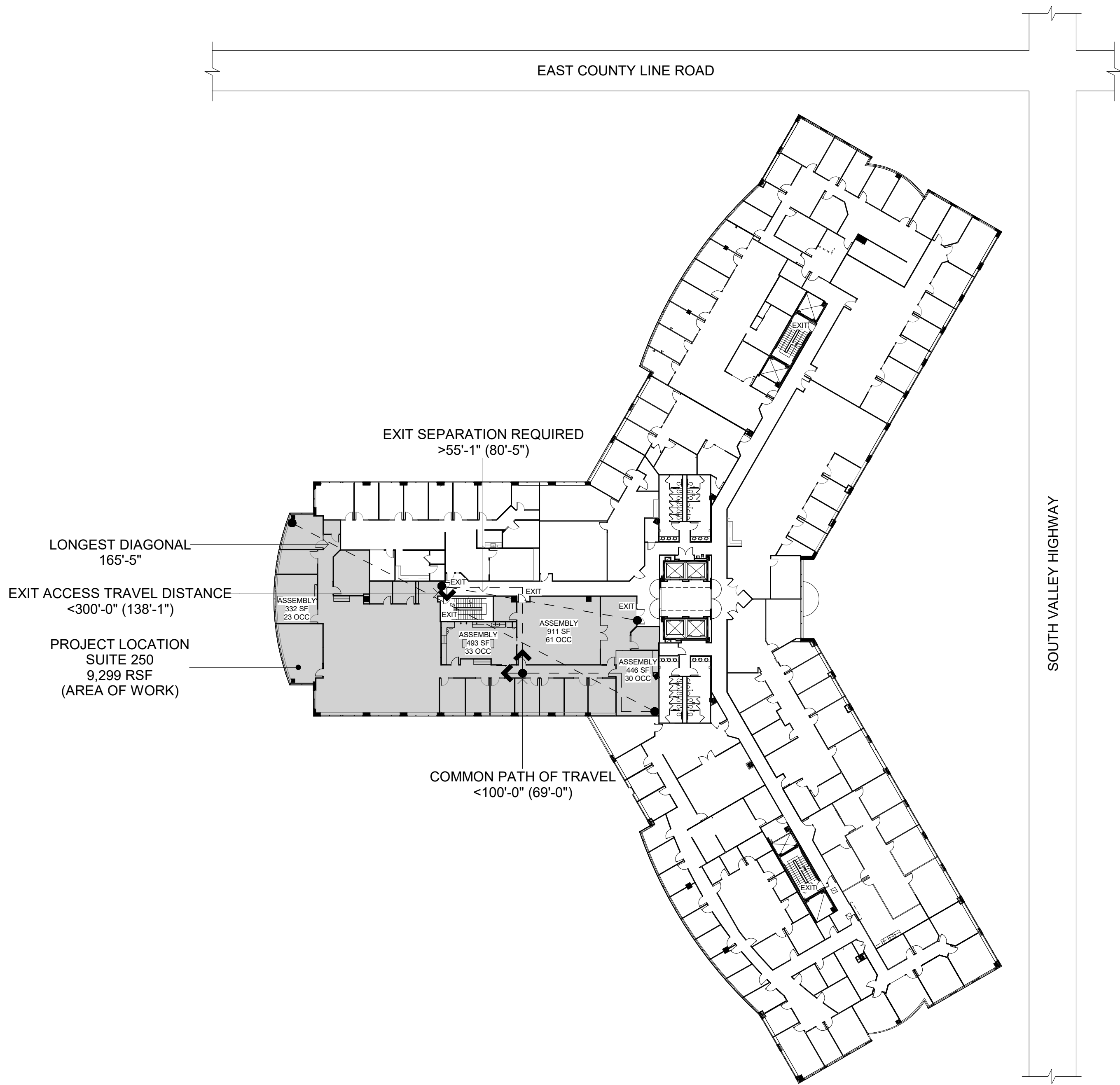
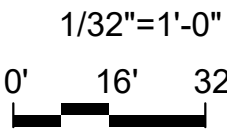


BRIGHTLAND  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112



KEY PLAN



DRAWING INDEX	BUILDING CODE ANALYSIS
ARCHITECTURAL DRAWINGS: 02 / A0.1 COVER SHEET 02 / A0.2 GENERAL NOTES 02 / A0.3 GENERAL NOTES 02 / A0.4 GENERAL NOTES 02 / A0.5 GENERAL WALL DETAILS 02 / A0.6 ICC/ANSI A117.1-2009 DETAIL SHEET 02 / D.1 DEMOLITION PLAN 02 / D.2 REFLECTED CEILING DEMOLITION PLAN 02 / A.1 DIMENSION PLAN 02 / A.2 PARTITION PLAN 02 / A.3 OUTLET LOCATION PLAN 02 / A.4 REFLECTED CEILING PLAN 02 / A.5 FINISH PLAN 02 / A.6 ELEVATIONS 02 / A.7 ELEVATIONS & SECTION 02 / A.8 SECTIONS	JURISDICTION: DOUGLAS COUNTY SOUTH METRO FIRE RESCUE  APPLICABLE CODES: BUILDING CODE: 2021 IBC PLUMBING CODE: 2021 IBC MECHANICAL CODE: 2021 IPC ELECTRICAL CODE: 2021 IMC ENERGY CONSERVATION CODE: 2018 IECC FIRE/LIFE SAFETY: 2018 IFC ACCESSIBILITY: 2009 ICC/ANSI A117.1  BUILDING DESCRIPTION: 1. ORIGINAL BUILDING PERMIT DATE: DECEMBER 1999 2. TYPE OF CONSTRUCTION: II-B 3. NO. OF STORIES: 4 4. SPRINKLERED: YES THROUGHOUT: YES

MECHANICAL DRAWINGS:	SCOPE OF WORK
02 / M.0 GENERAL NOTES 02 / M.1 LEGEND AND DETAILS 02 / M.2 PARTIAL 2ND FLOOR MECHANICAL DEMO PLAN 02 / M.3 PARTIAL 2ND FLOOR MECHANICAL PLAN 02 / M.4 PARTIAL 2ND FLOOR PLUMBING PLAN	Remodel of existing demised suite. Suite will include offices, open work area, and break room. No change of use, no change of occupancy.

ELECTRICAL DRAWINGS:	OCCUPANT LOAD SUMMARY
02 / E.0 GENERAL NOTES AND LEGEND 02 / E.1 PARTIAL 2ND FLOOR ELECTRICAL DEMO PLAN 02 / E.2 PARTIAL 2ND FLOOR LIGHTING PLAN 02 / E.3 PARTIAL 2ND FLOOR POWER PLAN 02 / E.4 ONE-LINE AND PANEL SCHEDULES 02 / E.5 COMCHECK	SUITE 250 (Area of Work) 9,299 RSF  1. OCCUPANCY: A. GROUP B B. USE OFFICE C. FACTOR 1 PER 100 D. SF OF OCCUPANCY 7,117 E. LOAD 72  2. ASSEMBLY OCCUPANCY: A. GROUP B B. USE ASSEMBLY C. FACTOR 1 PER 15 D. SF OF OCCUPANCY 911 E. LOAD 61  Note: This room is classified as an accessory occupancy (B) because it is less than 10% of the floor. Therefore it does not require area separation rating. IBC 2021 - Section 509.3  3. ASSEMBLY OCCUPANCY: A. GROUP B B. USE ASSEMBLY C. FACTOR 1 PER 15 D. SF OF OCCUPANCY 493 E. LOAD 33  4. ASSEMBLY OCCUPANCY: A. GROUP B B. USE ASSEMBLY C. FACTOR 1 PER 15 D. SF OF OCCUPANCY 332 E. LOAD 23  5. ASSEMBLY OCCUPANCY: A. GROUP B B. USE ASSEMBLY C. FACTOR 1 PER 15 D. SF OF OCCUPANCY 446 E. LOAD 30  6. TOTAL OCCUPANTS FOR SUITE: 219 7. EXITS REQUIRED: 2 8. EXITS PROVIDED: 3

PROJECT DIRECTORY
TENANT: Brightland 5660 Greenwood Plaza Boulevard, 101-N Greenwood Village, Colorado 80111 Telephone: 303.536.7007 Contact: Aric Jones Email: ajones@brightlandhomes.com  BUILDING MANAGEMENT: MDC Realty Advisors 1700 Broadway, Suite 650 Denver, Colorado 80290 Telephone: 720.399.1461 Contact: Justin Backstrom Email: jbackstrom@mdcra.com  ARCHITECT: Kieding 4725 South Monaco Street, Suite 225 Denver, Colorado 80237 Telephone: 303.399.9100 Contact: Kim Hoff Email: khoff@kieding.com Contact: Ahyoung Lee Email: alee@kieding.com  MECHANICAL & ELECTRICAL ENGINEER: MDP Engineering Group 1800 Glenarm Place, Suite 800 Denver, Colorado 80202 Telephone: 303.389.0095 Contact: Antony Sinitzky Email: asinitzky@mdpeg.com Contact: Ronald Kane Email: rkane@mdpeg.com

<b>BUILDING MANAGEMENT:</b>		<b>3. ASSEMBLY OCCUPANCY:</b>	
MDC Realty Advisors		A. GROUP	B
1700 Broadway, Suite 650		B. USE	ASSEMBLY
Denver, Colorado 80290		C. FACTOR	1 PER 15
Telephone: 720.399.1461		D. SF OF OCCUPANCY	493
Contact: Justin Backstrom		E. LOAD	33
Email: jbackstrom@mdcra.com			
<b>ARCHITECT:</b>		<b>4. ASSEMBLY OCCUPANCY:</b>	
Kieding		A. GROUP	B
4725 South Monaco Street, Suite 225		B. USE	ASSEMBLY
Denver, Colorado 80237		C. FACTOR	1 PER 15
Telephone: 303.399.9100		D. SF OF OCCUPANCY	332
Contact: Kim Hoff		E. LOAD	23
Email: khoff@kieding.com			
Contact: Ahyoung Lee		<b>5. ASSEMBLY OCCUPANCY:</b>	
Email: alee@kieding.com		A. GROUP	B
		B. USE	ASSEMBLY
		C. FACTOR	1 PER 15
		D. SF OF OCCUPANCY	446
		E. LOAD	30
<b>MECHANICAL &amp; ELECTRICAL ENGINEER:</b>		<b>6. TOTAL OCCUPANTS FOR SUITE:</b>	
MDP Engineering Group		7. EXITS REQUIRED:	2
1800 Glenarm Place, Suite 800		8. EXITS PROVIDED:	3

Telephone: 303.389.0095

Contact: Antony Sinitzky

Email: asinitzky@mdpeg.com

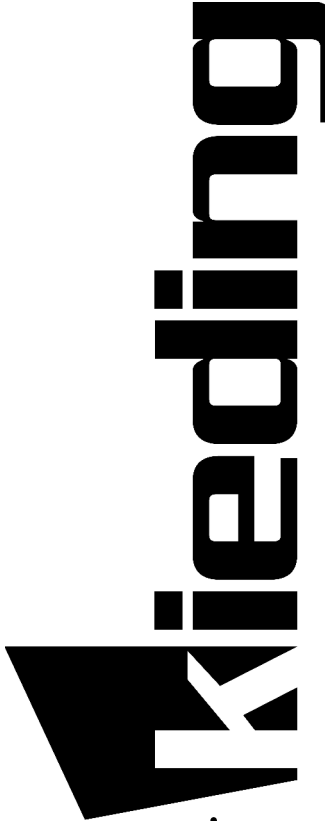
Contact: Ronald Kane

Email: rkane@mdpeg.com

PLUMBING FIXTURE COUNT

	MEN	WOMEN	GENERAL
LAVATORY			
REQUIRED	4	4	
PROVIDED	6	6	
WATER CLOSET			
REQUIRED	6	6	
PROVIDED	6	12	
URINAL			
REQUIRED	-	-	
PROVIDED	6	-	
DRINKING FOUNTAIN			
REQUIRED			2
PROVIDED			1 DUAL HT/ANSI
TOTAL			2
SERVICE SINK			
REQUIRED			1
PROVIDED			1

Assume 47,364 SF for the floor for a total fo 474 occupants assuming B use.



4725 South Monaco Street | Suite 225  
Denver, Colorado 80237  
303.399.9100

Contact - Kim Hoff  
Contact - Ahyoung Lee

BRIGHTLAND

POINT AT INVERNESS

SECOND FLOOR - SUITE 250

8310 SOUTH VALLEY HIGHWAY

ENGLEWOOD, COLORADO 80112

ISSUES / REVISIONS

FEBRUARY 21, 2024 14070174-70

COVER SHEET

02 / A0.1

1.0 ARCHITECTURAL WORKING DRAWINGS SCOPE & INTENT

1.1 Working Intent

1.1.1 Definition

Architectural Working Drawings consist of these Project Plans and Detailed Drawings, General and Keyed Notes, Schedules and Legends descriptive of the Project scope of architectural work and such supplemental information and clarifications to the Architectural Working Drawings as may be prepared by the Architect.

1.1.2 Intent

These Architectural Working Drawings are intended to **ONLY DESCRIBE THE GENERAL SCOPE AND FINISHED APPEARANCE OF THE PROPOSED PROJECT ARCHITECTURAL WORK.**

1.1.3 Not Included or Intended

These Architectural Construction Documents are **NOT** intended to provide exhaustive or specific detail, or to instruct the Contractor in the details, or standard methods or practices of his trade.  
RE: Interpretation or Clarification of Project Construction Documents (Paragraph 1.6).

1.1.4 Basis for the Scope of Work

The Scope of architectural work described in these Architectural Construction Documents and Plans (the Project) is based upon:

Approved Project Space Plan and descriptive Space Plan design notes, Architect's understanding of the Project requirements, Base Building Owner's requirements, Base Building and Project as-built information, Readily visible existing architectural conditions  
RE: Existing Architectural Conditions (Paragraph 1.3), Governing Building Codes, and ANSI (American National Standards) Accessible and Usable Buildings and Facilities.

1.2 Building Code and Americans National Standard Institute (ANSI) Compliance

These Architectural Working Drawings only represent the Architect's understanding of the governing Building Codes. Final interpretation of governing Building Codes and regulations are subject to the binding interpretation of Building and Fire Department Officials having authority.

Therefore, PRIOR to commencing with Project work, the Contractor SHALL ADVISE AND PROVIDE the Architect with copies of ALL PROJECT CODE COMPLIANCE PLAN REVIEW COMMENTS from governing officials for any required inclusion in the Project Architectural Working Drawings by the Architect.

1.3 Existing Architectural Conditions

Existing architectural conditions and improvements shown on these Architectural Working Drawings are based upon information provided to the Architect by the Building Owner and have NOT been verified by the Architect beyond observation of readily visible existing conditions.

ACTUAL EXISTING CONDITIONS AND IMPROVEMENTS MAY VARY FROM THOSE SHOWN ON THE PROJECT PLANS.  
RE: Section 3.0, Contractor Responsibilities

1.4 Hazardous Materials

NO environmental survey was conducted by the Architect nor has the presence of asbestos or hazardous materials been made known or provided to the Architect.

As the project is located within an existing building, such material may be present and their removal or containment shall be in accordance with governing Building Codes and environmental regulations.

1.4.1 State Certified Asbestos Inspection

Prior to commencement of any demolition work, including floor covering removal, the General Contractor shall obtain from the State Certified Asbestos Inspector, approved by the Building Owner, a statement to the effect that the Inspector has determined that demolition of the space will not disturb building materials that contain asbestos, as defined by the following:  
U.S. Environmental Protection Agency, U.S. Occupational Safety and Health Administration, and the State of Colorado.  
RE: Section 4.0, Architectural Demolition.

1.4.2 Project Materials

No materials containing any amount of asbestos to be used in the performance of Work, including, but not limited to, asbestiform fiber structure varieties of chrysotile, amosite (cumingtonite-grunerite), crocidolite, anthophyllite, tremolite, and actinolite and/or "magnesium silicates" as identified in the product Material Safety Data Sheets.

Upon completion of the work and prior to a request for final payment, the Contractor shall provide a signed affidavit stating that no asbestos has been introduced into the building by the Contractor, it's sub-contractors or suppliers during the performance of the Work.

1.5 Project Bid Format and Contractor Bid

1.5.1 Bid Format

Project bids shall be submitted in the CSI Master Format Bid Outline, except as may otherwise be approved or directed by the Project party contracting with the Contractor for work on the Project.

1.5.2 Contractor Responsibility

PRIOR TO BID SUBMITTAL, the General Contractor shall be RESPONSIBLE for familiarizing himself with the following:

Review of these Architectural Working Drawings, Existing Project conditions,  
Any Building / Suite Standards RE: Section 2.0, Definitions, Clarification or interpretation of the Project Architectural Working Drawings by the Architect, RE: Paragraph 1.6, Interpretation or Clarification of Architectural Working Drawings, Building Rules for work within the Building, Project Access and Hours of Operation RE: Paragraph 1.5.3,  
Governing codes and regulations and Determining the availability of specified materials required for a complete project.

1.5.3 Building Rules, Project Access and Hours of Operation

PRIOR to bid submittal and construction, the Contractor shall coordinate with the Project Party contracting with the Contractor for the Project Work to determine and subsequently comply with the Project construction requirements governed by the general Building Rules and Regulations, access to the Project and rules related to Project access, construction operations, hours of construction operations, protection of property and occupants, and disruption to the building occupants.

1.5.4 Bid Submittal Line Item Contingency

The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.

1.6 Interpretation or Clarification of Architectural Working Drawings

Interpretation or clarification of these Architectural Working Drawings may **ONLY** be made by the Architect upon the Contractor's written request to the Architect followed by Architect's written response **PRIOR** to the Contractor accomplishing the work in question. The Contractor shall be **SOLELY RESPONSIBLE** for any assumptions made without written clarification from the Architect.

Any assumptions made without written interpretation or clarification by the Architect may result in the rejection of the work in question.

1.0 ARCHITECTURAL WORKING DRAWINGS SCOPE & INTENT (continued)

1.7 Project Engineering Working Drawings

1.7.1 General

Kieiding Office Architects are **NOT** licensed engineers. These Architectural Working Drawings are **NOT INTENDED** to imply, in any manner, the design of engineered systems. All Engineering Working Drawings prepared for the Project have been independently accomplished by others.

1.7.2 Architectural and Engineering Working Drawings

Insofar, as the Architectural and Engineering Working Drawings have been independently prepared, the Contractor shall be **RESPONSIBLE** for advising the Architect in writing of any apparent discrepancies between the two documents **PRIOR TO BID SUBMITTAL**.  
RE: Section 1.6, Interpretation or Clarification of Project Architectural working Drawings.

1.7.3 Design-Build Engineering

Any Design Build Engineering required for the Project shall be **APPROVED** by the Project party contracting with the Contractor's for Project work. All such Design-Build Engineering shall only be accomplished by qualified engineers, licensed to practice in the governing jurisdiction.

1.7.4 Issue and Distribution of Architectural and Engineering Working Drawings

The General Contractor **SHALL NOT ISSUE** Engineering Working Drawings, whole or in part, separate from the Architectural Working Drawings, whole or in part.

2.0 DEFINITIONS

2.0.1 Building Standards

"**BUILDING STANDARD(S)**" shall mean the Building Owner's pre-selected or approved materials, products and methods of construction.

2.0.2 Suite Standards

"**SUITE STANDARD(S)**" shall mean the existing materials, products and methods of construction in the existing Project Suite to be matched as noted in the Project Construction Documents.

3.0 CONTRACTOR RESPONSIBILITIES

3.1 Contractor Use of Project Architectural Working Drawings

The Contractor's use of these Architectural Working Drawings for other than cost estimating is expressly conditional on signed approval of these Architectural Working Drawings by the Project Party contracting with the Contractor for Project work, and issuance of a Building Permit by the Governing Authority.

3.2 Contractor Acceptance of Project Architectural Working Drawings

Use of these Architectural Working Drawings by the Contractor for other than cost estimating shall be considered acceptance of these Architectural Working Drawings, plans, details, scheduled products and assemblies, keyed and general notes in full.  
RE: Section 1.6, Interpretation or Clarification of Project Architectural Working Drawings.

3.3 Code Compliance

All Project materials, products and workmanship shall comply with governing Building Codes, regulations and ANSI requirements, as a minimum standard. The Contractor shall promptly provide the Architect with all copies of Code Official building permit plan review comments and/or on-site Code requirements identified by the Building Code Inspector prior to accomplishing work on the Project.  
RE: Section1.2, Building Code and American National Standard Institute (ANSI) Compliance.

3.4 Contractor Submittals

3.4.1 Architectural Working Drawings

Approved Contractor architectural shop drawings, including millwork shop drawings and installation drawings and specifications shall be considered and defined as Architectural Working Drawings for the purposes of these General Notes.

3.4.2 Contractor Responsibilities

**PRIOR** to ordering or the fabrication of products or fabrication of assemblies requiring submittal and approvals, the Contractor shall be responsible for submitting all required, or otherwise requested, product information, samples and shop drawings to the Architect. Such submittals shall be received by the Architect in sufficient time for Architect review and approval by the Project Party contracting with the Contractor for Project work. Unapproved products or shop drawings may result in the rejection of the work in question.  
RE: Paragraph 3.4.3, Required Submittals

3.4.3 Required Submittals

Unless otherwise noted or directed by the Project Party contracting with the Contractor for Project work, the Contractor shall provide the Architect with:  
The Project construction budget or bid,  
Project construction schedule and  
The Contractor's list of proposed Sub-contractors.  
Unless otherwise noted or directed by the Project Party contracting with the Contractor for Project work, the Contractor shall provide the Architect with (3) sets of product and/or material literature and one (1) reproducible or electronically printable set of shop or installation drawings for the following submittals:  
Value Engineering Proposals  
Material or Product Substitutions proposals complete with specifications, details and product information and cost comparisons.  
Shop drawings for any custom fabricated work.  
Custom details not specifically described in the Architectural Working Drawings.  
Requested finish material, product samples and manufacturer's literature.  
Architectural products and accessories (lighting fixtures, door assemblies, hardware, appliances, restroom accessories, etc.).  
Carpet and tile installation plans for the Project.

3.5 Dimensioning and Contractor Field Verification of Existing Conditions

3.5.1 Dimensioned Plans and Details

Except as noted or shown otherwise, all dimensions shown on these Architectural Working Drawings are to the finished face. **THE CONTRACTOR SHALL NOT SCALE THE PROJECT DRAWINGS**

3.5.2 Field Verification and Notification of Plan Discrepancies

The Contractor shall be responsible for field verifying existing dimensions, including existing real property improvements and conditions to remain or otherwise affecting the proposed work. The Contractor shall advise the Architect in writing of any discrepancies between the field conditions and dimensions and these Architectural Working Drawings for written direction by the Architect.

3.0 CONTRACTOR RESPONSIBILITIES (continued)

3.6 Existing Conditions, Change Orders and Bid Contingency Allowance

3.6.1 Change Orders for Existing Conditions

No Change Orders, for additional project cost, will be approved for readily visible conditions that require repair or replacement, resulting from the Contractor's failure to Field Verify such existing conditions.

3.6.2 Bid Contingency Allowance

The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.

Notice of existing concealed conditions requiring additional work shall be submitted **PRIOR** to accomplishing the work for review by the Architect and approval by the Project Party contracting with the Contractor for Project work.

3.7 Project Schedule

The Contractor shall be responsible for determining, maintaining, adhering to and advising all affected parties of the Project Schedule progress on a weekly basis as a minimum. The Contractor shall promptly notify all affected Project Parties of considerations or restraints affecting the Project Schedule.  
The Contractor shall determine and advise all Parties of any product or fabrication long lead times and submit order and delivery confirmations in a timely manner as determined and required by the Architect and/or the Project Party contracting with the Contractor for the Project work.

3.8 Project Workmanship

In performing work on the Project, the Contractor shall only use competent mechanics skilled in their trade and the specified products, or manufacturer's certified mechanics when required by the product manufacturer's warranty.

3.9 Full and Complete Project, Acceptance and Certificate of Occupancy

The Contractor shall provide for all necessary work, equipment and materials necessary to provide a full and complete Project described in the Project Architectural and Engineering Working Drawings.

Such work shall be as required for Project acceptance by the Project Party contracting with the Contractor for Project work and as required for issuance of a Certificate of Occupancy by the governing Code Jurisdiction.

3.10 Contractor Warranties

Unless contractually required otherwise, all workmanship, products and materials within the scope of these Architectural Working Drawings shall be warranted by the Contractor for a minimum period of one calendar year following written acceptance of the completed Project by the Project Party contracting with the Contractor for the Project work, or for the product warranty period, whichever is longer.

4.0 ARCHITECTURAL DEMOLITION

4.1 Scope of Work

RE: Architectural Working Drawings, Architectural Floor and Reflected Ceiling Demolition Plans and/or information, Notes and Engineering Working Drawings.

4.1.1 Field Verification, Confirmation and Coordination of Demolition Work

Based upon the scope of the proposed real property improvements described in these Architectural Working Drawings and the Project Engineering Working Drawings, the Contractor shall field verify existing conditions, coordinate and confirm the scope, schedule and execution of demolition work, including but not limited to the hours of operation, trash dumpster locations, use of the Building elevator(s) (if applicable) and the Building Rules regarding demolition activities with the Building Owner and/or the Project Party contracting with the Contractor for the Project work, if other than the Building Owner.

4.1.2 Building Rules and Demolition Requirements

The Scope of Architectural Demolition Work shall include all architectural demolition work, as well as, all salvage and removal of debris in strict conformance with the Building Owner's Rules and other such requirements for Demolition Work in the Building.

4.1.3 Scheduling and Coordination of Demolition Work

For existing buildings or Projects which remain partially occupied, demolition and remodeling work shall be in accordance with a mutually agreed upon schedule between Contractor, the Building Owner and other such Parties as may be directly affected by the Contractor's Demolition Work.

Disruptive or potentially hazardous construction activities shall be coordinated with the Building Owner to occur before or after normal business hours, so as to minimize disturbance to Building Occupants.

4.1.4 Project Access

The Contractor shall provide for unobstructed and safe passage of personnel and general public to and from the Project and all occupied portions of the building.

4.1.5 Protection of Existing Real Property Improvements

The Contractor shall protect all existing Project improvements to remain, to be reused or to be otherwise salvaged. In addition, the Contractor shall maintain and protect all areas, outside the designated Project Work Area from wear, damage, soiling and debris including protective safety barriers and barriers to contain the spread of dust and fumes out of the Work Area.

The Contractor shall repair any damage to existing work to remain or any other portion of the Building caused by the demolition activities or by his subcontractors at no additional cost to the Project, Tenant or Building Owner.

4.1.6 Project and Building Life Safety Devices

The Contractor shall protect existing smoke detectors and other fire alarm devices from dust, damage and disconnection at all times during demolition and subsequent construction. Protection shall be removed and the fire protection systems fully activated during periods when space is not occupied and when construction is not in progress.

4.2 Architectural Elements and Materials

Remove such doors assemblies, door hardware, glazing assemblies, millwork and other architectural products noted or shown on the Project Plans or shown on the Architectural Working Drawings for reuse, salvage or disposal.

Architectural elements shall be removed back to structure. If such removal is impractical according to Building Owner and approved by the Project Party contracting with the Contractor for Project work, if other than the Building Owner, then such elements shall be removed to the extent that patching and /or new work will conceal part of the element to remain.

4.2.1 Architectural Material Reuse

The Contractor shall field verify the condition, serviceability or governing Code compliance of all materials and products to remain or be reused on the Project.

The Contractor shall advise the Architect in writing **PRIOR** to Bid Submittal and construction of any such reused products or material found to be unusable **OR** more expensive to reuse than to replace with new, for review and written direction from the Architect and/or the Project Party contracting with the Contractor for the Project work.

Except as may otherwise be noted, any existing products, assemblies and materials to remain or be reused for the Project shall be repaired or refurbished to provide "like new" appearance and function as approved by the Project Party contracting with the Contractor for the Project work.

4.0 ARCHITECTURAL DEMOLITION (continued)

4.2 Architectural Elements and Materials (continued)

4.2.2 Salvageable Materials and Products

No materials approved by the Building Owner, **ALL** Salvageable Materials and Products removed during Demolition shall remain the property of the Building Owner for disposition by the Contractor as directed by the Building Owner.

4.2.3 Ceiling Demolition Work

RE: Section 4.3, Electrical and Mechanical Demolition Work  
For previously improved spaces, remove any existing ceiling elements as noted or shown to be demolished on the Architectural Reflected Ceiling Plan. Remove or otherwise protect existing architectural ceilings and ceiling assemblies and fixtures to remain from damage. Protect all lighting fixtures remaining in place as required from damage during demolition and subsequent construction. Remove any debris, abandoned cabling and wiring, and unused, combustible or hazardous materials above the ceiling in compliance with governing Codes and regulations.

4.2.4 Demolition and Removal of Hazardous Materials

Detection, demolition, removal and disposal of any asbestos or hazardous materials shall be accomplished by licensed or certified Contractors in strict accordance with governing local, state and Federal laws and regulations.  
RE: Section 1.4, Hazardous Materials

4.2.5 Architectural Material Demolition Disposal and Recycling

RE: 4.2.4, Demolition and Removal of Hazardous Materials.  
Except as otherwise noted, all materials NOT shown or noted for reuse or salvage, along with demolition rubbish and debris, shall be promptly removed from the Project and disposed of in compliance with governing local, state and EPA laws and regulations.

Except as otherwise directed by the Building Owner and/or the Project Party contracting with the Contractor for the Project work, the Contractor shall divert a minimum of fifty (50%) percent of the demolition materials scheduled for disposal from the land fill for recycling purposes.

4.2.6 Demolition Cleanup

Contractor shall provide for the removal of trash, debris and demolition material and provide broom cleaning daily.

4.2.7 Completion of Demolition Work

Demolition work shall be deemed complete when all materials, debris and salvageable materials are removed or stored and the Project areas cleaned in preparation for new architectural and engineering real property improvements. In addition, General Contractor is responsible for patching and preparation of any disrupted walls, floors and ceilings as required for receiving finish after demolition. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Leave interior areas broom clean.

4.3 Electrical and Mechanical Demolition Work

RE: Project Electrical and Mechanical Engineering Documents.

4.3.1 Electrical and Mechanical Demolition

**PRIOR TO DEMOLITION**, the Contractor shall coordinate with the Building Owner to determine if existing electrical, voice and data service is servicing the Project space or other tenant occupancies. Except as otherwise noted by the Project Engineering Working Drawings or unless serving other occupants of the building or other portions of the Building outside of the scope of the Project, electrical and mechanical elements scheduled for demolition shall be removed back to the nearest junction box, panel, pipe, duct, etc. to assure no conflict with new work. All work related to electrical, communications /data and mechanical elements to be shut off, disconnected or capped outside of the Project or affecting occupants of the Building shall be coordinated with Building Chief Engineer (if applicable) or the Building Owner for approval.

4.3.2 Electrical and Mechanical Life Safety Systems

Contractor shall determine which, if any, fire doors or sub-contractors are approved by the Building Owner for work on fire suppression systems (if applicable) and life safety systems such as fire alarms and smoke detection. Any such vendors or sub-contractors shall be certified for the respective specialty. All work and any demolition affecting these systems shall be scheduled and coordinated and approved by the Building Owner.

5.0 DRYWALL FRAMING & CONSTRUCTION

5.1 General

5.1.1 Dimensioning Definitions

"**Align**": Means the transition between new and existing finished surface shall be flush.  
"**Hold**" or "**Critical**": Means that the clear dimension is critical and must be exact.  
"**As Required**": Means the dimension shall be coordinated with the Architect or party noted, if other than the Architect, prior to layout, construction or fabrication.

5.1.2 Metal Stud Framing System Components

All metal stud framing system components shall be per ASTM C645 for galvanized sheet steel to comply with ASTM C754 for spacing, with maximum deflection of wall framing of L/240 at 10 pcf.  
Resilient furring channels: 1/2 inch depth for attachment to substrate through one leg only.  
Framing shall comply with specified standards, galvanized sheet steel, 25 gauge unless specified, noted, scheduled or otherwise detailed. 20 gauge studs at door jams.

5.1.5 Gypsum Board

All new gypsum board shall be certified free of any hazardous material.  
RE: Section 1.4, Hazardous Material.  
New gypsum board shall be received and kept dry through the Project work. Gypsum board with any amount of mold growth shall be promptly removed from the Project. Gypsum board shall be secured to metal studs with screws per the manufactures recommendations **OR** Code / UL requirements, whichever is most restrictive for the partition type application. Drywall tape, joint compound and accessories shall be as recommended by the gypsum board manufacturer. Gypsum panels as defined by ASTM C1396/C1396M, sized to minimize joints.

5.1.6 Backing Material for Wet Areas

Wet areas: Tub, shower surrounds, shower ceilings and toilet rooms. Mold resistance score of 10, ASTM D3273. ANSI Cement Based Backing Board to comply with ANSI A118.9 or ASTM C1325. Glass-Mat Faced Backing Board per ASTM C1178/C1178M.

5.1.7 Water Resistant Board for Non Wet Areas

ASTM C1396/C1396M for ceilings and vertical surfaces in toilet, shower and break areas, not behind tile. Mold resistance score of 10, ASTM D3273.

5.2 New Partition Layout and Site Review

The Contractor shall layout ("chalk") the partition locations as provided for on the Project Architectural Dimension Plan. Prior to framing, the Contractor shall notify the Architect of any discrepancies between the Dimension Plan and measurements in the field for required Plan clarifications.

The Contractor shall coordinate with the Architect and/or the Project Party contracting with the Contractor for the Project work to schedule a Site Review and approval of the "chalked" partition layout by the Project Party contracting with the Contractor for the Project work PRIOR to framing the partitions.

5.3 Existing Drywall Partitions

Repair any damage to existing drywall to provide a "like new" finished appearance as approved by the Project Party contracting with the Contractor for Project work. Match and blend all new drywall partitions to existing drywall finished surfaces to remain.

5.0 DRYWALL FRAMING & CONSTRUCTION (continued)

5.4 Fire-rated Partitions

Fire-rated partitions shall comply with the Code required or otherwise specified fire-rated construction as specified by the most current editions of the Gypsum Association, Fire Resistance Design Manual, OR the Underwriters Laboratory Inc., Fire Resistance Directory.

5.5 New Drywall Partitions

5.5.1 General

Except as noted otherwise, all new drywall partitions shall be true and plumb. New partition construction shall be in strict compliance with governing Codes, including lateral support. New partitions shall comply with the code required or otherwise specified construction as specified by the most current edition of the Gypsum Association.

5.5.2 Lateral Bracing

For all full height drywall partitions, less than floor to structure, provide and install diagonal metal stud cross-bracing at 8'-0" on center (max.) to structure with slip joints as specified at structure.  
Unless noted otherwise, assume a 2'-1/2" slip joint for partitions on grade or located in single story buildings, and a minimum of 1'-1/2" slip joint at structure for other Project locations.

5.5.5 New Partitions at Exterior Window Mullions

New partitions terminating with window mullions shall be centered on the window mullion, except where otherwise noted on the Dimension Plan. **DO NOT MECHANICALLY FASTEN** the drywall partition to the window mullion, double faced foam tape shall be applied at the drywall connection to the window mullion from sill to the window head.

5.5.6 New Partitions at Heating Convectors

At Interior spaces with exterior wall baseboard heating or unit convection interrupted by drywall partitions, the Contractor shall provide and install a Code complaint acoustical barrier at the intersection of the drywall partition and the baseboard heating or convector as approved by the Building Owner.

5.2.7 Acoustical Partitions

Provide and install unfaced full batt, therafiber, friction fit acoustical insulation full height between studs for all acoustical partitions.  
For less than floor to structure partitions provide and install non-combustible, faced, plenum rated acoustical batt insulation for any acoustical partitions noted to receive above ceiling lay-over insulation or any otherwise exposed above ceiling acoustical insulation.

5.6 LEVEL 4, Drywall Finishing

Except as otherwise noted in these Architectural Working Drawings, drywall finishing shall be a LEVEL 4 gypsum board finish for all visible drywall surfaces as follows:

Tape all drywall joints and interior corners as recommended by drywall manufacturer and embedded in three (3) coats of drywall joint compound and wiped with a joint knife, leaving a thin coat of compound over the tape.

Provide and install beaded metal trim at all corners and drywall terminations (J mold trim will be rejected). Finish with three (3) coats of drywall compound and sand between coats.

Fully conceal all joints, accessories, fasteners, tape and compound from any irregularities, tool marks or excess compound to provide a smooth, even finished drywall surface.

LEVEL 5 finish required for wallcovering, dry erase paint or other applied finishes (per manufactures installation requirements).

5.7 LEVEL 3, Drywall Finishing

As may be noted in these Architectural Working Drawing or as approved by the Project Party contracting with the Contractor for Project work, drywall finish for surfaces above ceiling areas and where approved for Warehouse or areas not subject to public view may receive a LEVEL 3 drywall finish. Drywall Finish LEVEL 3 shall be similar to Level 5 with two coats of drywall compound finished smooth and free of tool marks and ridges.

5.8 LEVEL 2, Drywall Finishing Below Tile or Stone Applications

As may be noted in these Architectural Working Drawing or as approved by the Project Party contracting with the Contractor for Project work, drywall finish for water resistant gypsum board or for other substrates below ceramic tile or stone finishes may receive a LEVEL 2 drywall finish similar to Level 3 Finish.

LEVEL 2 finish drywall joints shall be taped. Finish all joints, angles, fastener heads and accessories with one (1) coat of drywall compound. Drywall surface shall be free of all excess joint compound. Tool and ridges are acceptable.

5.9 Drywall Expansion, Control and Slip Joints

A) Extended Length Partitions:  
Provide and install a drywall partition expansion joints not more than every thirty feet of uninterrupted length of drywall partitioning, whether specifically noted on the Project plans or not.

B) Concrete Floor Slab Expansion Joints:  
Discontinuous framing and beaded metal drywall control joints shall be provided and installed at all concrete floor slab expansion joints, whether specifically noted on the Project plans or not.

C) Floor to Structure Drywall Partition Slip Joints:  
In other than slab-on-grade Projects with expansive soil conditions or single story buildings subject to snow load structural deflection, provide and install 1'-1/2" minimum 'deflection' slip joints at structure for all floor to structure partitions.  
RE: Section 5.10, On-grade Projects with Expansive Soils

5.10 On-grade Projects with Expansive Soils

A) Slip and Control Joints:  
For concrete floor slabs on grade over expansive soils, provide and install drywall slip and control joints at the following conditions:

Building expansion joints,  
Concrete floor control joints,  
Building core, structural columns and exterior wall connections,  
Both sides of interior door and window frames, and  
Suspended soffits and fascias.



