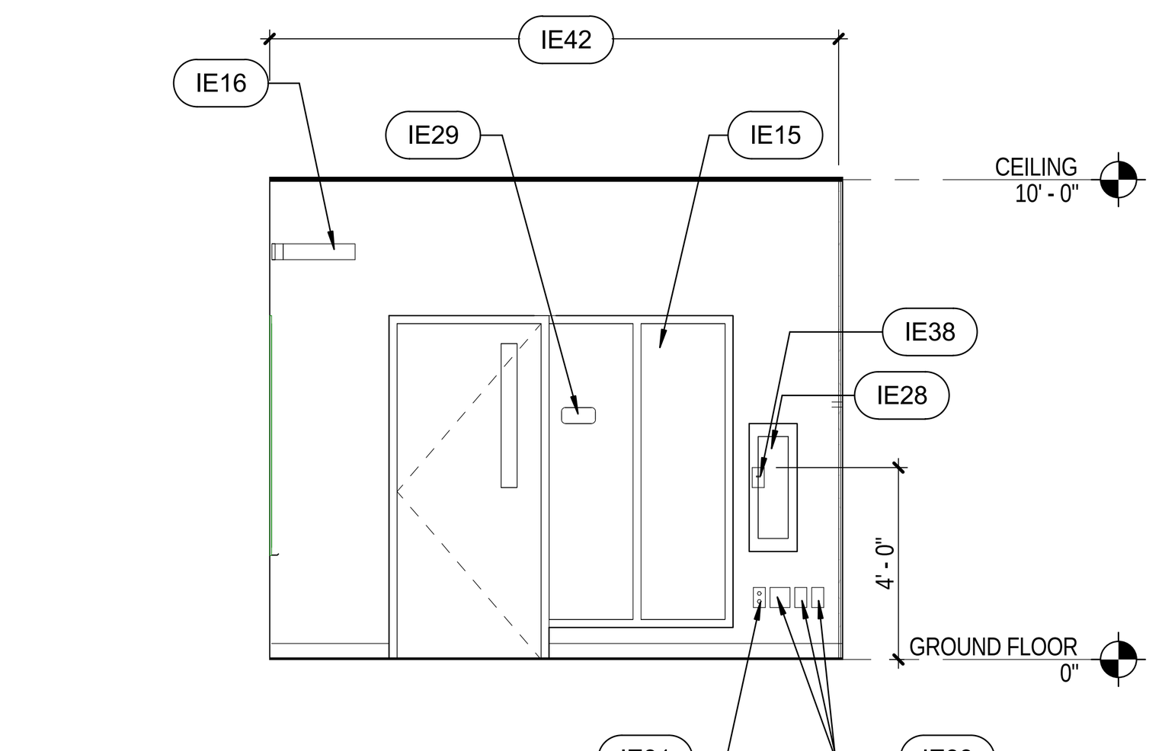


8 A2.22 RM. 108 - ELEVATION 4
SCALE 1/4" = 1'-0"



7 A2.22 RM. 108 - ELEVATION 3
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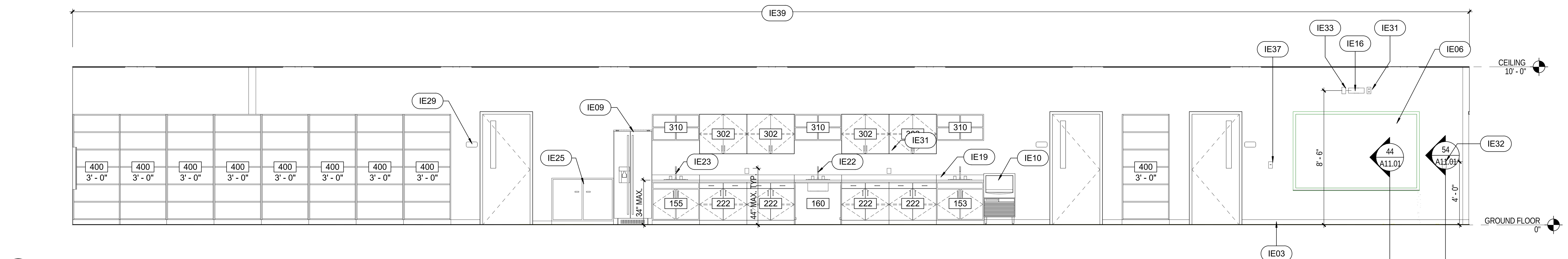

6 A2.22 RM. 108 - ELEVATION 2
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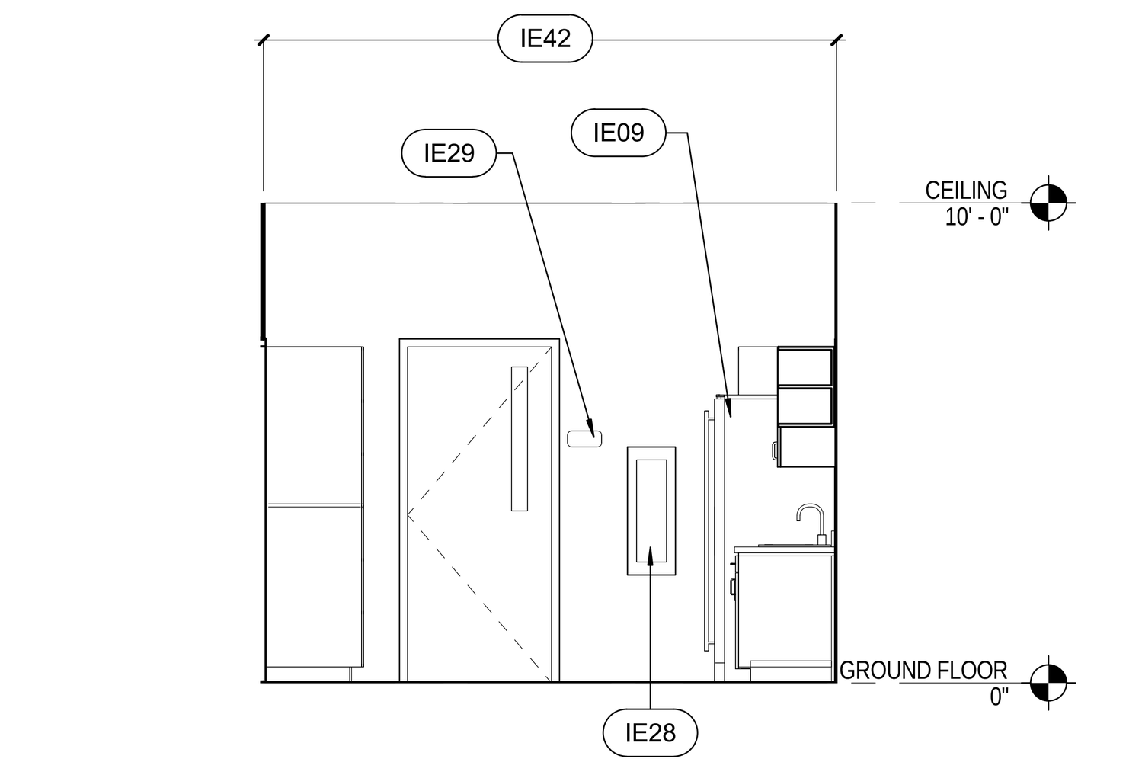

5 A2.22 RM. 108 - ELEVATION 1
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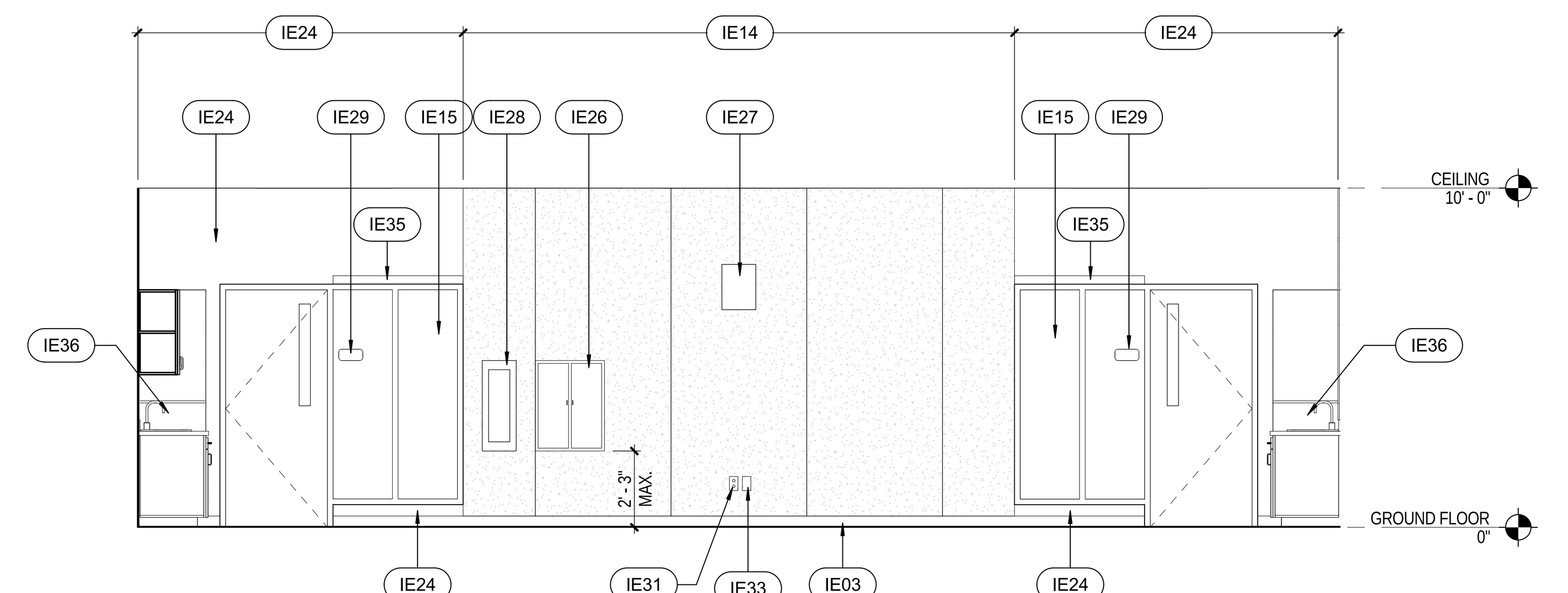