5.0	<b>DRYWALL FRAMING &amp; CONSTRUCTION</b> (continued)
5.10	<b>On-grade Projects with Expansive Soils</b> (continued) <div>E) HVAC Distribution and Plenum Return Air Openings: Provide framed drywall openings for HVAC distribution and plenum return air flow as required by the Project Mechanical Engineer in floor to structure partitions such that the framed opening allows for a minimum of 2-1/2" vertical drywall partition movement.  F) Suspended ceilings: DO NOT attach suspended ceilings to any drywall partitions, interior or exterior furred core of exterior walls or structure.</div>
5.11	<b>Blocking for Wall Mounted Accessories and Millwork</b> All blocking required for millwork and support of wall mounted accessories, including wall mounted door stops, shall be non-combustible solid wood blocking, except as may be otherwise approved by the governing Code Official in writing.  ALTERNATIVELY 16 gauge metal sheets may be substituted for non-combustible solid wood blocking where prohibited or otherwise impractical.
5.12	<b>Drywall Furring</b>
5.12.1	<b>General</b> Drywall furring shall be as noted in these Architectural Working Drawings. RE: Project Architectural Plans and Notes. Section 5.10, On-grade Projects with Expansive Soils. All new drywall furring shall be true and plumb with drywall finishes to match and blend with existing drywall surfaces. Provide and install beaded metal trim at all corners and terminations (J-metal trim will be rejected). Drywall furring and finishes shall match drywall partition quality and finish requirements described in these General Notes. RE: Section 5.0, Drywall Framing and Construction.
5.12.2	<b>Drywall Furring at Exterior Walls</b> Provide and install new vapor barrier and rigid thermal insulation to match existing in Building or as otherwise required by Code and at exterior building wall drywall furring as approved by the Building Owner.
5.13	<b>Drywall Partition Schedule</b>

Note: Contractor to verify existing wall thicknesses, and to match, unless otherwise noted.

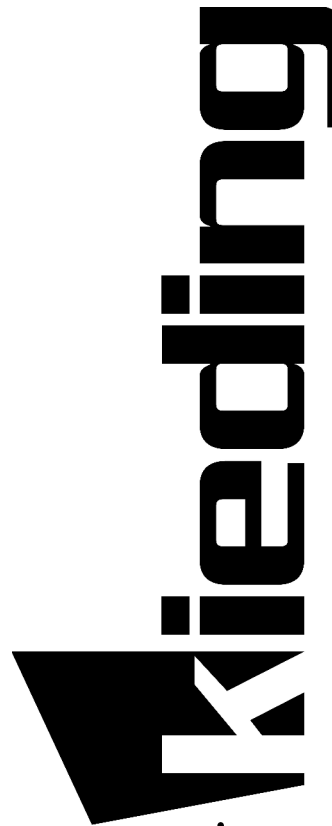
Existing Partition
Demolition Partition
Standard Interior Partition
RE: Wall Details on Sheet A0.5 in this set of drawings.
Non-rated Public Area Corridor Partition
RE: Wall Details on Sheet A0.5 in this set of drawings.
Acoustical Partition
RE: Wall Details on Sheet A0.5 in this set of drawings.
Partial Height Interior Partition
RE: Wall Details on Sheet A0.5 in this set of drawings.

5.0	<b>DRYWALL FRAMING &amp; CONSTRUCTION</b> (continued)
5.14	<b>Drywall Ceilings, Fascias and Soffits</b> Except as otherwise noted, drywall ceilings, fascias and soffits shall be 5/8" drywall framed or suspended and installed as recommended by the drywall manufacturer for specific application. Framing, detailing and drywall application shall be per the design standards established by the United States Gypsum company and, for any fire rated construction, the UL Fire Resistance Directory.  All drywall joints, outside corners and exposed drywall terminations shall be LEVEL 5 drywall finish with beaded metal trim to match and blend to the finished drywall surface. RE: Section 5.6, LEVEL 5, Drywall Finishing. Section 5.9, Drywall Expansion,Control and Slip Joints. Section 5.10, On-grade Projects with Expansive Soils.
5.14.1	<b>New Drywall Abutting Existing Drywall Ceilings, Fascias and Soffits</b> New drywall ceilings, fascias and soffits abutting existing drywall in the same plane shall be flush with no visible joints, except as otherwise required for slip, control or expansions joints.
5.14.2	<b>New Drywall Abutting New Drywall Ceilings, Fascias and Soffits</b> All drywall fascias shall be true and plumb and drywall soffits and ceilings shall be level with no visible imperfections or joints except as otherwise required for slip, control or expansions joints.
5.14.3	<b>Drywall Ceiling Access Panels, Mechanical Devices and Lighting Fixtures</b> Drywall ceiling access panels, mechanical devices and lighting fixtures shall <b>ONLY</b> be permitted where specifically located on the Project Architectural and/or Engineering Working Drawings.  In the event that the access panel, mechanical devices and lighting fixture locations are not clearly defined or otherwise in conflict with the other drywall ceiling elements or lighting fixtures, the Contractor shall be responsible for coordinating the location and layout of such drywall ceiling elements with the Architect <b>PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.</b>  Drywall ceiling access panels, mechanical devices and lighting fixtures shall be installed in compliance with the manufacturer's recommendations.  Drywall ceiling access panels shall be installed flush with the finished drywall ceiling in such a manner a to minimize the finished appearance of the access panel.
5.14.3	<b>Drywall Ceiling Fire Protection Sprinkler Heads</b> Except as may otherwise be approved by the Project Party contracting with the Contractor for the Project work, the Contractor shall install approved recessed fire protection sprinkler heads in drywall ceilings in compliance with governing Codes and located in coordination with the other drywall ceiling elements and lighting fixtures.
6.0	<b>DOORS, DOOR and INTERIOR WINDOW FRAMES</b>
6.1	<b>General</b> Unless specially detailed otherwise, dimensions given for new doors, door and window frames are nominal dimensions, only. The Contractor shall take into consideration frame tolerances, ceiling clearances and door undercut requirements and deduct from the given nominal dimensions <b>PRIOR TO PRODUCT ORDERING OR FABRICATION.</b>
6.2	<b>New Door, Door and Interior Window Frame Submittal</b>
6.2.1	<b>New Manufactured Doors and Door Frames</b> The Contractor shall submit a door, door and interior window frame schedule with manufacturer's product information, door and window frame profile samples and finish samples to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work <b>PRIOR TO ORDERING.</b>
6.2.2	<b>New Custom Doors and Door Frames</b> Where Custom doors, door and interior window frames are noted or specified on the Architectural Working Drawings, the Contractor shall submit a custom door, door and window frame schedule, shop drawings, door and interior window frame profile samples and finish samples to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work <b>PRIOR TO ORDERING.</b>
6.3	<b>New Doors</b>
6.3.1	<b>New Non-rated Interior Doors</b> Reference: Partition Plan, Door and Door Frame Schedule. Unless noted otherwise, doors shall be 1-3/4" thick size, solid core, flush wood veneer faced construction free from any scratches, irregularities or warping, and shall conform to AWI Custom Grade standards as required and appropriate for the specified Project hardware as reviewed by the Architect and approved by the Project Party contracting with the Contractor for the Project work.  Except as otherwise noted or specified, new non-rated interior doors shall match the Building Owner's specified "Building Standard" door or existing "Suite Standard" doors to remain in existing Project spaces being remodeled.
6.3.2	<b>New Fire-rated Interior Doors</b> Reference: Partition Plan, Door and Door Frame Schedule. All specified fire rated door and door frame assemblies shall bear the required UL rating label attached to door and door frame. Any modification to UL labeled fire-rated doors and frames shall be accomplished by an certified UL shop.  Except as otherwise noted or specified, new rated interior doors shall match the finished appearance of Building Owner's specified "Building Standard" door or, if noted, existing "Suite Standard" doors to remain in existing Project spaces being remodeled.
6.4	<b>New Door and Interior Window Frames</b> RE: Partition Plan, Door and Door Frame Schedule.
6.4.1	<b>General</b> Except as noted otherwise, door frames shall match the Building Owner's specified Building Standard size, construction, material and finish for door and interior window frames or, if noted, the existing "Suite Standard" door and interior window frames to remain in existing Project spaces being remodeled.  Door frames shall be as required and appropriate for the specified Project hardware.
6.4.2	<b>Door and Window Frames on Expansive Soil Conditions</b> Door and interior window frames for slab on grade construction over expansive soils shall be painted rigid hollow metal as reviewed by the Architect and approved by the Project Party contracting with the Contractor for the Project work. RE: Paragraph 5.10, On-grade Projects with Expansive Soils.

6.0	<b>DOORS, DOOR and WINDOW FRAMES</b> (continued)
6.5	<b>Existing Doors, Door and Interior Window Frames</b>
6.5.1	<b>Reuse of Existing Doors, Door and Interior Window Frames</b> Prior to bid submittal the Contractor shall determine if any existing doors, door and window frames scheduled for reuse are damaged beyond reasonable and cost effective repair and provide for such existing doors, door and window frames to be replaced with new as approved by the Project Party contracting with the Contractor for the Project work.
6.5.2	<b>Touch-up and Refinishing Existing Doors, Door and Interior Window Frames</b> Any existing or relocated doors, door or window frames to be used for the Project shall be refurbished as may be required to provide a"like new" appearance as approved by the Project Party contracting with the Contractor for the Project work.
6.5.3	<b>Existing Metal Doors and Frames</b> Metal doors and frames noted or scheduled to be painted shall be thoroughly prepared to eliminate any rough or irregular surfaces and provide a smooth, even surface suitable for the application of the specified paint. Paint shall be a spray application or electrostatically applied as approved by Building Owner. <b>Brush or roller application to metallic surfaces shall be rejected.</b>
6.6	<b>Door and Door Frame Installation</b>  Except as otherwise noted, the Contractor shall set all new and relocated doors and frames accurately in position, plumb,ed, aligned, secured and anchored permanently in opening and install per manufacturer's recommendations. The Contractor shall verify and correct existing doors and door frames as required to assure existing doors and door frames scheduled to remain are plumbed, aligned, secured and anchored permanently and installed per manufacturer's recommendations.  Except as otherwise noted or approved by the Architect and/or the Project Party contracting with the Contractor for the Project work, door frames located adjacent to a partition or wall shall be installed 4" clear from the outside edge of the door frame to the adjacent partition or wall.  All new doors shall be installed to ensure compliance with the current minimum ANSI (American National Standard, Accessible and Useable Buildings and Facilities) Maneuvering Clearances for Manual Swinging Doors:  Approach Direction Door Side Clear Dimension (from latch side edge of door) From the front Pull Side 18 inches From the front Push Side 12 inches
7.0	<b>ARCHITECTURAL DOOR HARDWARE</b> RE: Project Partition Plan, Hardware Schedule.
7.1	<b>General</b>
7.1.1	<b>Building and Suite Standards</b> Except as noted otherwise, architectural door hardware style and finish shall be "Building Standard" or "Suite Standard" as approved or selected by the Building Owner provided such hardware is both ANSI and governing Building Code compliant. RE: Paragraph 7.1.2, ANSI and Building Code Compliance.
7.1.2	<b>ANSI and Code Compliance</b>
A)	New Hardware: Except as noted otherwise and not otherwise required by governing Codes, all door hardware necessary for new Project doors shall comply with current ANSI (American National Standard, Accessible and Useable Buildings and Facilities) requirements with ANSI compliant lever style hardware sets.
B)	Existing Hardware: Existing door hardware not serving the general public, which is <b>NOT</b> noted for new Project doors may not be required to comply with ANSI requirements. <b>PROVIDED</b> such existing hardware is specifically approved by the governing Building Code Official. All other existing non-compliant ANSI hardware shall be replaced as required with new ANSI compliant hardware to match the specified Project hardware.
7.2	<b>New Architectural Door Hardware and Keying Submittal</b>
7.2.1	<b>New Architectural Door Hardware Submittal</b> Except as directed otherwise by the Building Owner and/or the Project Party contracting with the Contractor for the Project work, the Contractor or the Contractor's Hardware Supplier shall submit to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work, a complete hardware schedule in accordance with ASAHQ "Architectural Hardware Scheduling Sequence and Format" with product cut sheets and hardware finish samples.  This submittal schedule shall include a complete template list for each penetration of wood doors and metal frames.  Any request for substitutions in the Project Hardware Schedule shall be accompanied by catalog cuts of items and itemized comparative costs.
7.2.2	<b>Lockset Keying Submittal</b> The Contractor or the Contractor's Hardware Supplier shall coordinate with the Building Owner and/or the Project Party contracting with the Contractor for the Project work on any specific requirements affecting the keying of Project lock set hardware sets. The Contractor or the Contractor's Hardware Supplier shall submit a complete keying schedule for all Project lock set hardware sets, for approval by the Building Owner and/or the Project Party contracting with the Contractor for the Project work.  Unless noted or authorized otherwise, the Contractor shall provide for all locks to be keyed to a "Building Master", with a minimum of two (2) master and one (1) grand master and a keying schedule being provided to the Building Owner and/or the Project Party contracting with the Contractor for the Project work.
7.3	<b>New Architectural Door Hardware</b>  All doors to or from public areas shall be provided with ANSI compliant lever style hardware sets and delayed action door closers (where required).  All doors with closers shall be self stopping with door hold-open function <b>EXCEPT</b> where such hold-open function is prohibited by the governing Building Code or noted otherwise.  Finish of hardware, including associated screws and bolts, shall be Building Standard or Suite Standard as noted. Weather-stripping, sound stripping or smoke seals shall be full height of both jambs and full width of head. RE: Project Partition Plan, Hardware Schedule.  The Contractor shall provide all miscellaneous hardware pieces, such as fasteners, silencers, seals, door stops etc. as required for the complete installation and function of specified doors.  Prior to ordering the scheduled doors and door frames, the Contractor shall confirm that all hinges, etc. conform to the weight loads and specified sizes of the scheduled doors and door frames.  For all fire-rated openings, the Contractor shall provide UL rated hardware in compliance with the current NFPA Standards including ANSI compliant delayed action door closers and smoke seals.  Locking hardware for fire-rated doors shall allow for egress without keying or special knowledge for exit operation from the egress side of the door.

7.0	<b>ARCHITECTURAL DOOR HARDWARE</b> (continued)
7.4	<b>Existing Architectural Door Hardware</b> All existing or reused hardware shall be protected from damage during Project work and refurbished as may be required to provide "like new" function and appearance as approved by the Project Party contracting with the Contractor for the Project work.
7.5	<b>Architectural Door Hardware Installation</b>
7.5.1	<b>General</b> Installation of hardware shall be in strict compliance with the hardware manufacturer's recommendations.  Unless noted otherwise, all lever handsets shall be installed to match the "Building Standard" or "Suite Standard mounting heights, but always within ANSI compliant range (34" min.-40" max). If no standard height is established, leversets shall be mounted at 42" AFF to the centerline.  Prior to final Project acceptance, the Contractor or the Hardware Supplier shall adjust and adjust all door closers, locks and/or all items requiring close adjustment and/or regulation, and provide all keying in compliance with the approved hardware keying submittal.
7.5.2	<b>Door Stops</b> Except as otherwise noted or provided for, The Contractor shall provide door stops for all doors.  Contractor shall provide and install non-combustible, solid wood or metal blocking below the finished surface in the partition behind all wall mounted door stops or attach the door stop firmly to existing studs.  Floor mounted door stops shall be located out of the path of travel, securely anchored to the floor structure and positioned at 90 degrees to the position of the door in the full open position.
7.5.3	<b>Weather-stripping, Sound-stripping and Smoke Seals</b> Weather-stripping, sound stripping or smoke seals shall be installed in compliance with the manufacturer's recommendations the full height of both jambs and full width of head with approved thresholds or sills as may be required for the specified door location.
8.0	<b>INTERIOR GLASS &amp; GLAZING</b>
8.1	<b>General</b> RE: Section 6.0, Doors, Door and Interior Window Frames, Project Partition Plan and Keyed Notes, Door and Door Frame Schedule (for any integral glass sidelights).
8.1.1	<b>Minimum Non-Rated Glass Thickness</b> The glass thickness for all non-rated interior glass installed for the Project shall comply with the following guidelines as a minimum standard:  1/4" thick glass Maximum glass span of 60" (5'-0") 3/8" thick glass Maximum glass span of 90" (7'-6") 1/2" thick glass Maximum glass span of 108" (9'-0") 5/8" thick glass Maximum glass span of 120" (10'-0").
8.1.2	<b>Fire-rated Glass: Thickness / maximum size panes</b> Except as otherwise approved by the Architect and governing Building Code Officials, all fire-rated glass shall be as manufactured by Nippon Electric Glass Co. Ltd. and distributed by Tech Glass Products (www.fireglass.com).  20-minute fire-rated glass: Fireglass 20, premium grade 1/4" thick, 48"x96" maximum size.  45 to 90 minute fire-rated: FireLite, premium grade 3/16" thick, 48"x96" maximum size.  Fire-rating and the maximum size of fire-rated openings shall not exceed the governing Code allowable openings in rated partition construction.  For other than glass sidelights installed in 20-minute UL fire-rated and labeled integral door and frame assemblies, glass openings in one-hour fire rated partitions shall be 45-minute U.L. tested and labeled assembly in accordance with ASTM E119.
8.1.3	<b>Safety Glass</b> For other than fire-rated openings, tempered or approved Code compliant laminated safety glass shall be installed for all new or existing glass: Within 24" of a door or adjoining a passageway less than 60" a.f.f., Glass panes that are greater than nine square feet and/or extending lower than 18" above the floor.  Laminated safety glass shall consist of two (2) layers of glass, specified in <b>ASTM C1036 or C1038</b> . Laminate material shall comply with <b>CPSC 16 CFR 1201, Category I or II, Safety Glazing Standard and/or ANSI Z91.1</b> .
8.1.4	<b>Clear Non-rated Float Glass</b> Except as otherwise noted on drawings, required by the governing Building Codes or recommended by glass manufacturer for application indicated, non-rated interior glass shall be Type 1, Class 1, Quality q3 clear float glass.
8.2	<b>Glass Identification</b> Each pane of glass shall bear the manufacturer's permanent identification mark designating the type of the glass or glazing material. For other than tempered glass, permanent identification by the manufacturer will not be required, provided the governing Building Code Official approves evidence in writing confirming compliance with the governing Building Code.  Tempered Glass shall be permanently identified by the glass manufacturer's acid etched, sand blasted or otherwise permanently marked in a manner that cannot be removed without destroying the glass.
8.3	<b>Installation</b>
8.3.1	<b>General</b> All glass and glazing shall comply with current standards specified in the Flat Glass Marketing Association "Glazing Manual" and "Sealant Manual".  Interior glass and glazing frames and/or glazing channels shall to be as noted. RE: Partition Plan Keyed notes and Project dimensions.  Contractor shall field measure all openings prior to fabrication and supply glass in sizes required for glazing openings provided, with edge clearances and tolerances as recommended by glass manufacturer, except as may be noted otherwise.
8.3.2	<b>Sealant</b> Sealant shall conform to <b>ASTM C-920</b> , Grade NS, Class Standards for NT, G, and A uses, and shall have a low modulus with additional capability to withstand an increase or decrease in joint width of 50 percent.  Exposed sealant shall be clear, razor trimmed and free of bubbles and other irregularities. Setting blocks, spacers and sealant shall be compatible with surfaces contacted.

8.0	<b>INTERIOR GLASS &amp; GLAZING</b> (continued)
8.3	<b>Installation</b> (continued)
8.3.3	<b>Glass Installation and Cleaning</b> Any scratching of glass will result in rejection of work. All components shall be of size, shape, and hardness recommended by manufacturer for application indicated.  The Contractor shall be responsible for thoroughly cleaning all new and existing glass and ensuring that all new and existing glass is free from any scratches, except as may otherwise be approved by the Project Party contracting with the Contractor for Project work.  Clean glazing channels and other framing members to receive glass immediately before glazing. Protect glass from contact with contaminating substances resulting from construction operations, remove any such substances by method approved by glass manufacturer.
9.0	<b>MILLWORK</b>
9.1	<b>General</b> Except as noted otherwise, all Millwork shall be AWI "Custom Grade", manufactured or fabricated in full compliance with the most current edition of Architectural Woodwork Institute (AWI), "Quality Standards." RE: Partition Plan Keyed Notes.
9.2	<b>Contractor Millwork Submittals</b> The Contractor shall prepare and submit shop drawings, finish material samples and hardware product cut sheets or samples, profile samples of millwork wall base and trim (if applicable to the Project) when required for the Project Schedule with sufficient time for the Architect to review and for approval of the Millwork Submittals by the Project Party contracting with the Contractor for the Project work.  Any fabrication done or millwork purchases prior to approval of Millwork Submittal shall be at the Contractor's risk.  Shop Drawings shall show the following: Location of each item with field verified dimensioned plans and elevations, Large scale sections and details showing location of internal and field joints, Attachment devices and plastic laminate or veneer joints, Typical detail treatments and Components and/or hardware (with specifications and product information).
9.3	<b>Millwork Fabrication</b>
9.3.1	<b>Fabrication</b> Millwork fabrication shall be in strict compliance with the approved Millwork Submittal including approved shop drawing dimensions and the layout/placement of finished veneer joints and grain direction.  Failure of the millwork to comply with approved Millwork Submittal and Shop Drawings may result in the rejection of the work.
9.3.2	<b>Construction and Finish Materials</b> Except as otherwise noted in these Architectural Working Drawings, casework shall be overlay construction with wood, plastic laminate and Melamine veneer casework being applied over a MDF (medium density fiberboard) substrate.  Where recommended by AWI Custom Grade standards wood veneer paneling, wood veneer and plastic laminate veneer casework shall be laminated on both sides, including both sides of cabinet and drawer fronts, as required to control contraction and expansion.  Except as otherwise noted in these Architectural Working Drawings, wood veneer exposed edges shall be finished with a matching solid wood trim and banding.  Except as otherwise noted, the interiors for plastic laminate finished casework interiors shall be white Melamine and the interiors for wood veneer finished casework shall be black Melamine.  Unless noted otherwise, all fasteners shall be countersunk, filled andfinished as required to blend with the finished surface to be invisible.
9.3.3	<b>Heavy-duty Adjustable Shelves</b> 3/4" thick particleboard painted, plastic laminate and Melamine adjustable shelving may span up to 32", spans 32" to 42" shall be1" thick and spans 42" to 48" shall be 1-1/4" thick.
9.3.4	<b>Millwork Hardware</b> Except as may be otherwise noted in these Architectural Working Drawings, all millwork hardware shall be heavy-duty with concealed, ten-degree self-closing hinges with and ANSI compliant cabinet door and drawer pulls.  Cabinet drawers shall be provided with heavy-duty, full extension drawer as required for the size and function of the drawer (file drawer or utility / utensil drawer).  Hardware finishes shall match the Building Standard or Suite Standard architectural hardware finish OR as otherwise approved in the Millwork Submittal.  For pricing purposes, unless otherwise approved, specified or required, the following Millwork Hardware shall apply:  Hinges: Stanley, Knappe and Vogt or Mepla DS-Klip System, 120 degree opening / 10 degree self closing.  Door and Drawer Pulls: Stanley, 3" wire pulls #4483  Drawer Glides: File Drawers: Accuride model 4043. Box Drawers: Accuride model 3005. Pencil or utensil Drawers: Accuride model 2006.  Grommets: Doug Mockett, Model XG, 3" hole size, color black.  Adjustable Heavy-Duty Standards and Brackets: Knappe & Vogt #87-186-187, anochrome finish Standards shall not be spaced more than 32" o.c..
9.4	<b>Millwork Installation</b>
9.4.1	<b>Field and Equipment / Fixture Verification</b> The Contractor shall be responsible for field verifying and reviewing these Project Architectural Working Drawings for all proposed and existing conditions and dimensions applicable to millwork fabrication, installation, and installation clearances within the Project and delivery to the Project and shall advise the Architect of any discrepancies, conflicts or design omissions for the Architect's direction <b>PRIOR TO INITIATING WORK.</b>  The Contractor shall be responsible for verifying and confirming all appliances and vending equipment, office equipment, office fixtures, millwork accessories and plumbing fixtures to be installed or provided by others on the Project.
	(CONTINUED)



4725 South Monaco Street | Suite 225  
Denver, Colorado 80237  
303.399.9100

Contact - Kim Hoff  
Contact - Ahyoung Lee

BRIGHTLAND

POINT AT INVERNESS

SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112

ISSUES / REVISIONS

FEBRUARY 21, 2024 14070174-70

GENERAL NOTES

02 / A0.3



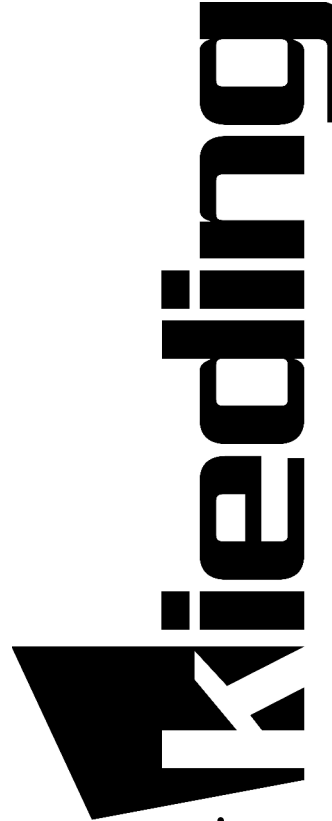
9.0	<b>MILLWORK (continued)</b>
9.4	<b>Millwork Installation (continued)</b>
9.4.2	<b>Blocking</b> The Contractor shall provide fire retardant wood blocking in the partition behind all wall mounted millwork, shelving standards, cabinets, wall stops, wall mounted equipment, etc., or securely attach the millwork to existing studs as required to provide for a secure installation.
9.4.3	<b>Millwork Protection and Clean-up</b> The Contractor shall be responsible for protecting new and existing millwork to remain on the Project from damage prior to the acceptance of the completed Project.  The Contractor shall be responsible for repairing any damaged millwork and for cleaning and finishing all Project millwork to provide a "like new" condition free of any irregularities, blemishes and soiling as approved by the Project Party contracting with the Contractor for the Project work.
10.0	<b>ARCHITECTURAL OUTLET LOCATION PLAN</b> Reference: 1.7, Project Engineering Working Drawings.
10.1	<b>General</b>
10.1.1	<b>Workmanship</b> All electrical materials and workmanship shall be in full compliance with governing Codes and regulations. Except as noted otherwise, mounting heights for new outlets shall be in compliance with current ANSI standards as a minimum.
10.1.2	<b>Approvals</b> Except as noted otherwise, all electrical, telephone and data outlet locations, mounting heights, and cover plate material(s), color(s) and finish(es) shall be as approved by the Project Party contracting with the Contractor for the Project work.
10.1.3	<b>Installation of Engineered "Architectural Devices"</b> The Contractor shall be responsible for coordinating with the Architect on the location and placement of fire alarm strobe lighting devices and thermostats <b>PRIOR</b> to installation of such devices.  Failure by the Contractor to coordinate and confirm the location of such devices with the Architect may result in the relocation of such devices at the Contractor's expense.
10.2	<b>Architectural Outlet Plan</b> The Outlet Location Plan is intended <b>ONLY</b> to show the type of outlet, the general placement of new and existing outlets and devices and the outlet mounting height if other than standard mounting height of electrical, voice / data outlets, card key readers and other such outlets and devices. Reference the Project Electrical Engineering Working Drawings for all other requirements.  The Contractor shall be responsible for advising the Architect of any discrepancies between the Project Electrical Working Drawings and the Architectural Outlet Plan and these Architectural Working Drawings. RE: Architectural Outlet Location Plan and Project Electrical Engineering Working Drawings.
10.3	<b>Field Verification</b> Location, mounting height and type of outlet of existing outlets may vary from those shown in the Architectural Outlet Plan. <b>PRIOR</b> to submitting a Project Bid, the Contractor shall be responsible for field verifying the existing outlet locations and types and for advising the Architect of any discrepancies between the Architectural Outlet Plan and findings in the field. RE: Section 1.3, Existing Architectural Conditions.
10.4	<b>Equipment / Systems Furniture Verification</b> The Contractor shall be responsible for confirming electrical power, voice and data outlets requirements for all appliances, office equipment and other special equipment being provided and installed on the Project.  Contractor shall coordinate with the Project furniture installer(s), cabling vendors, and security vendors to determine the location of and requirements for outlets and junction boxes prior to rough in installation of boxes and conduit. Unless noted or determined otherwise, service to furniture systems being provided and installed by others are assumed as requiring four circuit, eight wire service for a maximum of six (6) workstations.  The Contractor shall advise the Architect of any such additional or revised requirements for direction and/or approval <b>PRIOR</b> to accomplishing the work in question.
10.5	<b>Furniture Systems Electrical, Telephone and Data Installation</b> Unless noted on these Architectural Working Drawings or approved otherwise by the Project Party contracting with the Contractor for the Project work, the Contractor shall connect and wire all electrical service to the furniture systems with electrical whips as provided by the furniture systems vendor/installer as required by the governing Code jurisdiction.
10.6	<b>Outlet and Electrical Device Installation</b>
10.6.1	<b>General</b> Unless noted otherwise, all dimensions shown are from the finish face of surfaces to the centerlines of outlets or groups of outlets.  Outlets are <b>NOT</b> to be mounted back to back. Separate adjacent outlets shall have not more than three (3) inches clear between cover plates, unless noted otherwise.  Unless noted otherwise as a critical dimension, plan location(s) for wall mounted electrical, telephone and data outlets may vary up to six (6) inches to avoid conflicts with stud locations.  Reference the Outlet Location Plan Keyed Notes for all outlets requiring the determination of outlet locations and/or mounting heights by others.
10.6.2	<b>Standard Outlet Mounting Heights</b>  New outlets located directly adjacent to existing boxes are to be mounted at a height and orientation which matches the outlets to remain.  Outlets <b>NOT</b> located adjacent to existing boxes are to be mounted vertically, with centerlines at eighteen (18") inches above finished floor, unless noted otherwise by the Architect.  Wall mounted telephone outlet boxes, card key readers, electric cypher lock key pads, thermostats and fire alarm boxes shall be mounted vertically and centered at forty-four (44") for forward reach positions or forty-six (46") for side reach positions above finished floor, unless noted otherwise by the Architect.
10.6.3	<b>Floor Mounted Outlets</b>  Unless noted otherwise, electrical, telephone and data floor receptacles shall be flush type as specified by the Project Electrical Engineer. For other than slab on grade construction, such receptacles shall be UL fire-rated as required to match the required to maintain the floor slab fire separation.
10.6.4	<b>Floor Penetrations For Other than Slab-on-Grade Construction</b>  A) All floor penetrations shall be coordinated with the Structural Engineers (if available and practicable) and X-rayed to ensure safe and practical structural and sub-floor obstacle clearance.  B) All floor penetrations shall be fire sealed, whether new or existing, as required to provide the Code required floor fire separation with a UL listing sealant appropriate for the type and rating of the floor. Floor penetrations 1-1/2" or greater may be sealed with non-shrink grout flush with the adjacent floor slab.

11.0	<b>ARCHITECTURAL REFLECTED CEILING PLAN</b> Reference: Section 1.7, Project Engineering Construction Documents.
11.1	<b>Architectural Reflected Ceiling Plan</b>
11.1.1	<b>General</b> The Reflected Ceiling Plan is intended to show the extent of new and existing ceiling materials (i.e., grid and tile, painted gypsum board, etc.), and the location of existing and new light fixtures and lighting fixture specification schedule and/or general notes only.  Except as may otherwise be noted, all suspended acoustical tile ceilings and light fixtures shall be Building or Suite Standard. Reference: Architectural Reflected Ceiling Plan Legend and Key Notes.  All Architectural products and installation shall be in conformance with governing Codes and regulations, as a minimum standard, and product manufacturer's recommendations. All mechanical and electrical materials and workmanship shall be in strict compliance with governing Codes and regulations, as a minimum standard.  For all other requirements, reference Project Mechanical and Electrical Engineering Working Drawings and approved Fire Protection Shop Drawings, including the location of all other engineered system ceiling devices.
11.1.2	<b>HVAC Installation</b> The Contractor shall be responsible for the coordination and installation of the HVAC engineered plans and these Architectural Working Drawings to ensure that above ceiling clearances required for the ceiling design and specified lighting layout <b>DO NOT</b> conflict.
11.1.3	<b>Fire Protection and Life Safety</b>  The Contractor shall be responsible for coordinating with the Building Owner to determine and use which, if any, sub-contractors and/or vendors are approved for the design and work on the Building life-safety detection, alarm and fire suppression systems.  Fire protection sprinkler plans, where required, shall be provided by the Contractor and prepared by a qualified engineer for the Building Owner's approval and/or the Project Party contracting with the Contractor for the Project work.
11.2	<b>Field Verification</b> Grid layout and existing lighting and switching locations and quantities may vary from that shown.  <b>PRIOR</b> to bid submittal, Contractor shall field verify the existing ceiling conditions, above ceiling clearances for light fixtures and other devices, suspended acoustical ceiling grid layout, ceiling lighting locations and switches. The Contractor shall be responsible for advising the Architect of any discrepancies or conflicts between these Architectural Working Drawings and the Contractor's field verification findings. RE: Section 1.3, Existing Architectural Conditions.
11.3	<b>Contractor Submittal</b> No substitutions to the specified or otherwise approved Project Submittals shall be permitted without written recommendation by the Architect and approval by the Project Party contracting with the Contractor for the Project work.
11.3.1	<b>New Light Fixture, Lamping and Lighting Control Submittal</b> The Contractor shall submit a Light Fixture Schedule and Lighting Control Schedule with manufacturer's product information for all new non-Building or non-Suite Standard light fixtures and lighting control devices, finish samples and product information to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work.  The Contractor's Light Fixture Submittal shall include lamping for each light type of lighting fixture. Except as otherwise noted or approved by the Project Party contracting with the Contractor for the Project work, new fluorescent lighting shall match the specified or existing Building Standard wattage and lamp color temperature.
11.3.2	<b>Lamping Submittal for Existing Light Fixtures</b> Lamping or relamping of existing Project fluorescent light fixtures shall be as approved by the Building Owner and the Project Party contracting with the Contractor for the Project work, if other than the Building Owner.
11.3.3	<b>Suspended Ceiling Submittal</b> The Contractor shall submit product information for all new non-Building or non-Suite Standard suspended ceiling treatments with manufacturer's product information, finish and product samples to the Architect for review and approval by the Project Party contracting with the Contractor for the Project work.
11.3.4	<b>Ceiling mounted Mechanical, Electrical and Life Safety Devices</b> Unless otherwise directed, copies of the Mechanical and Electrical Engineering Submittals for any Non-Building Standard, visible life safety devices and HVAC ceiling mounted diffusers, registers or other mechanical devices shall be approval by the Project Party contracting with the Contractor for the Project work.
11.3.5	<b>Fire Protection System Submittal</b> For Projects with new or existing Fire Protection Systems, the Contractor shall coordinate with the Building Owner to determine and use, a sub-contractor or vendor which is approved for work in the Building.  The Contractor shall submit a copy of the Project fire protection sprinkler layout for approval approved by the Building Owner and the Project Party contracting with the Contractor for the Project work, if other than the Building Owner.
11.4	<b>Installation and Scope of Work</b>
11.4.1	<b>Suspended Ceiling Grid and Tile</b> New ceiling grid and tile shall be installed level and plumb per manufacturer's recommendations. Unless noted otherwise, New ceiling suspended acoustical tile ceiling grid shall match and align with existing ceiling grid noted or shown to remain.  Replace or repair any existing ceiling grid or tile that is damaged, discolored, scuffed, soiled or otherwise does not match and blend with new construction in contiguous areas. Group existing tiles of uniform pattern, color, texture and finish in adjacent areas as approved by the Project Party contracting with the Contractor for the Project work.  No tile shall be painted or refinished in a manner, which affects original manufacturer's performance specifications unless noted or approved the Project Party contracting with the Contractor for the Project work. NO new or existing screw holes or similar irregularities will be accepted in existing grid to remain, unless approved by the Building Owner.

11.0	<b>ARCHITECTURAL REFLECTED CEILING PLAN (continued)</b>
11.4	<b>Installation and Scope of Work (continued)</b>
11.4.2	<b>Above Ceiling Work</b> Any materials provided above the ceiling grid must be non-combustible, and <b>NO</b> loose or unfaced insulation shall be installed in the return air plenum. Reference: Section 4.0 Architectural Demolition.  All above ceiling acoustical insulation shall be face and edge wrapped and plenum rated.  All cabling and other such wiring and wire management systems shall be suspended from the structure above. <b>NO</b> wiring will be permitted to lay directly on the suspended ceiling systems.  Unless noted otherwise, center all down-light and wall wash fixtures in the acoustical tile panel shown on the Reflected Ceiling Plan.  Install all recessed light fixtures such that the throat of the light fixture is flush with the face of the finished ceiling in a manner that prevents any light leak.
11.4.3	<b>Lighting</b> All light fixtures shall be supported directly from structure separate from the suspended ceiling system.  Unless noted otherwise, center all down-light and wall wash fixtures in the acoustical tile panel shown on the Reflected Ceiling Plan.  Install all recessed light fixtures such that the throat of the light fixture is flush with the face of the finished ceiling in a manner that prevents any light leak.
11.4.4	<b>Lighting and Mechanical Controls</b> Except as otherwise noted, all electrical switch and mechanical thermostat mounting heights and cover plate material(s), color(s) and finish(es) shall be Building or Suite Standard.  Plan locations(s) for electrical switches may vary up to six (6) inches to avoid conflicts with stud locations. Unless noted otherwise, mount light switches to match Suite Standard mounting height for remodel projects, Building Standard where applicable for new projects located in leased space and centered at 48" a.f.f. for all other projects unless otherwise noted.  Provide and install a single cover plate over ganged switches for similar voltages.  Group mechanical thermostats and fan switches with electrical switches wherever possible.
12.0	<b>INTERIOR FINISHES</b>
12.1	<b>General</b> RE: Project Finish and Partition Plans. All interior finishes shall be in compliance with governing codes (particularly the Chapter Eight "Table of Interior Wall and Ceiling Finish Requirements by Occupancy", and regulations and installed (including all required surface preparation) in strict accordance with manufacturer's recommendations, as a minimum standard, and the latest edition of Industry Standards for Installation.
12.1.1	<b>Concrete Slabs On Grade</b> Verify that concrete slabs on grade (or below grade) are ready for carpet, LVT or tile installation by testing for moisture emission rate and alkalinity per ASTM F1869 or other relevant ASTM standards for the materials (such as ASTM F2170). Comply with all flooring manufacturer's requirements. The General Contractor is responsible for testing all slabs for PH and Moisture, and presenting results to Owner and affected Subcontractors.
12.2	<b>Wall Base</b> RE: Project Interior Finishes Schedule, General and Keyed Plan Notes.
12.2.1	<b>General</b> Except as noted otherwise, all wall base shall be Building Standard or to match Suite Standard style and height for remodel projects.
12.2.2	<b>Contractor Wall Base Submittal</b> Contractor shall submit sample(s) of the specified wall base for review by the Architect and approval by the Project Party contracting with the Contractor for the Project work, <b>PRIOR</b> to ordering.
12.2.3	<b>Resilient Base</b> Install resilient base on solid backing. Bond tight to wall and floor surfaces. Fit joints tight and vertical. Maintain minimum of 18" (inches) between joints. Miter internal corners. Scribe and fit base to door frames and other interruptions. Remove excess adhesive from finished surfaces without damage.  Except as noted otherwise, provide and install straight base at all carpeted areas and coved base at hard surface areas.
12.2.4	<b>Wood Base:</b> RE: Section 9.0, Millwork.
12.2.5	<b>Carpet Base</b> Install carpet base on solid backing. Bond tight to wall and floor surfaces. Fit seams tight and vertical to provide an uninterrupted, uniform appearance. Maintain minimum of 60" (inches) between seams. Provide bound edges or provide and install top trim piece as may be specified on plans. RE: Section 12.3, Carpet
12.2.6	<b>Ceramic Tile or Natural Stone Base</b> RE: Section 12.5, Ceramic Tile or Natural Stone
12.3	<b>Carpet</b> RE: Project Finish and Partition Plans
12.3.1	<b>General</b> Carpet installation workmanship shall comply with the manufacturer's guidelines and the most recent edition of the American Carpet Institute. Work shall be accomplished by qualified mechanics, trained and certified for installation by the specified carpet manufacturer.  Sub-surfaces shall be prepared by the Contractor as required and in conformance with the specified carpet manufacturer's recommendations.
12.3.2	<b>Contractor Carpet Installation Submittal</b> The Contractor or his Carpet Installer shall prepare and submit a carpet seaming diagram and material samples to the Architect for review and approval by the Project Party contracting with the Contractor for Project work, <b>PRIOR</b> to ordering.  Failure to submit a seaming diagram and failure to follow the approved seaming diagram may result in rejection of work.
12.3.3	<b>Glue Down Carpet Installation (Broadloom)</b> Carpet installation shall be glue down application, unless noted otherwise.  For satisfactory performance, substrate surfaces must be smooth and flat, with a maximum variation of 1/2" (inch) in 10' (feet). Contractor shall remove sub floor ridges and bumps, then fill low spots, cracks, joints, holes and other defects with sub floor filler to achieve required smoothness.  Lay out rolls of carpet to ensure minimal variation between dye lots before cutting. Double carpet to allow intended seam and pattern match. Make cuts straight, true and unfrayed. Lay carpet on floors with run of pile in same direction as anticipated traffic. Do not change run of pile in any room where carpet is continuous through a wall opening into another room. Unless noted otherwise, locate change of color or pattern between rooms under door centerline.  Locate carpet seams in area of least traffic. At door openings, center on door. Fit seams straight, not crowded or peaked, and free of gaps. Cut and fit carpet around interruptions. Fit carpet tight to intersection with vertical surfaces <b>WITHOUT GAPS</b> .  Remove excess adhesive from floor, base and wall surfaces without damage. Clean and vacuum carpet surfaces, and prohibit traffic from carpet areas for 24 hours after installation.  Provide and install <b>ANSI</b> compliant resilient or metal transition strips as noted between carpeted and hard surface floor treatments.

12.0	<b>INTERIOR FINISHES (continued)</b>
12.4	<b>Carpet and Vinyl Tile Flooring</b> RE: Project Finish and Partition Plans
12.4.1	<b>General</b> Vinyl tile subsurface preparation, installation materials and workmanship shall comply with the manufacturer's guidelines and recommendations. Work shall be accomplished by qualified mechanics, trained and certified for installation for the specified carpet or vinyl tile.  <b>Contractor Vinyl Tile Installation Submittal</b> The Contractor or his Flooring Installer shall prepare and submit an installation diagram and material samples for approval by the Project Party contracting with the Contractor for Project work, <b>PRIOR</b> to ordering, for other than single color carpet or vinyl tile installations. Failure to submit an installation diagram and failure to follow the approved installation diagram may result in rejection of work.
12.5	<b>Carpet, Luxury Vinyl Tile (LVT) and Vinyl Tile Installation</b> RE: Project Finish and Partition Plans.  Subsurface floors must be smooth, sound, firm and free from springiness. Tile will follow contour of the sub floor consequently,all irregularities must be removed.  Concrete sub-floor shall be smooth, cleaned and free of all floor coverings, other surface treatments or any irregularities. Any paint or foreign materials shall be removed from floors in direct contact with the ground. The sub-floor shall be subject to the approval of the flooring contractor before application starts.  Unless otherwise noted, lay tile flooring from center marks established with principal walls and perpendicular to the principal walls as shown on the floor plan adjusted as required to avoid use of cut units less than 1/2 - tile wide at perimeters. Match tiles for color and pattern by using in manufactured and packaged sequence. Except as otherwise noted, install tile in a quarter turn pattern.  Extend the work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at edges and corners of obstructions without disruption of pattern or joint alignment.
12.6	<b>Resilient Vinyl and Linoleum Sheet Flooring</b> RE: Project Finish and Partition Plans.
12.6.1	<b>General</b> Vinyl and Linoleum Sheet Flooring subsurface preparation, installation materials, workmanship and environmental conditions shall comply with the manufacturer's guidelines recommendations. Work shall be accomplished by qualified mechanics, trained and certified for installation for the specified resilient vinyl or linoleum sheet flooring.  <b>Contractor Vinyl and Linoleum Sheet Flooring Submittal</b> The Contractor or his Flooring Installer shall prepare and submit a seaming installation diagram and material samples, including coved base detail and profile as may be required, product components and accessories, for approval by the Project Party contracting with the Contractor for Project work, <b>PRIOR</b> to ordering.  Failure to submit an installation diagram and/or failure to follow the approved installation diagram may result in rejection of work.
12.6.3	<b>Installation</b> Subsurface floors must be smooth, sound, firm and free from springiness. Vinyl Sheet Flooring will follow contour of the sub-floor consequently, all irregularities must be removed.  Concrete sub floors shall be smooth, cleaned and free of all floor coverings, other surface treatments or any irregularities. Any paint or foreign materials shall be removed from floors in direct contact with the ground. The sub floor shall be subject to the approval of the flooring contractor before application starts.  Over cut vinyl or linoleum sheet from rolls as recommended by manufacturer for the specified application, layout and position sheet so that any seams fall at least 6" from underlayment joints or saw cuts in the concrete substrate, apply adhesive after proper set up time and roll with sheet flooring as required by the manufacturer.  Except as otherwise noted for integral coved base; scribe, cut, and fit to vertical surfaces. Scribe, cut, and fit sheet vinyl and linoleum flooring to all permanent vertical surfaces, permanent or built-in fixtures, including pipes, outlets, edgings, thresholds, nosings and transitions strips. Extend flooring into toe space, door reveals, closets and similar openings. Do not install sheet flooring over expansion joints, use manufacturer's recommended expansion joint covers.
12.7	<b>Ceramic, Porcelain and Natural Stone Wall, Floor and Millwork Finishes</b> RE: Project Finish and Partition Plans.
12.7.1	<b>General</b> Prepare sub-floor, wall and millwork surfaces as required in accordance with the product manufacturer's recommendations and industry standards.  Work shall be accomplished by qualified mechanics, trained and certified for installation for the specified ceramic or natural stone product.  Furnish materials obtained from one source for each type and color of ceramic tile to minimize variations in appearance and quality.  Contractor to provide and install crack isolation membrane below all tile work as required. For slab-on-grade floors on expansive soils, tile and natural stone floor finishes shall be installed independent of the floor slab with isolation joints over all concrete floor slab control and expansion joints, strictly as recommended by the product manufacturer.
12.7.2	<b>Contractor Ceramic, Porcelain and Natural Stone Installation Submittal</b>  The Contractor or his Flooring Installer shall prepare and submit an installation diagram and material samples to the Architect for review and approval by the Project Party contracting with the Contractor for Project work.  Failure to submit an installation diagram and failure to follow the approved installation diagram may result in rejection of work.
12.7.3	<b>Installation</b> Installation shall conform to the standards detailed in the current edition of the Tile Council of America, Handbook for Ceramic Tile Installation. Except as noted otherwise, floor and wall tile installation shall be thin set. All wall tile shall be installed on water-resistant gypsum board or cementitious board per the product manufacturer's recommendations for the Project application.  Installer shall examine substrate and conditions under which the tile is to be installed, and notify Architect of any potential problems affecting the installation. No work shall proceed until all unsatisfactory conditions have been corrected.  Provide and install all accessory ceramic tile items as required by project circumstances (cove base, corners, bull nose trim,etc.) in same material, size and finish as primary tiles specified by Architect.
12.7.4	<b>Concrete Stain</b> Minimum of two coats, VOC 50g/L or less.

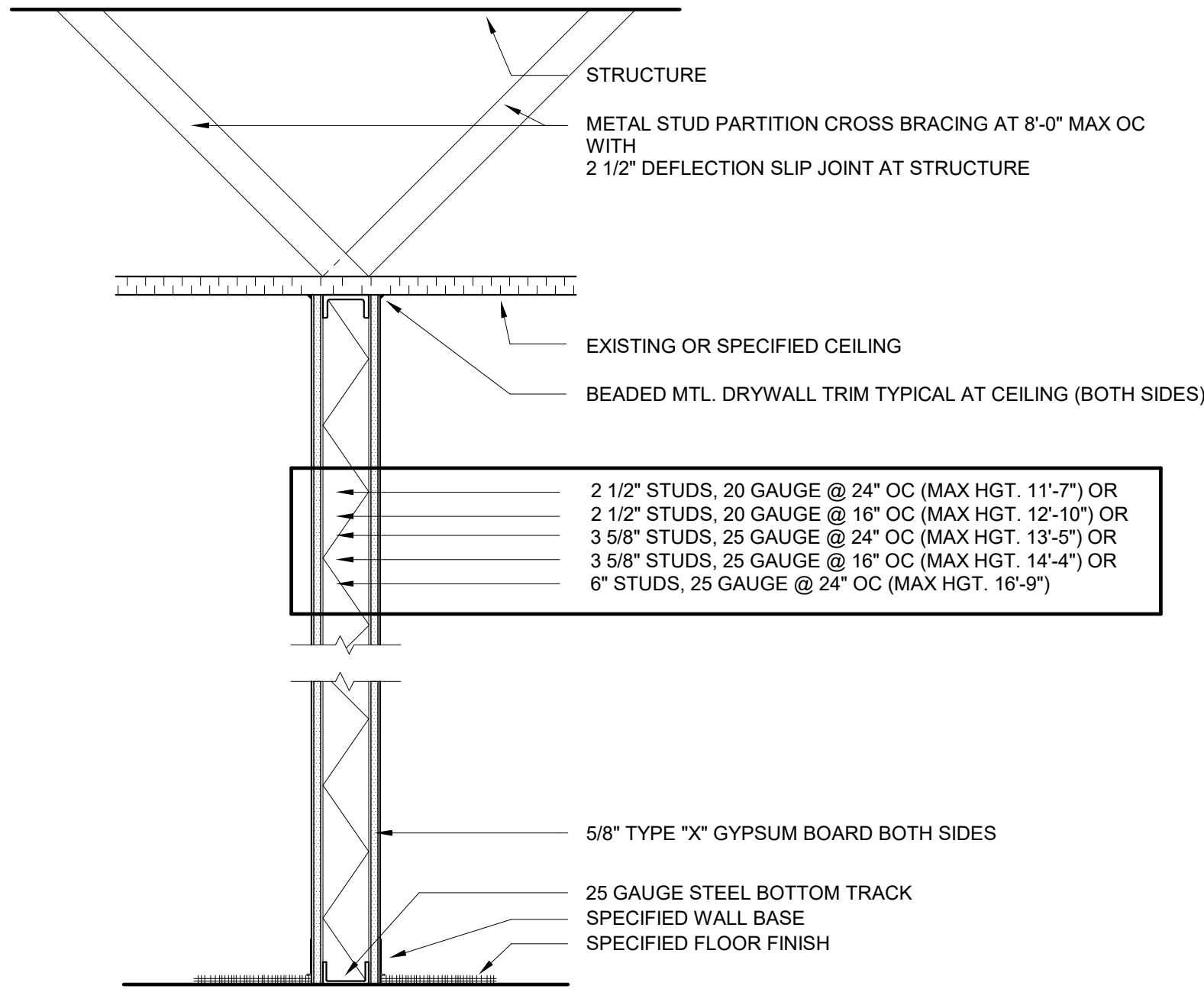
12.0	<b>INTERIOR FINISHES (continued)</b>
12.7	<b>Ceramic, Porcelain and Natural Stone Wall, Floor and Millwork Finishes</b>
12.7.3	<b>Installation (continued)</b> Unless otherwise shown, lay tile in grid pattern and cut end tiles as required to center installation on each direction of walls and floors. Provide uniform joint widths throughout as approved by the Project Party contracting with the Contractor for Project work. Align joints of adjacent tiles between floor, base, walls and trim as possible.  Extend the work into recesses and under equipment and fixtures to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at edges and corners of obstructions without disruption of pattern or joint alignment. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Grind cut edges of tile abutting trim, built-in items, and other finishes for straight aligned joints. Fit tile closely to electrical outlets, piping or fixtures, so that plates, collars or covers overlap tile.  Provide and install control or expansion joints as required over control or expansion joints in concrete floor slab.
12.7.4	<b>Sealing</b> Provide and apply an even coat of sealer (if required) over stone or ceramic tiles per manufacturer's directions. Contractor shall seal the grout on all natural stone and ceramic tile installations in strict accordance with the grout manufacturer's recommendations.  Unglazed ceramic tile and natural stone shall be sealed as recommended by the product manufacturer.
12.8	<b>Painting</b> RE: Project Finish and Partition Plans.
12.8.1	<b>General</b> All painting shall be performed as recommended by the paint manufacturer, as a minimum standard. All painting work, including surface preparation shall be accomplished by qualified personnel, trained and experienced in the specified coatings and method of application.
12.8.2	<b>Contractor Submittal</b> <b>PRIOR</b> to ordering the specified products, the Contractor shall submit samples of the specified paint to the Architect for review and approval by the Project Party contracting with the Contractor for Project work. Samples of each specified drywall paint shall be provided in 8-1/2" x 11" sample format.  Paint samples for special applications shall be submitted in a format as directed by the Architect. Except as otherwise noted or directed, paint shall be applied to the sample in the proper sequence, using the same system as required under these General Notes.
12.8.3	<b>Material Application</b> The Contractor shall be responsible for field inspection of all surfaces to receive paint treatment and preparation of all surfaces to receive paint as required to ensure that such surfaces are acceptable for the finish application.  Application for all painted surfaces of new partitions shall be not less than three (3) coat system using the complete paint system (sealer, primer, finish coat, etc.). Existing painted surfaces shall be properly cleaned and prepared, then painted with a two (2) coat system (primer, finish coat) to match and blend with new partitions.
12.8.4	<b>Surface Preparation</b> All roughness or other irregularities that may appear after priming shall be thoroughly sanded out or otherwise corrected to provide a smooth, even surface for painting and finishing. Finished application and wall appearance shall be free of surface and color irregularities.
12.8.5	<b>Nonmetallic Surfaces</b> Paint shall <b>ONLY</b> be roller applied to Nonmetallic surfaces, using short nap (3/8" or less), lint free roller covers, unless noted otherwise. Brush painted Nonmetallic surfaces shall be rejected.  Drywall paint, unless noted otherwise, shall be acrylic latex, low sheen finish (other than flat) not readily susceptible to burnishing under normal office and commercial wear.  All transitions between accent and base paint must be visibly straight and without irregularity.
12.8.6	<b>Metallic Surfaces</b> Paint shall <b>ONLY</b> be a spray application or electrostatically applied. Brush or roller application to metallic surfaces shall be rejected.
12.8.7	<b>Concrete Surfaces</b> Only such paint or concrete coats/sealers specifically manufactured for application to concrete surfaces shall be permitted.  Concrete surfaces shall be thoroughly prepared and cleaned to assure a durable application without irregularities in the paint or covering application. Except as otherwise noted, approved concrete paint or sealers shall <b>ONLY</b> be roller applied as recommended by the coating manufacturer.
12.9	<b>Wallcoverings</b> RE: Project Finish and Partition Plans.
12.9.1	<b>General</b> All wallcoverings shall be installed in strict accordance with the material manufacturer's and industry standard guidelines and recommendations. All wallcovering work, including surface preparation shall be accomplished by qualified personnel, trained and experienced in the specified materials and method of application.
12.9.2	<b>Contractor Submittal</b> <b>PRIOR</b> to ordering any of the specified materials, the Contractor shall submit a sample of the specified wallcovering (s) to the Architect for review and approval by the Project Party contracting with the Contractor for Project work. The sample size shall be as required by the Architect for approval purposes.
12.9.3	<b>Material Application</b> The Contractor shall be responsible for field inspection of the surfaces to receive wallcoverings and preparation of all surfaces to receive wallcovering, as required to ensure that such surfaces are acceptable for the finish application.  All roughness or other irregularities shall be thoroughly sanded out or otherwise corrected to provide a smooth, even surface for application of the specified wallcovering. Finished application shall be tightly and evenly bonded to the subsurface and wall appearance shall be free of any air bubbles or subsurface irregularities.  Lay out rolls of wallcovering to ensure minimal variation between dye lots before cutting. Double cut wall covering to allow intended seam and pattern match. Make cuts straight, true and unfrayed. NO wallcovering seam or finish gaps or irregularities will be accepted.  Unless otherwise noted, wallcovering shall <b>NOT</b> cover switch and outlet cover plates. Contractor shall remove such switch and outlet cover plates prior to the wallcovering application to ensure that there is no wall subsurface visible between the wallcovering and the cover plate.  Remove all excess adhesive and clean as required and recommended by the product manufacturer.
<b>(End of Specifications and General Notes)</b>	



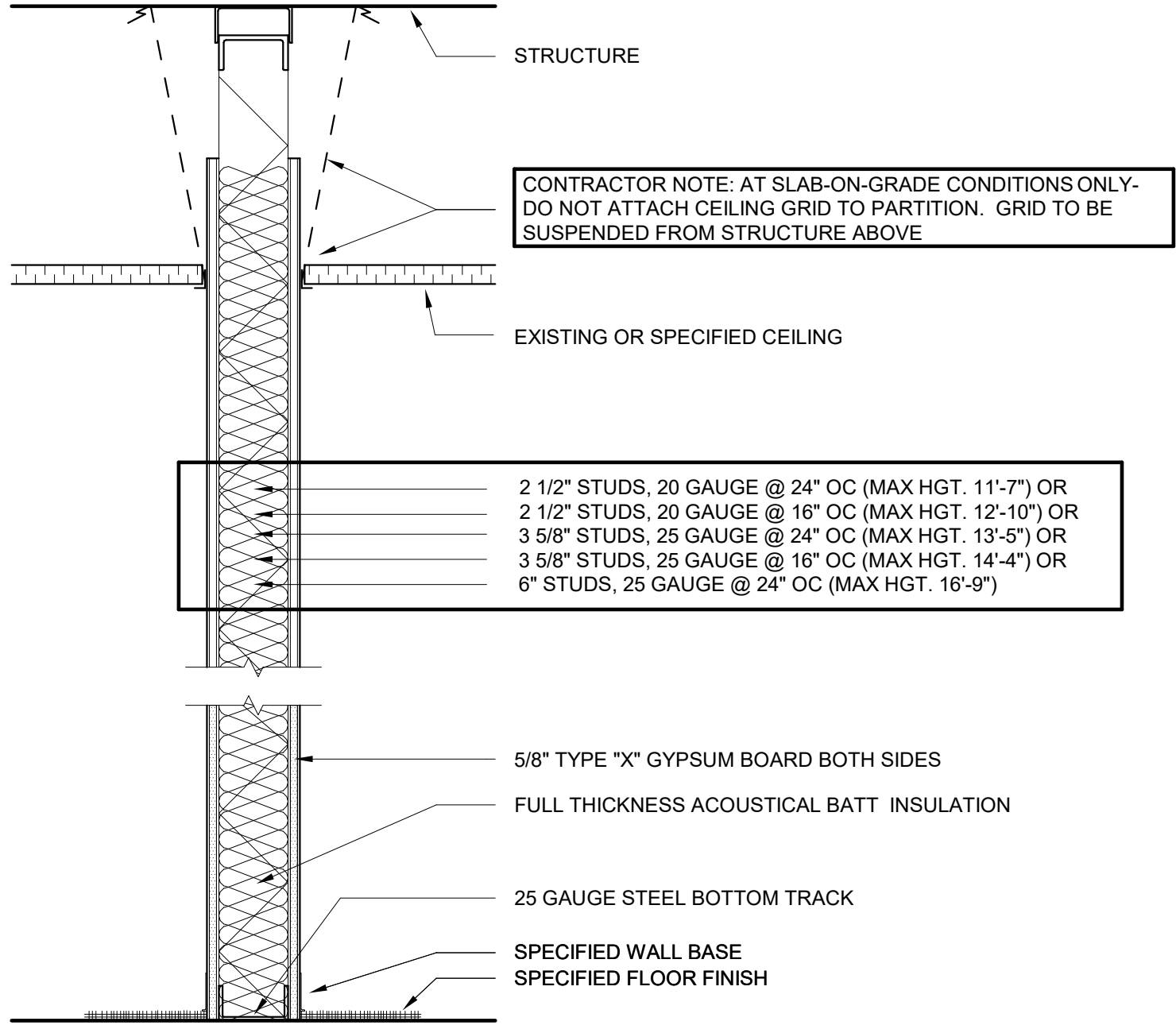
4725 South Monaco Street | Suite 225  
Denver, Colorado 80237  
303.399.9100

Contact - Kim Hoff  
Contact - Ahyoung Lee

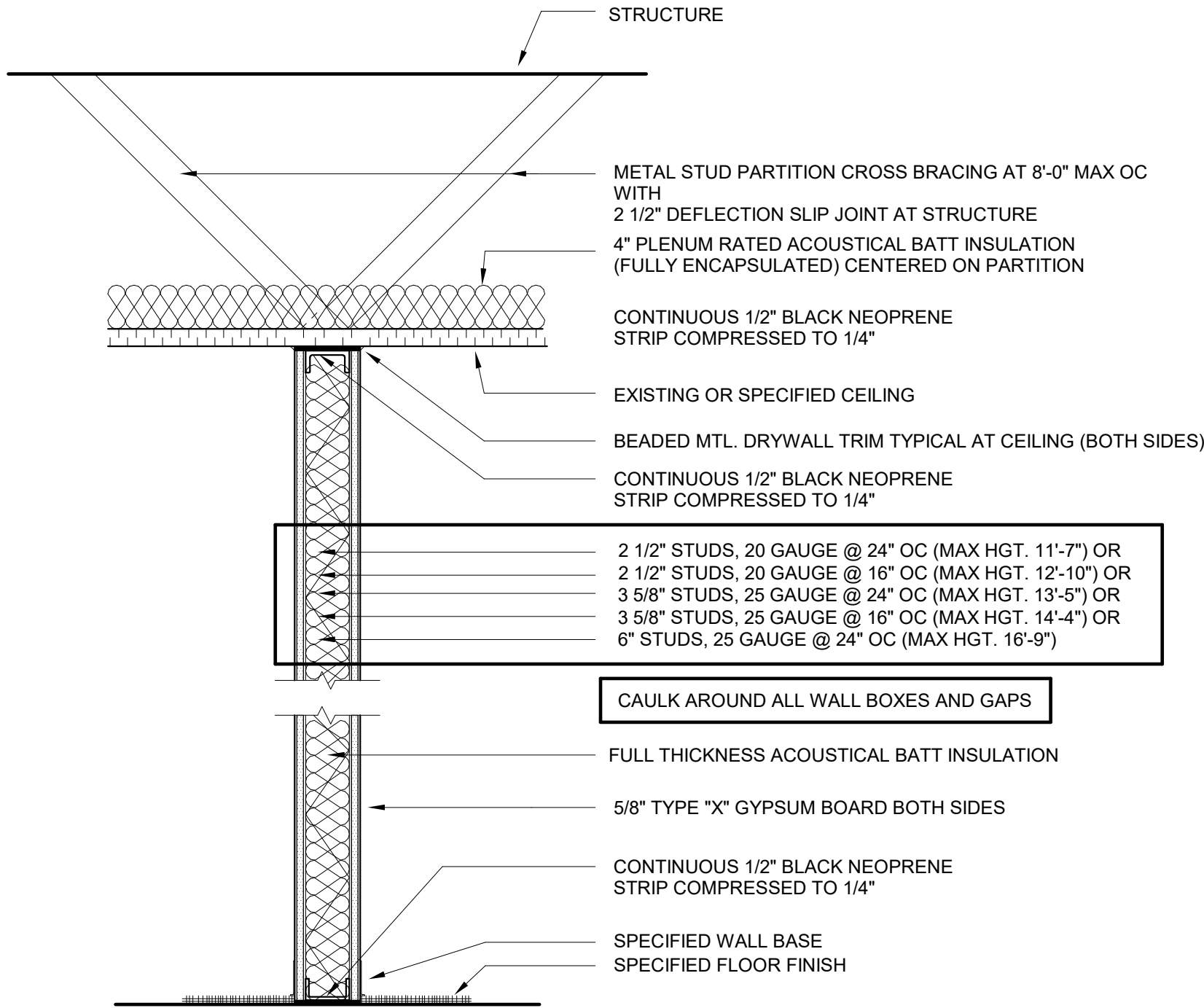




Wall Detail-Building Standard Interior  
Tenant Partition  
1 1/2" = 1'-0"



Wall Detail-Building Standard Non-Rated  
Public Corridor Partition  
1 1/2" = 1'-0"



Wall Detail-Acoustical Partititon - To Ceiling  
1 1/2" = 1'-0"

#### Stud Size, Gauge, Spacing, Max. Height Schedule

Height Limitations for Non-Bearing Walls (L/240 allowable deflection, minimum 1/2" gypsum board on each side. See also P. 77 of USG gypsum handbook.

1 5/8" Studs @ 24" O.C.	1 5/8" Studs @ 16" O.C.
Gauge Max. Hgt.	Gauge Max. Hgt.
25 Ga. 7'-11"	25 Ga. 8'-4"
20 Ga. 8'-9"	20 Ga. 9'-8"
18 Ga. 1'-11"	

2 1/2" Studs @ 24" O.C.	2 1/2" Studs @ 16" O.C.
Gauge Max. Hgt.	Gauge Max. Hgt.
25 Ga. 10'-7"	25 Ga. 11'-3"
20 Ga. 11'-7"	20 Ga. 12'-10"
18 Ga. 11'-11"	
16 Ga. 12'-9"	
14 Ga. 13'-6"	

3 5/8" Studs @ 24" O.C.	3 5/8" Studs @ 16" O.C.
Gauge Max. Hgt.	Gauge Max. Hgt.
25 Ga. 13'-5"	25 Ga. 14'-4"
20 Ga. 14'-9"	20 Ga. 16'-5"
18 Ga. 15'-10"	
16 Ga. 16'-11"	
14 Ga. 18'-2"	

4" Studs @ 24" O.C.	4" Studs @ 16" O.C.
Gauge Max. Hgt.	Gauge Max. Hgt.
25 Ga. 14'-2"	25 Ga. 15'-4"
20 Ga. 15'-9"	20 Ga. 18'-4"
18 Ga. 17'-2"	
16 Ga. 18'-4"	
14 Ga. 19'-6"	

6" Studs @ 24" O.C.	6" Studs @ 16" O.C.
Gauge Max. Hgt.	Gauge Max. Hgt.
25 Ga. 16'-9"	25 Ga. 19'-9"
20 Ga. 21'-7"	20 Ga. 24'-6"
18 Ga. 24'-0"	
16 Ga. 26'-0"	
14 Ga. 28'-0"	

General Contractor shall field verify all ceiling, deck and structural heights from slab prior to providing cost estimates for the project. For projects with existing partitions, the General Contractor shall verify wall thicknesses, and match, unless the thickness does not comply with height schedules per USG gypsum handbook, most current edition.  
Notify Architect of any heights in the field not listed in the USG gypsum handbook, so that a licensed Structural Engineer can provide the proper specifications PRIOR to project bids or installation.

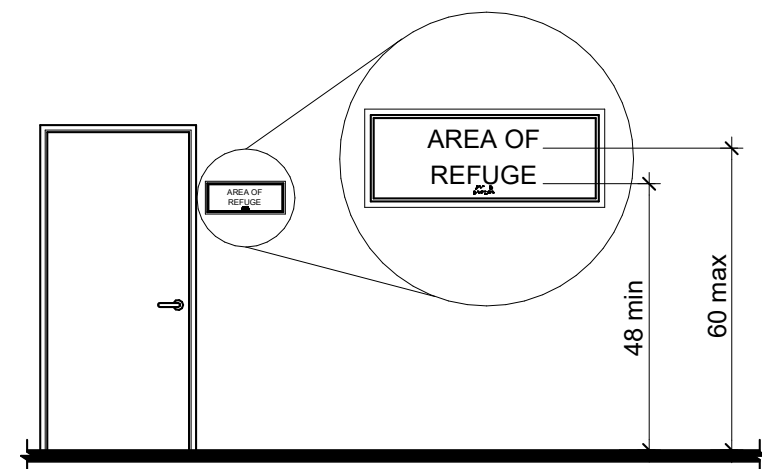


Figure 703.3.10  
Height of Raised Characters Above Floor

ANSI-Signage Information and Mounting Location  
1/4" = 1'-0"

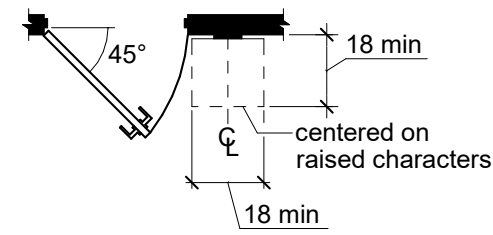


Figure 703.3.11  
Location of Signs at Doors

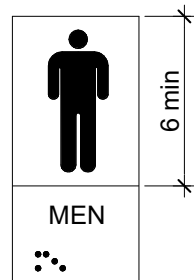


Figure 703.5  
Pictogram Field

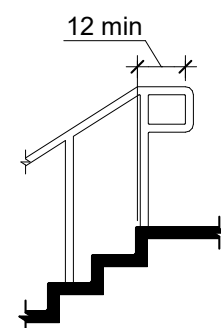


Figure 505.10.2  
Top Handrail Extensions at Stairs

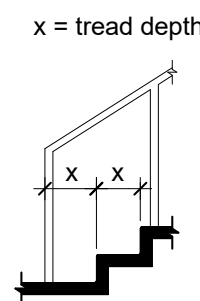


Figure 505.10.3  
Bottom Handrail Extensions at Stairs

ANSI-Handrail Extensions  
1/4" = 1'-0"

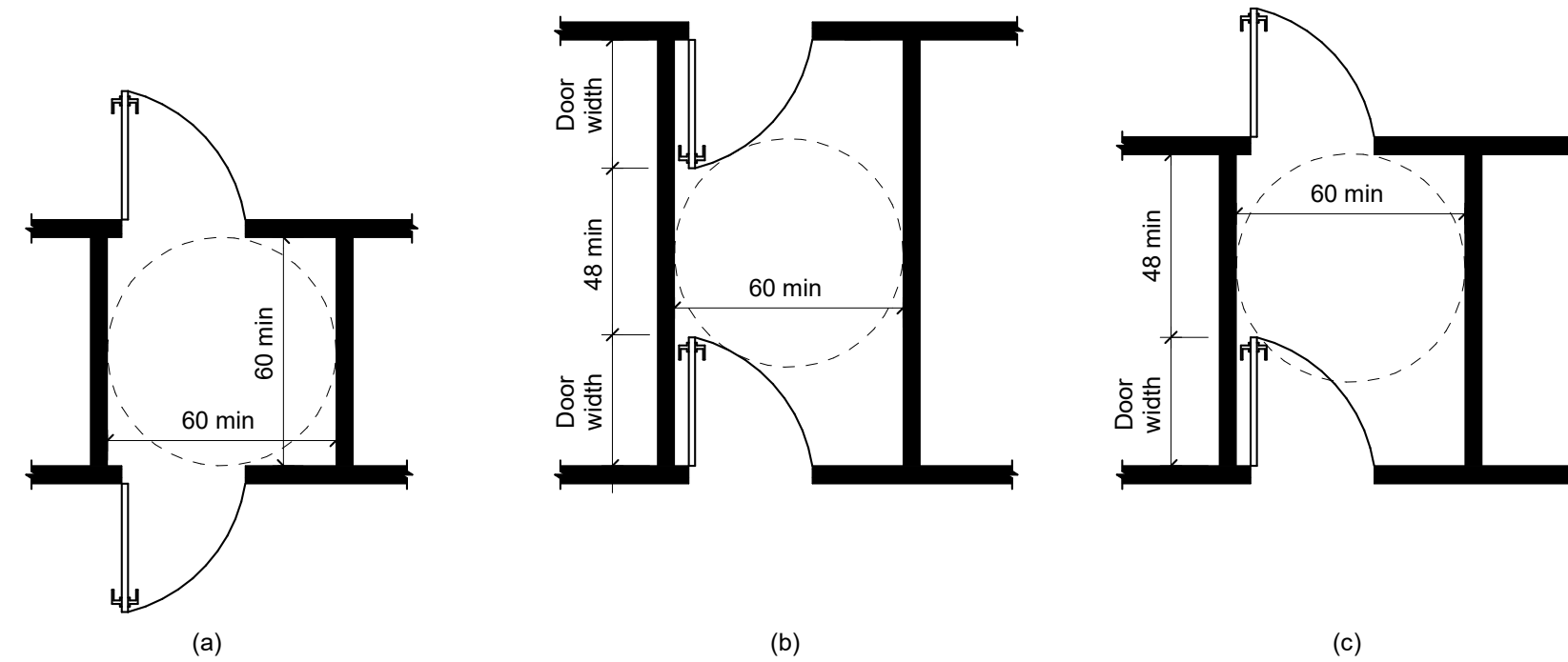


Figure 402.2.5  
Two Doors in a Series

ANSI-Maneuvering Space at Doors in a Series  
1/4" = 1'-0"

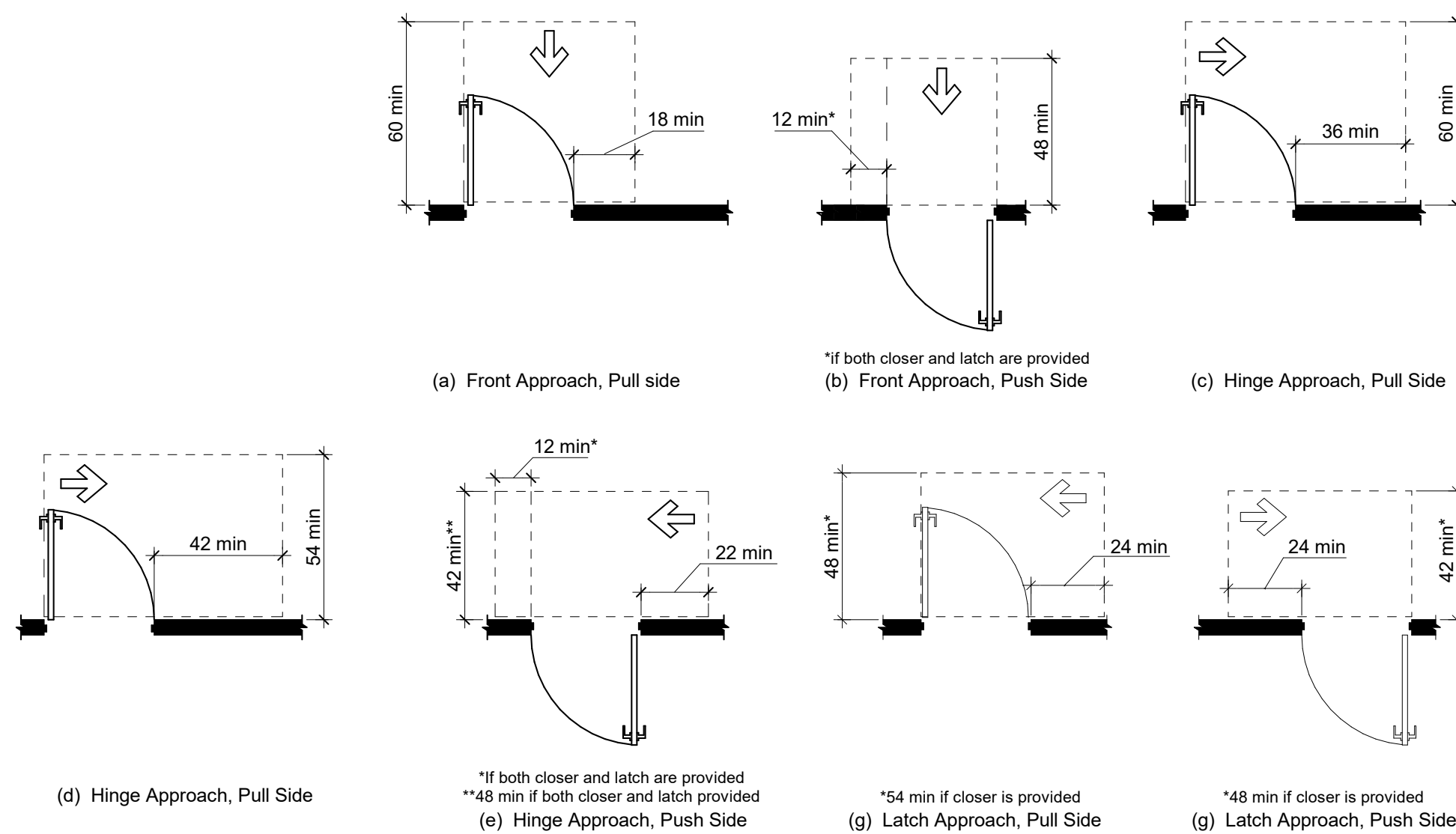


Figure 404.2.3.2  
Maneuvering Clearance at Manual Swinging Doors

ANSI-Maneuvering Space at Doors  
1/4" = 1'-0"

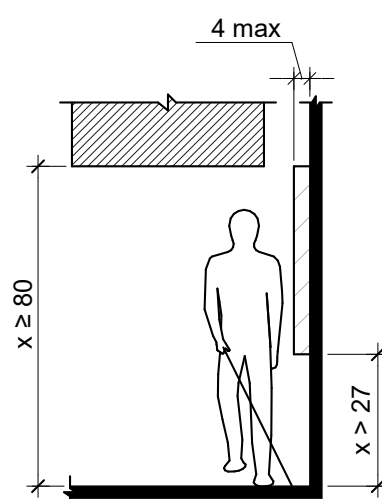


Figure 307.2  
Limits of Protruding Objects

ANSI-Protruding Objects  
1/4" = 1'-0"