4 A2.22 RM 101, 105 SIM. - ELEVATION 4
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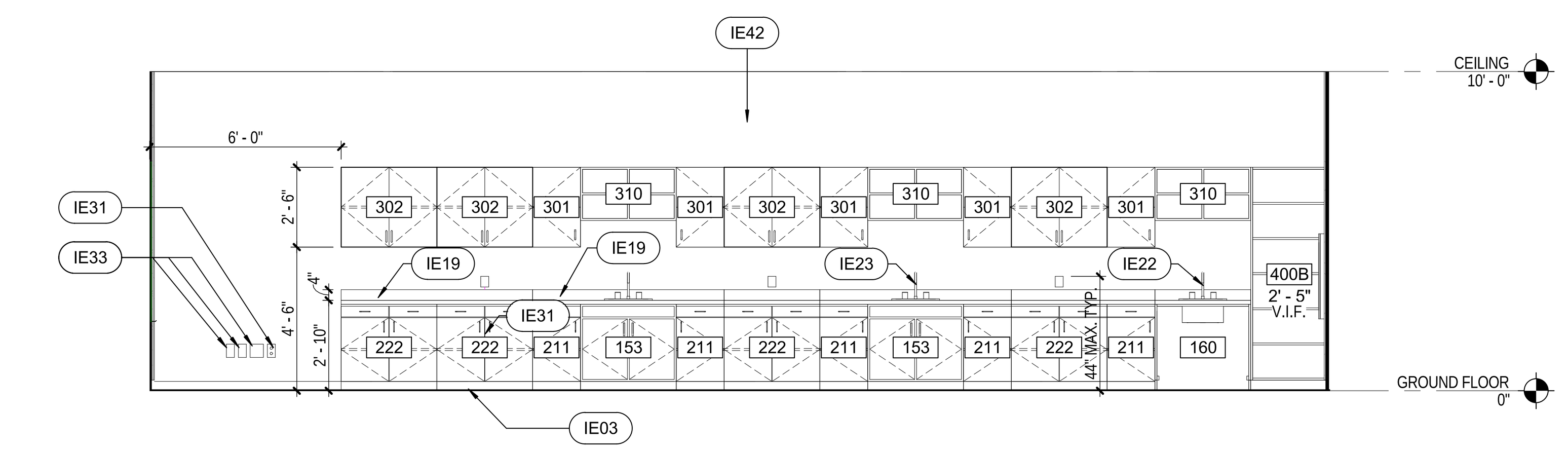
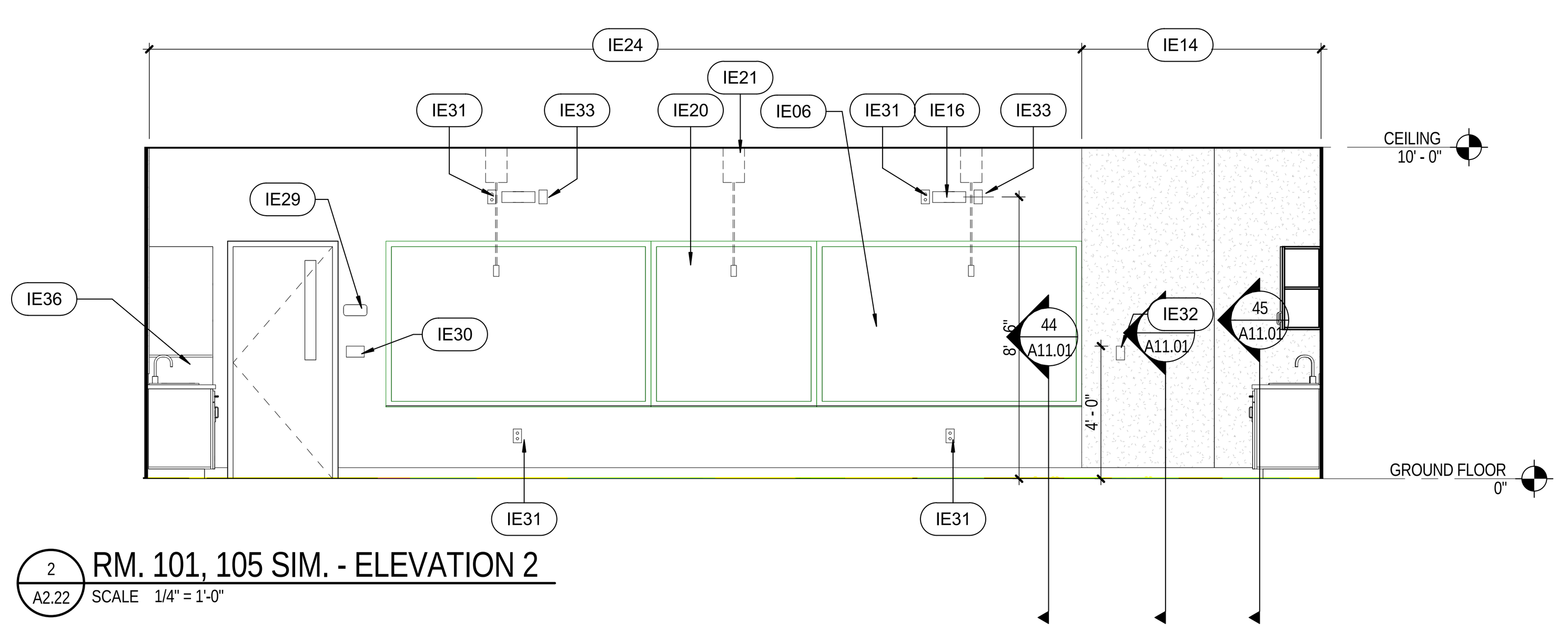
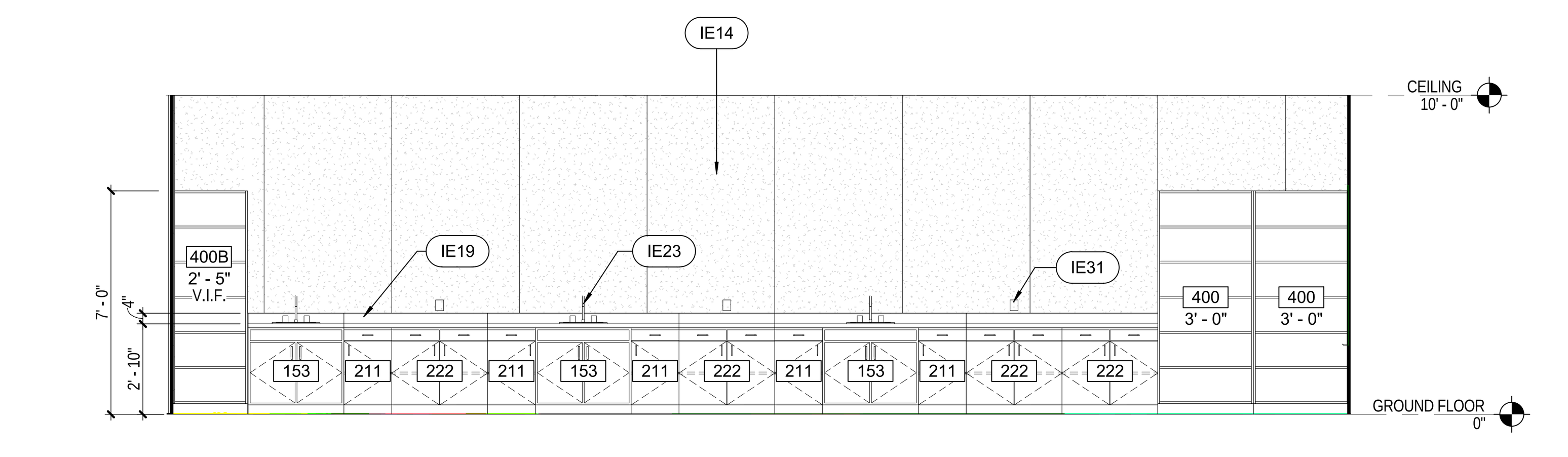


3 A2.22 RM 101, 105 SIM. - ELEVATION 3
SCALE 1/4" = 1'-0"



2 A2.22 RM. 101, 105 SIM. - ELEVATION 2
SCALE 1/4" = 1'-0"



1 A2.22 RM. 101, 105 SIM. - ELEVATION 1
SCALE 1/4" = 1'-0"

LEGEND NOTES

KEYNOTE LEGEND	
#	KEYNOTE
IE03	4" RUBBER WALL BASE; SEE SPEC. 096513
IE06	8'X5' WHITEBOARD, FOR ATTACHMENT TO WALL SEE DETAIL 44/A10.11 & SPEC. 101100
IE09	SIDE-BY-SIDE ELECTRIC REFRIGERATOR; OFCI
IE10	ELECTRIC ICE MAKER; OFCI
IE11	EMERGENCY SHOWER & EYE/FACEWASH, REFER TO P1.1 PLUMBING PLAN
IE14	TACKABLE WALL SURFACE, TYP., SEE A12.01 FOR ROOM FINISH SCHEDULE
IE15	WINDOW, REFER TO WINDOW SCHEDULE & DETAILS.
IE16	WALL MOUNTED ULTRA SHORT THROW PROJECTOR; TYP.; OFCI; SEE 16/A11.01
IE19	EPOXY COUNTER TOP; TYP.; SEE SPEC. 123553.19
IE20	5'X5' WHITEBOARD; SEE SPEC. 101100 & 44/A10.11
IE21	OVERHEAD POWER REEL; TYP.; SEE ELECTRICAL DWGS. & 11/A14.01
IE22	ACCESSIBLE SINK WITH 6 1/2" DEEP BASIN; SEE 24/A10.11 & PLUMBING DWGS.
IE23	SINK WITH 6 1/2" DEEP BASIN; SEE 24/A10.11 & PLUMBING DWGS.
IE24	VINYL WALL COVERING; SEE A12.01 FOR ROOM FINISH SCHEDULE
IE25	CHEMICAL STORAGE CABINET; SEE SPEC. 115300
IE26	EYE GOGGLE SANITIZER, SEE 16/A10.11 FOR BLOCKING; SEE SPEC. 115300
IE27	WALL MOUNTED CLOCK/ SPEAKER UNIT; SEE T2.0; PROVIDE BACKING SIM. TO 16/A10.11
IE28	FIRE EXTINGUISHER RECESSED CABINET; SEE SPEC. 104413 & 104416, AND 13/A11.01, TYP.
IE29	SIGNAGE PER PLAN, SEE 0.31, TYP.
IE30	ELECTRICAL SWITCH; SEE ELECTRICAL DRAWINGS
IE31	ELECTRICAL OUTLET; SEE ELECTRICAL DRWINGS
IE32	EXTRON CONTROLLER; SEE T2.0
IE33	DATA OUTLET, SEE T2.0
IE35	CHAIN-OPERATED WINDOW SHADE; SEE SPEC. 122413; PROVIDE BACKING SIM. TO 16/A10.11
IE36	CASEWORK BEYOND
IE37	WALL PHONE OUTLET; SEE T2.0
IE38	ALARM SYSTEM KEYPAD; SEE T2.0
IE39	PAINT, BASE COLOR; SEE SPEC. 099113 @ EXTERIOR, 099123 @ INTERIOR
IE42	PAINT, ACCENT COLOR; SEE SPEC. 099113 @ EXTERIOR, 099123 @ INTERIOR

ADD-A

SHEET NOTES

CASEWORK & MILLWORK NOTES APPLY TO ALL CASEWORK & MILLWORK SHEETS

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3. WALL CABINET IS 14" DEEP, U.O.N.

4. TALL STORAGE UNITS TO BE 24" DEEP, U.O.N.

5. PROVIDE ADJUSTABLE SHELVING IN CASEWORK, U.O.N.

6. SEE ELEVATIONS FOR CASEWORK HEIGHT AND WIDTH.

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11. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK AND MILLWORK.

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CASEWORK SCHEDULE

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AWI	160	24/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	211	25/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	1' - 6"
AWI	222	25/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 8 1/2"	3' - 0"
AWI	301	13/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 6"	1' - 6"
AWI	302	13/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	2' - 6"	3' - 0"
AWI	310	14/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	1' - 8"	3' - 0"
AWI	400	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	3' - 0"
AWI	400A	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	2' - 8"
AWI	400B	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	2' - 5"
AWI	402	45/A10.11	NATURAL MAPLE TO MATCH KEWAUNEE # 201	7' - 0"	3' - 0"

LEGEND NOTES

NOTE:
STORAGE OF HAZARDOUS MATERIALS IS TO BE IN COMPLIANCE WITH CHAPTERS 50, 54, 56, 57, 58, 60, 62, 64, 66, & 67 OF THE 2016 CFC AS APPLICABLE TO THE ACTUAL MATERIALS AND QUANTITIES BEING STORED.

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:____ FLS:____ AC:____
DATE:
FILE NO.: 30-48

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA 92604

INTERIOR ELEVATIONS
VENADO MIDDLE SCHOOL MEASURE E

A2.22
75-17602-00
06/12/2017

DLR Group
Architecture Engineering Planning Interiors

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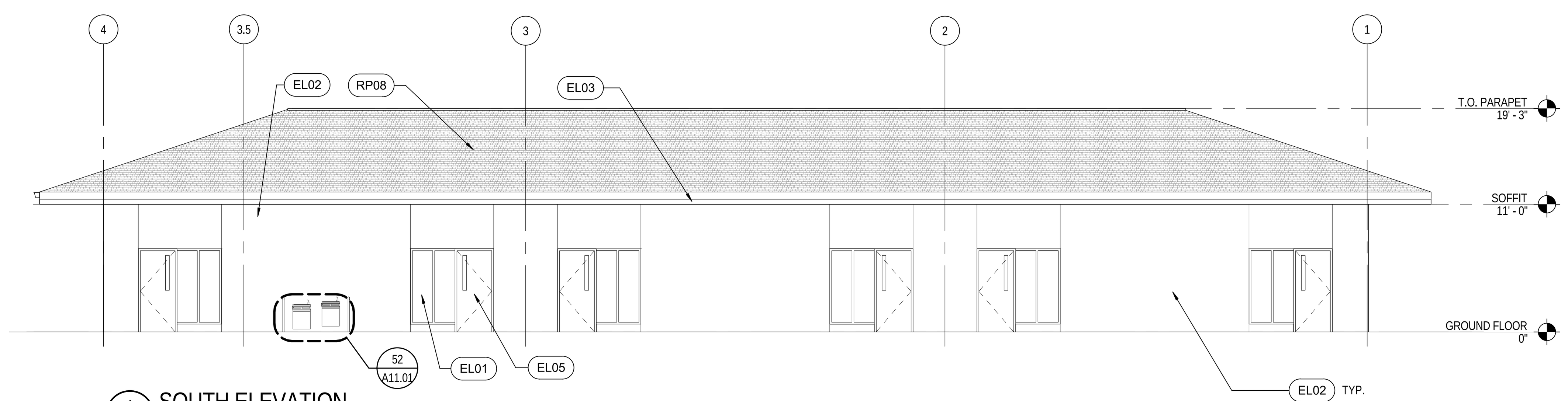
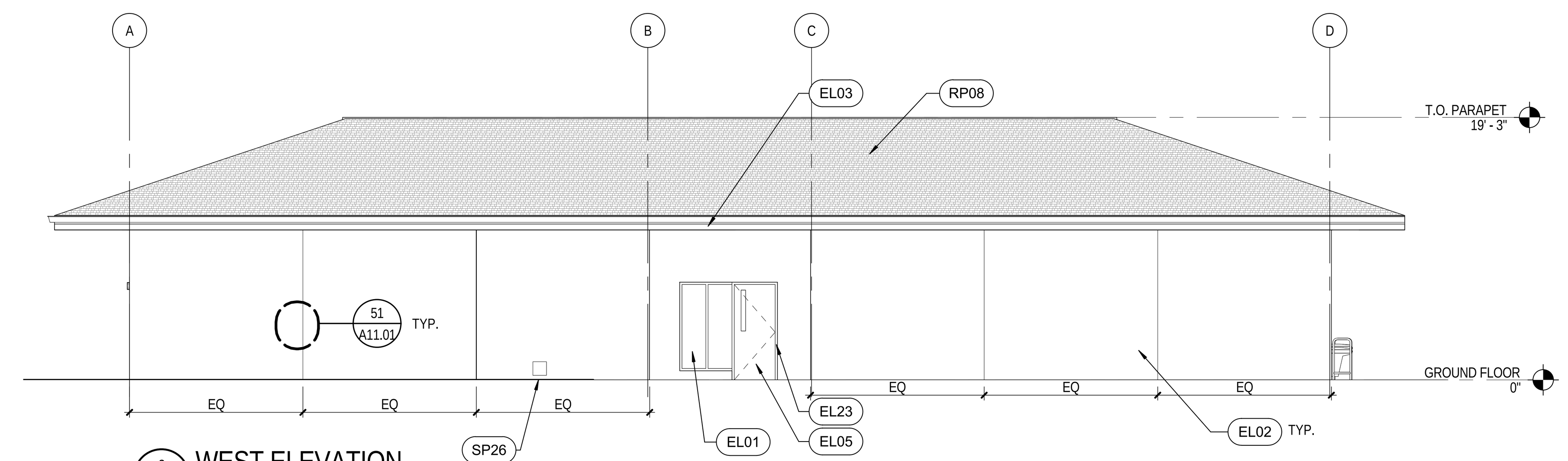
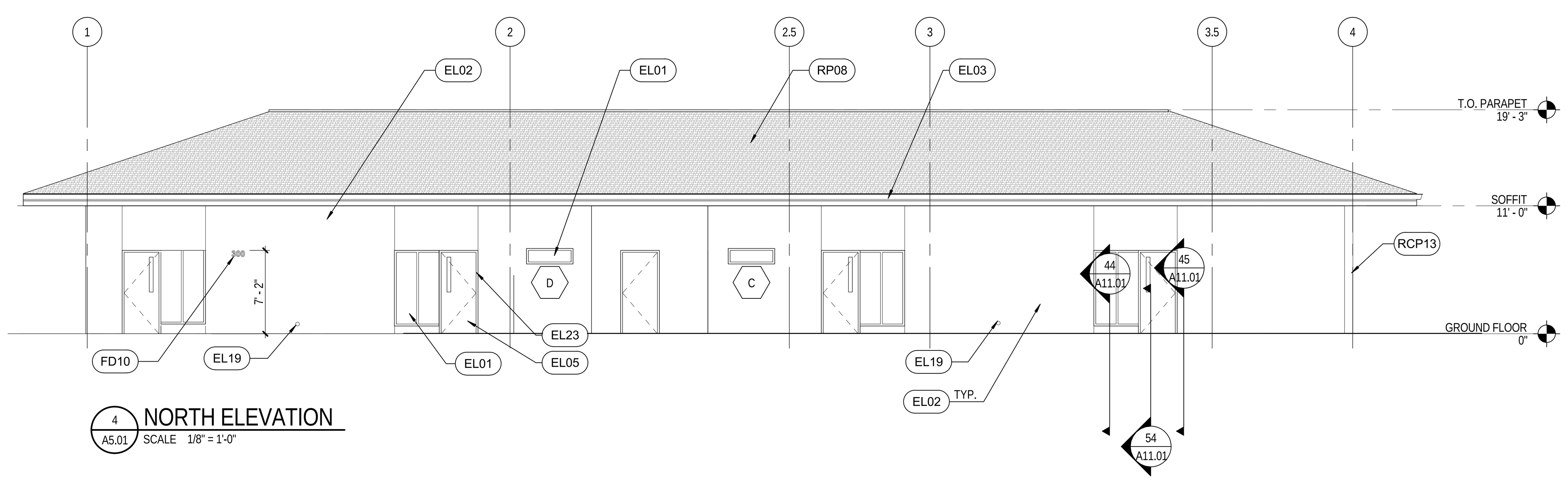