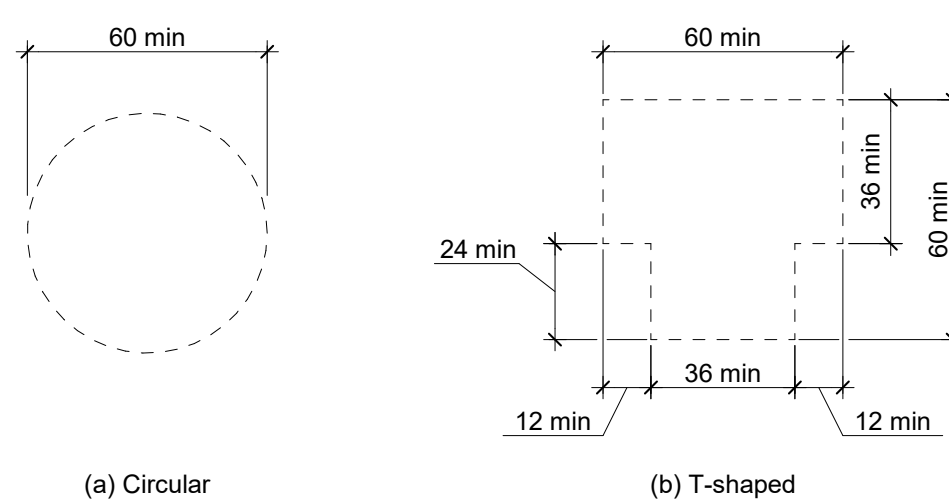


Figure 304.3  
Size of Turning Space

ANSI-Turning Space Configuration  
1/4" = 1'-0"

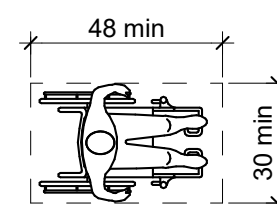


Figure 305.3  
Size of Clear Floor Space

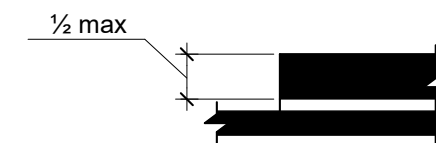


Figure 302.2  
Carpet on Floor Surfaces

ANSI-Changes in Floor Level  
1/4" = 1'-0"

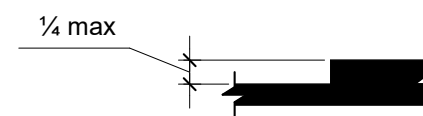


Figure 303.2  
Vertical Changes in Level

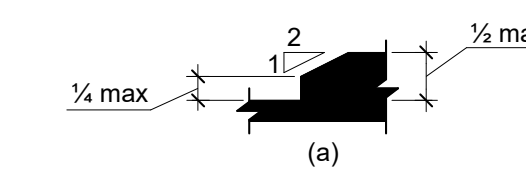


Figure 303.3  
Beveled Changes in Level

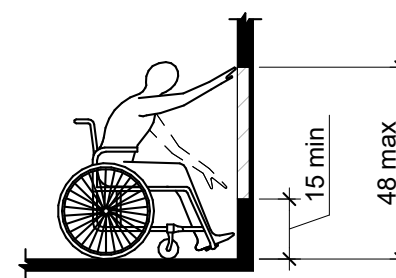


Figure 308.2.1  
Unobstructed Forward Reach

ANSI-Reach Ranges  
1/4" = 1'-0"

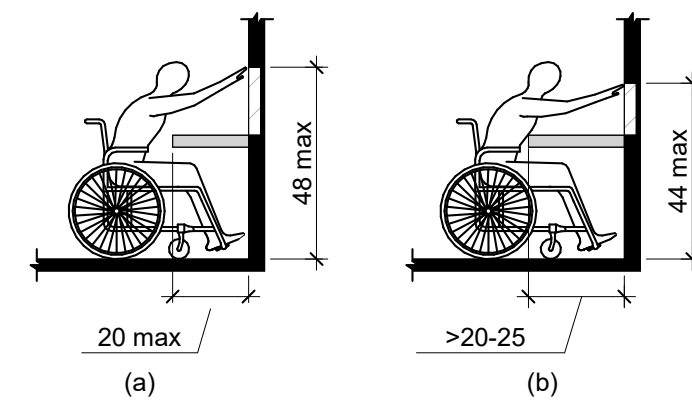


Figure 308.2.2  
Obstructed High Forward Reach

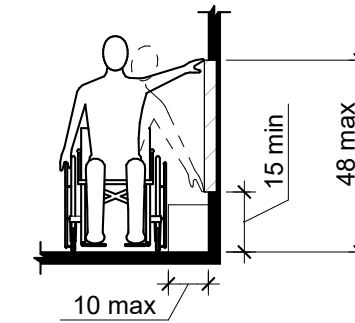


Figure 308.3.1  
Unobstructed Side Reach

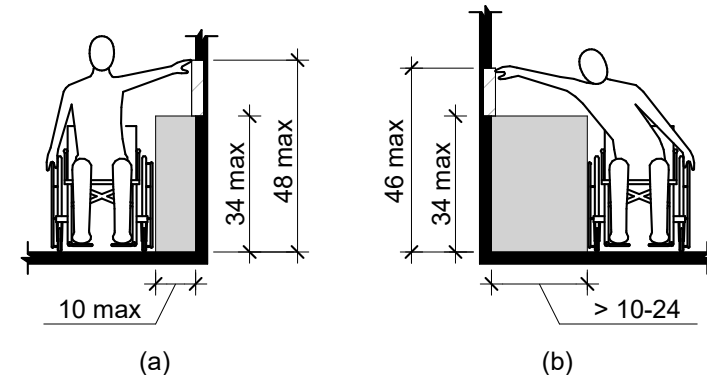
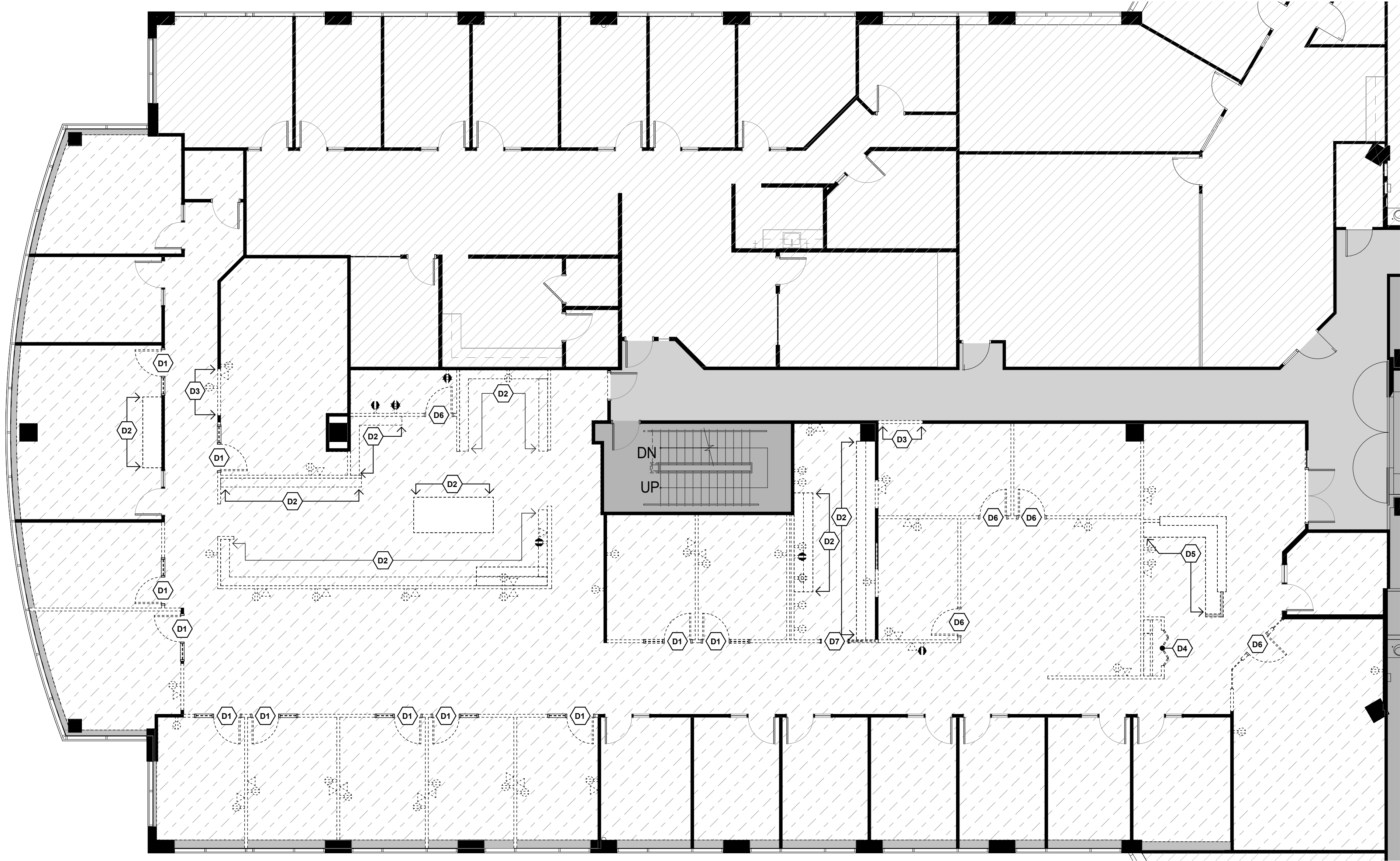


Figure 308.3.2  
Obstructed High Side Reach





BRIGHTLAND  
Demolition Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"  
NORTH

DEMOLITION PLAN  
GENERAL NOTES

Purpose:

The purpose of this Plan is to generally describe the scope of the proposed work, including the performance and level of quality expected.

Contractor Pre-Demolition  
Field Verification:

The Contractor shall be responsible for field verifying all existing conditions, Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall verify all existing conditions at the job site prior to the start of demolition. Call any discrepancies to the attention of the Architect, to be resolved before proceeding with work.  
**DO NOT SCALE THE DRAWINGS.**

Hazardous Materials:

The Contractor is to examine the existing conditions for the existence of hazardous materials. If hazardous materials are found, the Building Owner should be contacted and the hazardous materials are to be removed. All removal work shall be in compliance with local, state and federal laws for the removal of asbestos.

No materials containing any amount of asbestos are to be used in the performance of the Work, including but not limited to asbestosiform fiber/structure varieties of chrysotile, amosite (cummintonite-grunerite), crocidolite, anthophyllite, tremolite, and actinolite and/or "magnesium silicates" as identified in the product manufacturer's Material Safety Data Sheets.

Prior to commencement of any demolition work, including floor covering removal, the General Contractor shall obtain from Owner or Owner's designated state-certified asbestos inspector a statement to the effect that the inspector has determined that demolition of the space will not disturb building materials that contain asbestos, as defined by the U.S. Environmental Protection Agency, the U.S. Occupational Safety and Health Administration, and the State Health Department.

Upon completion of the work and prior to a request for final payment, the General Contractor shall provide a signed affidavit stating that no asbestos has been introduced into the building by the General Contractor, its subs or suppliers during the performance of the Work.

Material Salvage:

Remove all walls, millwork, plumbing fixtures, door and frame assemblies and glazing noted by dashed lines. All other items indicated are to remain, unless noted other. As determined by the Building Owner and Contractor, salvage all door and frame assemblies, millwork, glazing and plumbing fixtures that are determined to be reusable and dispose of all others. Cap all unused plumbing lines below the floor slab. Patch and repair slab as required to receive new floor finishes.

DEMOLITION PLAN  
GENERAL NOTES (cont'd)

Protection of Real Property  
Improvements:

Provide protective measures as required to protect existing improvements and to provide free unobstructed and safe passage of Owner's personnel and general public to and from occupied portions of the building. Maintain and protect all areas, outside the designated work areas from soiling and debris.

Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.

The Contractor shall repair any damage to the facility caused by the demolition activities or by his Subcontractors at no cost to the Owner.

Architectural Demolition:

Architectural elements shall be removed back to structure, or if such removal is impractical according to Building Owner, then elements shall be removed to such an extent that patching and/or new work will conceal part of the element to remain.

Electrical / Mechanical  
Demolition:

Remove electrical and mechanical elements present in wall and/or structures noted for demolition unless serving other portions of the building. Coordinate all work with Building Chief Engineer and notify Architect of such conditions.

Electrical and mechanical elements shall be removed back to the nearest junction box, panel, pipe, duct, etc. to ensure no conflict with new work. Coordinate all work with Building Chief Engineer. Elements shall be shut off, disconnected or capped.

Clean Up / Finish Work:

Patch and prepare all disrupted walls and remaining ceilings as required for suitable for receiving finish after demolition.

Upon completion of demolition work, remove tools, equipment and demolished materials from site. Leave interior areas broom clean.

Removal of trash and demolition material shall occur daily.

The existing building will remain in partial occupancy with areas made available for demolition and remodeling work in accordance with a mutually agreed upon schedule between Contractor and Owner. Disruptive or potentially hazardous construction activities shall be coordinated to occur after normal business hours, so as to minimize disturbance to Building Occupants.

DEMOLITION PLAN  
TENANT IMPROVEMENT NOTES

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and Demolition Plan General Notes, only. The Contractor shall be responsible for pricing any materials and work required and related to the various Keyed Notes.

Demolition Plan General Notes:

1. All existing electrical, telephone and data devices indicated on demolition plan are to be removed back to source.
2. Where existing flooring is to be removed, Demolition Contractor to remove any existing adhesive (ridges from broadloom, ceramic tile, carpet tile, LVT, etc) to a smooth slab condition, ready for new finishes.
3. Remove all existing suite finishes, carpet, wall base, wallcovering, VCT, etc. Prepare all surfaces as required to receive new finishes.
4. Where PVC backed carpets were installed and removed, seal all existing adhesives to prevent Plasticizer Migration.
5. Where flooring, wall base and wall coverings are removed, the remaining substrates should be patched, repaired or replaced to receive new wall finishes. The existing floor slab shall be free of all nails, screws and other protruding objects and prepared to receive new flooring finishes.
6. Repair, refurbish, or replace damaged blinds as required by Building Owner to provide a Building Standard appearance, or where new partition placement requires re-sizing of blinds.
7. Repair wall scars where existing wall was removed. Prepare surface as required for new finishes.

Demolition Plan Keyed Notes:

- D1**  
Remove existing door and frame assembly with sidelight as indicated by dashed lines. Relocate as possible to new location.
- D2**  
Remove existing millwork as indicated by dashed lines. Do not salvage. Patch and repair wall scars at area of demolition, smooth for new finish.
- D3**  
Remove portion of existing wall as indicated to accommodate new door and frame assembly. Coordinate with new work.
- D4**  
Remove existing bi-fold doors and hardware and verify disposition with Property Manager.
- D5**  
Remove built-in reception desk and supports. Do not salvage.
- D6**  
Remove existing door and frame assembly. Relocate as possible to new location or verify disposition with property manager.
- D7**  
Remove pocket door, do not salvage.

DEMOLITION PLAN LEGEND

Reference Keyed Notes and General Notes this sheet for any special functions or requirements.



Indicates existing outlets and all related cabling as required by Tenant to be removed.



Indicates existing power pole and all related services to be removed back to breaker box.



Indicates existing wall, floor or ceiling mounted junction box and all related cabling as required by Tenant to be removed.



Indicates existing blank plate and all related cabling as required by Tenant to be removed.



Indicates existing outlets and all related services to be removed back to breaker box.



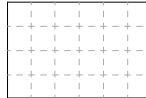
Indicates existing power pole and all related services to be removed back to breaker box.



Indicates existing switch plate and all related cabling as required by Tenant to be removed.



Indicates existing flooring to be removed.

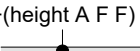


Indicates existing tile flooring to be removed.

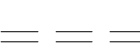
PARTITION SCHEDULE



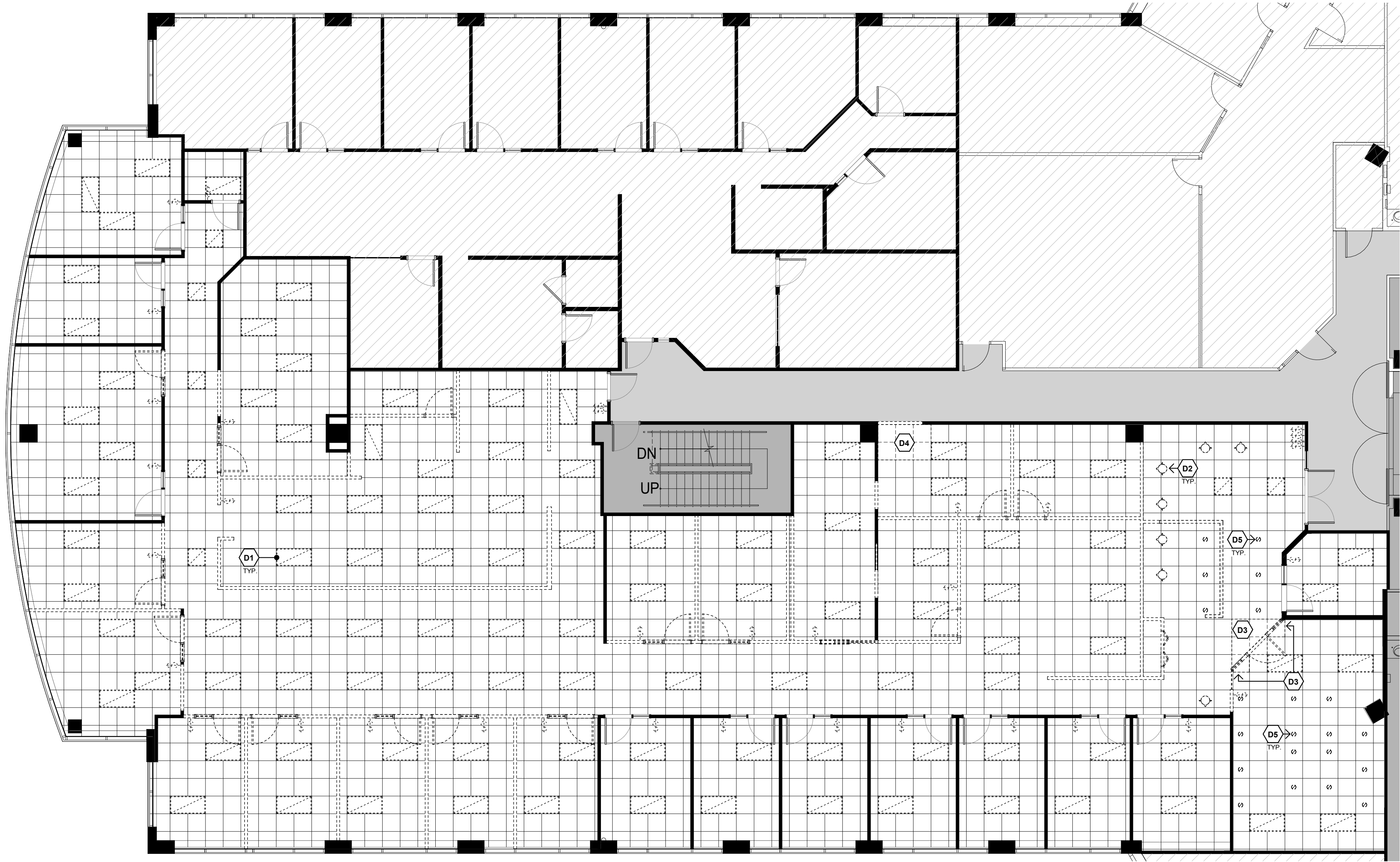
Base building shell and core construction / existing partition to remain.



Partial height partition  
Re: plan for partition height.



Existing walls to be removed.



BRIGHTLAND  
Reflected Ceiling Demolition Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"



REFLECTED CEILING PLAN LEGEND

	Building standard suspended acoustical grid ceiling, to remain.		Building standard 2'-0"x2'-0" light fixture.		Building standard single pole light switch.
	Area of grid and tile to be removed		Light fixture to be removed or relocated.		Building standard light switch w/ dimmer.
	Building standard 2'-0"x4'-0" light fixture.		Recessed downlight. RE: Electrical Engineering Plans.		Building standard three-way switch.
	Light fixture to be removed or relocated.		Recessed adjustable wallwasher. RE: Electrical Engineering Plans.		Building standard dual level light switch.
			Building standard single bulb porcelain light fixture.		Building standard motion sensor light switch.
			Building standard tube (4'-0" size shown)		Building standard light switch to be removed/relocated.
					Downlight to be removed/relocated.

PARTITION SCHEDULE

	Base building shell and core construction / existing partition to remain.
	Partial height partition Re: plan for partition height.
	Existing walls to be removed.

REFLECTED CEILING DEMOLITION PLAN GENERAL NOTES

Purpose:

The purpose of this Plan is to show the general location of ceiling treatments, light fixtures and any ceiling mounted electrical outlet, only.

Contractor shall reference Construction Documents prepared by the Project Engineers for all electrical specifications, circuiting and requirements for the Project, mechanical and life safety requirements and work.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing himself with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project, including materials and work required for life safety detection, alarm and communications and any required fire extinguishers and cabinets as required by local Code Officials.

The Contractor shall be responsible for field verifying the location of any existing conditions affecting the work shown and for familiarizing himself with both this plan and Construction Documents prepared by the Project Engineers. The Contractor shall advise the Architect of any discrepancies between this plan and the field conditions or Engineering Construction Documents prior to proceeding with the work in question.

REFLECTED CEILING DEMOLITION PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and General Notes, only. The Contractor shall be responsible for pricing, providing and installing all materials and work required and related to the various Keyed Notes.

The following Keyed Notes **DO NOT** represent the required engineering design.

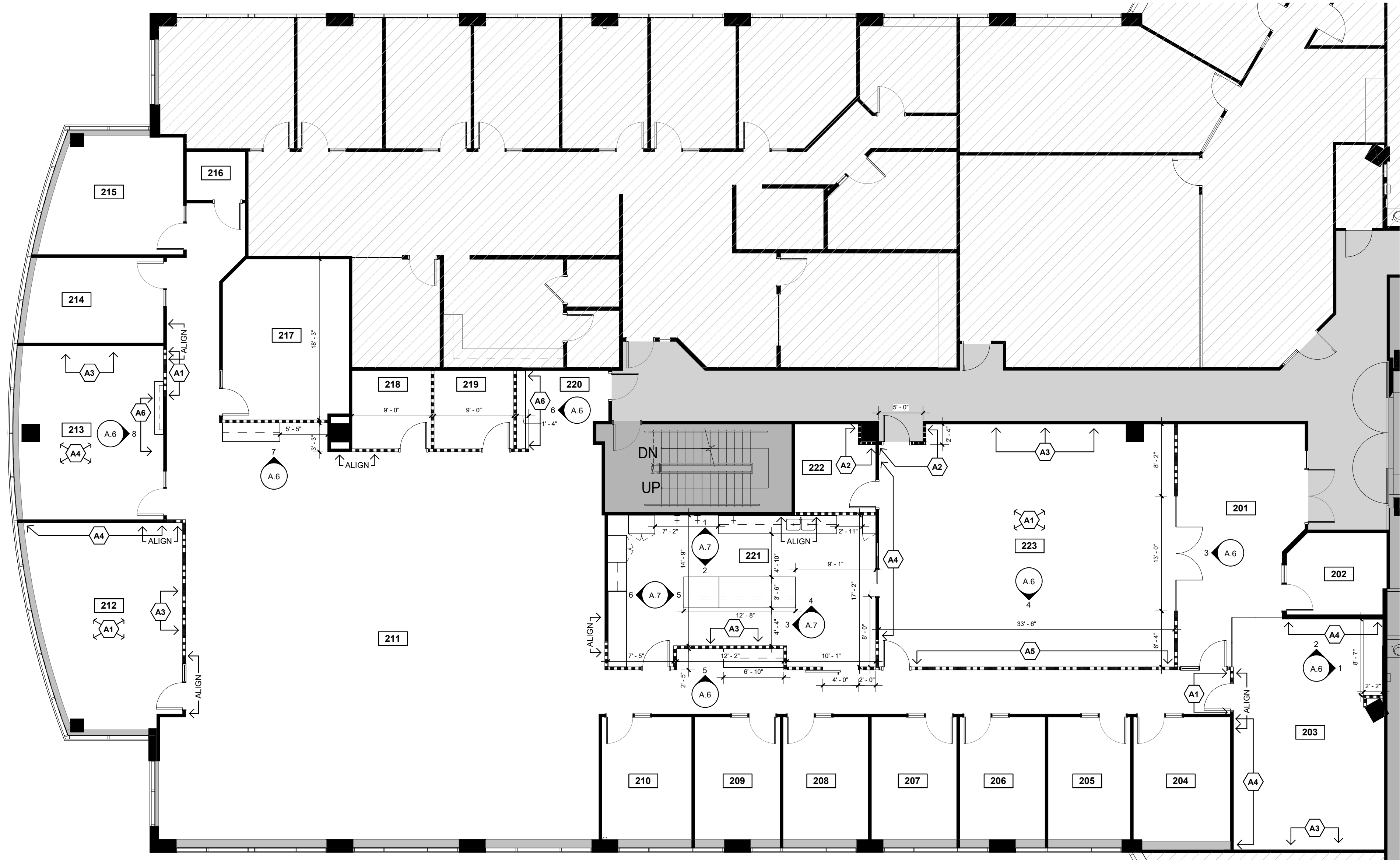
Demolition General Notes:

- Contractor to remove all debris, abandoned wiring, cabling and combustible materials in the plenum space above the ceiling.
- When ceiling grids are removed, General Contractor shall verify that any remaining elements, such as glazing, portions of drywall soffits and fascias, etc. are securely braced to the structure above prior to demolition of the ceiling grid.
- Existing suspended acoustical ceiling tile and ceiling grid will remain. Modify as required for new wall layout. Contractor to protect ceiling assembly during demolition.
- Where ceiling grid and ceiling tile and/or drywall ceilings are removed, provide contingency allowance to temporarily invert sprinkler heads throughout demolition area during construction.

Demolition Keyed Notes:

- D1**  
Remove existing light fixture in its entirety. Do not salvage.
- D2**  
Remove existing recessed wallwasher light fixtures in its entirety. Do not salvage.
- D3**  
Remove existing ceiling grid and ceiling tiles as indicated by dashed lines.
- D4**  
Remove portion of ceiling grid and ceiling tile at area of new recessed entry. Coordinate with new work.
- D5**  
Remove existing recessed downlight fixtures in its entirety. Verify disposition with Property Manager.





BRIGHTLAND  
Dimension Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0" 

**DIMENSION PLAN GENERAL NOTES**

**Purpose:**

The purpose of this Plan is to generally describe the proposed architectural layout and tenant improvements required for the Project in conjunction with the other Plans and Engineering Working Drawing.

**Contractor's Responsibilities:**

The Contractor shall be responsible for field verifying all existing conditions, Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project.

The Contractor shall protect all existing improvements to remain or to be reused, including, but not limited to exterior window coverings. All other materials are assumed to be new unless noted otherwise. Any other re-use of existing materials must be confirmed with Tenant and approved by Owner.

**Degree of Accuracy/Scaled Plan Dimensions:**

DO NOT SCALE PLANS. The drafted plan is based upon CAD data provided to us by others and field verified for general conformance of the plan to the space shown. Exhaustive measurements have not been made and the actual space may vary slightly from that shown in plan.

Unless noted otherwise, furniture and equipment are only generally representative of the size and configuration of the actual furniture and equipment. The Tenant shall be responsible for their vendors and installers verifying all critical dimensions and requirements necessary to assure such furniture and equipment fit and work to their satisfaction and for advising the architect of all such requirements affecting the Project plans.

**DIMENSION PLAN KEYED NOTES**

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and General Notes, only. The Contractor shall be responsible for pricing, providing and installing all materials and work required and related to the various Keyed Notes.

**Dimension Plan General Notes:**

1. All new walls to match existing drywall texture; verify in field.

**Dimension Plan Keyed Notes:**

**A1**  
Provide and install new Building Standard Acoustical Partition from floor to finished ceiling. Provide and install new acoustical batts within stud cavities and 4" wide sections fully encapsulated plenum rated sound batts above ceiling. RE: Wall Details on Sheet A0.5.

**A2**  
Provide and install new Building Standard Public Corridor Partition with acoustical batts between studs. Finish both sides ready for paint. RE: Wall Details on Sheet A0.5.







**A3**  
Provide and install non-combustible blocking strips in wall for Tenant supplied wall mounted screen and mounting hardware. Contractor to coordinate with Tenant's vendor to confirm exact location mounting height and requirements in field prior to installation.

**A4**  
**PRICE AS ALTERNATE:**  
Upgrade existing partition as required to provide Building Standard Acoustical Partition. Provide and install new acoustical batts within stud cavities and 4" wide sections fully encapsulated plenum rated sound batts above ceiling. RE: Wall Details on Sheet A0.5.

**A5**  
Provide and install new partial height partition to +78" AFF for new clerestory window.

**A6**  
Provide and install non-combustible blocking strips as required for new shelving in this location.

**PARTITION SCHEDULE**

	Base building shell and core construction / existing partition to remain.
	Building standard interior tenant partition, floor to ceiling.
	Building standard corridor partition.
	Building standard demising partition.
	Building standard acoustical partition.
	Partial height partition Re. plan for partition height.

PARTITION PLAN GENERAL NOTES

Purpose:

The purpose of this Plan is to generally describe the proposed architectural layout and tenant improvements required for the Project in conjunction with the other plans and Engineering Working Drawing.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions, Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project.

Contractor to notify Building Management 24 hours in advanced of any life safety / fire alarm testing.

Contingency Allowance:

The Contractor shall coordinate with Building Management for any contingency inclusion in the final bid for Tenant improvements and related work not provided for on the Plan.

Reuse of Existing Improvements:

The Contractor shall protect all existing improvements to remain or to be reused, including, but not limited to exterior window coverings.

Provide and install Building Standard fire extinguishers, emergency lights, and exit signage. Assume all compliance pertaining to fire suppression system, electrical and mechanical systems as required by the Building Department.

Systems Furniture/Casegoods:

All systems furniture, casegoods, equipment etc. shown is for general reference purposes only. The Tenant is responsible for providing critical dimensions to the Architect/General Contractor for special equipment, freestanding furniture or systems furniture. The Tenant's Systems Furniture vendor is responsible for verifying all field dimensions relative to their furniture installation, supplying any critical finished dimensions to the Architect/General Contractor prior to construction, and for providing circuit/wiring requirements to the Engineers, and final locations of power/data/telephone feeds to the General Contractor.

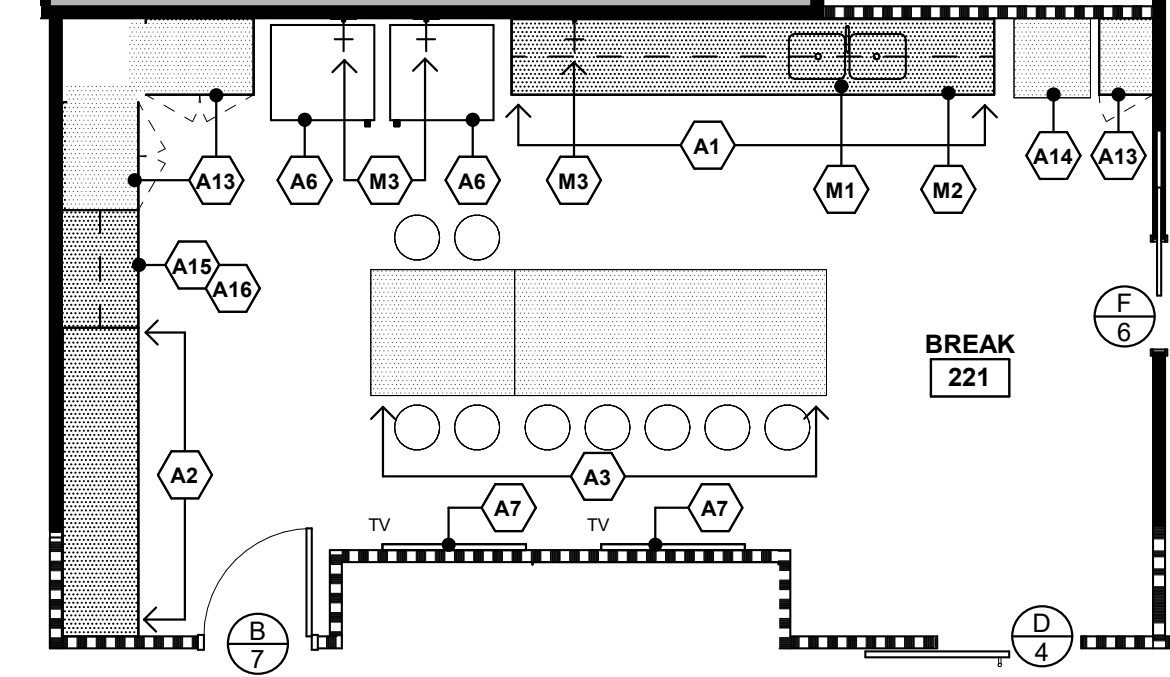
Tenant Improvement Exclusions:

Except as otherwise noted or specifically approved by the Building Owner, the following work is to be provided separately by the Tenant and is NOT included in this Space Plan NOR to be included in the Contractor's Tenant Improvement Construction Budget:

Telephone equipment, installation and cabling.

Computer equipment, installation and cabling.

Movable furniture, fixtures, accessories and equipment.



1 Partition Plan - Break Room  
3/16" = 1'-0"

PARTITION PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and General Notes, only. The Contractor shall be responsible for pricing, providing and installing all materials and work required and related to the various Keyed Notes.

Architectural General Notes:

1. Provide and install new Building Standard finishes (carpet tile, wall base, paint, etc.) in the Suite as noted in the Finish Notes.
2. Existing exterior window coverings to be cleaned, repaired, or replaced as required to provide Building Standard appearance and function. Contractor shall provide new window coverings to match existing, or re-size existing window coverings as required for new partition placement.

**PRICE AS ALTERNATE:**  
Replace existing blinds with new Building Standard roller shades throughout suite.

Architectural Keyed Notes:

**A1**  
Provide and install millwork as shown; Reference elevation(s) and detail(s). Millwork to include sink base cabinet, opening for dishwasher, 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash, 12" deep upper wall cabinets as shown. Materials and hardware as specified. RE: Elevation(s) and Section(s) on Sheet A.6 and A.7.

**A2**  
Provide and install millwork as shown; Reference elevation(s) and detail(s). Millwork to include 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash as shown. RE: Elevation(s) and Section(s) on Sheet A.6 and A.7.

**A3**  
Provide and install new millwork island. RE: Elevation(s) and Section(s) on Sheet A.6 and A.7.

PARTITION PLAN KEYED NOTES (cont'd)

**A4**  
Provide and install millwork as shown; Reference elevation(s) and detail(s). Millwork to include 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash, 12" deep upper wall cabinets as shown. RE: Elevation(s) Sheet A.6 and A.7.

**A5**  
Provide and install millwork as shown; Reference elevation(s) and detail(s). Millwork to include 24" deep base cabinets, 25-1/2" deep countertop, 4" backsplash, 12" adjustable shelves on adjustable brackets and standards as shown. RE: Elevation(s) Sheet A.6 and A.7.

**A6 (N.I.C.)**  
Refrigerator to be provided and installed by Tenant.

**A7**  
New wall-mounted television and mounting bracket to be provided by Tenant and installed by General Contractor. Verify final location and mounting height with Tenant. Secure to non-combustible blocking in wall as required.

**A8**  
Provide and install new 4'-0" x 4'-0" x 3/4" thick AC fire retardant telephone board mounted tight to ceiling and corner. Paint with semi-gloss paint to match adjacent wall color.

**A9 (N.I.C.)**  
Systems Furniture to be provided and installed by Tenant. Vendor is responsible for field verification and supplying critical dimensions.

PARTITION PLAN KEYED NOTES (cont'd)

**A10**  
Provide and install new width shown x 9'-0" high x 1/2" thick clear tempered glass glazing assembly centered in finished drywall cased opening. Provide and install new aluminum glazing channels top and bottom and clear silicone seal at all vertical joints and jambs (1/8" max width). Provide structural support above ceiling as required. Provide submittal to Architect for approval. Tenant to provide and install privacy film.

**A11 PRICE AS ALTERNATE:**  
Provide and install glass magnetic marker boards. Assume the following for pricing purposes:  
Manufacturer: Connect by Claridge  
Style: Invisi-mount system  
Size: 4'-0" x 8'-0" wide  
Color: white  
Mounting: +30" AFF, horizontally  
Coordinate with Tenant to determine exact quantity, location, and mounting height.

**A12**  
Provide and install new width shown x 30" high x 1/2" thick clear tempered glass glazing assembly (equal widths as required) centered in finished drywall cased opening with drywall sill at +78" and top of glass at finished ceiling.  
Provide and install new aluminum glazing channels top and bottom and clear silicone seal at all vertical joints and jambs (1/8" max width). Provide structural support above ceiling as required. Provide submittal to Architect for approval.

**A13**  
Provide and install new tall pantry cabinets. RE: Elevation(s) Sheet A.6 and A.7.

**A14 (N.I.C.)**  
Beverage cooler to be provided and installed by Tenant.

**A15**  
Provide and install new wall oven and all required electrical and mechanical connections.  
Manufacturer: KitchenAid  
Model: 30" Single Wall Oven with Even-Heat True Convection  
Color: Stainless Steel

PARTITION PLAN KEYED NOTES (cont'd)

**A16**  
Provide and install new millwork enclosure for wall oven. RE: Elevation(s) Sheet A.6 and A.7.

**A17**  
Provide and install occupancy signage (61 occupancy) in this room.

**A18**  
Provide and install new 6'-0" wide x 6" deep x 3" high wood shelves on concealed supports. Verify configuration with Tenant. RE: Elevation(s) Sheet A.6 and A.7.

Mechanical Keyed Notes:

The following Mechanical Keyed Notes are intended to describe expressed Tenant requirements, only, and **DO NOT** represent the required engineering design.

**M1**  
Provide and install new undermount ANSI compliant double compartment rear draining stainless steel sink with ANSI compliant faucet and all associated plumbing services including hot water service. Provide and install new backset garbage disposal with electrical outlet and switch. Provide and install ANSI compliant insulation on all exposed under counter pipes. Confirm specification with Property Manager and/or Client.  
Manufacturer: Sterling  
Style: McAllister - 32" undermount double-bowl kitchen sink  
Model: 11444  
RE: Mechanical Engineering Plans.

**M2**  
Provide and install ANSI compliant undercounter quiet type dishwasher as approved by Property Manager. Provide all required plumbing services including hot water. Provide electrical connection as required. Color: Stainless Steel.  
RE: Mechanical Engineering Plans.

**M3**  
Provide and install 1/4" copper water line with soldered shut off valve.  
RE: Mechanical Engineering Plans.

DOOR/DOOR FRAME SCHEDULE

General Notes:

Except as noted otherwise or noted as existing, all doors and frames are new or relocated with Building Stock as approved by Building Owner and shall be solid core with Building Standard finish.

Doors shown without symbol are existing, UNO.

Schedule:

**A**  
Reinstall salvaged door and frame assembly in width shown with fully integral clear tempered glass sidelight.

**B**  
Reinstall salvaged door and frame assembly.

**C**  
Provide and install new Suite Standard 3'-0" wide Entry/Exit door and frame assembly.

**D**  
Provide and install new 4'-0" wide x 8'-6" high x 1/2" thick clear tempered glass frameless sliding door assembly. Provide submittal sheet to Tenant and Property Manager for approval.  
Manufacturer: CRL  
Style: Double Roller Laguna Series Wall mount single slider kit  
Model: TBD  
Finish: to match suite standard hardware finish.

**E**  
Provide and install new pair of 3'-0" wide x full height x 1/2" thick clear tempered glass Tenant entry doors with metal rails top and bottom and pivot hinges. Provide specification sheet for approval. Assume the following for pricing purposes:  
Manufacturer: CRL  
Style: "P" style  
Provide specification sheet for approval.

**F**  
Provide and install new 3'-6" wide x 8'-6" high wood sliding door. Assume Knape & Vogt PKT-250A Series Pocket door hardware including all accessories for proper working condition. Provide submittal to Tenant and Property Manager for approval.

HARDWARE SCHEDULE

General Notes:

Provide and install the following Building Standard hardware sets, reference plan.

Provide ANSI compliant hardware as required on all new door hardware. Reused hardware sets shall be refurbished as required for proper function and finished to match new hardware as approved by the Owner.

Provide and install wall stops with solid, fire-retardant wood blocking behind, typical and floor stops where otherwise required based on door function and location.

Doors shown without symbol are existing, UNO.

**1**  
Reinstall salvaged lockset hardware set.

**2**  
Provide and install new Building Standard ANSI compliant lever store room function lockset hardware set.

**3**  
Provide and install new lever style ANSI compliant passage function hardware set with low profile panic hardware and closer with hold-open feature. Finish to match Building Standard.

**4**  
Provide and install new ladder pull hardware each side of door (2 total), and Laguna Series Wall mount bi-parting slider kit. Finish to match suite standard hardware finish. Provide submittal to Architect and Property Manager for approval.

HARDWARE SCHEDULE (cont'd)

5

Provide and install new ANSI compliant push/pull hardware each side of door (4 total). Provide and install new top and bottom rails with magnetic lock and proximity inferred reader for automatic release. Finish to match Building Standard. Provide submittal to Architect and Property Manager for approval.  
Pulse: CRL 12" glass mounted standard pull handle, finish to match Suite Standard (CRL CS12x12, finish to be determined).  
Final specification to be determined by Architect and approved by Tenant and Property Manager.

**6**  
Provide and install new ADA compliant pocketdoor hardware set. Finish to match Suite Standard.

**7**  
Provide and install new push/pull hardware set and door closer.

**8**  
Provide and install new lever passageset hardware set.

**9**  
Provide and install new Building Standard lever set hardware with closer connected to Tenant provided and installed card reader system.

**10**  
Modify hardware as required to connected to Tenant provided and installed card reader system.

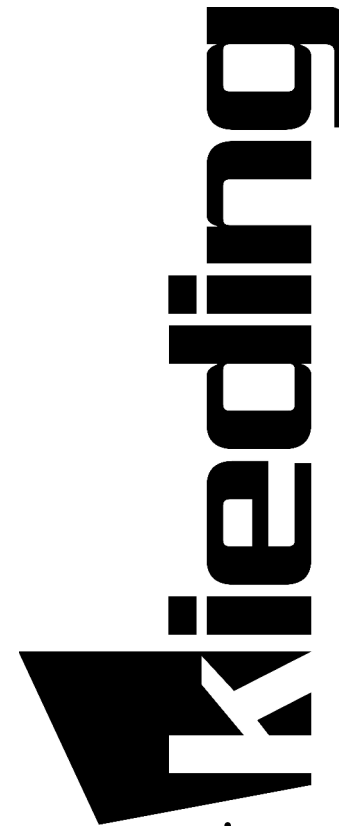
BRIGHTLAND  
Partition Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"



PARTITION SCHEDULE

	Base building shell and core construction / existing partition to remain.
	Building standard interior tenant partition, floor to ceiling.
	Building standard corridor partition.
	Building standard demising partition.
	Building standard acoustical partition.
	Partial height partition Re. plan for partition height.

\*(height A F F)



BRIGHTLAND

POINT AT INVERNESS

SECOND FLOOR - SUITE 250

8310 SOUTH VALLEY HIGHWAY

ENGLEWOOD, COLORADO 80112

ISSUES / REVISIONS

FEBRUARY 21, 2024 14070174-70

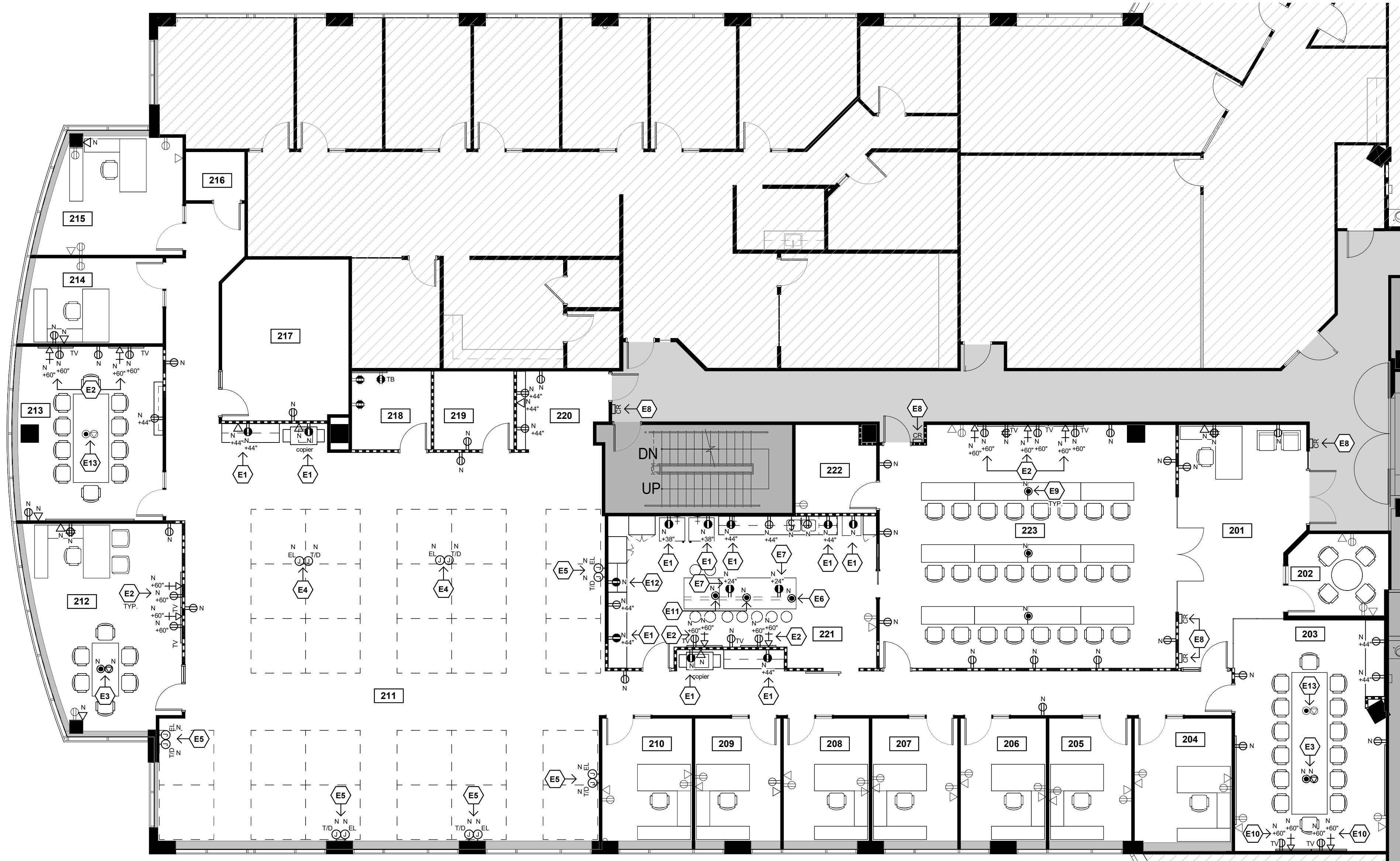
PARTITION PLAN

02 / A.2

4725 South Monaco Street | Suite 225  
Denver, Colorado 80237  
303.399.9100

Contact - Kim Hoff  
Contact - Ahyoung Lee





BRIGHTLAND  
Outlet Location Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"



VOICE / DATA OUTLET LEGEND

Reference Keyed Notes and General Notes this sheet for any special functions or requirements.

The following symbols are intended to indicate the function of the various outlets shown on the outlet location plan, only. Reference Electrical Engineering plans and technical specifications.

- N Indicates new device to be provided and installed by the Contractor. All other devices are existing to be field verified by the Contractor.
- +XX Indicates special device mounting height above finished floor.
- Face or cover plate and all wiring by others (N.I.C.) unless noted otherwise.
- 2" x 4" wall mounted receptacle box.
- Indicates existing outlets and all related cabling as required by tenant to be removed.

- Flush floor mounted device, reference Keyed Notes this sheet.
- PP Voice / Data power pole, reference Keyed Notes this sheet.
- Floor or ceiling mounted junction box size as required by tenant.
- Wall mounted junction box.
- Cable/Coax box; RE: Keyed Notes this sheet
- Indicates telephone equipment panel, reference Keyed Notes this sheet.

ELECTRICAL SYMBOLS

Reference Keyed Notes and General Notes this sheet for any special functions or requirements.

The following symbols are intended to indicate the function of the various outlets shown on the outlet location plan, only. Reference Electrical Engineering plans and technical specifications.

All wall mounted receptacle boxes to have 3/4" diameter conduit to 6" above ceiling with a bushing on top of the conduit, unless noted otherwise (U.N.O.).

N Indicates new device to be provided and installed by the Contractor. All other devices are existing to be field verified by the Contractor.

+XX Indicates special device mounting height above finished floor.

Electrical panel box, reference Keyed Notes this sheet.

- Duplex (two plug) wall mounted electrical outlet.
- Dedicated duplex (two-plug) wall mounted electrical outlet.
- Fourplex (four-plug) wall mounted electrical outlet.
- Dedicated fourplex (four-plug) wall mounted outlet.
- Indicates existing outlets and all related services to be removed back to breaker box.

- Flush floor mounted device, reference Keyed Notes on this sheet
- Floor or ceiling mounted electrical junction box with 4" x 4" junction box.
- Wall mounted electrical junction box.
- PP Electrical power pole, reference Keyed Notes this sheet.
- BP Indicates blank plate.
- CR Provide low voltage wiring and receptacle box for card reader system (N.I.C.). Face plate and data cabling by Tenant.
- P Wall mounted power strip or raceway, reference Keyed Notes this sheet.

PARTITION SCHEDULE

- Base building shell and core construction / existing partition to remain.
- Building standard interior tenant partition, floor to ceiling.
- Building standard corridor partition.
- Building standard demising partition.
- Building standard acoustical partition.
- Partial height partition. Re. plan for partition height.

OUTLET LOCATION PLAN GENERAL NOTES

Purpose:

The purpose of this Plan is to show the general location of electrical, telephone and data line outlets, only. Contractor shall reference Construction Documents prepared by the Project Electrical Engineer for all electrical specifications, circuiting and requirements for the Project.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing himself with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project, including materials and work required for life safety detection, alarm and communications and any required fire extinguishers and cabinets as required by local Code Officials.

The Contractor shall be responsible for field verifying the location of any existing conditions affecting the work shown, electrical, telephone and data line outlets, accessories and devices and for familiarizing himself with both this plan and Construction Documents prepared by the Project Engineers. The Contractor shall advise the Architect of any discrepancies between this plan and the field conditions or Engineering Construction Documents prior to proceeding with the work in question.

Reuse of Existing Improvements:

Except as may otherwise be noted, existing conditions, materials and improvements to remain or be reused as shown or noted on this plan shall be upgraded, replaced, refurbished and / or cleaned to assure a "like new" appearance, function and Building Code / ANSI compliance subject to the approval of the Tenant and Building Owner.

The Contractor shall protect all existing improvements to remain or to be reused.

OUTLET LOCATION PLAN KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and General Notes, only. The Contractor shall be responsible for pricing, providing and installing all materials and work required and related to the various Keyed Notes.

The following Keyed Notes **DO NOT** represent the required engineering design.

Electrical General Notes:

- All cover plates and devices shall match existing. Verify in field and replace plates and devices as required.
- Contractor to provide contingency allowance of \$2.25 per square foot for switching/sensored receptacles as required by current IECC code requirements.

Electrical Keyed Notes:

- E1 Provide and install new dedicated 20 amp duplex outlet. RE: Electrical Engineering Plans.
- E2 Provide and install new recessed 4" x 4" gang box to supply both power and cable/data/coax connections to Tenant's equipment. General Contractor to verify exact location, mounting height, and requirements with Tenant prior to installation. RE: Electrical Engineering Plans.
- E3 Provide and install new flush floor device to provide electrical, telephone and data to Tenant's furniture. General Contractor to verify final location and requirements with Tenant. X-ray floor as required; coordinate this work with Property Manager. Device to accommodate (2) duplex outlets, and (2) data lines, and (1) HDMI connection. Provide specification sheet to Tenant for approval. Provide 1-1/4" conduit from floor box to adjacent wall mounted gang box to connect to Tenant mounted audio visual equipment. RE: Electrical Engineering Plans.
- E4 Provide and install new floor mounted junction boxes to provide electrical and data/telephone service for Tenant's systems furniture. Assume four circuit, eight wire service (maximum six (6) cubicles per location), and verify final location with Systems Furniture Vendor/Tenant. After installation of systems furniture, Electrical Contractor shall connect and wire all electrical service to the furniture with electrical whips as provided by the Tenant/Vendor. RE: Electrical Engineering Plans.
- E5 Provide and install new wall mounted junction boxes to provide electrical and data/telephone service for Tenant's systems furniture. Assume four circuit, eight wire service (maximum six (6) cubicles per location), and verify final location with Systems Furniture Vendor/Tenant. After installation of systems furniture, Electrical Contractor shall connect and wire all electrical service to the furniture with electrical whips as provided by the Tenant/Vendor. RE: Electrical Engineering Plans.
- E6 Provide floor feed for partial height wall, to serve two duplex outlets. RE: Electrical Engineering Plans.

OUTLET LOCATION PLAN KEYED NOTES (cont'd)

E7 Provide and install new dedicated recessed clock outlet for microwave drawer unit at island. General Contractor to verify exact location, mounting height with Tenant prior to installation. RE: Electrical Engineering Plans.

E8 Provide and install new junction box at standard switch height for Tenant-provided and installed biometric access system. Verify final location with Tenant and/or Tenant's Vendor. Connect to and modify door hardware as required. RE: Electrical Engineering Plans.

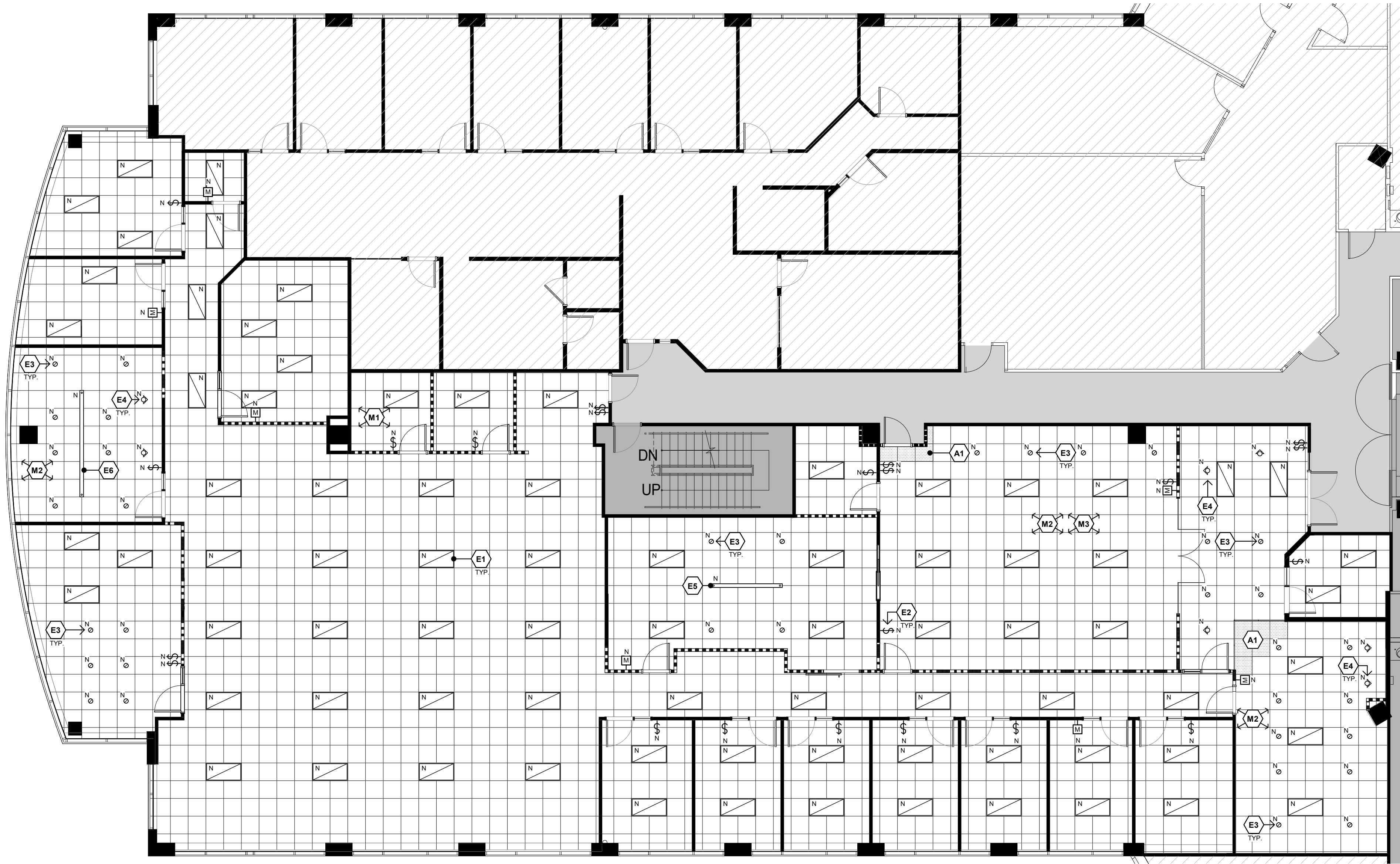
E9 Provide and install new flush floor device to provide electrical, telephone and data to Tenant's furniture. General Contractor to verify final location and requirements with Tenant. X-ray floor as required; coordinate this work with Property Manager. Device to accommodate (2) duplex outlets. Provide specification sheet to Tenant for approval. RE: Electrical Engineering Plans.

E10 Provide and install new recessed 4" x 4" gang box to supply both power and cable/data/coax connections to Tenant's equipment. General Contractor to verify exact location, mounting height, and requirements with Tenant prior to installation. Include conduit 1-1/4" conduit to floor box. RE: Electrical Engineering Plans.

E11 Provide install install new flip out grommet at countertop. Verify final location and style with Tenant. Verify color with Tenant. Assume Doug Mocket Flip-up grommet with 2 power/USB-A USB-C charger. Assume (2) at island. RE: Electrical Engineering Plans.

E12 Provide and install new dedicated 220 amp duplex outlet. RE: Electrical Engineering Plans.

E13 Existing floor box to remain. RE: Electrical Engineering Plans.



BRIGHTLAND  
Reflected Ceiling Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"  
NORTH

REFLECTED CEILING PLAN  
GENERAL NOTES

Purpose:

The purpose of this Plan is to show the general location of ceiling treatments, light fixtures and any ceiling mounted electrical outlet, only.

Contractor shall reference Construction Documents prepared by the Project Engineers for all electrical specifications, circuiting and requirements for the Project, mechanical and life safety requirements and work.

Contractor's Responsibilities:

The Contractor shall be responsible for field verifying all existing conditions and familiarizing himself with all Project Construction Documents, Tenant and Building Standards, the Building Owner's Rules, Regulations and Working Conditions for the Building, and governing Building Codes affecting the Project and provide for all materials, work and all associated costs as may be required for a complete and finished Project, including materials and work required for life safety detection, alarm and communications and any required fire extinguishers and cabinets as required by local Code Officials.

This plan is intended to show the location of the optimum light fixture locations for the Tenant's proposed use of the space.

The Contractor shall be responsible for field verifying the location of any existing conditions affecting the work shown and for familiarizing himself with both this plan and Construction Documents prepared by the Project Engineers. The Contractor shall advise the Architect of any discrepancies between this plan and the field conditions or Engineering Construction Documents prior to proceeding with the work in question.

Reference Electrical Engineer's plans  
for emergency lighting and exit signs.

REFLECTED CEILING PLAN  
KEYED NOTES

The following Keyed Notes are intended to generally describe special conditions, improvements as a supplement to the plan drawing, legends, schedules and General Notes, only. The Contractor shall be responsible for pricing, providing and installing all materials and work required and related to the various Keyed Notes.

The following Keyed Notes **DO NOT** represent the required engineering design.

Architectural General Notes:

- Contractor to replace all stained or damaged ceiling tiles as required. Relocate new and existing ceiling tiles as required to provide a uniform appearance throughout suite.
- Existing ceiling to remain. Rework ceiling grid and ceiling tile as required for new suite layout/expansion.

Architectural Keyed Notes:

- A1**  
Provide and install new ceiling grid and ceiling tiles as required to match and blend / align with adjacent to provide uniform appearance.

Mechanical General Notes:

- Modify existing HVAC and Life safety system (including fire suppression system) as required for new wall layout and function and as required by governing local Building and Fire Code.

Mechanical Keyed Notes:

The following Mechanical Keyed Notes are intended to describe expressed Tenant requirements, only, and **DO NOT** represent the required engineering design.

- M1**  
Provide and install new air transfer fan and thermostat in this room.  
RE: Mechanical Engineering Plans.

- M2**  
Provide and install additional outside air at this room as required for conference application. RE: Mechanical Engineering Plans.

- M3**  
Provide separate VAV and thermostat at this room. RE: Mechanical Engineering Plans.

REFLECTED CEILING PLAN  
KEYED NOTES (cont'd)

Electrical General Notes:

- Assume that light fixtures will require quick tap disconnects for pricing purposes.
- Controls and lighting shall meet governing code, including 2021 IECC requirements as applicable.

Electrical Keyed Notes:

The following Electrical Keyed Notes are intended to describe expressed Tenant requirements, only, and **DO NOT** represent the required engineering design.

- E1**  
Reinstall salvaged LED Building Standard recessed indirect/direct light fixture. Provide all required light control devices as required by governing code. RE: Electrical Engineering Plans.

- E2**  
Provide and install new switch to control light fixtures. RE: Electrical Engineering Plans.

- E3**  
Provide and install new dimmable LED downlight with dimmer control switching. RE: Electrical Engineering Plans.

- E4**  
provide and install new dimmable LED wallwasher and dimmer control switch. RE: Electrical Engineering Plans.

- E5**  
Provide and install new decorative pendant over island. Assume \$500.00 allowance for fixture, pricing to included installation. RE: Electrical Engineering Plans.

- E6**  
Provide and install new dimmable LED suspended linear fixture as indicated. Assume the following for pricing purposes:  
Manufacturer: Williams  
Model: MX2UD 2" 12'-0" length  
Style: Continuous up/down suspended  
Mounting Height: 68" AFF  
RE: Electrical Engineering Plans.

REFLECTED CEILING PLAN LEGEND

Building standard suspended acoustical grid ceiling, to remain.

Area of new Building Standard grid and tile to match remaining suite.

Drywall Ceiling, RE: Keyed Notes on this Sheet for details.

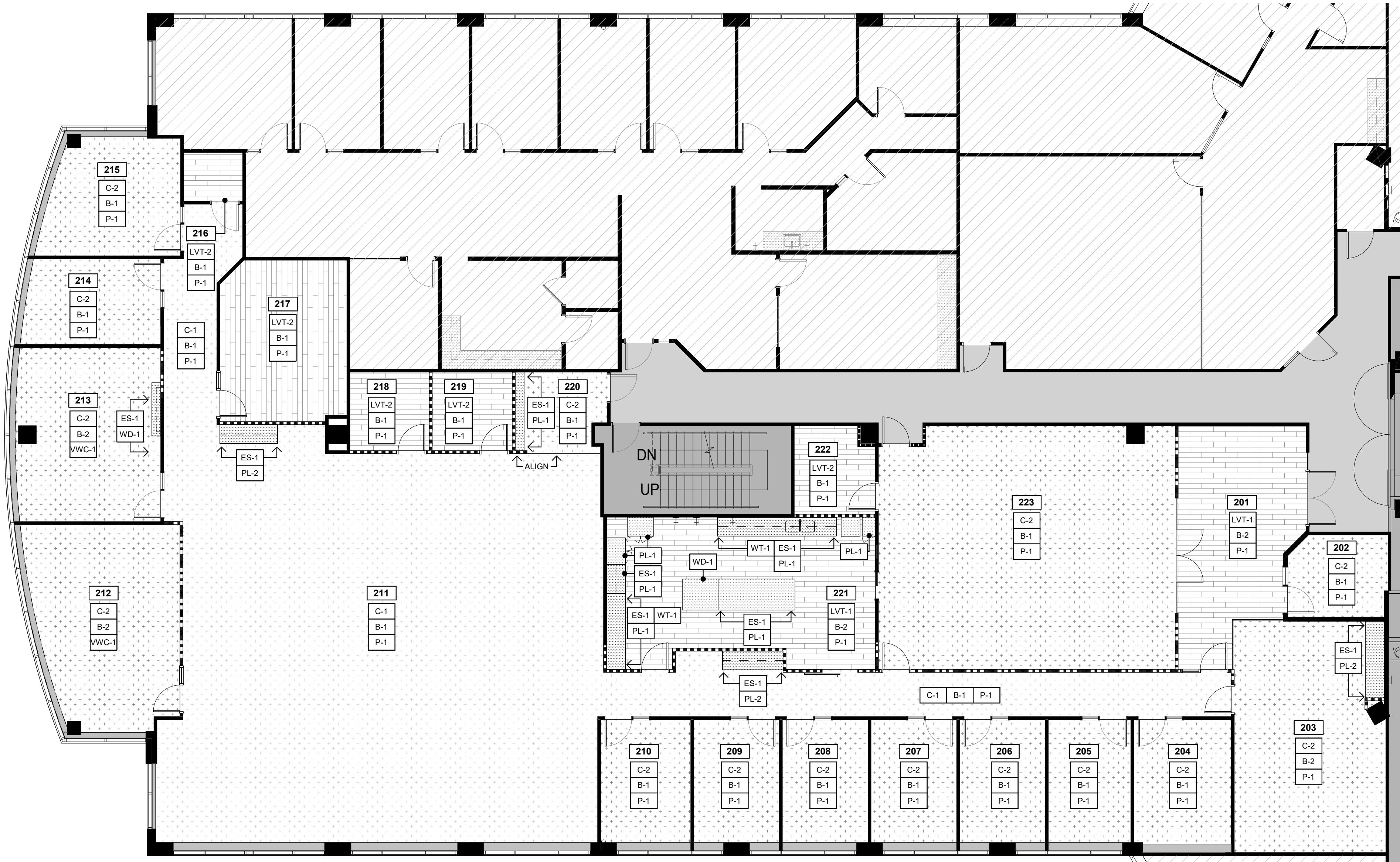
- Building standard 2'-0"x2'-0" light fixture.
- Light fixture to be removed or relocated.
- Recessed downlight.  
RE: Electrical Engineering Plans.
- Recessed adjustable wallwasher.  
RE: Electrical Engineering Plans.
- Building standard single bulb porcelain light fixture.
- Building standard tube (4'-0" size shown)
- Building standard 2'-0"x4'-0" light fixture.
- Light fixture to be removed or relocated.

- Building standard single pole light switch.
- Building standard light switch w/ dimmer.
- Building standard three-way switch.
- Building standard dual level light switch.
- Building standard motion sensor light switch.
- Building standard light switch to be removed/relocated.
- Incandescent light to be removed/relocated.
- N Location of new light fixture and/or device.
- R New location of relocated light fixture and/or device.

PARTITION SCHEDULE

- Base building shell and core construction / existing partition to remain.
- Building standard interior tenant partition, floor to ceiling.
- Building standard corridor partition.
- Building standard demising partition.
- Building standard acoustical partition.
- Partial height partition  
Re. plan for partition height.





BRIGHTLAND  
Finish Plan  
Second Floor  
9,299 RSF  
1/8" = 1'-0"



PARTITION SCHEDULE

- Base building shell and core construction / existing partition to remain.
- Building standard interior tenant partition, floor to ceiling.
- Building standard corridor partition.
- Building standard demising partition.
- Building standard acoustical partition.
- Partial height partition  
Re. plan for partition height.

INTERIOR FINISH NOTES

General:

Unless noted otherwise, the following Tenant interior finish materials shall be priced as new including material, installation, preparation, tax, freight, storage, delivery and all associated costs.

All interior finishes shall be in compliance with governing codes (particularly the Chapter Eight "Table of Interior Wall and Ceiling Finish Requirements by Occupancy", and regulations and installed (including all required surface preparation) in strict accordance with manufacturer's recommendations, as a minimum standard, and the latest edition of the Industry Standards for Installation.

Finish Plan General Notes:

1. All finishes noted are for pricing purposes only. Final finish selections to be verified with submittals, and approved by Property Manager and Tenant prior to order and installation.

2. Flooring and adhesive provided and installed by Tenant's vendor.

3. Millwork Countertops and tile backsplash provided and installed by Tenant's vendor.

4. Wall base provided and installed by General Contractor.

FLOOR FINISHES:

C-1

(N.I.C.)

Carpet Tile:

Manufacturer: Patcraft  
Style: Artful & Textured  
Color: Charcoal  
Installation Method: Ashlar  
Installation: Provide and install new carpet tiles throughout suite, except where noted otherwise.  
Stock: include 2% attic stock  
Note: Installation allowance needs to address costs for floor preparation (including additional sealing of adhesives to prevent Plasticizer Migration where PVC backed carpets were removed, additional adhesives at broadloom carpets, ceramic tile, LVT, etc), floor prep (skim coat, sealing, grinding, etc), estimated freight, sealants, new adhesives, and installation as required to deliver a finished installed product to the space.

C-2

(N.I.C.)

Carpet Tile:

Manufacturer: Patcraft  
Style: Artful & Textured  
Color: Graphite  
Installation Method: Ashlar  
Installation: Provide and install new carpet tiles throughout suite, except where noted otherwise.  
Stock: include 2% attic stock  
Note: Installation allowance needs to address costs for floor preparation (including additional sealing of adhesives to prevent Plasticizer Migration where PVC backed carpets were removed, additional adhesives at broadloom carpets, ceramic tile, LVT, etc), floor prep (skim coat, sealing, grinding, etc), estimated freight, sealants, new adhesives, and installation as required to deliver a finished installed product to the space.

LVT-1

(N.I.C.)

Luxury Vinyl Tile:

Manufacturer: Shaw Builder + Multifamily  
Style: 012CT Domain  
Color: Pasadena Oak  
Size: 7"x48"  
Installation Method: Random Offset  
Installation: Provide and install new transition strips at abutting flooring as required.  
Note: Installation allowance needs to address costs for floor preparation (including additional adhesive removal for broadlooms, previous ceramic floor, LVT, etc) floor leveling, freight, sealants, new adhesives, and installation as required to deliver a finished installed product to the space.

LVT-2

(N.I.C.)

Luxury Vinyl Tile:

Manufacturer: Mozaik Surface Concepts  
Style: Watervise Premium Tile  
Color: Lowell 44374ST  
Size: 13 x 51 8mm  
Installation Method: Random Offset  
Installation: Provide and install new transition strips at abutting flooring as required.  
Note: Installation allowance needs to address costs for floor preparation (including additional adhesive removal for broadlooms, previous ceramic floor, LVT, etc) floor leveling, freight, sealants, new adhesives, and installation as required to deliver a finished installed product to the space.

INTERIOR FINISH NOTES

(cont'd)

WALL BASE:

B-1

Resilient Wall Base:  
Manufacturer: Tarkett  
Color: Snowbound  
Height: 4" Straight  
Profile: Baseworks

B-2

Resilient Wall Base:  
Manufacturer: Tarkett  
Color: Snowbound  
Height: 4.5"  
Profile: Mandalay

B-3

Resilient Wall Base:  
Manufacturer: Tarkett  
Color: Blue Lagoon  
Height: 4" Straight  
Profile: Baseworks  
Note: Assume (1) wall at each room, final locations to be determined.

WALL FINISHES:

P-1

Field Color:  
Manufacturer: Sherwin Williams  
Color: SW7004 Snowbound  
Finish: Eggshell  
Product: Zero VOC

P-2

Accent Color:  
Manufacturer: Sherwin Williams  
Color: SW7605 Gale Force  
Finish: Eggshell  
Note: Assume one (1) wall at each room. Final location to be determined by Tenant and approved by Building Owner.  
Product: Zero VOC

P-3

Ceiling Color:  
Manufacturer: Sherwin Williams  
Color: SW7007 Ceiling Bright White  
Finish: Flat  
Product: Zero VOC

VWC-1

Vinyl Wallcovering:

Manufacturer: TBD  
Style: TBD  
Color: TBD  
Flame Spread Class: TBD  
Provide allowance of \$30 per lineal foot.

WT-1

(N.I.C.)

Ceramic Wall Tile:

Manufacturer: Arizona Tile  
Style: Paloma  
Color: Cotton - Glossy  
Tile Size: 4"x8" Long Hexagon  
Installation: Provide and install new wall tile from top of countertop to upper cabinet. Include Schluter Schiene and/or Rondec-DB metal top trim, outside edges and exposed ends for finished appearance.  
Grout Color: TBD  
Grout Note: Contractor to seal all grout.

MILLWORK FINISH:

PL-1

Cabinets:

Manufacturer: Wilsonart  
Color: Phantom Ecru 8212

PL-2

Cabinets:

Manufacturer: Wilsonart  
Color: Nile Velvet

ES-1

(N.I.C.)

Engineered Stone Countertop:

Manufacturer: Arizona Tile  
Color: Calacatta Capella  
Edge: Straight  
Thickness: 3cm

WD-1

Wood Veneer:

Match wood doors.