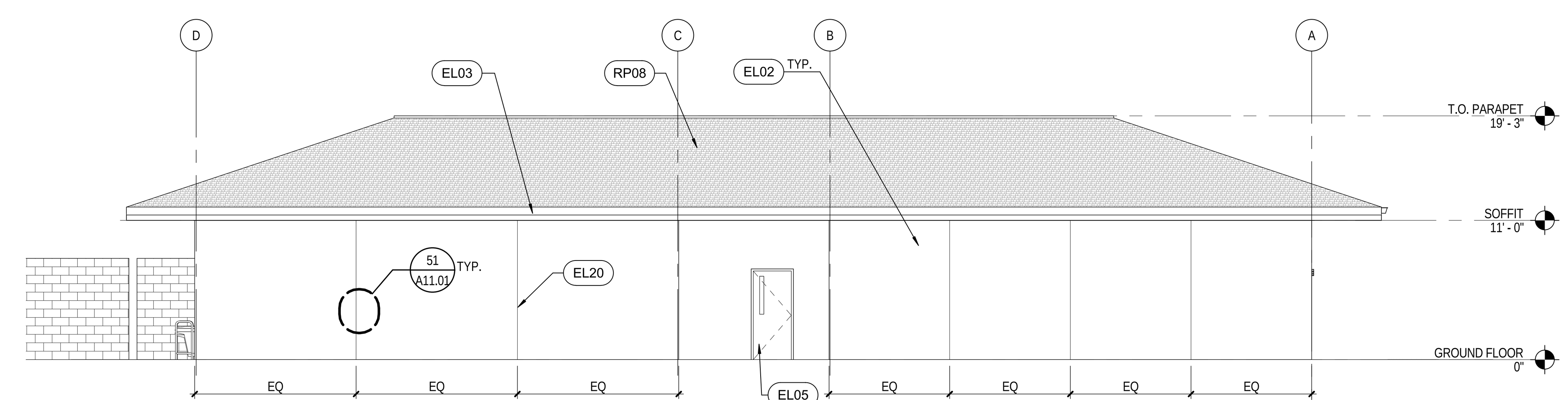
1 A5.01 SOUTH ELEVATION
SCALE 1/8" = 1'-0"



3 A5.01 WEST ELEVATION
SCALE 1/8" = 1'-0"



4 A5.01 NORTH ELEVATION
SCALE 1/8" = 1'-0"



2 A5.01 EAST ELEVATION
SCALE 1/8" = 1'-0"

LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEYNOTE LEGEND	
#	KEYNOTE
EL01	WINDOW PER SCHEDULE, TYP.
EL02	EXT. CEMENT PLASTER OVER PAPER BACKED MTL. LATH; PAINT: VISTA PAINT-BEIGE GRAY; SEE SPEC. 092400 & 099113
EL03	WOOD FASCIA, PAINT: VISTA PAINT-SPANISH BROWN, TO MATCH EXISTING BLDGS.; SEE SPEC. 099113
EL05	DOOR PER SCHEDULE, TYP.
EL19	OVERFLOW PIPE, SEE PLUMBING DRAWINGS, TYP.
EL20	PLASTER CONTROL JOINTS; ALIGN TO CONCRETE CONTROL JOINTS SEE SLAB PLAN A1.11 & 51/A11.01
EL23	DOOR PANEL AND FRAME; PAINT: VISTA PAINT-COPENHAGEN, TYP AT EXTERIOR
FD10	CAST DIMENSIONAL LETTER(S) 6" HIGH; SEE SPEC. 101419
RCP13	STEEL COLUMN; SEE STRUCTURAL DRAWINGS
RP08	ASPHALT SHINGLES, CLASS A; SEE SPEC. 073113
SP26	PROVIDE HOSE BIB IN RECESSED LOCKABLE WALL BOX, SEE PLUMBING DRAWINGS

ADD-A
ADD-A

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26450
05/31/2019
STATE OF CALIFORNIA

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA
92604

EXTERIOR ELEVATIONS
VENADO MIDDLE SCHOOL MEASURE E

A5.01
75-17602-00
06/12/2017
Revisions
ADD-A 2/19/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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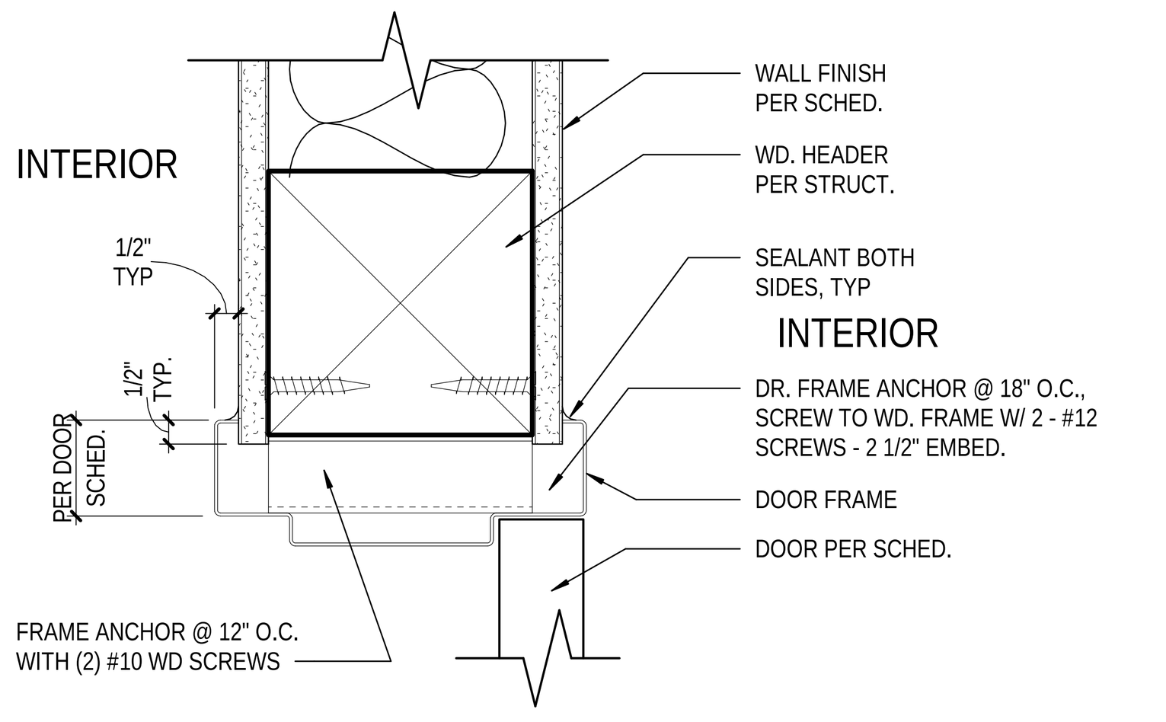
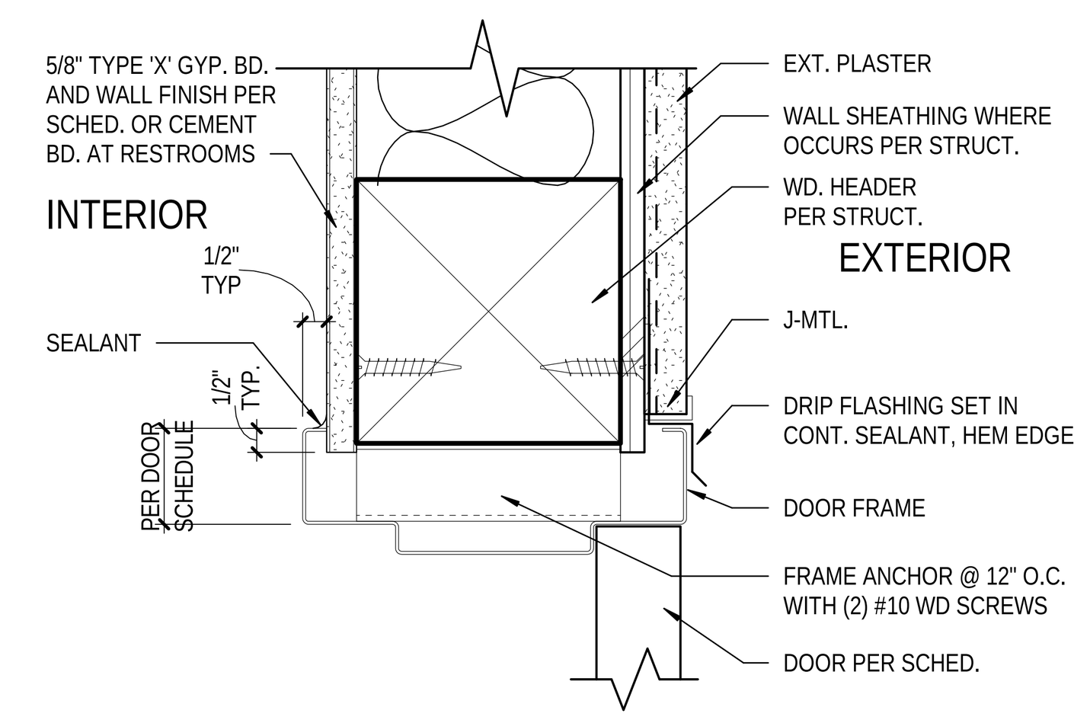


11 A9.10 DOOR HEAD - HM - GWB
SCALE 3" = 1'-0"

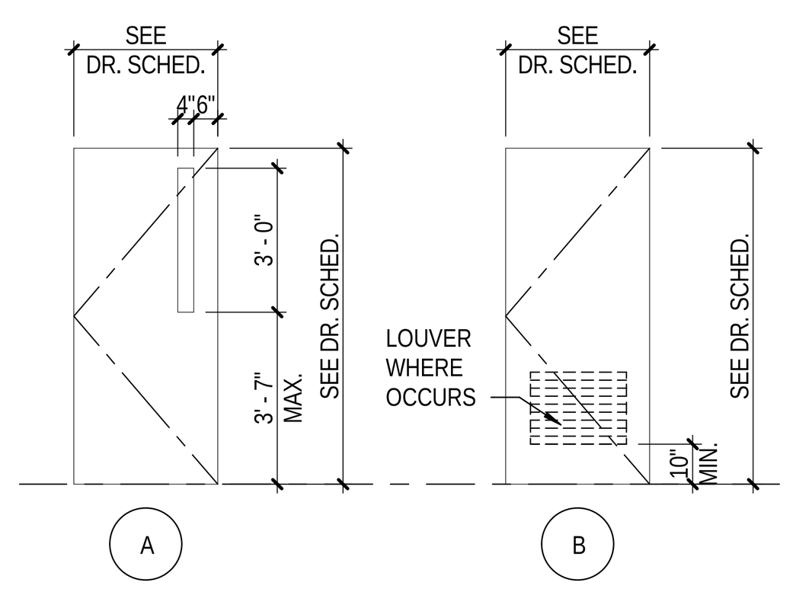


14 A9.10 DOOR HEAD - HM - GWB/PLS
SCALE 3" = 1'-0"

DOOR AND FRAME SCHEDULE

NUMBER	DOOR PANEL: NO. OF PANELS	WIDTH	HEIGHT	THICKNESS	MATERIAL	GLAZING (GL-2)	TYPE	FRAME: MATERIAL	FIRE RATING	HARDWARE SET	Operation	DETAILS: HEAD	JAMB LEFT	JAMB RIGHT	SILL	Type Comments
101A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
101B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	22/A9.10	51/A9.10	
101C	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	45 MNT.	043		11/A9.10	21/A9.10	21/A9.10	34/A9.10	
102A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
102B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	22/A9.10	51/A9.10	
102C	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	45 MNT.	043		11/A9.10	21/A9.10	21/A9.10	34/A9.10	
103A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
103B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	22/A9.10	51/A9.10	
103C	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	45 MNT.	043		11/A9.10	21/A9.10	21/A9.10	34/A9.10	
104A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	22/A9.10	51/A9.10	
104B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
104C	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	45 MNT.	043		11/A9.10	21/A9.10	21/A9.10	34/A9.10	
105A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
105B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	22/A9.10	51/A9.10	
105C	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	45 MNT.	043		11/A9.10	21/A9.10	21/A9.10	34/A9.10	
106	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	-	443		14/A9.10	24/A9.10	24/A9.10	41/A9.10	24"X18" LOUVER
107	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	45 MNT.	022		11/A9.10	21/A9.10	21/A9.10	53/A9.10	
108A	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	24/A9.10	24/A9.10	51/A9.10	
108B	1	3' - 0"	7' - 0"	1 3/4"	HM	6" x 36"	A	HM	-	482	PH	14/A9.10	22/A9.10	24/A9.10	51/A9.10	
109	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	45 MNT.	052		11/A9.10	21/A9.10	21/A9.10	43/A9.10	
109B	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	45 MNT.	052		11/A9.10	21/A9.10	21/A9.10	43/A9.10	
110	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	-	452		14/A9.10	24/A9.10	24/A9.10	31/A9.10	24"X18" LOUVER
111	1	3' - 0"	7' - 0"	1 3/4"	HM		B	HM	-	443		14/A9.10	24/A9.10	24/A9.10	41/A9.10	24"X18" LOUVER

23



DOOR TYPE

DOOR AND WINDOW NOTES

1. NEW BUILDINGS SERVING K-12, CONSTRUCTED WITH STATE FUNDS, ON EXISTING OR NEW CAMPUSES (AS DEFINED IN CBC SECTION 202) SHALL INCLUDE LOCKS THAT ALLOW DOORS TO CLASSROOMS AND ANY ROOM WITH AN OCCUPANCY OF 5 OR MORE PERSONS TO BE LOCKED FROM THE INSIDE. LOCKS SHALL COMPLY WITH THE SPECIFICATION AND REQUIREMENTS FOUND IN CBC SECTION 1010.1.11 (REF 17075 (A) (B), CAL. ED. CODE.

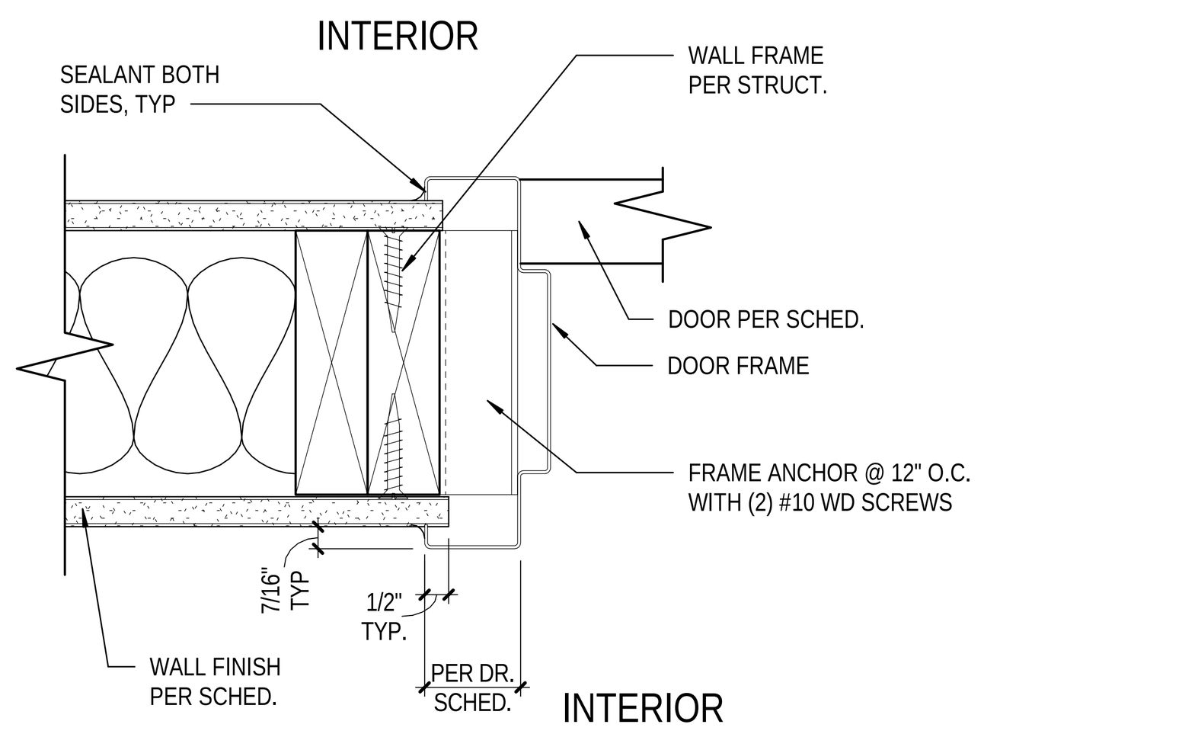
2. EMERGENCY EXIT AND PANIC HARDWARE: INDICATE ON DRAWINGS AND SPECIFICATIONS COMPLIANCE WITH SFM STANDARD 12-10-3, SECTION 12-10-302. (A) THE CROSS-BAR SHALL EXTEND ACROSS NOT LESS THAN ONE-HALF THE WIDTH OF DOOR/GATE. (D) THE ENDS OF THE CROSS-BAR SHALL BE CURVED, GUARDED OR OTHERWISE DESIGNED TO PREVENT CATCHING ON THE CLOTHING OF PERSONS DURING EGRESS.

3. ALL GLASS AND SAFETY GLAZING WILL COMPLY WITH CBC CHAPTER 24.

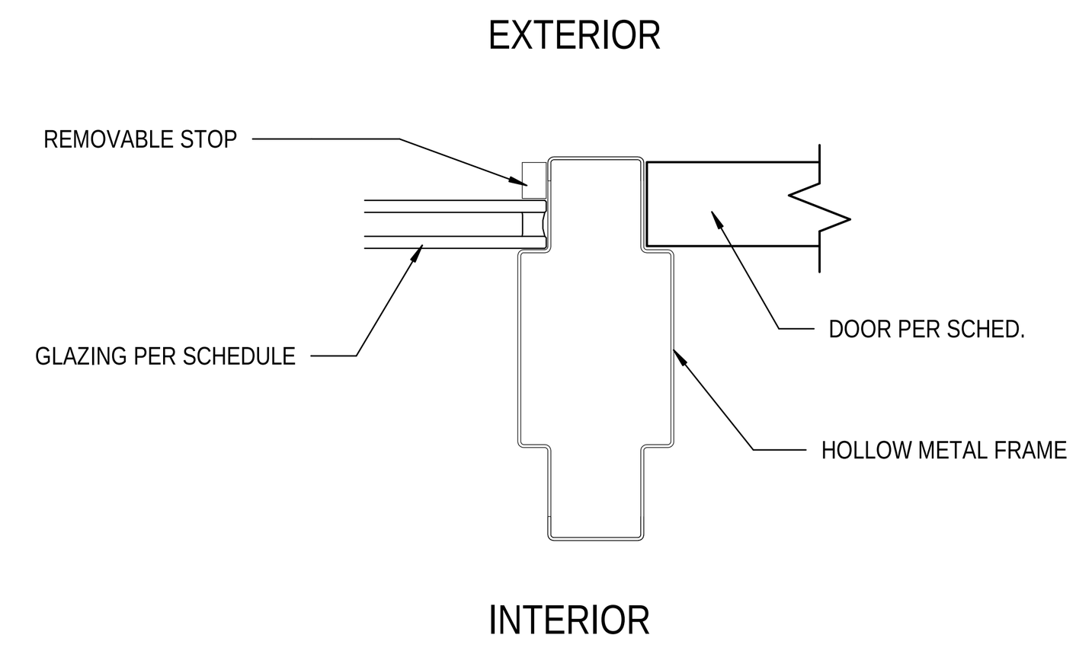
4. THE GENERAL CONTRACTOR IS TO FIELD VERIFY ALL WALL ASSEMBLY THICKNESS AND INDICATE ON HOLLOW METAL SHOP DRWING SUBMITTAL PRIOR TO ORDERING FRAMES.

5. DOOR FRAMES AND WINDOW FRAMES TO BE PAINTED VISTA PAINT - COPENHAGEN

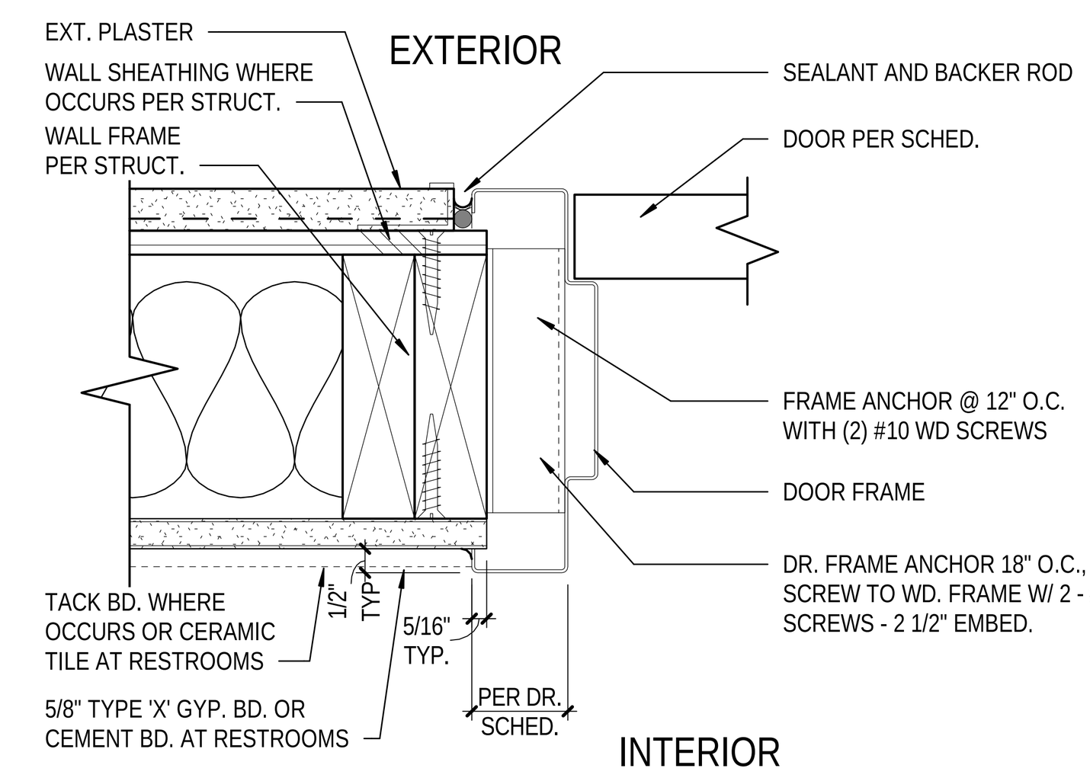
ADD-A



21 A9.10 DOOR JAMB HM - GWB
SCALE 3" = 1'-0"



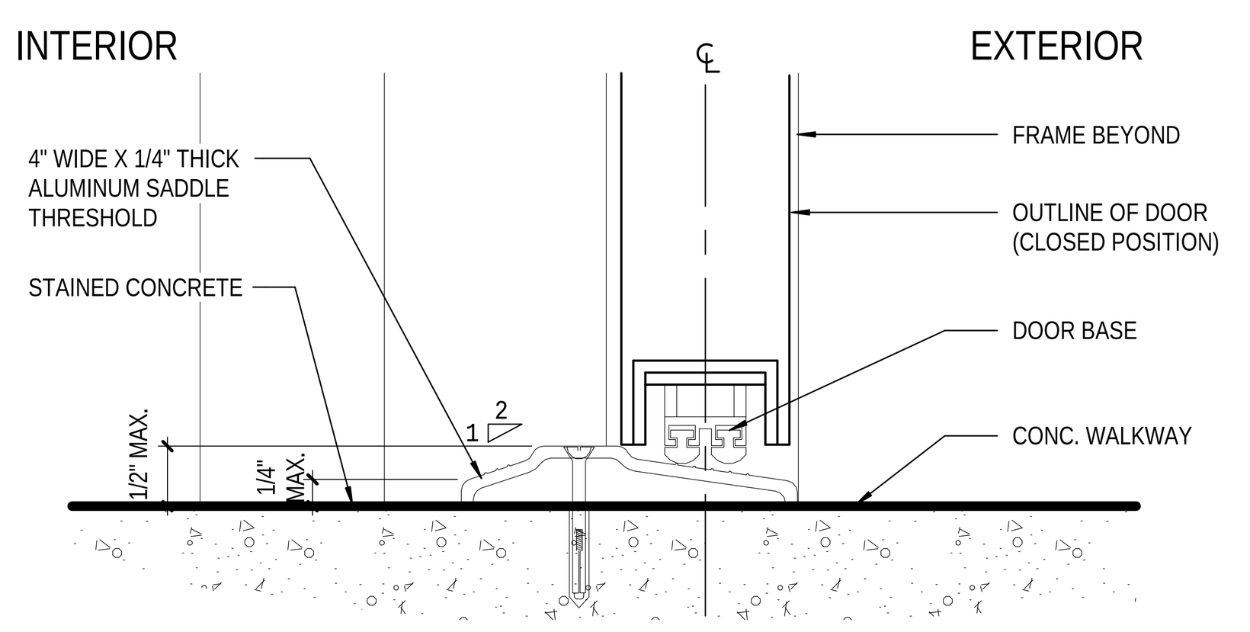
22 A9.10 DOOR/WINDOW JAMB - HM - SIDELITE
SCALE 3" = 1'-0"