Interior Finish:

Material: Melamine  
Color: White

Adjustable Shelf Finish:

Material: Melamine

Edge Banding:

Material: PVC

Toe Kick Finish:

Material: Base

MILLWORK HARDWARE:

Pulls:

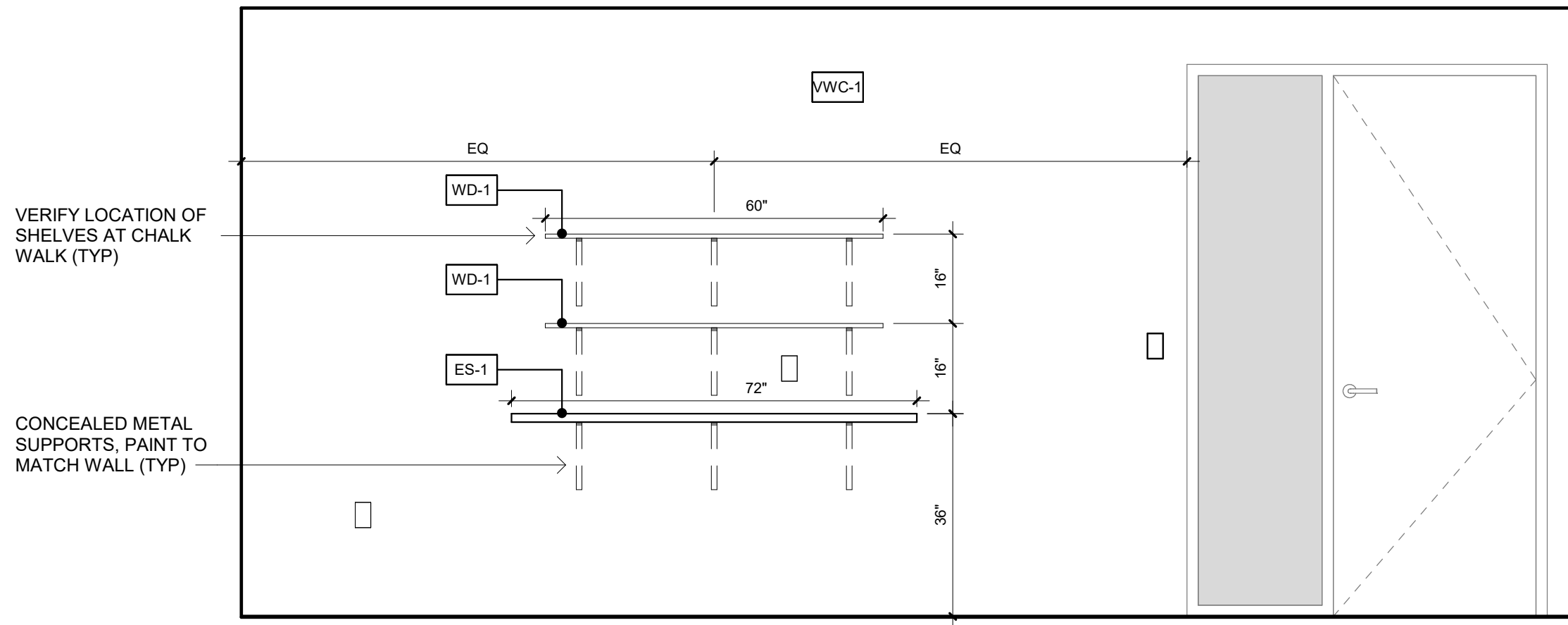
Style: Handle, Zinc Vogue Collection, 192 mm CTC  
Finish: Stainless Steel Look

Hinges:

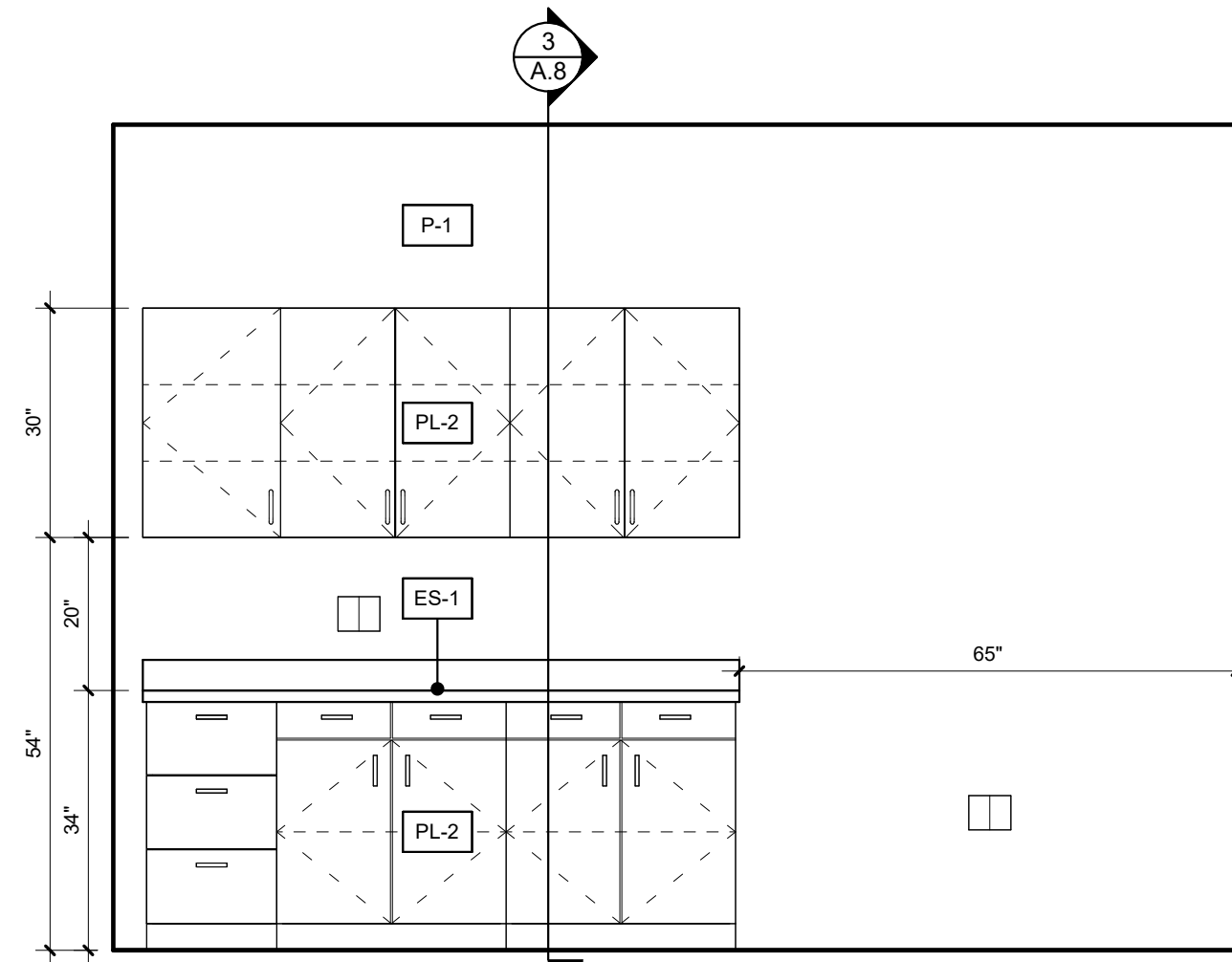
Style: Concealed, soft close

Drawer Glides:

Style: Heavy-Duty, soft close



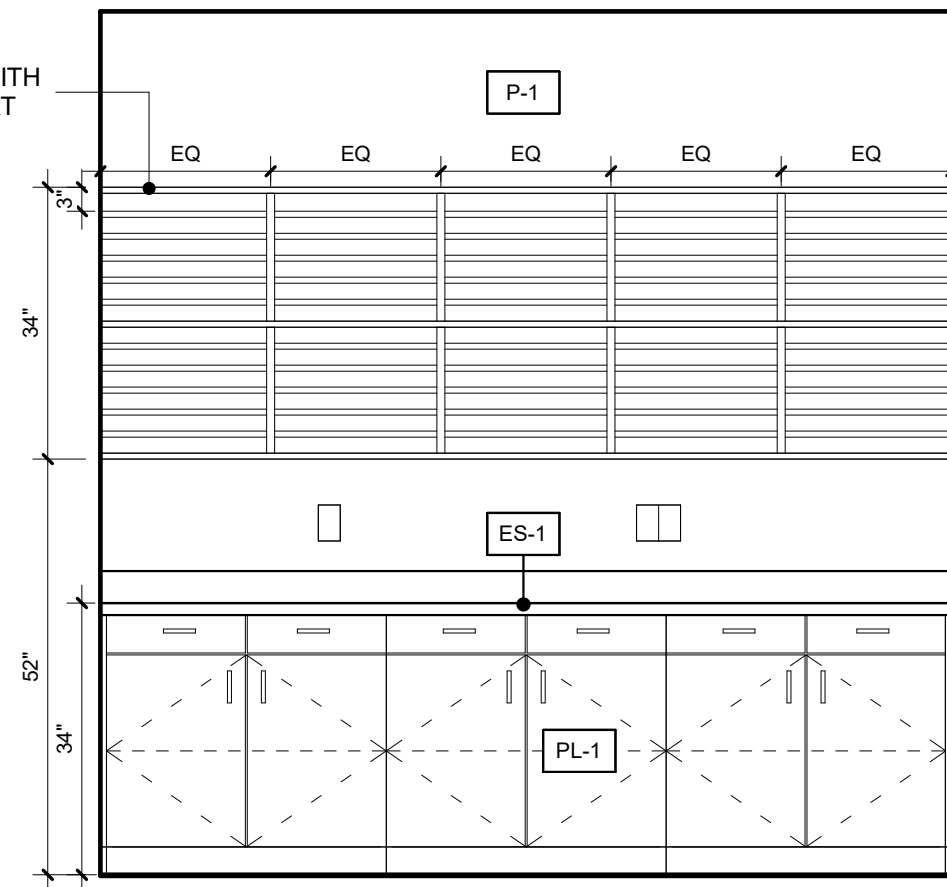
8 Elevation at Conference 213  
1/2" = 1'-0"



7 Elevation at Copy 211  
1/2" = 1'-0"

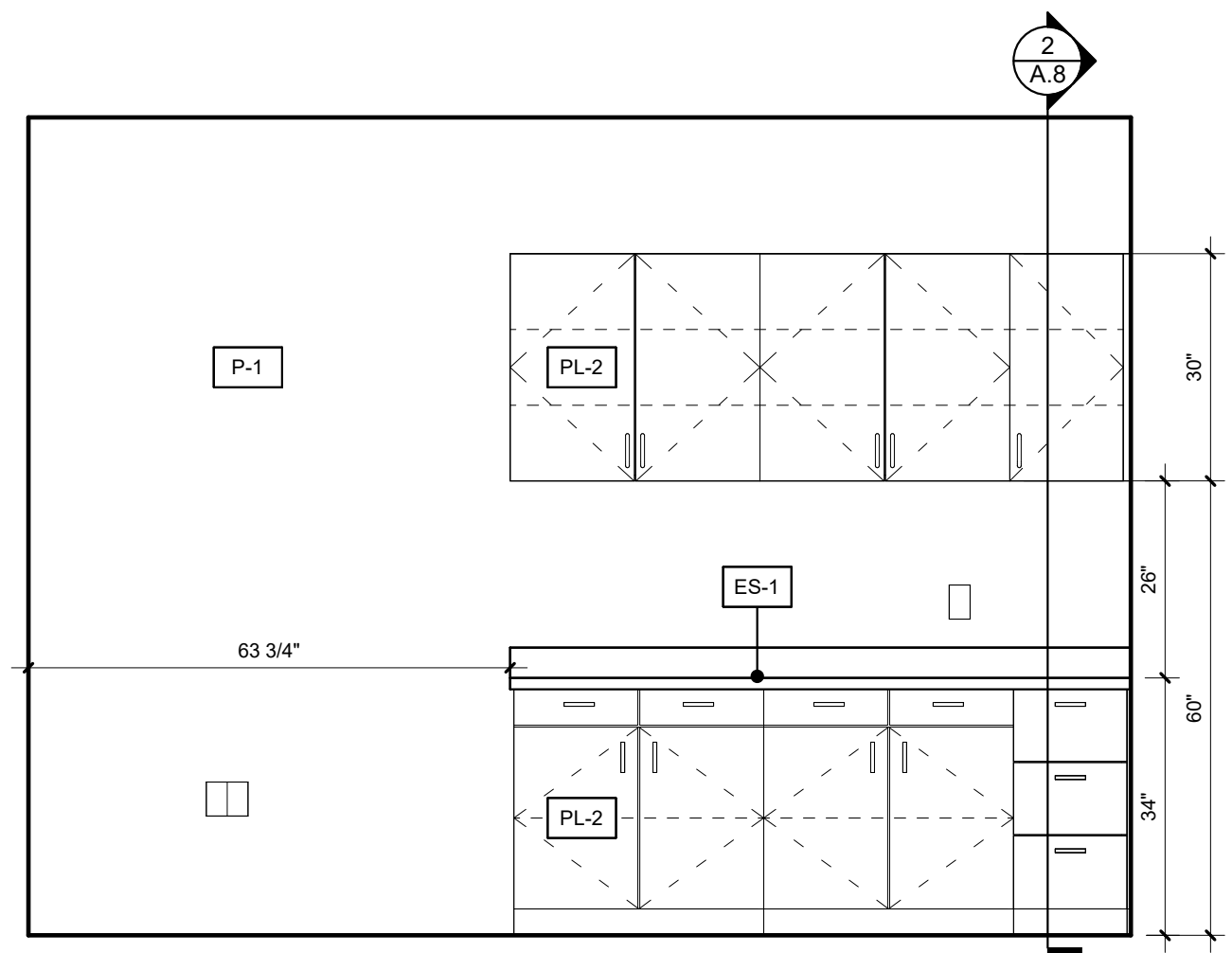
NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

PROVIDE AND INSTALL NEW  
ADJUSTABLE MAIL SLOTS WITH  
PLASTIC LAMINATE FINISH AT  
ALL EXPOSED SURFACES



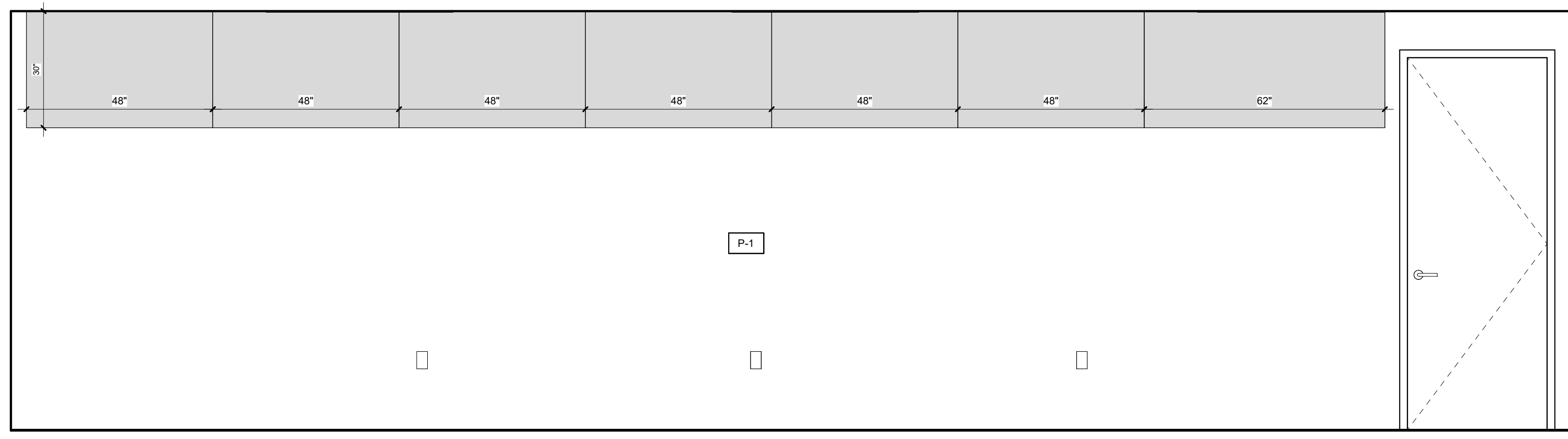
6 Elevation at Mail 220  
1/2" = 1'-0"

NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

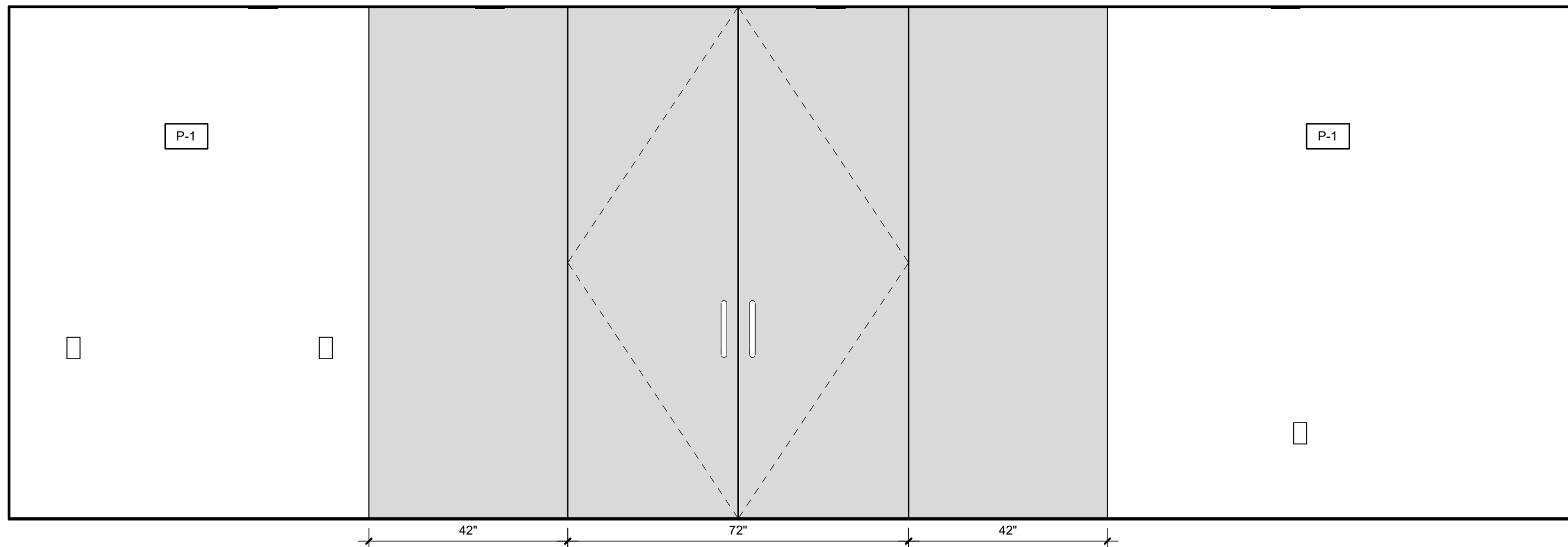


5 Elevation at Outside Office 209  
1/2" = 1'-0"

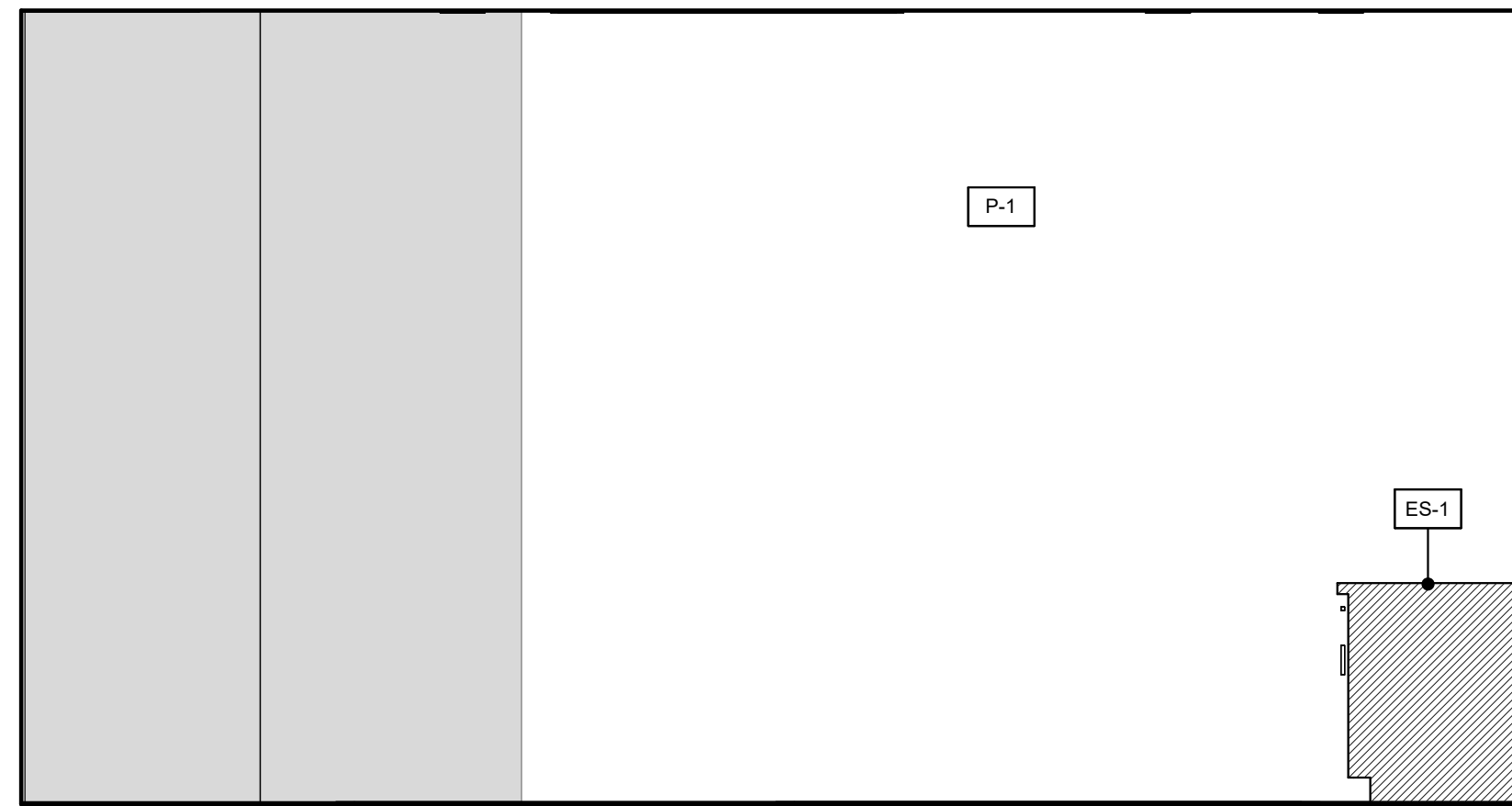
NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.



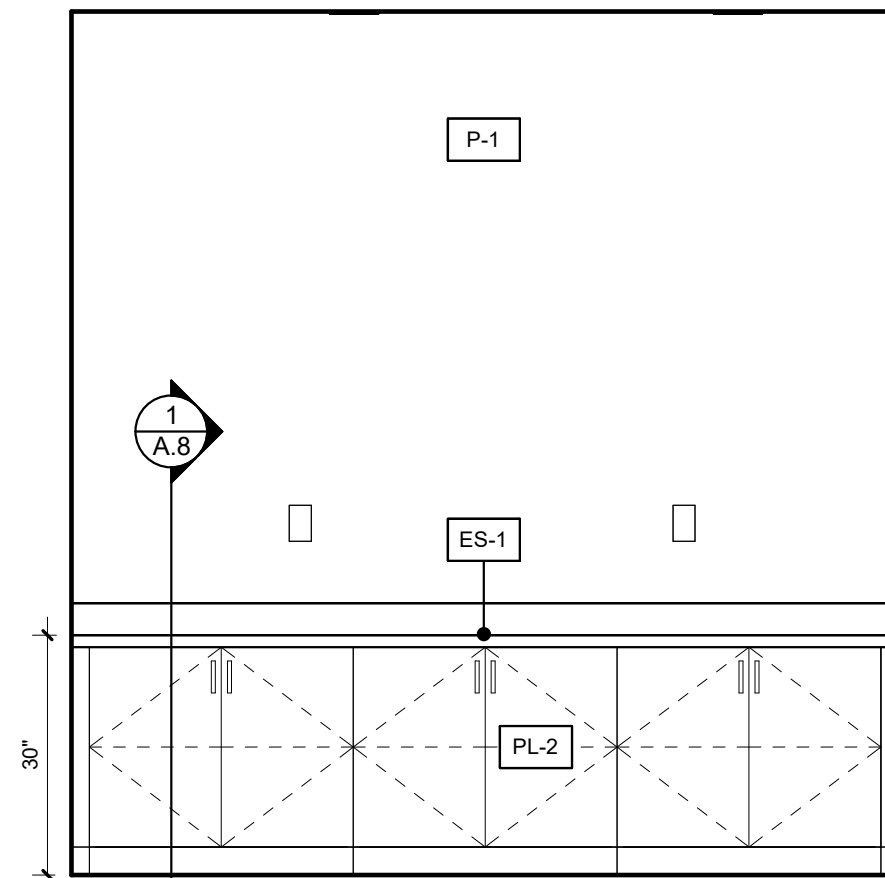
4 Elevation 2 at Training Room  
1/2" = 1'-0"



3 Elevation 1 at Training Room  
1/2" = 1'-0"



2 Elevation 2 at Conference 203  
1/2" = 1'-0"

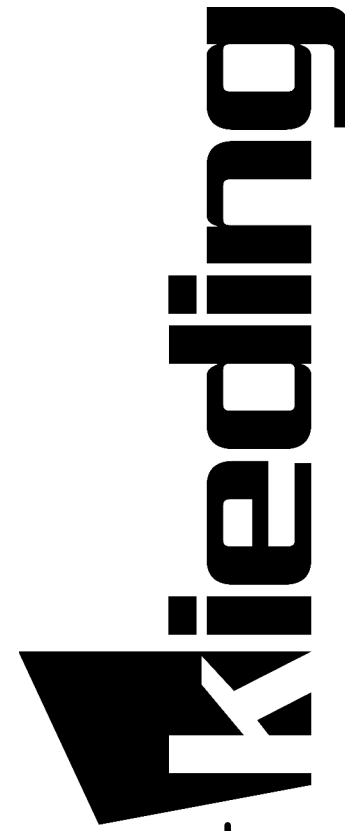


1 Elevation 1 at Conference 203  
1/2" = 1'-0"

NOTE: PROVIDE FINISHED ENDS AND FILLER PANELS WHERE REQUIRED.

NOTE:

REFERENCE FINISH PLAN FOR  
FINISH AND HARDWARE  
SPECIFICATIONS.

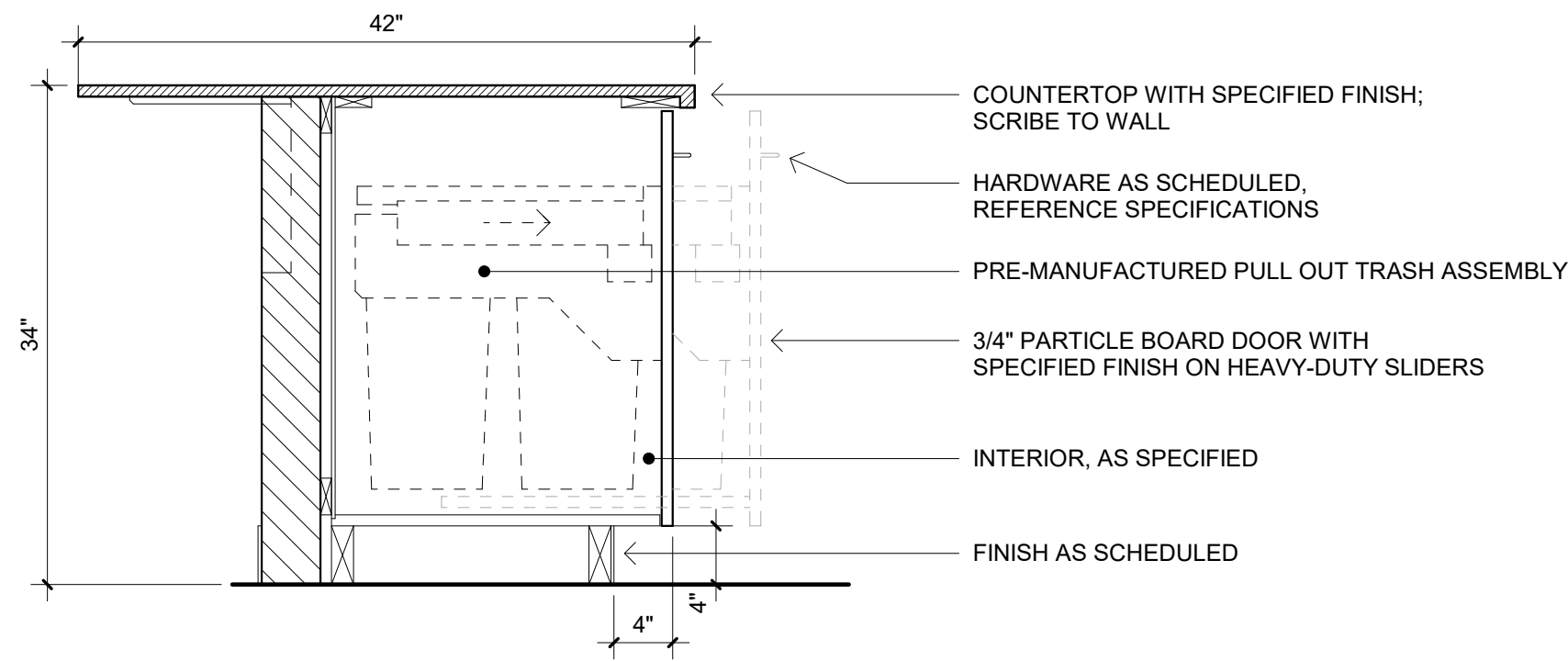


BRIGHTLAND

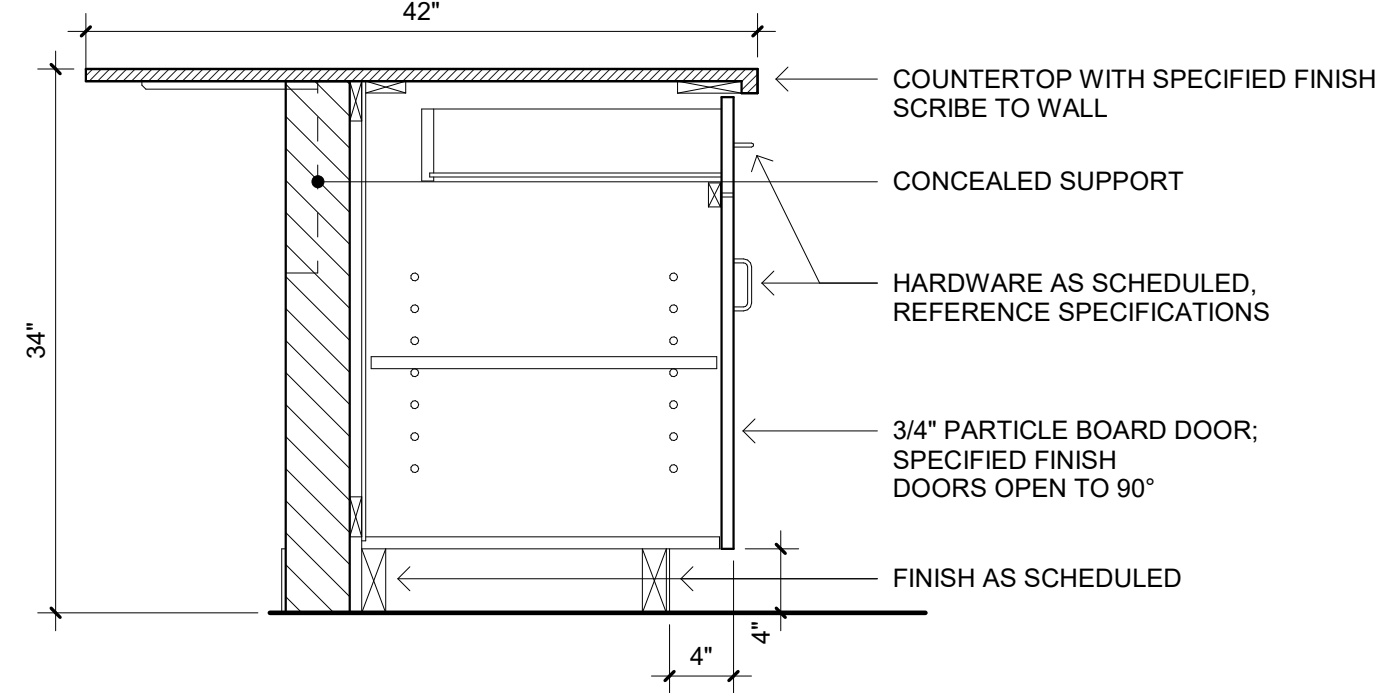
POINT AT INVERNESS

SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112

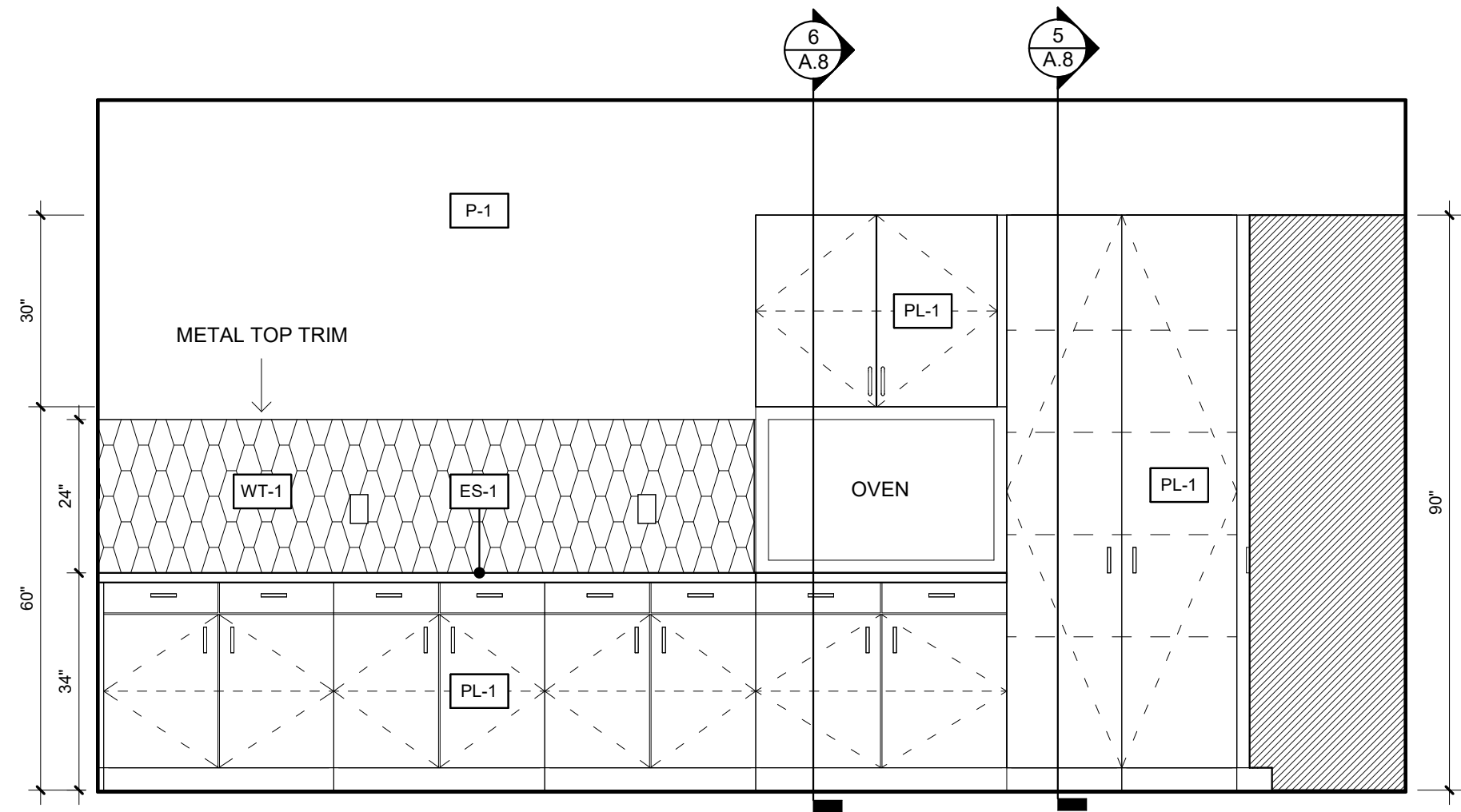




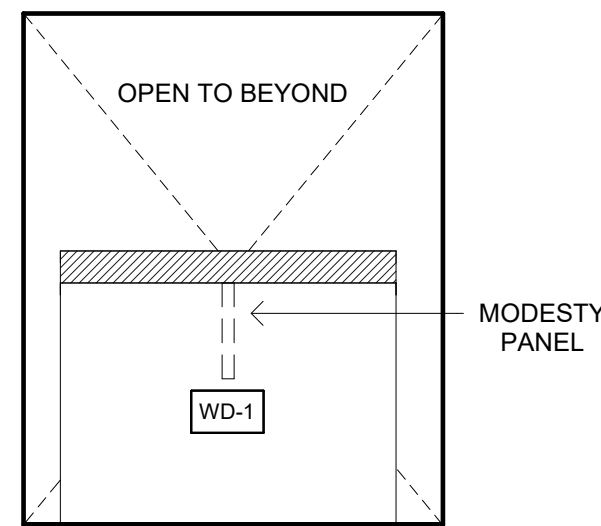
8 Section at Pull Out Trash Cabinet  
1" = 1'-0"



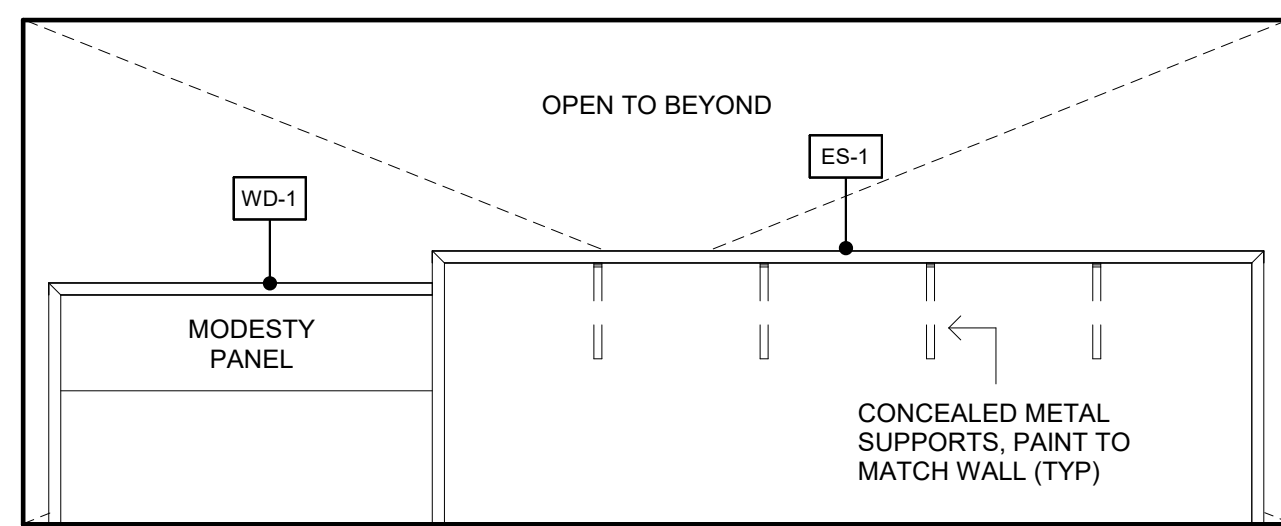
7 Section at Millwork Island with Base Cabinet  
1" = 1'-0"



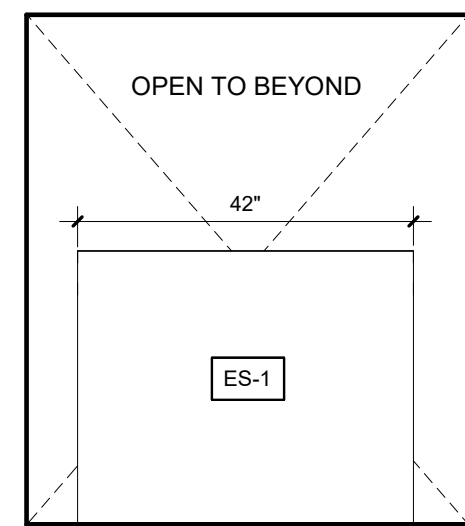
6 Elevation 2 at Break Room  
1/2" = 1'-0"



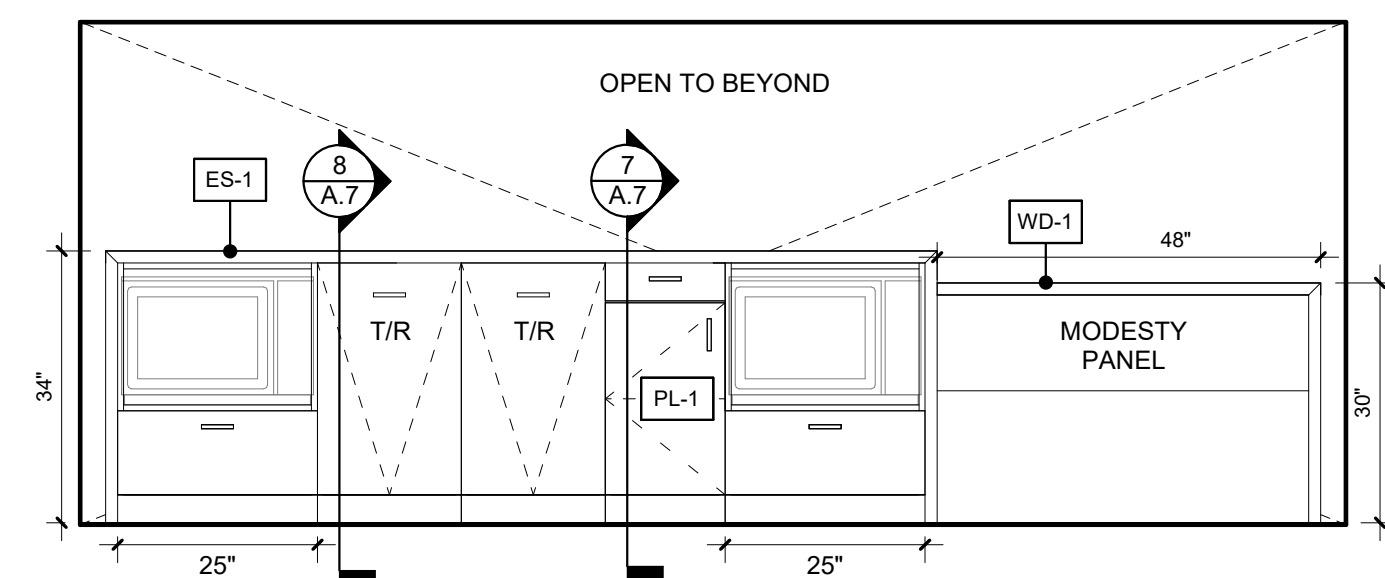
5 Elevation at Island 4  
1/2" = 1'-0"



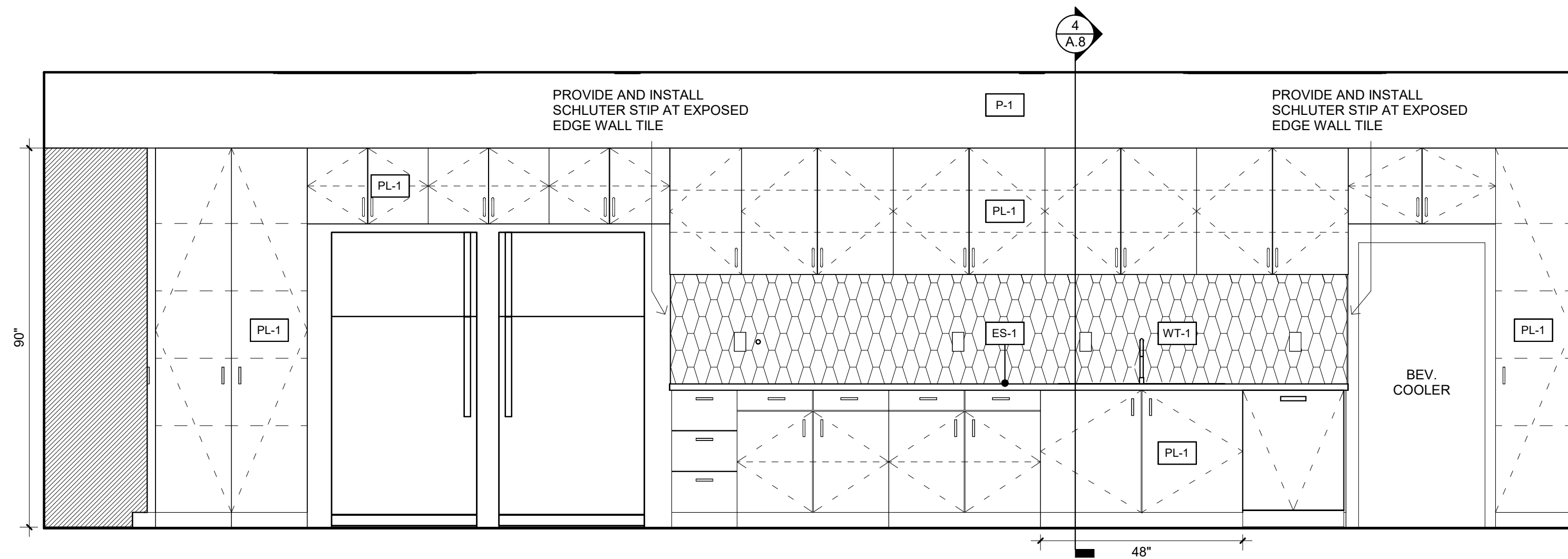
4 Elevation at Island 3  
1/2" = 1'-0"



3 Elevation at Island 2  
1/2" = 1'-0"

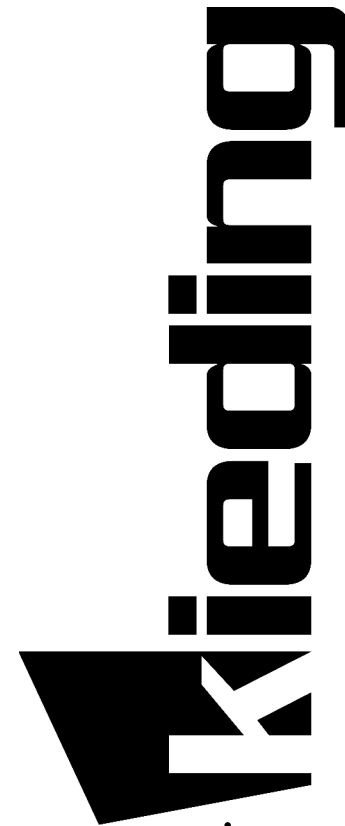


2 Elevation at Island 1  
1/2" = 1'-0"



1 Elevation 1 at Break Room  
1/2" = 1'-0"

NOTE:  
REFERENCE FINISH PLAN FOR  
FINISH AND HARDWARE  
SPECIFICATIONS.