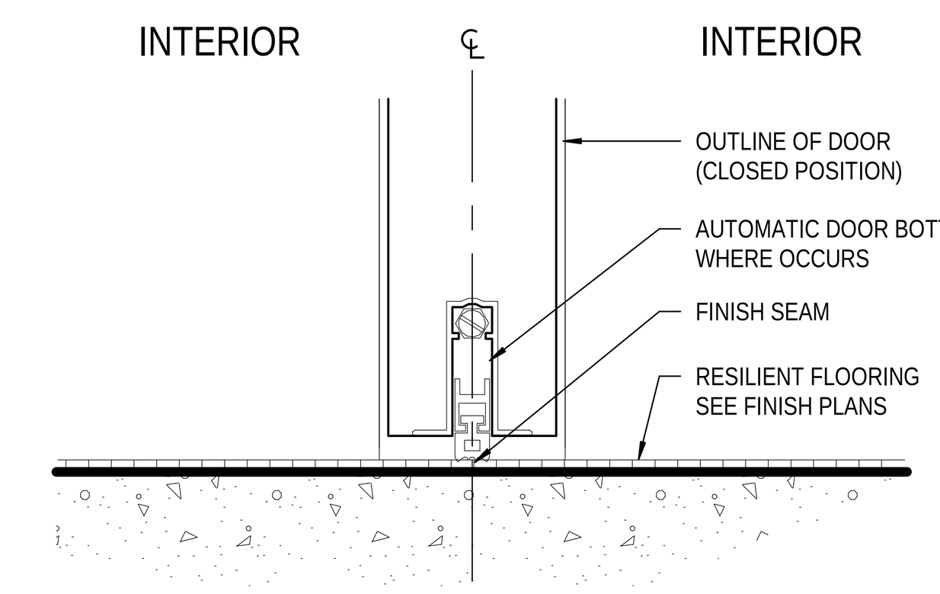
24 A9.10 DOOR JAMB - HM - GWB/PLS
SCALE 3" = 1'-0"

WINDOW SCHEDULE

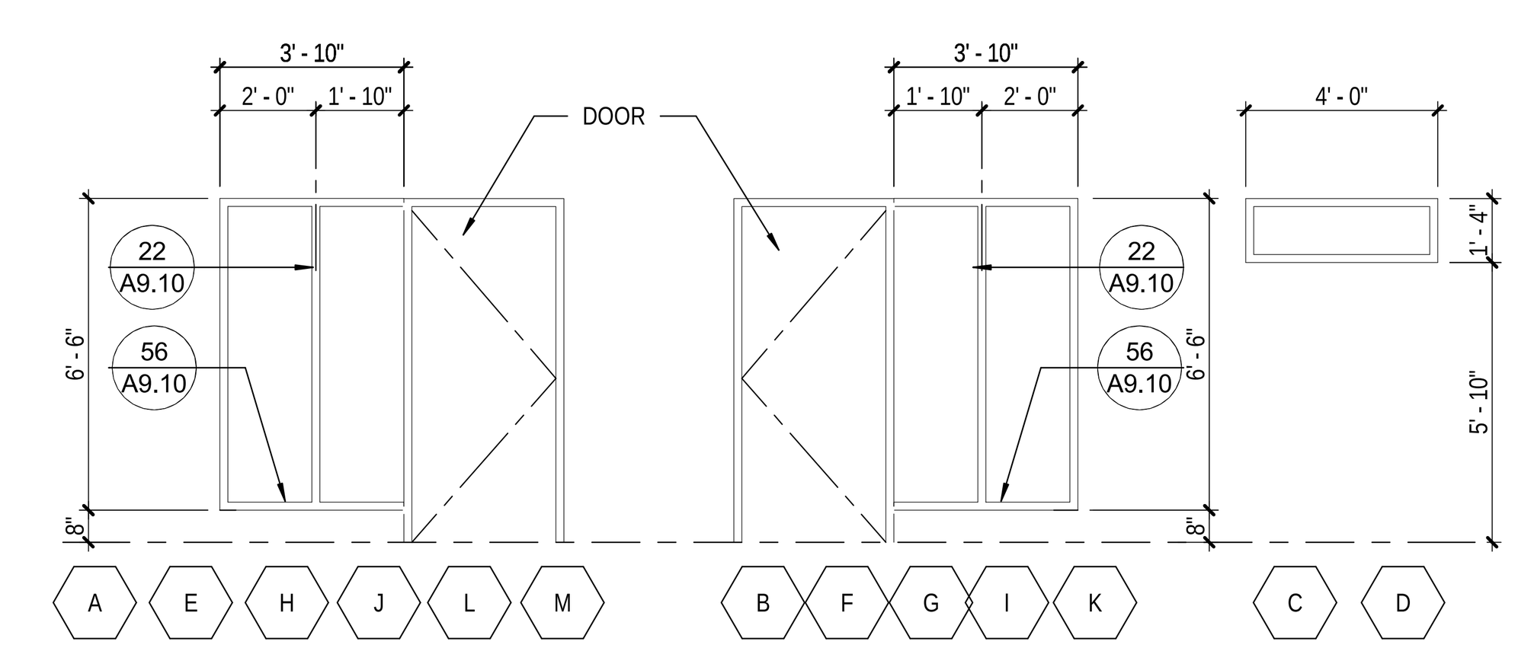
Z: E	MATERIAL	DEPTH	Window Glazing	DETAILS: HEAD	JAMB LEFT	JAMB RIGHT	SILL	COMMENTS
A	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	
B	HM	6"	GL-11	46/A9.10	22/A9.10	55/A9.10	56/A9.10	
C	HM	6"	GL-12	46/A9.10	55/A9.10	55/A9.10	56/A9.10	OBSCURED
D	HM	6"	GL-12	46/A9.10	55/A9.10	55/A9.10	56/A9.10	OBSCURED
E	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	
F	HM	6"	GL-11	46/A9.10	22/A9.10	55/A9.10	56/A9.10	
G	HM	6"	GL-11	46/A9.10	22/A9.10	55/A9.10	56/A9.10	
H	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	
I	HM	6"	GL-11	46/A9.10	22/A9.10	55/A9.10	56/A9.10	
J	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	
K	HM	6"	GL-11	46/A9.10	22/A9.10	55/A9.10	56/A9.10	
L	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	
M	HM	6"	GL-11	46/A9.10	55/A9.10	22/A9.10	56/A9.10	



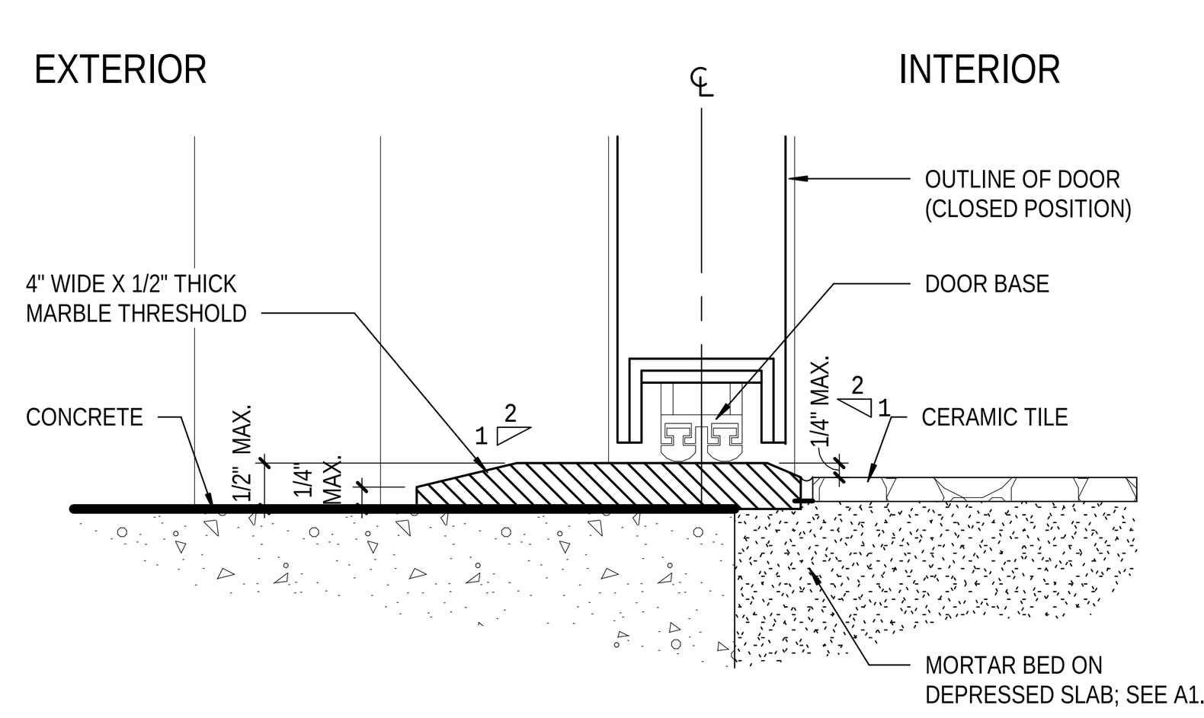
31 A9.10 THRESHOLD - CONC TO CONC EXTERIOR
SCALE 6" = 1'-0"



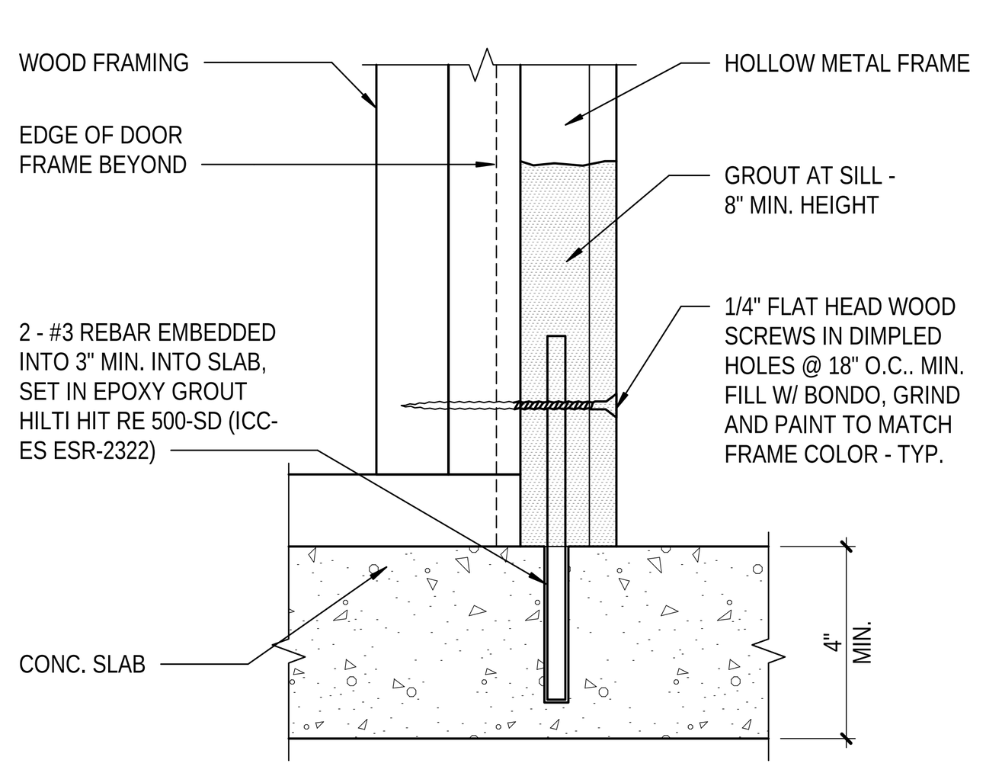
34 A9.10 THRESHOLD - RESILIENT TO RESILIENT
SCALE 6" = 1'-0"



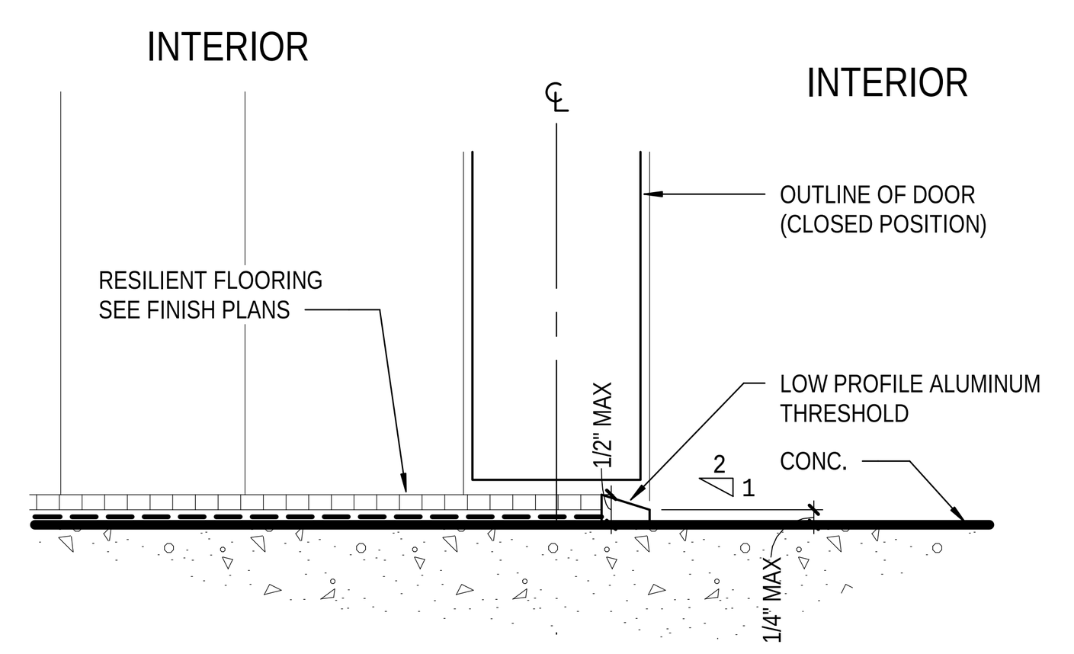
WINDOW TYPE



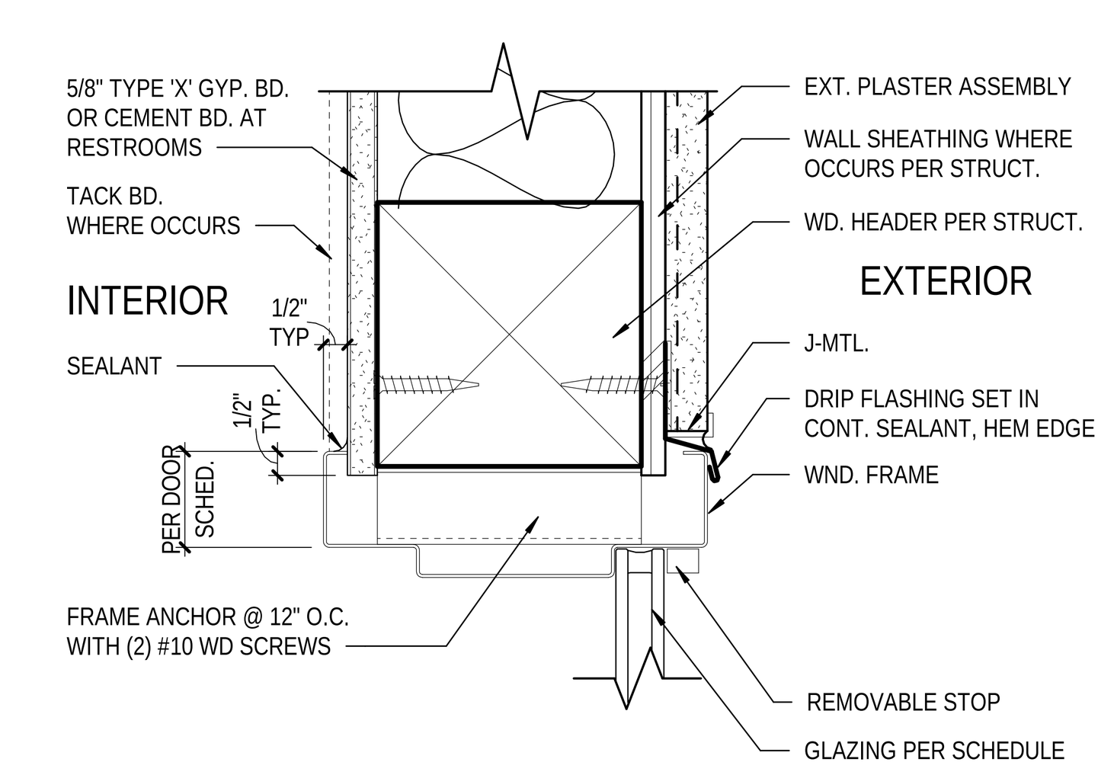
41 A9.10 THRESHOLD - CONC EXTERIOR TO CERAMIC TILE
SCALE 6" = 1'-0"



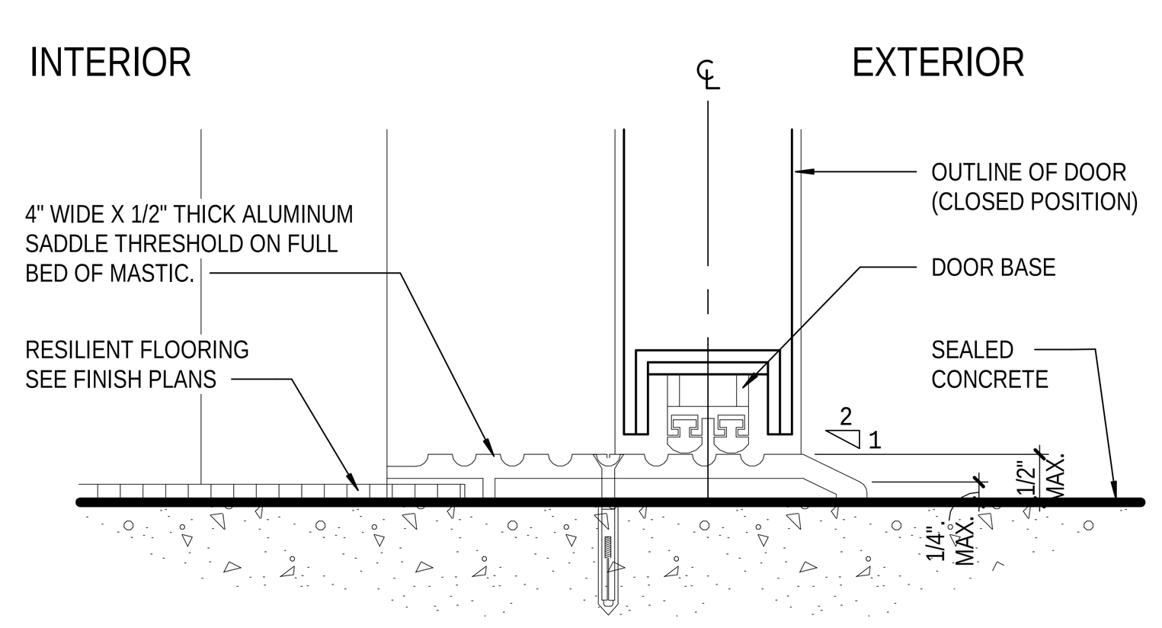
42 A9.10 THRESHOLD AND GROUTED JAMB
SCALE 3" = 1'-0"



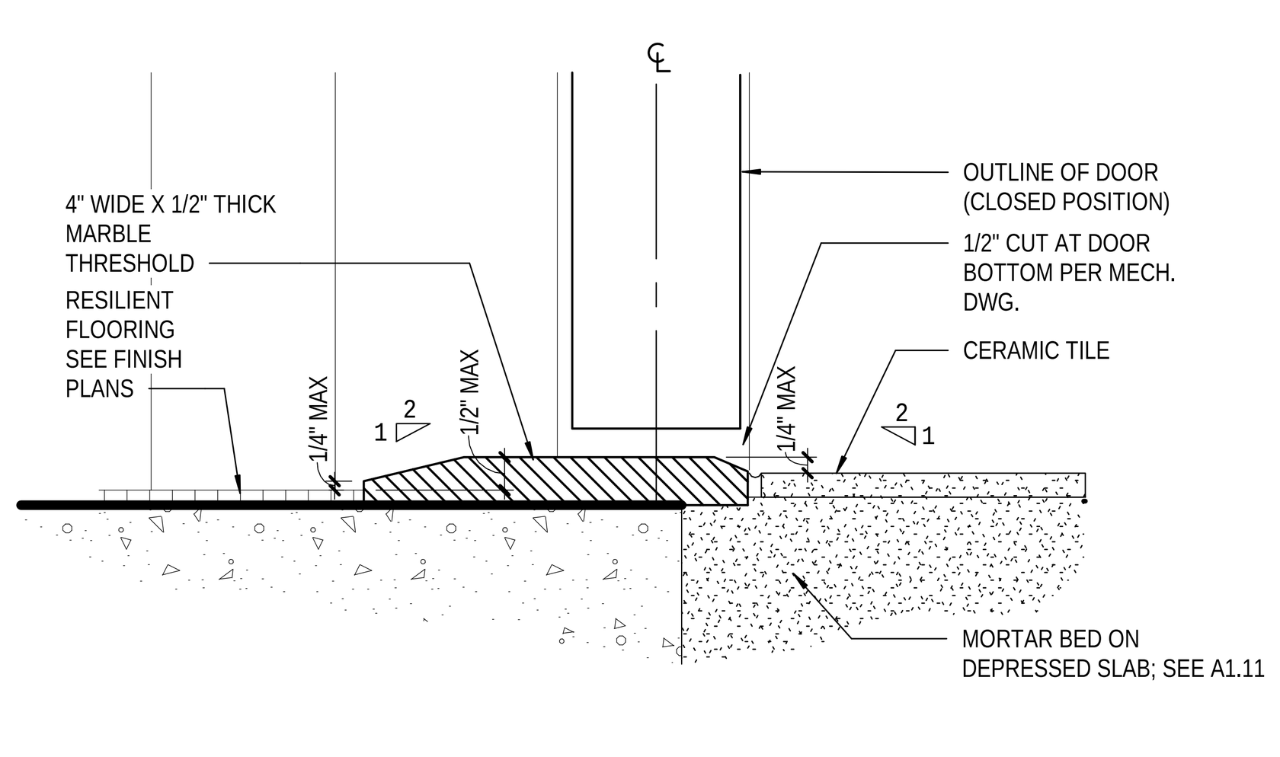
43 A9.10 THRESHOLD - RESILIENT TO CONC INTERIOR
SCALE 6" = 1'-0"



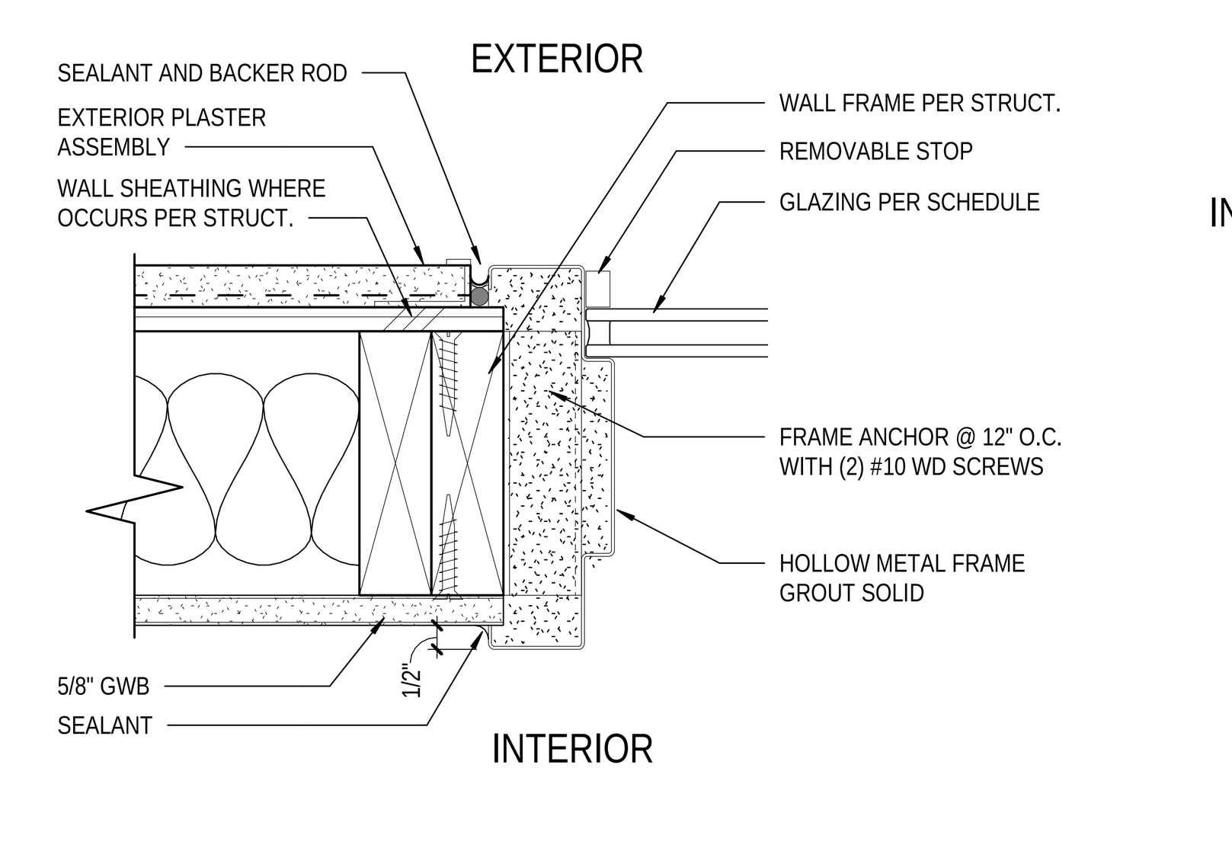
46 A9.10 WINDOW HEAD - HM - GWB/PLASTER
SCALE 3" = 1'-0"