4725 South Monaco Street | Suite 225  
Denver, Colorado 80237  
303.399.9100

Contact - Kim Hoff  
Contact - Ahyoung Lee

BRIGHTLAND

POINT AT INVERNESS

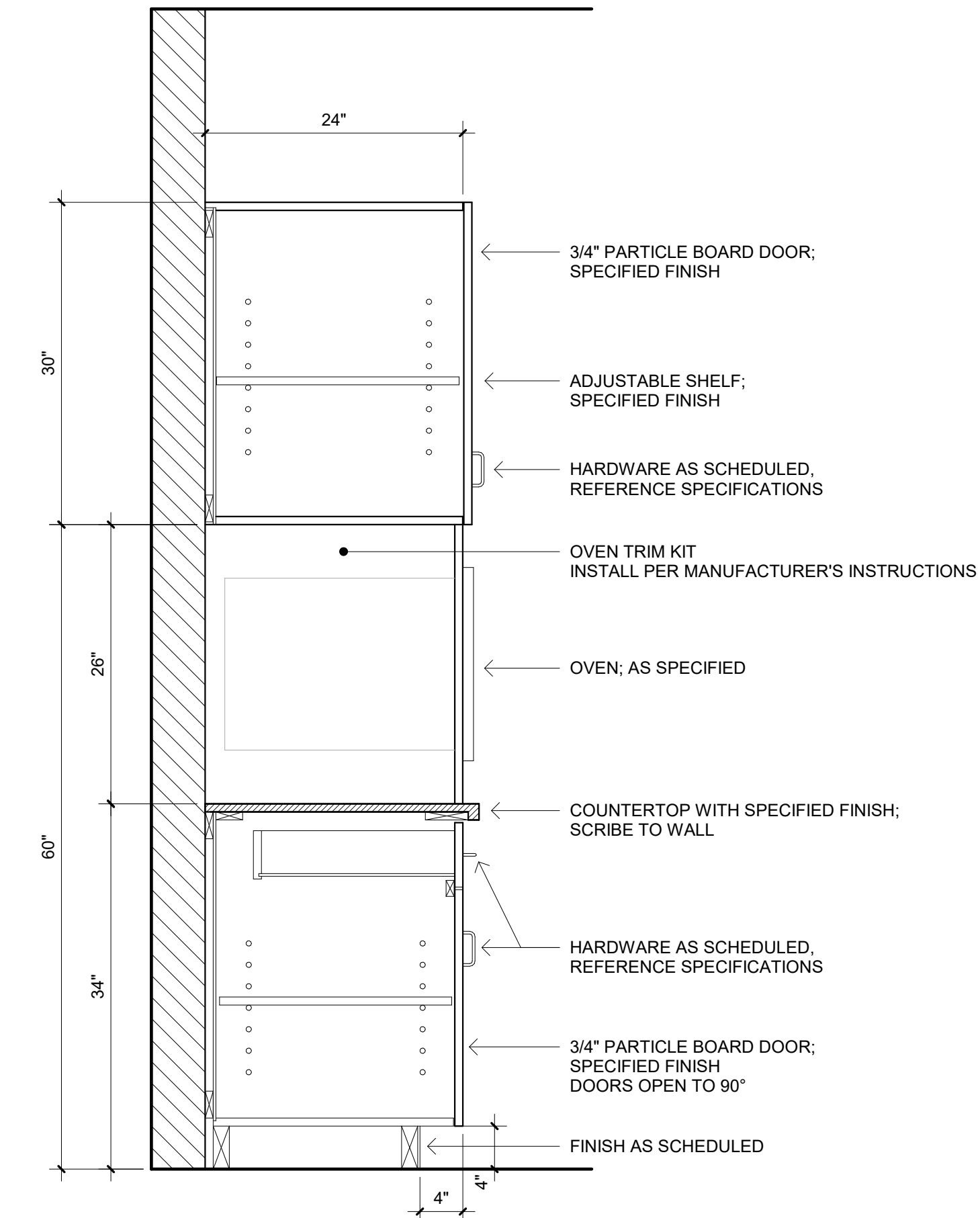
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112

ISSUES / REVISIONS

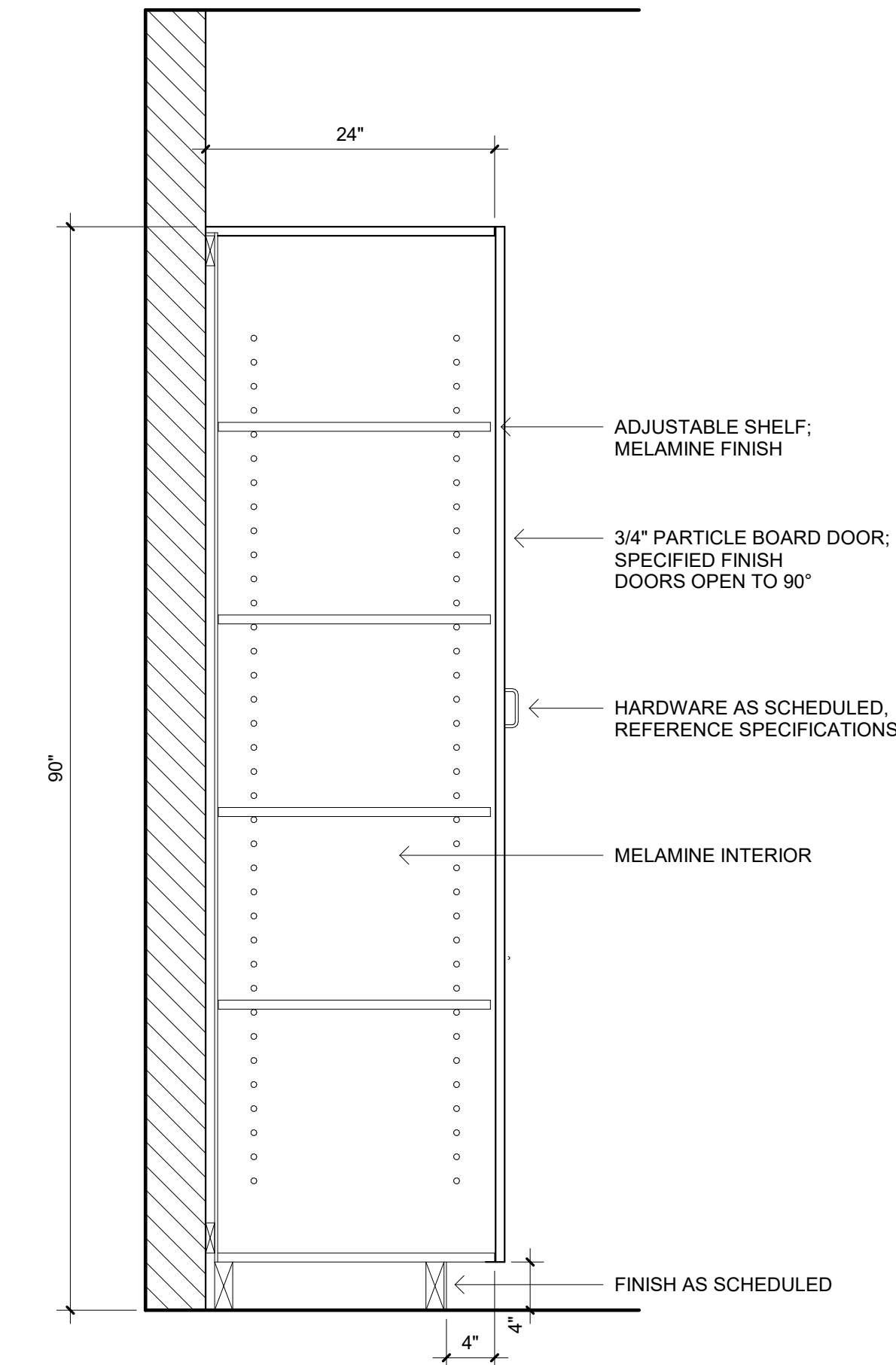
FEBRUARY 21, 2024 14070174-70

ELEVATIONS & SECTION

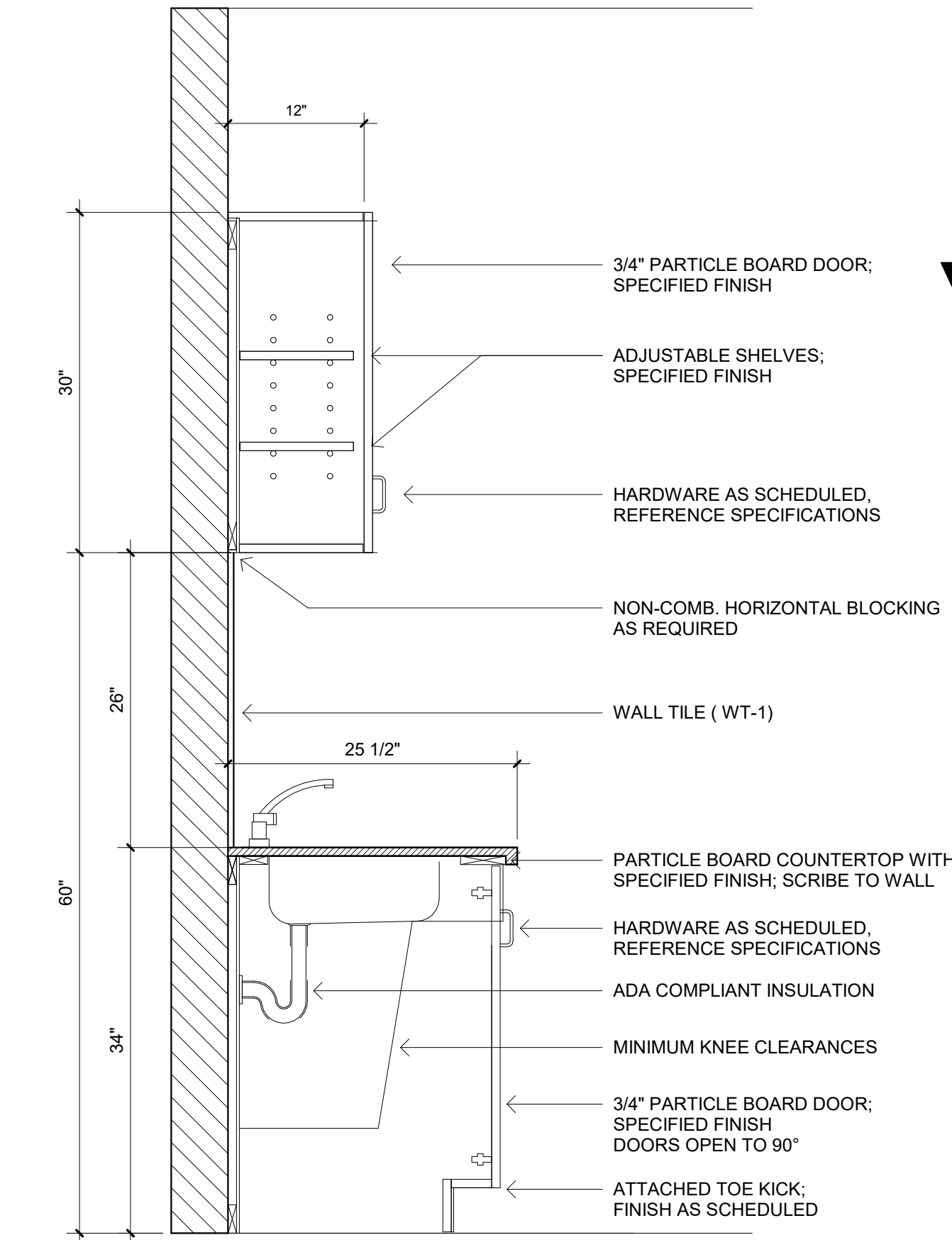
02 / A.7



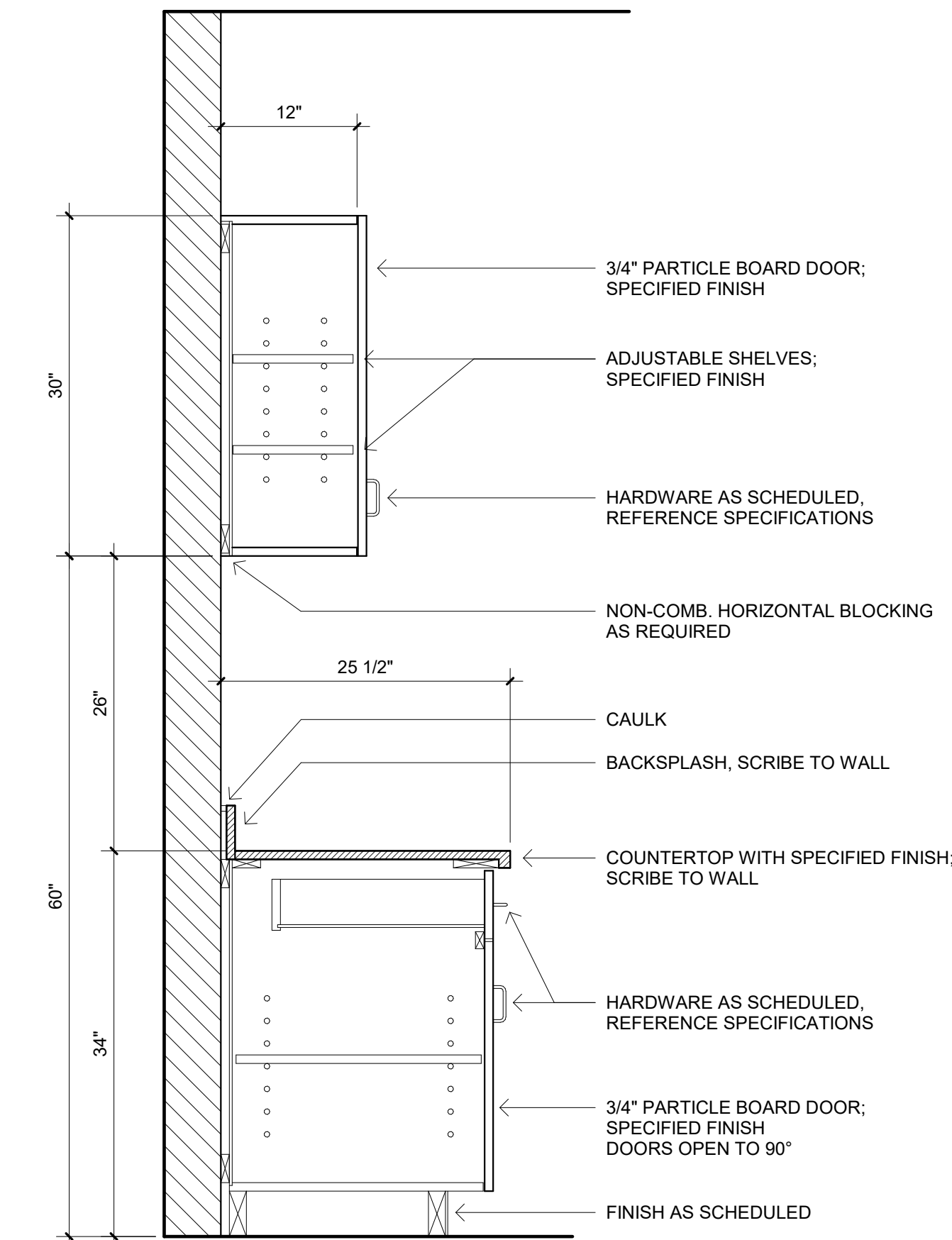
⑥ Section at Built-In Microwave Cabinet  
1" = 1'-0"



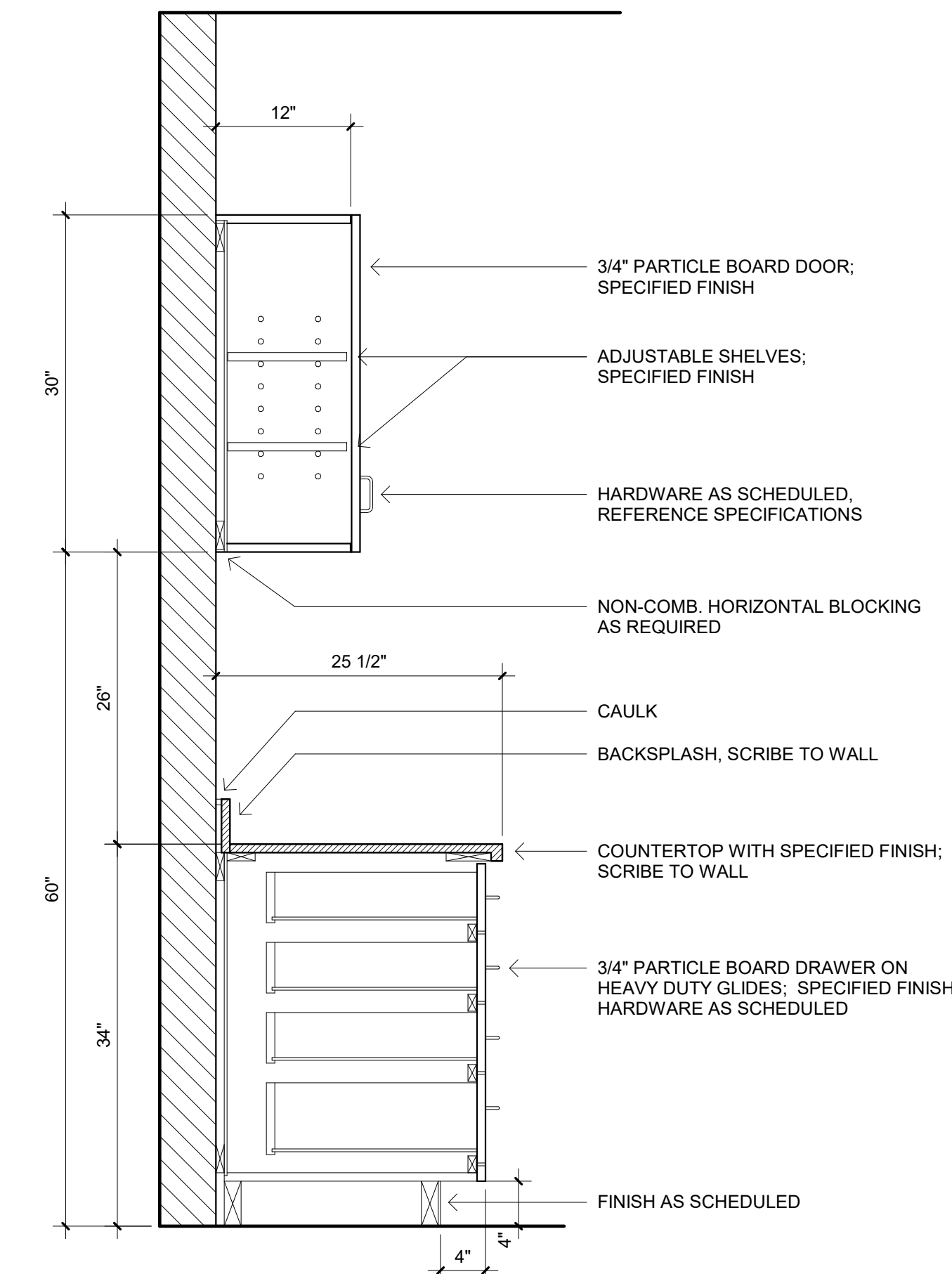
⑤ Section at Typical Pantry Cabinet  
1" = 1'-0"



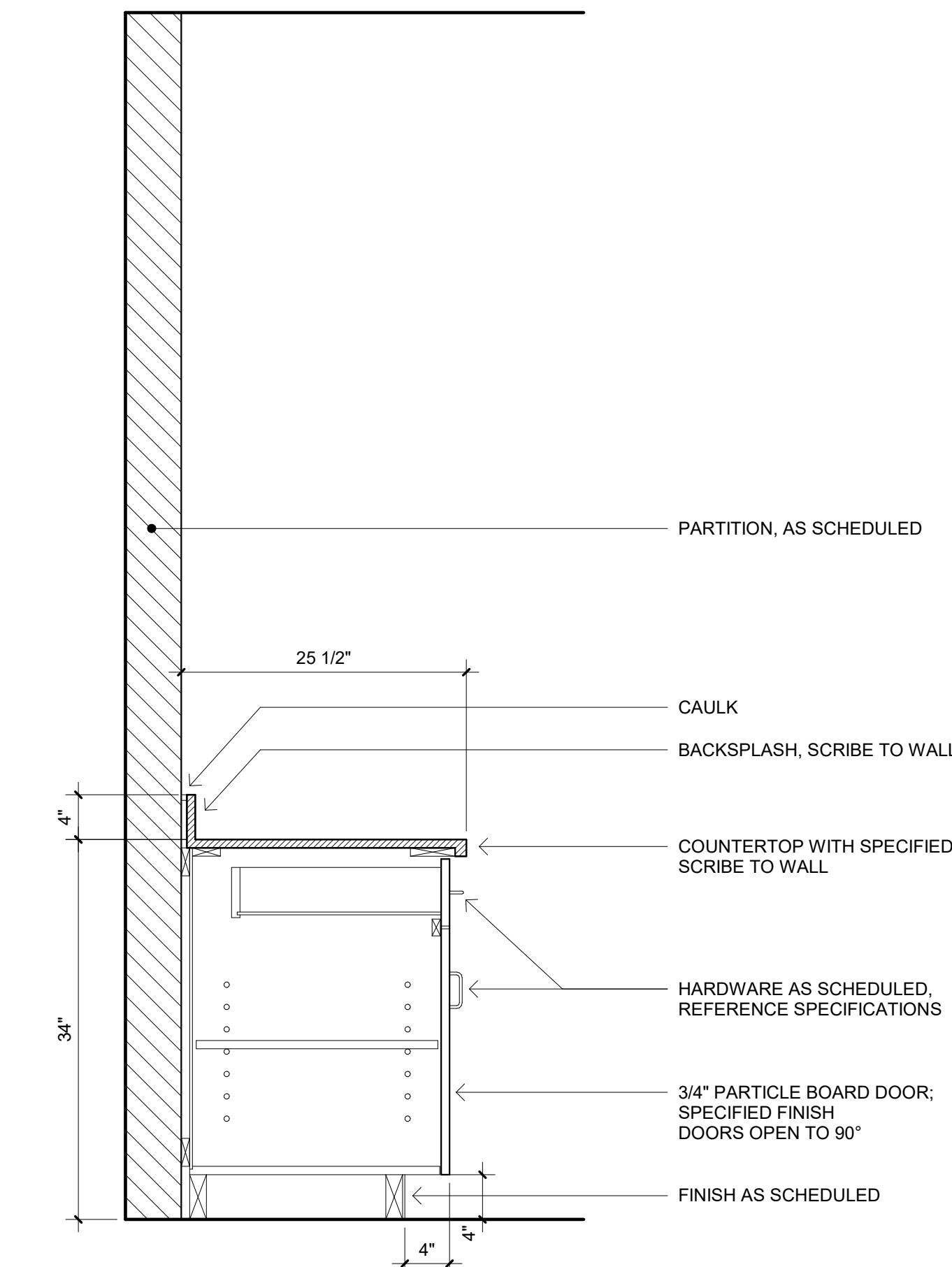
④ Section at Break Room Sink Base  
1" = 1'-0"



③ Section at Typical Casework  
1" = 1'-0"



② Section at Typical Base Cabinet Drawers  
1" = 1'-0"



① Section at Base Cabinet  
1" = 1'-0"



# MECHANICAL GENERAL NOTES

CONTRACTOR SHALL COMPLY WITH NOTES AS APPLICABLE TO PROJECT. NOTES ON INDIVIDUAL DRAWINGS TAKE PRECEDENCE.

## A. GENERAL:

- REFER TO BASE BUILDING SPECIFICATIONS, BASE BUILDING DRAWINGS, GENERAL CONDITIONS AND DIVISION 1 FOR SUPPLEMENTAL REQUIREMENTS.
- WHILE ALL WORK IS IN PROGRESS, EXCEPT FOR SHORT DESIGNATED INTERVALS DURING WHICH CONNECTIONS ARE TO BE MADE, CONTINUITY OF SERVICE TO ALL EXISTING SYSTEMS SERVING OCCUPIED SPACES, SHALL BE MAINTAINED. PROVIDE TEMPORARY PIPING SERVICES WHERE REQUIRED TO MAINTAIN EXISTING AREAS OPERABLE.
- ANY WORK WHICH WILL AFFECT THE BUILDING OCCUPANTS, INCLUDING, BUT NOT LIMITED TO, WORK WHICH GENERATES EXCESSIVE NOISE, DUST, SMOKE, OR INCONVENIENCE TO BUILDING OCCUPANTS, SHALL BE PERFORMED AFTER BUSINESS HOURS, UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE BUILDING MANAGER.
- THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OWNER AT ALL TIMES FOR ALL NEW-TO-EXISTING CONNECTIONS, SYSTEM SHUTDOWNS, RESTART-UP, AND FLUSHING AND FILLING OF BOTH NEW AND EXISTING AFFECTED SYSTEMS.
- THE CONTRACTOR SHALL VISIT AND EXAMINE THE PREMISES AND/OR JOB SITE SO AS TO ASCERTAIN, PRIOR TO BIDDING, THE EXISTING CONDITIONS IN WHICH HE WILL BE OBLIGED TO OPERATE IN PERFORMING HIS PART OF THE CONTRACT. NO EXTRAS WILL BE ALLOWED DUE TO LACK OF KNOWLEDGE OF THESE CONDITIONS.
- REPORT ANY EXISTING DAMAGED EQUIPMENT OR SYSTEMS TO THE OWNER PRIOR TO ANY WORK.
- INSTALL ALL EQUIPMENT AND MATERIALS IN SUCH A MANNER AS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE. ALLOW AMPLE SPACE FOR REMOVAL OF ALL PARTS THAT REQUIRE REPLACEMENT OR SERVICING.
- FURNISH HINGED STEEL ACCESS DOORS WITH CONCEALED LATCH, WHETHER SHOWN ON DRAWINGS OR NOT, WHERE REQUIRED FOR ACCESS TO ALL CONCEALED VALVES, SHOCK ABSORBERS, MOTORS, FANS, BALANCING COOKS, AND OTHER OPERATING DEVICES REQUIRING ADJUSTMENT OR SERVICING. ACCESS DOORS IN FIRE-RATED WALLS AND CEILINGS SHALL HAVE EQUIVALENT U.L. LABEL AND FIRE RATING.
- IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE CONTRACTOR SHALL "PROVIDE" IS USED, IT SHALL MEAN "FURNISH AND INSTALL COMPLETE AND READY FOR USE."
- SECURE AND PAY FOR ALL PERMITS, TAP FEES, TAXES, ROYALTIES, LICENSES, AND INSPECTIONS IN CONNECTION WITH THE WORK SPECIFIED UNDER DIVISION 15.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS.
- DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND DO NOT NECESSARILY INDICATE EVERY REQUIRED OFFSET, VALVE, FITTING, ETC.
- DRAWINGS SHALL NOT BE SCALED FOR ROUGH-IN MEASUREMENTS OR USED AS SHOP DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD.
- ALL NEW, RELOCATED AND EXISTING MATERIALS, IN CEILING PLenums SHALL BE CLASS 1 RATED, NOT EXCEEDING RATING OF 25 FLAME SPREAD AND 50 SMOKE DEVELOPED. REMOVE AND REPLACE ALL EXISTING MATERIALS NOT IN COMPLIANCE.
- BEFORE ANY EQUIPMENT IS ORDERED AND/OR INSTALLED, DETERMINE THAT SAID EQUIPMENT WILL PROPERLY FIT WITHIN THE SPACE ALLOCATED; THAT REQUIRED PIPING GRADES CAN BE MAINTAINED; AND THAT DUCTWORK CAN BE RUN AS INTENDED.
- COORDINATE THE INSTALLATION OF MECHANICAL MATERIALS AND EQUIPMENT ABOVE AND BELOW CEILINGS, LIGHT FIXTURES, AND OTHER BUILDING COMPONENTS. ALL COMPONENTS SHALL BE LOCATED AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE CEILING CAVITY SPACE CAREFULLY WITH ALL TRADES.
- ALL ROOF PENETRATIONS SHALL BE SEALED WATER TIGHT. PROVIDE FLASHING AND COUNTER FLASHING AS REQUIRED. COORDINATE ROOFING WORK WITH THE GENERAL CONTRACTOR.
- CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO SUBSTANTIAL COMPLETION OF CONSTRUCTION OR INSTALLATION OF CEILING TILE, TO SCHEDULE A FINAL PUNCH LIST WALKTHROUGH.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW, FREE OF DEFECTS, AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S CURRENT PUBLISHED RECOMMENDATIONS.
- CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ARCHITECT/ENGINEER FOUR (4) SETS OF HARD COPIES ALL SHOP DRAWINGS AND DESCRIPTIVE EQUIPMENT DATA/SUBMITTALS REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL IDENTIFY ANY "LONG LEAD TIME" ITEMS, WHICH MAY IMPACT THE OVERALL PROJECT SCHEDULE. ALL BIDS SHALL INCLUDE COSTS ASSOCIATED WITH THE PURCHASE AND DELIVERY OF EQUIPMENT TO MEET THE PROJECT SCHEDULE. ALLOW A MINIMUM OF 7 WORKING DAYS FOR ARCHITECT/ENGINEER'S REVIEW.
- QUIET OPERATION AND VIBRATION: MECHANICAL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL OPERATE UNDER ALL LOAD CONDITIONS WITHOUT NOISE OR VIBRATION, WHICH IS OBJECTIONABLE IN THE OPINION OF THE ENGINEER.
- KEEP A COMPLETE SET OF RECORD DOCUMENT PRINTS IN CUSTODY DURING ENTIRE PERIOD OF CONSTRUCTION AT THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, TURN THESE DRAWINGS OVER TO THE GENERAL CONTRACTOR FOR HIS SUBMISSION TO THE ARCHITECT.
- THE CONTRACTOR FOR THIS WORK SHALL EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR OTHER PARTS OF THE WORK, AND IF HE DISCOVERS OR SPACE CONDITIONS APPEAR INADEQUATE OR IF ANY DISCREPANCIES OCCUR BETWEEN THE PLANS FOR HIS WORK AND THE PLANS FOR THE WORK OF OTHERS, HE SHALL REPORT SUCH DISCREPANCIES TO THE ARCHITECT/ENGINEER AND SHALL OBTAIN WRITTEN INSTRUCTIONS FOR ANY CHANGES NECESSARY TO ACCOMMODATE HIS WORK WITH THE WORK OF OTHERS. ANY CHANGES IN THE WORK COVERED BY THIS SPECIFICATION MADE NECESSARY BY THE FAILURE OR NEGLIGENCE OF THE CONTRACTOR TO REPORT SUCH DISCREPANCIES SHALL BE MADE BY AND AT THE EXPENSE OF THIS CONTRACTOR.
- EQUIPMENT SCHEDULES ESTABLISH A QUALITY AND DESIGN STANDARD. SUBSTITUTIONS MUST BE EQUIVALENT IN PERFORMANCE, MATERIAL, SPACE, AND CONFIGURATION REQUIREMENTS. THE PROJECT ENGINEER OR ARCHITECT'S DECISION WILL BE FINAL AND MAY BE BASED ON BOTH CERTIFIED TEST DATA AND SUBJECTIVE REASONING.
- THE MANUFACTURER'S MATERIAL OR EQUIPMENT LISTED IN THE SCHEDULE OR IDENTIFIED BY NAME ON THE DRAWINGS ARE THE TYPES TO BE PROVIDED FOR THE ESTABLISHMENT OF SIZE, CAPACITY, GRADE AND QUALITY. IF ALTERNATES ARE USED IN LIEU OF THE SCHEDULED NAMES, THE COST OF ANY CHANGES IN CONSTRUCTION REQUIRED BY THEIR USE SHALL BE BORNE BY CONTRACTOR.
- OPERATING AND MAINTENANCE DATA: THE CONTRACTOR SHALL PREPARE AN OPERATING AND MAINTENANCE MANUAL, COVERING ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER THIS DIVISION. SUBMIT AN OUTLINE OF A PREVENTATIVE MAINTENANCE PROGRAM FOR EACH SYSTEM. CONTRACTOR SHALL PROPERLY LUBRICATE ALL MECHANICAL PIECES OF EQUIPMENT, WHICH HE HAS PROVIDED BEFORE TURNING THE BUILDING OVER TO THE OWNER.
- DEMOLITION:
  - DURING THE DEMOLITION PHASE REMOVE EXISTING EQUIPMENT, PIPING, DUCTWORK AND RELATED ITEMS OTHER AS SHOWN ON THE DEMOLITION DRAWINGS AS BEING REMOVED, OR AS REQUIRED FOR THE WORK.
  - PROPERLY CAP AND SEAL ALL DUCTWORK AND PIPING NOT USED.
  - EXISTING THERMOSTATS, DIFFUSERS, DUCTWORK, ETC., NOTED ON DRAWINGS TO BE RE-USED SHALL BE THOROUGHLY CLEANED AND/OR REFRESHED TO MATCH NEW.
  - THE LOCATION OF EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC., SHOWN ON THE DRAWINGS HAS BEEN TAKEN FROM EXISTING DRAWINGS AND IS, THEREFORE, ONLY AS ACCURATE AS THAT INFORMATION.
- WARRANTIES:
  - PROVIDE COMPLETE WARRANTY INFORMATION FOR EACH ITEM, INCLUDING, NAME OF PRODUCT OR EQUIPMENT; DATE OF BEGINNING OF WARRANTY OR BOND; DURATION OF WARRANTY OR BOND; AND NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF MANUFACTURING/SERVICING PERSONNEL, AS WELL AS, PROCEDURES FOR FILING A CLAIM AND OBTAINING WARRANTY SERVICES.