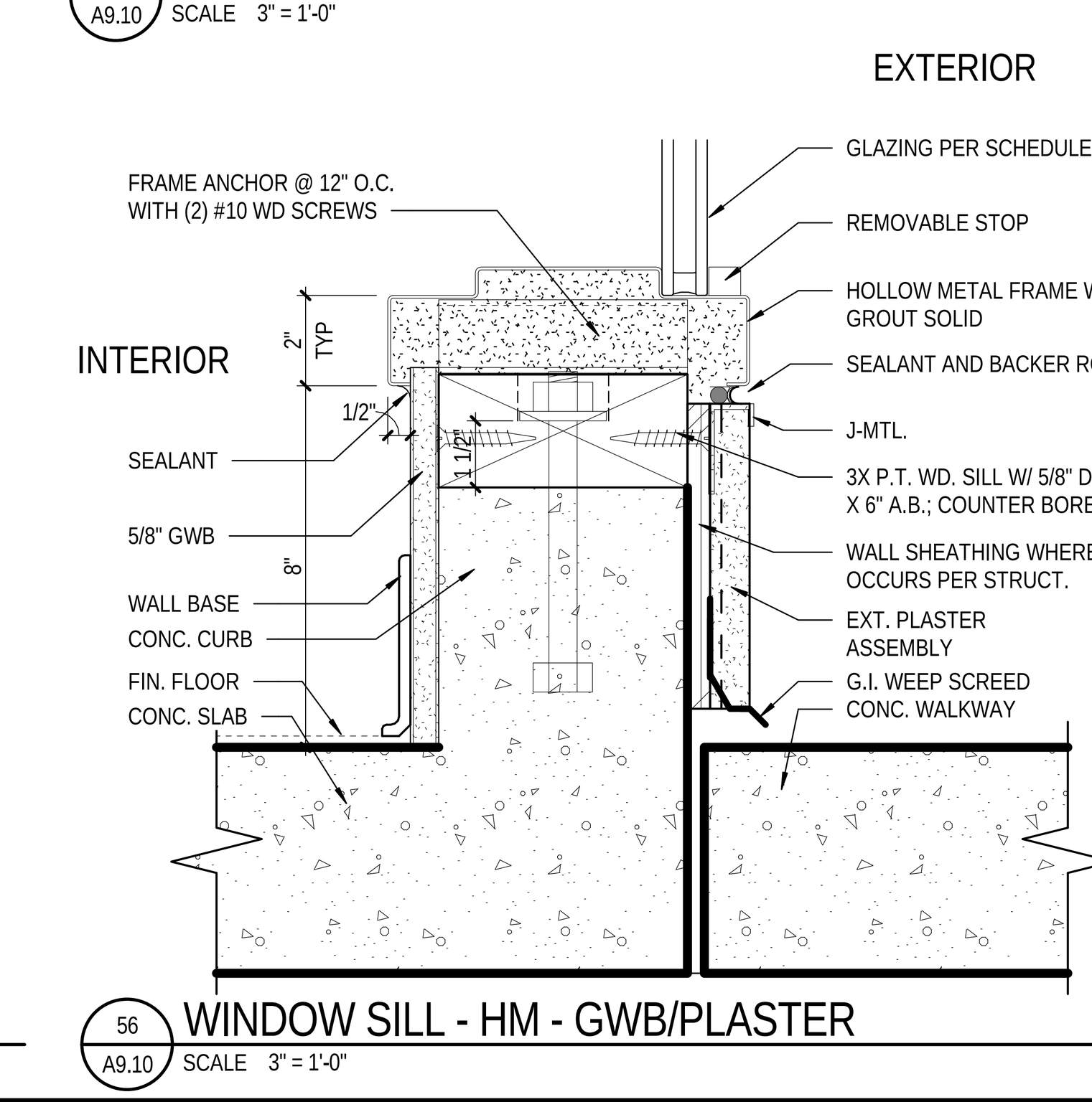
51 A9.10 THRESHOLD - RESILIENT TO CONC EXTERIOR
SCALE 6" = 1'-0"



53 A9.10 THRESHOLD - RESILIENT TO CERAMIC
SCALE 6" = 1'-0"



55 A9.10 WINDOW JAMB - HM - GWB/PLASTER
SCALE 3" = 1'-0"



56 A9.10 WINDOW SILL - HM - GWB/PLASTER
SCALE 3" = 1'-0"

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:____ FLS:____ AC:____
DATE: ______________
FILE NO.: 30-48

LICENSED ARCHITECT MICHAEL J. STEPHENS C-26450 05/31/2019 STATE OF CALIFORNIA

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA 92604

DOOR / WINDOW SCHEDULE & DETAILS
VENADO MIDDLE SCHOOL MEASURE E

A9.10
75-17602-00
06/12/2017
Revisions
ADD-A 2/19/2018 ADDENDUM A

DLR Group
Architecture Engineering Planning Interiors

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LEGEND NOTES

LEGEND NOTES ARE COMMON TO ALL
SOME NOTES MAY NOT APPLY TO THIS SHEET

KEYNOTE LEGEND	
#	KEYNOTE
FP14	LEVEL TRANSITION, TYP.
IE11	EMERGENCY SHOWER & EYE/FACEWASH, REFER TO P1.1 PLUMBING PLAN
IE41	2" DIA. GALV. DRINKING FOUNTAIN RAILING; SEE 44/A11.01

ROOM FINISH SHEET NOTES

1. ROOM FINISH SCHEDULE GENERAL NOTES APPLY TO ALLROOM FINISH SCHEDULE SHEETS.

2. SEE SPECIFICATIONS FOR PAINTING OF ITEMS NOT NOTED IN THE ROOM FINISH SCHEDULE.

3. EXPOSED CONCRETE FLOOR SLABS NOT SCHEDULED TO RECEIVE A FINISH SHALL RECEIVE A CURING AND SEALING COMPOUND UNLESS OTHERWISE NOTED.

4. ALL GYPSUM WALLBOARD BULKHEADS SHALL BE PAINTED P-? UNLESS OTHERWISE NOTED.

5. CEILING HEIGHTS, AS NOTED ON THE REFLECTED CEILING, PLANS ARE MEASURED FROM THE FINISH FLOOR OF THE ROOM.

6. CONTRACTOR SHALL FURNISH AND INSTALL WALL BASE AROUND CASEWORK AND MILLWORK.

7. WHERE FLOOR FINISH CHANGES FROM ONE ROOM TO ANOTHER, SET JOINT OF THE MATERIALS AT THE CENTER OF THE COMMUNICATING DOOR.

8. SEE DETAIL 26/A10.12 FOR TYPICAL TACKWALL DETAILS.

9. SEE REFLECTED CEILING PLANS FOR CEILING TYPES AND HEIGHT.

10. ALL INTERIOR FINISHES SHALL COMPLY WITH CFC, CBC, AND TITLE 19.

RM. FINISH SCHEDULE NOTES

**THESE NOTES ARE REFERENCED IN THE "COMMENTS" COLUMN OF THE ROOM FINISH SCHEDULES*

FLOOR NOTES:

F1. DEPRESS CONCRETE SLAB 2" INCHES FOR CERAMIC TILE AND SETTING BED.

WALL NOTES:

W1. SEE SHEET A2.01 FOR CERAMIC TILE WALL (CTW) ELEVATIONS.

W2. CERAMIC TILE WAINSCOT UP TO 6' A.F.F.

W3. PAINT JANITOR'S CLOSET WALLS BUT NOT INSIDE CHASE AREA.

W4. (NOT USED)

W5. REFER TO SHEET A5.01 FOR WALL ELEVATIONS INDICATING PAINT COLORS AND AWP PATTERNS.

W6. PROVIDE PLYWOOD BACKBOARD FOR COMMUNICATIONS BOARD AT IDF ROOM. PLYWOOD TO BE 4'x8', 3/4" THICK, INTERIOR-GRADE, FIRE-RETARDANT-TREATED AND PAINTED P-1. MOUNT 4" A.F.F.

ADD-A

FLOOR FINISH

CT-1 CERAMIC TILE - SPEC. 093013
MANU: DALTILE
COLOR: D200 GRAY SPECKLE
SIZE: 2" x 2"
GROUT: Smoke Grey 89

SC-1 SEALED CONCRETE - SPEC. 32 13 13
MANU:: ----
COLOR: NATURAL
FINISH: SMOOTH

C-1 CONCRETE - SPEC. 32 13 13
MANU: -----
COLOR: NATURAL
FINISH: MEDIUM BROOM. DRY STATIC COF - 0.6

RB-01 RUBBER TOPSET BASE
MANU: JOHNSONITE
COLOR: 199 DOCKSIDE WG

ICTB INTEGRATED COVE TILE BASE
MANU: DALTILE NATURAL HUES
COLOR: MIST QH15
SIZE: 4" X 4"

WALL FINISH

P-1, BASE COLOR PAINT - SPEC. 099123
MANU: VISTA PAINT
STYLE: SEMI-GLOSS
COLOR: WHITE FAIR

P-2, ACCENT COLOR PAINT - SPEC. 099123
MANU: VISTA PAINT
STYLE: SEMI-GLOSS
COLOR: BLACKWATER

VINYL WALL COVERING - SPEC. 097200
MANU: KOROSEAL
STYLE: KOROSEAL LINDEN
COLOR: WINTHROPE 4821-98

TACKABLE WALL SURFACE - SPEC. 101100
MANU: KOROSEAL
STYLE: KOROSEAL LINDEN
COLOR: WINTHROPE 4821-98

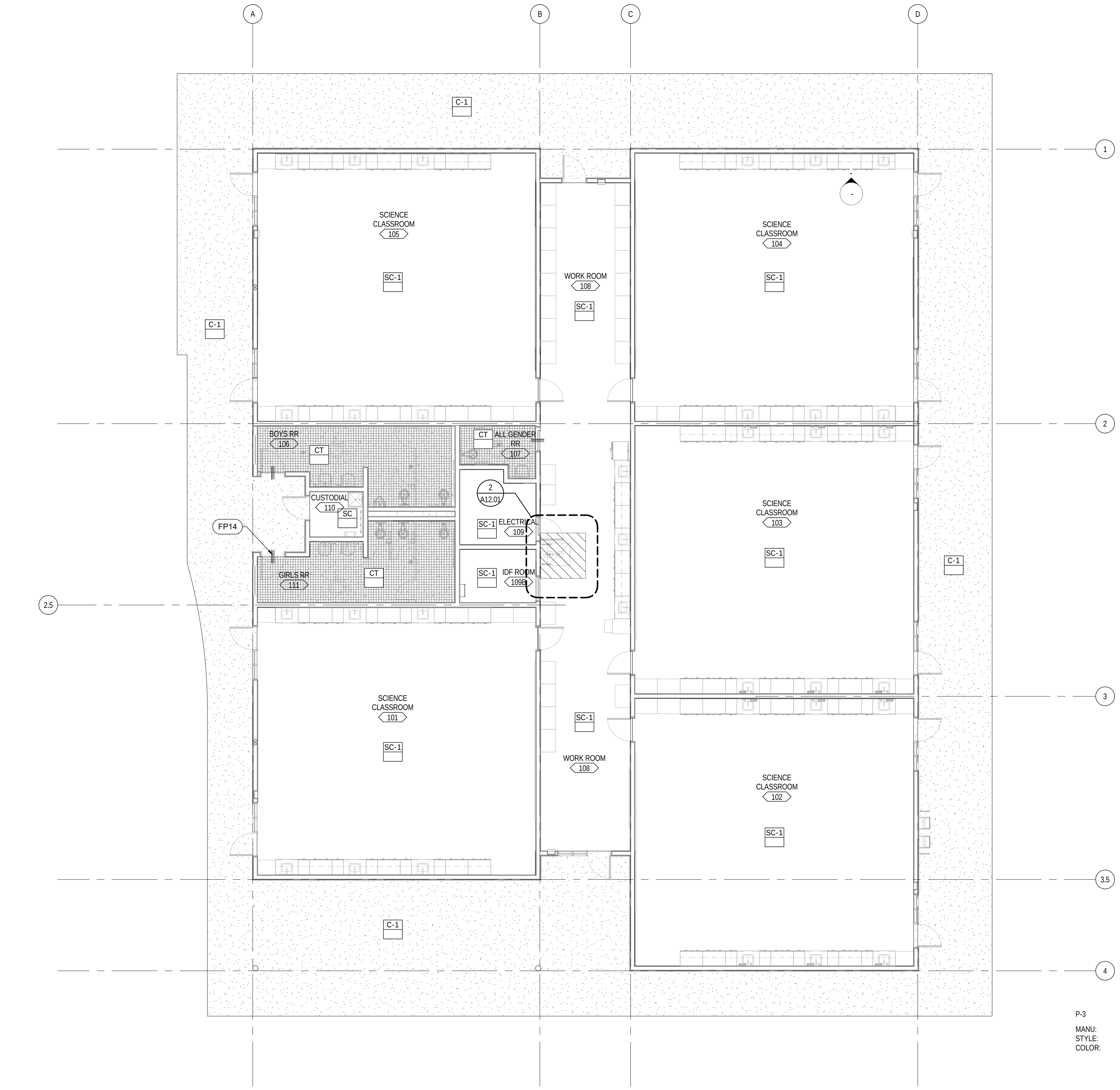
CT-2 CERAMIC TILE - SPEC. 093013
SEE TILE PATTERN ON A2.01

CASEWORK FINISH

CW-1 STANDARD COUNTERTOP
MANU: KEWAUNEE CABINETRY
Color: GREY

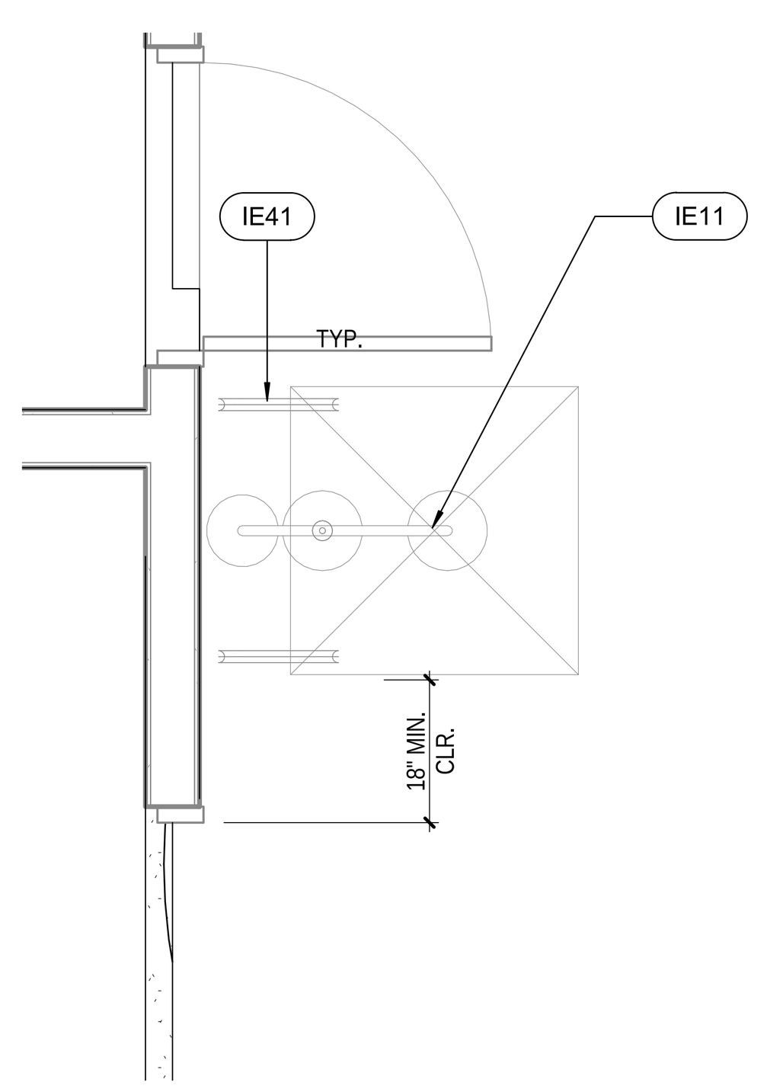
CW-2 CABINET FACE
MANU: KEWAUNEE CABINETRY
Color: BARNWOOD OAK NO. 111

P-3 PAINT - SPEC. 099123
MANU: VISTA PAINT
STYLE: EGG SHELL
COLOR: WHITE GLOVE



FLOOR PLAN - FINISH PLAN

SCALE: 1/8" = 1'-0"



2 A12.01 ENLARGED SHOWER

SCALE 1/2" = 1'-0"

ROOM FINISH SCHEDULE								
ROOM				WALL				
NUMBER	NAME	FLOOR FINISH	BASE FINISH	NORTH	EAST	SOUTH	WEST	COMMENTS
101	SCIENCE CLASSROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	
102	SCIENCE CLASSROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	
103	SCIENCE CLASSROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	
104	SCIENCE CLASSROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	TACKABLE WALL SURFACE	TACKABLE WALL SURFACE	TACKABLE WALL SURFACE	
105	SCIENCE CLASSROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	TACKABLE WALL SURFACE	TACKABLE WALL SURFACE	TACKABLE WALL SURFACE	
106	BOYS RR	CT-1	ICTB	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE TILE PATTERNS ON SHEET A2.01
107	ALL GENDER RR	CT-1	ICTB	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE TILE PATTERNS ON SHEET A2.01
108	WORK ROOM	SC-1	RB-01	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	
109	ELECTRICAL	SC-1	RB-01	P-1	P-1	P-1	P-1	
109B	IDF ROOM	SC-1	RB-01	P-1	P-1	P-1	P-1	
110	CUSTODIAL	SC-1	RB-01	FRP	FRP	FRP	FRP	
111	GIRLS RR	CT-1	ICTB	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE INTERIOR ELEVATION	SEE TILE PATTERNS ON SHEET A2.01

ADD-A

A 04-116541
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: ______________

FILE NO.: 30-48

LICENSED ARCHITECT
MICHAEL J. STEPHENS
C-26450
05/31/2019
STATE OF CALIFORNIA

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA 92604

VENADO MIDDLE SCHOOL MEASURE E
FINISH FLOOR PLAN & FINISH SCHEDULE

A12.01
75-17602-00
06/12/2017
Revisions
ADD-A 2/19/2018 ADDENDUM A

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Architecture Engineering Planning Interiors

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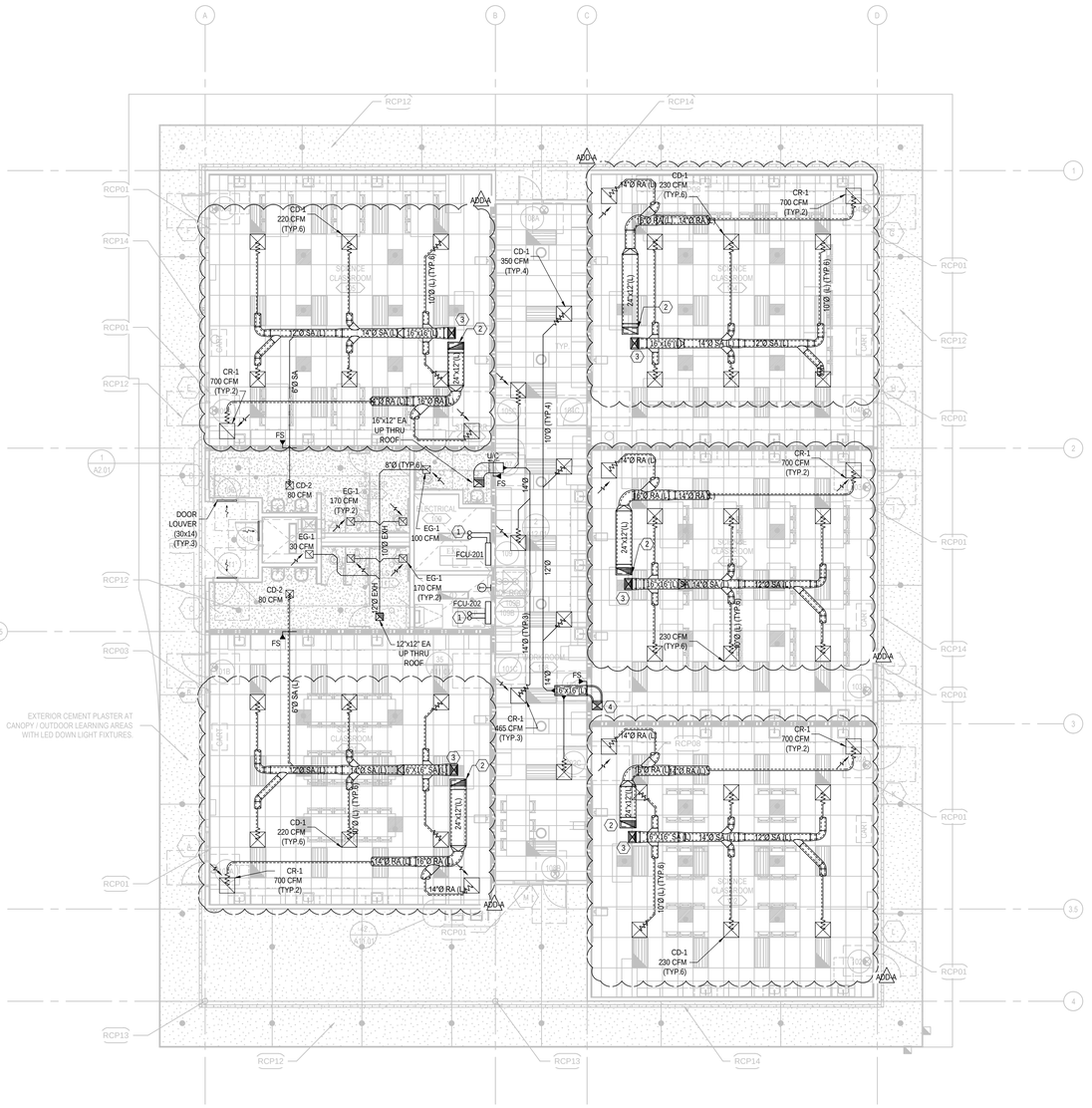

MECHANICAL FLOOR PLAN

NORTH

SCALE: 1/8" = 1'-0"

MECH. GENERAL NOTES

1. CONTRACTOR SHALL INSTALL AIR HANDLING UNITS IN SUCH A MANNER AS TO ALLOW FOR 36" CLEARANCE IN FRONT OF THE CONTROLLERS, COMPONENT ACCESS AND ELECTRICAL DISCONNECTS.
2. ALL LOW PRESSURE DUCTWORK SHALL BE SPIRAL SHEET METAL DUCTWORK, UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL VERIFY ALL WALL PENETRATIONS TYPES, CEILING TYPES AND RATINGS IN ORDER TO PROVIDE COMBINATIONS FIRE/SMOKE DAMPERS AND FIRE STOPPING AT PENETRATIONS TO FIRE RATED AREAS IN ACCORDANCE WITH THE 2016 MECHANICAL CODE.
4. CONTRACTOR SHALL COORDINATE EQUIPMENT LAYOUT IN ORDER TO AVOID EXISTING/NEW FIRE SPRINKLER LINES.
5. FINAL DIFFUSER TYPES AND LOCATIONS SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT AND ENGINEER.
6. CONTRACTOR SHALL COORDINATE FINAL MECHANICAL DISTRIBUTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES OR CLEARANCE ISSUES PRIOR TO INSTALLATION.
7. PROVIDE A MANUAL VOLUME DAMPER IN EACH BRANCH DUCT OUTLET. DAMPER SHALL BE LOCATED AS CLOSE TO BRANCH TAKEOFF AS POSSIBLE AND IN AN ACCESSIBLE LOCATION. CONTRACTOR SHALL TAG ALL VOLUME DAMPERS WITH RED OR YELLOW RIBBONS.
8. CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL EQUIPMENT, INCLUDING DAMPERS AND VALVES, LOCATED ABOVE HARD LID CEILING. ALL ACCESS PANELS, INCLUDING THOSE IN ACCESSIBLE CEILINGS SHALL BE DESIGNATED AND PROPERLY FRAMED TO ALLOW PROPER ACCESS WITHOUT DRAGGING THE CEILING TILE OR GRID. AVOID LOCATING ANY CONDUIT DIRECTLY ABOVE ACCESS TO EQUIPMENT. COORDINATE FINAL LOCATION OF ACCESS PANELS WITH ARCHITECT AND ENGINEER.
9. ALL ACOUSTICAL FLEXIBLE DUCT SHALL BE CASCO SILENTFLEX II OR EQUAL. CONTRACTOR SHALL PROVIDE MINIMUM 5 FEET ACOUSTICAL FLEXIBLE DUCT CONNECTION BETWEEN DIFFUSERS AND VOLUME DAMPERS.
10. ALL DUCT AND PIPING PENETRATIONS THROUGH FULL HEIGHT WALLS SHALL BE ACOUSTICALLY SEALED.
11. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL SUPPLY, RETURN AND EXHAUST DUCT CONNECTIONS TO FAN COIL UNITS AND EXHAUST FANS.
12. SUPPLY AND RETURN DUCTWORK WITHIN 15 FEET OF THE ROOF PENETRATION INTO THE BUILDING SHALL BE INTERNALLY ACOUSTICALLY LINED (1" MIN.).
13. ALL ROOF-MOUNTED SUPPLY AND RETURN AIR DUCTWORK SHALL BE FURNISHED WITH 2" R-8 INTERNAL DUCT LINING.
14. CONTRACTOR SHALL PROVIDE 1/2" THICK CLOSED CELL ARMAFLEX INSULATION FOR ALL REFRIGERANT PIPING. OUTDOOR REFRIGERANT PIPING SHALL BE INSULATED WITH WATER PROOF JACKET.

KEY NOTES

1. REFRIGERANT PIPING UP THRU ROOF.
2. 24"x12" (L) RA UP THRU ROOF.
3. 18"x12" (L) SA UP THRU ROOF.
4. 16"x12" (L) SA UP THRU ROOF.

SHOP DRAWING NOTE:

CONTRACTOR SHALL PROVIDE FIELD LAYOUT SHOP DRAWINGS FOR ARCHITECT/ENGINEER REVIEW PRIOR TO FABRICATION AND INSTALLATION.

A 03-XXXXXX
DIV. OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
SS:_____ FLS:_____ AC:_____
DATE: _____

FILE NO.: 30-48

REGISTERED PROFESSIONAL ENGINEER
MARK OKER
No. M 34223
MECHANICAL
STATE OF CALIFORNIA
Exp. 12/31/18

DSA SUBMITTAL

4 Deerfield Ave, Irvine, CA
92604

MECHANICAL FLOOR PLAN
VENADO MIDDLE SCHOOL MEASURE E

M1.2

75-17602-00
06/12/2017
Revisions
ADDENDUM A 3/30/18

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