28.2. THE CONTRACTOR SHALL WARRANT ALL MATERIALS, WORKMANSHIP AND THE SUCCESSFUL OPERATION OF ALL EQUIPMENT AS IDENTIFIED IN THE GENERAL CONDITIONS, OR DIVISION 1.

29. ANY FILTERS USED DURING CONSTRUCTION SHALL BE REPLACED WITH NEW FILTERS DURING FINAL CLEANUP.

30. EXISTING EQUIPMENT: CHECK, VERIFY AND MAKE OPERABLE ALL EXISTING EQUIPMENT THAT IS NOTED TO BE REUSED. PROVIDE SERVICE ON ALL ROOFTOP HVAC UNITS, Z-BOXES, FAN COILS, AIR CONDITIONING UNITS, ETC., AS REQUIRED TO BRING THEM TO PROPER OPERATING CONDITION. CLEAN COILS AND ENCLOSURE, LUBRICATE, CHECK MOTORS AND REPLACE FILTERS.

31. RESPONSIBILITY OF CONTRACTOR: THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE AND SATISFACTORY INSTALLATION OF THE WORK IN ACCORDANCE WITH THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS. HE SHALL PROVIDE, WITHOUT EXTRA CHARGE, ALL INCIDENTAL ITEMS REQUIRED, AS A PART OF HIS WORK. THE INSTALLATION SHALL BE SO MADE THAT ITS SEVERAL COMPONENT PARTS WILL FUNCTION TOGETHER AS A WORKABLE SYSTEM AND SHALL BE LEFT WITH ALL PARTS ADJUSTED AND IN WORKING ORDER.

## B. MECHANICAL/ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT:

1. CONTRACTOR SHALL REVIEW ELECTRICAL POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT THAT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS AND VERIFY THAT THEY MATCH PRIOR TO ORDERING EQUIPMENT. DO NOT PURCHASE MOTORS OR ELECTRICAL EQUIPMENT UNTIL POWER CHARACTERISTICS AVAILABLE AT BUILDING SITE LOCATION HAVE BEEN CONFIRMED BY CONTRACTOR.

2. PROVIDE SAFETY DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT, UNLESS SPECIFICALLY SHOWN ON DIVISION 16 REQUIREMENTS.

3. FURNISH COMBINATION TYPE FULL NEMA RATED STARTERS WITH FUSED DISCONNECT SWITCH FOR ALL 3-PHASE MOTORS PROVIDED.

4. ELECTRICAL WIRING IN CONNECTION WITH THE AUTOMATIC TEMPERATURE CONTROL SYSTEM, INCLUDING INTERLOCK WIRING, WHERE SHOWN ON THE DIVISION 16 DRAWINGS, SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR. ALL OTHER WIRING, INCLUDING 120V REQUIRED FOR PROPER OPERATION OF THE AUTOMATIC TEMPERATURE CONTROL SYSTEM, SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.

## C. MECHANICAL SYSTEMS FIRESTOPPING:

1. PROVIDE FIRE-STOPPING MATERIAL AND SYSTEMS AS LISTED IN THE U.L. FIRE RESISTANCE DIRECTORY EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF PIPING, DUCTWORK AND OTHER MECHANICAL ITEMS THROUGH FIRE-RATED CORRIDOR WALLS, FIRE RESISTIVE WALLS, FIRE RESISTIVE SHAFTS, AND FLOOR PENETRATIONS.

## D. PIPING APPLICATION:

1. ALL PIPING SHALL CONFORM TO APPLICABLE NATIONAL AND LOCAL CODES.

2. DOMESTIC HOT AND COLD WATER: ABOVE GRADE, INSIDE BUILDING; TYPE "L" HARD DRAWN COPPER TUBE, 95-5 TIN-ANTIMONY SOLDERED JOINTS. BELOW GRADE, INSIDE AND OUTSIDE BUILDING; 3" AND SMALLER: TYPE "K" SOFT DRAWN COPPER WITH SILVER BRAZED SOLDER JOINTS, 4" AND LARGER: DUCTILE IRON, TAP COATED OUTSIDE, CEMENT MORTAR LINED INSIDE.

3. SANITARY DRAINAGE, STORM DRAINAGE AND VENTS - INSIDE BUILDING: ABOVE GRADE: CSPI 301 CAST IRON, NO-HUB TYPE, WITH NEOPRENE GASKETS AND 300 SERIES STAINLESS STEEL CLAMPS; BELOW GRADE: ASTM A-74 SERVICE WEIGHT CAST IRON, HUB-AND-SPOOT TYPE ONLY, WITH NEOPRENE COMPRESSION GASKETS. BEYOND 5 FEET OUTSIDE BUILDING, UNLESS SPECIFIED BY CIVIL, ASTM D-3034 SDR-35 PVC SEWER PIPE.

4. NATURAL GAS PIPING, ABOVE GRADE, EXPOSED LOCATIONS, 2" AND SMALLER: SCHEDULE 40 BLACK STEEL PIPE, BEVELED ENDS, WITH 150 PSI MALLEABLE IRON FITTINGS AND THREADED JOINTS. INACCESSIBLE LOCATIONS, BELOW GRADE OR LARGER THAN 2": SCHEDULE 40 BLACK STEEL PIPE WITH SEAMLESS STEEL BUTT-WELD FITTINGS; AND AS-REQUIRED JOINTS. FOR BELOW GRADE GAS PIPING, PROVIDE PIPING WITH MACHINE-APPLIED COATING AND WRAPPING IN ACCORDANCE WITH LOCAL CODE AND UTILITY COMPANY REQUIREMENTS. PROVIDE CATHODIC PROTECTION.

5. FOR GAS PIPING INSTALLED ON ROOF SHALL BE SUPPORTED AT A MINIMUM OF EVERY 6 FEET, WITH A MINIMUM CLEARANCE FROM ROOF, EXCEPT WHERE GOVERNED BY MORE STRINGENT LOCAL CODES OR SPECIFICATIONS.

6. EXPOSED GAS PIPING SHALL BE LABELED WITH PRESSURE 6" ON CENTERS AND PAINTED.

7. PROVIDE FULL-SIZED SHUT-OFF VALVE, PRESSURE REGULATOR (VENTED TO OUTSIDE) AND 6" DRIP LEG FOR CONNECTIONS TO GAS-FIRED EQUIPMENT.

8. SPACE HEATING WATER, CHILLED WATER, AND CONDENSER WATER PIPING: 2-1/2" AND SMALLER: TYPE L COPPER TUBE, ASTM B-88, WITH WROUGHT COPPER FITTINGS PER ANSI B16.22, BRAZED OR LEAD-FREE SOLDERED. 3" AND LARGER: SCHEDULE 40 BLACK STEEL WITH FLANGED OR WELDED JOINTS.

9. EQUIPMENT DRAINS, CONDENSATE DRAINS AND OVERFLOWS; TYPE "M" OR "DMV" COPPER.

10. REFRIGERANT PIPING (FIELD INSTALLED): TYPE "K" HARD-DRAWN COPPER TUBING WITH SOLDERED COPPER JOINTS. SOLDERED FITTINGS AND COUPLINGS; OR TYPE "L" COPPER, REFRIGERANT GRADE, COLOR CODED AND MARKED "ACR" WITH BRAZED JOINTS. SOFT-ANNEALED COPPER TUBING MAY BE USED IN SIZES UP TO 1-3/8", AND, WHEN USED, SHALL BE ENCLOSED IN IRON OR STEEL PIPING OR IN CONDUIT, MOLDING OR RACEWAY WHICH WILL PROTECT SAE TUBING AGAINST DAMAGE.

## E. PIPING INSTALLATION:

1. GENERAL: INSTALL PIPES AND PIPE FITTINGS IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES, WHICH WILL ACHIEVE PERMANENTLY LEAK-PROOF PIPING SYSTEMS, CAPABLE OF PERFORMING EACH INDICATED SERVICE WITHOUT PIPING FAILURE. INSTALL EACH RUN WITH MINIMUM JOINTS AND COUPLINGS, BUT WITH ADEQUATE AND ACCESSIBLE UNIONS FOR DISASSEMBLY AND MAINTENANCE/REPLACEMENT OF VALVES AND EQUIPMENT.

2. SANITARY WASTE AND VENT; ROOF DRAIN; AND STORM DRAIN PIPING:

2.1. VERIFY ALL INVERT ELEVATIONS OF EXISTING WASTE AND STORM DRAIN PIPING PRIOR TO ANY NEW WORK.

2.2. INSTALL PLUMBING DRAINAGE PIPING WITH MINIMUM 1/4" PER FOOT (2%) DOWNWARD SLOPE IN DIRECTION OF DRAIN FOR PIPING 3" AND SMALLER. INSTALL 4" AND LARGER PIPING WITH MINIMUM 1/8" PER FOOT (1%) DOWNWARD SLOPE, UNLESS OTHERWISE INDICATED ON DRAWINGS AND WHEN APPROVED BY ADMINISTRATIVE AUTHORITIES.

2.3. GRADE VENT PIPING FOR PROPER VENTILATION (MINIMUM 1/8" PER FOOT) AND TO ALLOW PIPING TO FREE ITSELF QUICKLY OF CONDENSATION OF WATER.

3. CONTRACTOR SHALL FIELD VERIFY ALL PIPING AND PLUMBING LOCATIONS AND INVERTS PRIOR TO TRENCHING OR INSTALLATION OF NEW PIPING. ALLOW FOR COST OF X-RAYING FLOOR FOR LOCATING BURIED PIPING AND PRIOR TO MAKING FLOOR PENETRATIONS.

4. INSTALL HANGERS AND GUIDES AS NECESSARY TO PROVIDE PIPING SYSTEMS, WHICH ARE SELF-SUPPORTING AND NOT DEPENDENT UPON CONNECTION TO EQUIPMENT. ALL PIPING SHALL BE ADEQUATELY SUPPORTED FROM THE BUILDING STRUCTURE WITH ADJUSTABLE HANGERS TO MAINTAIN UNIFORM GRADING, WHERE REQUIRED AND TO PREVENT SAGGING AND POCKETING.

5. ALLOW FLEXIBILITY IN THE CONSTRUCTION OF THE PIPING SYSTEM IN ORDER TO PREVENT EXCESSIVE STRESSES IN MATERIALS AND JOINTS DUE TO THERMAL EXPANSION OR EQUIPMENT VIBRATION. PROVIDE SUFFICIENT SWAY JOINTS, ANCHORS, EXPANSION LOOPS, EXPANSION JOINTS, AND/OR OTHER DEVICES AS NECESSARY, AND INSTALL SO AS TO PERMIT FREE EXPANSION AND CONTRACTION WITHOUT CAUSING UNDUE STRESSES.

6. PROVIDE SHUTOFF VALVES AND UNIONS OR FLANGES TO ISOLATE EACH ITEM OF EQUIPMENT.

7. PROVIDE DIELECTRIC UNIONS AT ALL JUNCTIONS OF DISSIMILAR METALS.

8. PROVIDE SHEET METAL SHIELDS FOR PIPING 2" AND SMALLER (EXCEPT WHERE REQUIRED TO BE CLAMPED) AND CALCIUM SILICATE THERMAL INSULATION WITH SHEET METAL SHIELDS FOR PIPING LARGER THAN 2" AND FOR ALL SIZES OF INSULATED PIPING REQUIRED TO BE CLAMPED.

9. PROVIDE ELECTROLYSIS ISOLATORS AT ALL HANGERS AND SUPPORTS FOR DOMESTIC WATER, CONDENSER WATER, AND OTHER WATER LINES WHICH ARE NOT INSULATED.

10. TEST ALL PIPING SYSTEMS. CORRECT LEAKS BY REMAKING JOINTS. GIVE A MINIMUM OF TWENTY-FOUR (24) HOURS NOTICE TO ENGINEER OF DATES WHEN ACCEPTANCE TEST WILL BE CONDUCTED.

11. ALL PIPING SHALL BE CLEANED AND FLUSHED PRIOR TO SERVICE.

12. DOMESTIC WATER SUPPLY AND DISTRIBUTION SYSTEM SHALL BE STERILIZED WITH LIQUID CHLORINE OR HYPOCHLORITE BEFORE ACCEPTANCE FOR OPERATION. IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION G601 STANDARD FOR DISINFECTING WATER MAINS.

## F. MECHANICAL IDENTIFICATION:

1. LABEL ALL DUCT ACCESS DOORS, PIPING, EQUIPMENT AND THERMOSTATS. PIPING AND EQUIPMENT SHALL BE IDENTIFIED WITH LETTERS 2" HIGH AND 6" FLOW ARROWS.

## G. VIBRATION CONTROL:

1. ALL MECHANICAL EQUIPMENT, PIPING AND DUCTWORK AS NOTED OR IN THE SPECIFICATION, SHALL BE MOUNTED ON VIBRATION ISOLATORS TO PREVENT THE TRANSMISSION OF VIBRATION AND MECHANICALLY TRANSMITTED SOUND TO THE BUILDING STRUCTURE. VIBRATION ISOLATORS SHALL BE SELECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE WEIGHT DISTRIBUTION, SO AS TO PRODUCE REASONABLY UNIFORM DEFLECTION.

## H. WATER DISTRIBUTION SYSTEM:

1. ALL EQUIPMENT AND FIXTURES, WHICH ARE CONNECTED TO A POTABLE WATER SUPPLY, SHALL BE INSTALLED IN SUCH A MANNER AS TO ELIMINATE THE POSSIBILITY OF ANY PHYSICAL OR POTENTIAL CROSS-CONNECTION. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL SUBMERGED/ENCLOSED OUTLETS AND INSTALLED A MINIMUM OF 6" ABOVE OVERFLOW RIM.

2. INSTALL BACKFLOW PREVENTERS ON PLUMBING LINES WHERE CONTAMINATION OF DOMESTIC WATER MAY OCCUR.

3. INSTALL PRESSURE REDUCING VALVES TO LIMIT MAXIMUM PRESSURE AT PLUMBING FIXTURES TO 65 PSIG.

4. INSTALL WATER HAMMER ARRESTERS IN DOMESTIC WATER PIPING SYSTEM AT EACH SET OF FLUSH VALVES AND IN OTHER LOCATIONS WHERE HYDROSTATIC SHOCK PRESSURES COULD OCCUR.

## I. PLUMBING FIXTURES:

1. WHERE FIXTURES ARE SPECIFIED AS HANDICAPPED-ACCESSIBLE, IT SHALL BE THE SOLE RESPONSIBILITY OF ALL MANUFACTURERS AND/OR SUPPLIERS TO PROVIDE PLUMBING FIXTURES AND RELATED TRIM, WHICH MEET OR EXCEED THE ADA REQUIREMENTS. COORDINATE WITH ARCHITECTURAL DRAWINGS.

2. FIXTURE MOUNTING HEIGHT AND ROUGH-IN DIMENSIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.

3. INSTALL DRAIN FLASHING COLLAR OR FLANGE, SO THAT NO LEAKAGE OCCURS BETWEEN DRAIN AND ADJOINING FLOORING. MAINTAIN INTEGRITY OF WATERPROOF MEMBRANES, WHERE PENETRATED.

4. PROVIDE ISOLATION VALVES AT ALL PLUMBING FIXTURES.

## J. METAL DUCTWORK:

1. NEW RECTANGULAR DUCTWORK SHALL BE GALVANIZED SHEET METAL, INTERNALLY LINED WITH 1" THICK, 2 LB./CU.FT. DENSITY FIBERGLASS DUCT LINER, WITH MINIMUM NRC (NOISE REDUCTION COEFFICIENT) OF 0.70. LINER SHALL BE U.L. APPROVED, MADE FROM FLAME ATTENUATED GLASS FIBER BONDED WITH A THERMOSETTING RESIN WITH ACRYLIC SMOOTH SURFACE TREATMENT AND FACTORY APPLIED EDGE COATING.

2. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS IN INCHES.

3. PROVIDE SPIN-IN FITTINGS WITH BUTTERFLY DAMPERS FOR ALL NEW AND EXISTING ROUND SUPPLY RUN-OUTS TO DIFFUSERS AND ALL ROUND RETURN/EXHAUST RUN-OUT DUCTS TO RETURN/EXHAUST GRILLES. ANY DIFFUSERS OR GRILLES INSTALLED WHERE SAID BUTTERFLY DAMPERS WOULD BE INACCESSIBLE SHALL BE PROVIDED WITH INTEGRAL BALANCING DAMPER.

4. FABRICATE DUCTWORK OF GAUGES AND REINFORCEMENT COMPLYING WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". MEDIUM PRESSURE DUCT, UPSTREAM OF VAV BOXES - PRESSURE CLASS 4" W.G. POSITIVE OR NEGATIVE, SEAL CLASS A. LOW PRESSURE DUCT, DOWNSTREAM OF VAV BOXES - PRESSURE CLASS 2" W.G. POSITIVE OR NEGATIVE, SEAL CLASS B.

5. USE MINIMUM 26 GA. WHERE DUCTS ARE WITHIN CORRIDORS.

6. SMACNA STANDARDS: COMPLY WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS; METAL AND FLEXIBLE" FOR FABRICATION AND INSTALLATION OF METAL DUCTWORK. COMPLY WITH SMACNA "HVAC AIR DUCT LEAKAGE TEST MANUAL" FOR TESTING OF DUCT SYSTEMS.

7. ALL RECTANGULAR DUCTWORK WITH 45 DEG. ELBOWS OR GREATER SHALL HAVE DOUBLE WALL TURNING VANES OR LONG RADIUS ELBOWS. PROVIDE LONG RADIUS ELBOWS FOR ROUND DUCTWORK.

8. FLEXIBLE AIR DUCTS SHALL BE LISTED UNDER U.L.-181 STANDARDS AS CLASS I AIR DUCT MATERIAL. MINIMUM OPERATING PRESSURE RATING SHALL BE 6" W.C. WITH MINIMUM WORKING VELOCITY RATING SHALL BE 4000 FPM.

9. ALL INSULATED FLEXIBLE DUCTS SHALL BE CONSTRUCTED OF A METALIZED RIPSTOP REINFORCED LAMINATE THICK 3/4" OR 1-1/2" THICK, 2 LB./CU.FT. DENSITY FIBERGLASS INSULATION WITH "C" FACTOR OF 0.23 OR LESS; AND AN OUTER JACKET MADE EXCLUSIVELY OF FIRE RETARDANT REINFORCED ALUMINIZED MATERIAL. EQUAL TO FLEXMASTER TYPE SM.

10. EXISTING FLEXIBLE DUCTWORK, WHICH REMAINS IN PLACE, MAY BE REUSED IF IT IS PROPERLY LABELED WITH U.L.-181. EXISTING FLEXIBLE DUCTWORK NOT U.L. APPROVED SHALL BE REMOVED AND REPLACED WITH THAT SPECIFIED IN NOTES ABOVE.

11. FINAL CONNECTION OF FLEXIBLE DUCTWORK TO RUN-OUT DUCTS AND CEILING DIFFUSERS SHALL BE MADE WITH 0.5" WIDE POSITIVE-LOOKING STEEL STRAPS (APPLIES TO ALL FLEXIBLE DUCTWORK NEW AND EXISTING).

12. MAXIMUM LENGTH: FOR ANY DUCT RUN USING FLEXIBLE DUCTWORK, SHALL NOT EXCEED 6'-0".

13. CONNECTIONS TO EXHAUST GRILLES SHALL BE MADE WITH RIGID DUCTWORK ONLY.

14. SEAL ALL DUCTWORK WITH NON-HARDENING, NON-MIGRATING MASTIC OR LIQUID ELASTIC SEALANT, OF TYPE APPLICABLE FOR FABRICATION/INSTALLATION DETAIL, AS COMPOUNDED AND RECOMMENDED BY MANUFACTURER, SPECIFICALLY FOR SEALING JOINTS AND SEAMS IN DUCTWORK.

15. DUCT TAKEOFF FITTINGS: PROVIDE SPIN-IN FITTINGS AT FLEXIBLE OR ROUND SHEET METAL DUCT TAKEOFFS TO AIR DEVICES. FITTINGS DOWNSTREAM OF AIR TERMINALS SHALL INCLUDE BUTTERFLY TYPE MANUAL VALVES DAMPER WITH END BEARINGS, REGULATOR, AND LOCKING DEVICE.

16. PROVIDE DUCT HANGERS IN ACCORDANCE WITH SMACNA HVAC DUCT MANUALS.

17. KITCHEN GREASE EXHAUST DUCT SHALL BE MINIMUM 16 GA. CARBON STEEL, ALL WELD CONSTRUCTION, ANY ACCESS PANELS AND CLEANOUTS FOR GREASE CLEANING, AS REQUIRED BY NFPA 96 AND LOCAL CODES. SLOPE DUCT BACK TOWARDS HOOD AT MINIMUM OF 1/4" PER LF MAINTAINING CODE REQUIRED CLEARANCE TO COMBUSTIBLE MATERIALS. INSTALL GREASE DUCT IN AN APPROVED 2 HOUR FIRE-RATED ENCLOSURE, AS REQUIRED BY CODE OR PROVIDE A 2 HOUR FIRE WRAP, U.L. LISTED FOR GREASE DUCT SYSTEM.

18. DISHWASHER, POOL AND LOCKER ROOM EXHAUST SHALL BE MINIMUM 16 GA. ALUMINUM, SLOPE DUCT DOWN TO AIR DEVICE.

## K. COMBINATION FIRE/SMOKE DAMPERS:

1. PROVIDE AND INSTALL U.L. LABELED, CLASS II (FOR VELOCITIES UP TO 1,500 FPM) OR CLASS I (FOR VELOCITIES ABOVE 1500 FPM), MOTOR-DRIVEN COMBINATION FIRE/SMOKE DAMPERS AT ALL FIRE RATED WALLS, FULL DUCT SIZE, WITH TYPE 304 STAINLESS STEEL SIDE SEALS, COMBINATION SILICONE/GALVANIZED STEEL EDGE SEALS, BRONZE OUTLET OR STAINLESS STEEL SLEEVE BEARINGS, AIRFOIL SHAPED GALVANIZED STEEL PARALLEL ACTING BLADES ALONG WITH OUT-OF-AIRSTREAM IN-JAMB LINGAGE WITH STAINLESS STEEL METAL SHIELDS FOR PIPING LARGER THAN 2" AND FOR ALL SIZES OF INSULATED DAMPER IN ACCORDANCE WITH U.L. FIRE DAMPER REQUIREMENTS.

## L. AIR OUTLETS AND INLETS:

1. CEILING COMPATIBILITY: PROVIDE DIFFUSERS WITH BORDER STYLES THAT ARE COMPATIBLE WITH ADJACENT CEILING SYSTEMS, AND THAT ARE SPECIFICALLY MANUFACTURED TO FIT INTO CEILING MODULE WITH ACCURATE FIT AND ADEQUATE SUPPORT. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR TYPES OF CEILING SYSTEMS, WHICH WILL CONTAIN EACH TYPE OF CEILING AIR DIFFUSER.

## M. CONTROLS:

1. TEMPERATURE CONTROLS CONTRACTOR SHALL PROVIDE A COMPLETE NEW/MODIFIED CONTROL SYSTEM USING NEW CONTROL DEVICES AS REQUIRED OR TO REPLACEABLE EXISTING DEVICES FOR THE MECHANICAL SYSTEMS TO OPERATE AS REQUIRED. THE CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A PROPOSAL.

2. THE EXISTING TEMPERATURE CONTROL SYSTEM CONTROL DEVICES, DAMPERS, OPERATORS, WIRING, CONDUIT, AIR PIPING, VALVES, ETC. NOT BEING MODIFIED, AND WHICH ARE NO LONGER UTILIZED, SHALL BE REMOVED, AND NOT ABANDONED IN PLACE.

3. CHECK AND MAKE OPERABLE ALL WIRING AND PNEUMATIC CONTROL TUBING FOR ALL THE SYSTEMS ASSOCIATED WITH THE PROJECT AREA.

4. THE CONTROL CONTRACTOR WILL BE RESPONSIBLE FOR ALL INSTALLATION, PROGRAMMING, COMMISSIONING, TESTING AND PERFORMANCE VERIFICATION.

5. THE CONTROLS CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL DEVICES REQUIRED FOR A COMPLETE OPERATING CONTROL SYSTEM.

6. PROVIDE 120V WIRING AS REQUIRED FOR THE TEMPERATURE CONTROL SYSTEMS, UNLESS SPECIFICALLY INDICATED ON ELECTRICAL DRAWINGS.

## N. PIPING INSULATION:

1. ALL NEW AND EXISTING PIPING SHALL BE INSULATED WITH FIBERGLASS PIPING INSULATION. "C" FACTOR SHALL BE MAXIMUM OF 0.24 AT 75° F MEAN TEMPERATURE. INSULATION SHALL HAVE JACKET WITH TENSILE STRENGTH OF 35 LBS/IN AND FACTORY APPLIED VAPOR BARRIER JACKET WITH PERMEABILITY OF 0.02 PERM WITH ADHESIVE SELF-SEALING LAP JOINT. SEE TABLE ON THIS SHEET FOR MINIMUM INSULATION THICKNESSES REQUIRED.

## O. DUCTWORK SYSTEM INSULATION:

1. ALL NEW AND EXISTING UN-INSULATED ROUND DUCTWORK AND EXISTING UN-INSULATED RECTANGULAR DUCTWORK SHALL BE WRAPPED WITH FLEXIBLE FIBERGLASS DUCTWORK INSULATION, 1-1/2" THICK, TYPE I, 1.0 LB. PER CU. FT. DENSITY. MINIMUM INSULATION VALUE SHALL BE R-5. ALL-WRAP INSULATION SEAMS AND JOINTS SHALL BE SEALED WITH VAPOR-TIGHT FOL-SCRM-KRAFT TAPE. OMIT INSULATION WHERE DUCTWORK IS SPECIFIED TO BE UNINSULATED.

2. DUCTWORK EXPOSED TO WEATHER SHALL BE INSULATED WITH RIGID FIBERGLASS INSULATION, 2" THICK. DENSITY OF 3 LBS. PER CU. FT. AND FACTORY APPLIED VAPOR BARRIER FACING.

3. DUCTWORK ON WHICH INSULATION IS NOT REQUIRED: FIBROUS GLASS DUCTWORK, LINED DUCTWORK, EXHAUST AIR DUCTWORK, EXCEPT AS SPECIFICALLY NOTED ON DRAWINGS, AND PRE-INSULATED FLEX DUCT.

## P. EXISTING INSULATION REPAIR:

1. REPAIR DAMAGED SECTIONS OF EXISTING MECHANICAL INSULATION, BOTH PREVIOUSLY DAMAGED OR DAMAGED DURING THIS CONSTRUCTION PERIOD. USE INSULATION OF SAME THICKNESS AS EXISTING INSULATION. INSTALL NEW JACKET LAPPING AND SEAL OVER EXISTING.

## TESTING, ADJUSTING AND BALANCING:

## A. GENERAL:

1. THE CONTRACTOR SHALL TEST, ADJUST AND BALANCE ALL AIR SIDE SYSTEMS AND EQUIPMENT; SUPPLY/RETURN AIR SYSTEMS, AIR TERMINALS, DIFFUSERS AND GRILLES, GENERAL EXHAUST/SUPPLY FANS, AIR HANDLING UNITS, TERMINAL UNITS, ETC. AND ALL HYDRONIC SYSTEMS AND EQUIPMENT; AND HEATING/CHILLED/CONDENSER WATER SYSTEMS, COILS, PUMPS, ETC.

## B. QUALIFICATIONS OF CONTRACTOR:

2. THE MECHANICAL CONTRACTOR SHALL PROCURE THE SERVICES OF AN INDEPENDENT TESTING AND BALANCING AGENCY (NOT ENGAGED IN ENGINEERING DESIGN AND IS NOT A DIVISION OF A MECHANICAL CONTRACTING ENTITY) SPECIALIZING IN THE TESTING, ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS TO PERFORM THE ABOVE-MENTIONED WORK. WORK SHALL BE PERFORMED BY QUALIFIED TECHNICIANS WHO ARE CURRENTLY CERTIFIED BY THE TESTING, ADJUSTING AND BALANCING BUREAU (TABB), THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB), OR THE ASSOCIATED AIR BALANCE COUNCIL (AABC).

## C. APPROVAL OF CONTRACTOR:

1. ONLY THE FOLLOWING FIRM IS ACCEPTABLE TO PERFORM THE WORK: COMPLETE MECHANICAL BALANCING, INC. (303) 948-5429

## D. TESTING PROCEDURES:

1. TESTING AND BALANCING SHALL NOT BEGIN UNTIL THE SYSTEM HAS BEEN COMPLETED AND IS IN FULL WORKING ORDER.

2. BEFORE ANY AIR BALANCE WORK IS DONE, CHECK THE SYSTEM FOR DUCT LEAKAGE; ASSURE THAT NEW FILTERS ARE INSTALLED; CHECK FOR CORRECT FAN ROTATION; CHECK EQUIPMENT VIBRATION; AND CHECK AUTOMATIC DAMPERS FOR PROPER OPERATION. ALL VOLUME CONTROL DAMPERS AND OUTLETS SHALL BE WIDE OPEN AT THIS TIME.

3. BEFORE ANY HYDRONIC, DOMESTIC WATER OR APPLICABLE SYSTEM BALANCING WORK IS DONE, THE SYSTEMS SHALL BE CHECKED FOR PLUGGED STRAINERS, PROPER PUMP ROTATION, CONTROL VALVE INSTALLATION AND OPERATION, AIR LOCKS, SYSTEM STATIC PRESSURE, FLOW METER, AND CHECK VALVE INSTALLATION. ALL THROTTLING DEVICES AND CONTROL VALVES SHALL BE OPEN AT THIS TIME.

## E. GENERAL SYSTEM AND EQUIPMENT PROCEDURES:

1. BALANCE ALL AIR AND WATER FLOWS AT TERMINALS TO WITHIN +10% TO -5% OF DESIGN FLOW QUANTITIES. NOTIFY CONTRACTOR/ENGINEER IN WRITING OF CONDITIONS DETRIMENTAL TO THE PROPER COMPLETION OF THE TEST AND BALANCE WORK.

2. MINIMUM COOLING CFM FOR VAV TERMINALS SHALL BE SET AT 10% OF MAXIMUM DESIGN.

3. RECORD PRIMARY AND AMBIENT AIR, DRY BULB AND WET BULB TEMPERATURES AT THE TIME OF TESTING.

4. CHECK AND CALIBRATE ALL THERMOSTATS AND TEMPERATURE SENSORS. REPORT TO THE GENERAL CONTRACTOR ANY MALFUNCTIONING THERMOSTAT AND SENSORS, AND REPAIR OR REPLACE AS REQUIRED. THERMOSTATS OR SENSORS SHALL BE SET FOR:

HEATING MODE-SET AND LOOK AT 72 DEGREES F +/- 2 DEGREES F.

COOLING MODE-SET AND LOOK AT 75 DEGREES F +/- 2 DEGREES F.

## F. TEST AND BALANCE REQUIREMENTS:

## 1. VAV TERMINALS:

a. BALANCE VAV TERMINAL MINIMUM AND MAXIMUM COOLING.

b. BALANCE MINIMUM AND MAXIMUM HEATING. HEATING CFM FOR PARALLEL FAN-POWERED VAV TERMINALS SHALL BE SET AT 75% OF MAXIMUM PRIMARY AIR SETTING.

c. BALANCE ALL AIR DEVICES (DIFFUSERS AND GRILLES) TO CFM INDICATED ON DRAWINGS.

## 2. GENERAL EXHAUST/SUPPLY FANS:

a. ADJUST CFM TO SYSTEM REQUIREMENTS. FOR BELT DRIVE, INCLUDE SHEAVE AND BELT EXCHANGE TO DELIVER AIRFLOW WITHIN LIMITS OF INSTALLED MOTOR HORSEPOWER AND MECHANICAL STRESS LIMITS OF THE FAN.

b. MEASURE AND REPORT STATIC PRESSURES UPSTREAM AND DOWNSTREAM OF FANS.

c. MEASURE AND REPORT FAN RPM.

## PIPING INSULATION TABLE

PIPING SYSTEM TYPE	MINIMUM INSULATION THICKNESS (IN.) FOR PIPE SIZES	
	UP TO 1"	1-1/2" - 8"
DOMESTIC COLD WATER AND CONDENSATE DRAINS	0.5	1.0
DOMESTIC HOT WATER PIPING (CIRCULATING AND NON-CIRCULATING)	1.0	1.5
SANITARY WASTE PIPING EXPOSED TO OUTDOOR AMBIENT TEMPERATURES	N/A	2.0
HVAC CHILLED WATER SUPPLY AND RETURN	1.0	1.0
HVAC SPACE HEATING WATER SUPPLY AND RETURN	1.5	2.0
REFRIGERANT SUCTION LINES	1.0	1.





MECHANICAL LEGEND

NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THESE DRAWINGS

HVAC DUCTWORK, AIR DEVICES AND SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DOUBLE-LINE AND SINGLE LINE RECTANGULAR DUCT. FIRST NUMBER INDICATES WIDTH IN INCHES, SECOND NUMBER INDICATES DEPTH IN INCHES		TEMPERATURE SENSOR
	DOUBLE-LINE AND SINGLE LINE ROUND DUCT. NUMBER INDICATES DIAMETER IN INCHES.		HUMIDISTAT
	ACOUSTICAL LINED RECTANGULAR DUCT. SIZES GIVEN INDICATE CLEAR INSIDE DIMENSIONS IN INCHES.		CO2 SENSOR
	DOUBLE LINE AND SINGLE LINE CHANGE IN ELEVATION.		ACCESS PANEL (AP)
	DOUBLE-LINE AND SINGLE LINE EXISTING DUCTWORK TO REMAIN		VARIABLE FREQUENCY MOTOR DRIVE (VFD)
	DOUBLE-LINE AND SINGLE LINE EXISTING DUCTWORK WHICH SHALL BE REMOVED OR RELOCATED AND REUSED WHERE POSSIBLE.		UNDERCUT DOOR BY MEASUREMENT INDICATED
	DOUBLE-LINE AND SINGLE LINE DUCT TRANSITION		AIRFLOW SUPPLY
	DOUBLE-LINE AND SINGLE LINE RECTANGULAR DUCT ELBOW WITH TURNING VANES		AIRFLOW RETURN OR EXHAUST
	SINGLE LINE DUCT WITH RADIUS ELBOW		
	DOUBLE-LINE AND SINGLE LINE CONICAL TAP		
	DOUBLE-LINE AND SINGLE LINE DUCT WITH SPIN-IN FITTING AND VOLUME DAMPER		
	RECTANGULAR DUCT SECTION, SUPPLY		
	RECTANGULAR DUCT SECTION, RETURN		
	RECTANGULAR DUCT SECTION, EXHAUST		
	ROUND VERTICAL DUCT		
	MANUAL VOLUME DAMPER		
	BACKDRAFT DAMPER		
	FIRE DAMPER (WITH ACCESS PANEL)		
	FIRE/SMOKE DAMPER (WITH ACCESS PANEL)		
	DOUBLE LINE AND SINGLE LINE DUCT ENDCAP		

PLUMBING SPECIALTIES

SYMBOL	DESCRIPTION
	FLOOR DRAIN (FD)
	FLOOR SINK (FS) (ROUND OR SQUARE)
	FLOOR CLEANOUT (FCO)
	WALL CLEANOUT (WCO)
	BACKFLOW PREVENTER (BFP)

ABBREVIATIONS

ABBR.	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
BOD	BOTTOM OF DUCT
BTU/H	BRITISH THERMAL UNITS PER HOUR
CFM	CUBIC FEET/AIR PER MINUTE
DB	DRY BULB TEMPERATURE
DIA	DIAMETER
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EFF	EFFICIENCY
ELEV	ELEVATION
EWI	ENTERING WATER TEMPERATURE
EXIST	EXISTING
FLR	FLOOR
FPM	FEET PER MINUTE
GPM	GALLONS PER MINUTE
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
(N)	NEW
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
RA	RETURN AIR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VTR	VENT THROUGH ROOF
W/O	WITHOUT

PIPE SYMBOLS

SYMBOL	DESCRIPTION
	INDICATION OF PITCH GOING UP OR DOWN
	DIRECTION OF FLOW

HVAC PIPING

LINE/TYPE	DESCRIPTION
	NEW PIPING (LINE/TYPE VARIES PER SYSTEM)
	EXISTING PIPING (LINE/TYPE VARIES PER SYSTEM)
	PIPE TO BE REMOVED
	HATCH INDICATING DEMOLITION WORK
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	HEATING WATER SUPPLY
	HEATING WATER RETURN

PLUMBING PIPING

LINE/TYPE	DESCRIPTION
	DOMESTIC COLD WATER (CW)
	DOMESTIC HOT WATER (HW)
	DOMESTIC HOT WATER CIRCULATING (HWC)
	NATURAL FUEL GAS
	SANITARY WASTE (ABOVE FLOOR/GRADE)
	SANITARY WASTE (BELOW FLOOR/GRADE)
	GREASE WASTE (ABOVE FLOOR/GRADE)
	GREASE WASTE (BELOW FLOOR/GRADE)
	STORM DRAIN (ABOVE FLOOR/GRADE)
	STORM DRAIN (BELOW FLOOR/GRADE)
	DRAIN (ABOVE FLOOR/GRADE)
	DRAIN (BELOW FLOOR/GRADE)
	SANITARY VENT

GENERAL / MISCELLANEOUS

SYMBOL	DESCRIPTION
	POINT OF CONNECTION TO EXISTING SYSTEM (POC)
	DETAIL NUMBER OR PLUMBING RISER NUMBER
	SHEET NUMBER WHERE DETAIL FOR RISER IS SHOWN
	SECTION POINT OF VIEW
	SECTION DESIGNATION
	SECTION NUMBER WHERE SECTION IS SHOWN
	BOLD LINES INDICATE NEW OR RELOCATED EQUIPMENT. NEW EQUIPMENT MAY BE NOTED (N). RELOCATED EQUIPMENT MAY BE NOTED (R).
	LIGHT LINES INDICATED EXISTING EQUIPMENT TO REMAIN. EXISTING EQUIPMENT MAY BE NOTED (E).
	DASHED LINES INDICATE EXISTING EQUIPMENT TO BE REMOVED OR RELOCATED AND REUSED WHERE POSSIBLE.

SPRINKLERS

SYMBOL	DESCRIPTION
	EXISTING SPRINKLER HEAD SHOWN FOR REFERENCE ONLY

VALVES AND SPECIALTIES

SYMBOL	DESCRIPTION
	BALL VALVE
	BUTTERFLY VALVE
	HOSE END VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	GAUGE COCK VALVE
	GAS COCK OR PLUG VALVE
	VENTURI METER
	PRESSURE RELIEF VALVE
	STRAINER
	STRAINER WITH BLOW-OFF
	BALANCING COCK
	COMBINATION BALANCING COCK / FLOW MEASURING DEVICE
	FLEXIBLE PIPE CONNECTOR
	AIR VENT - AUTOMATIC
	AIR VENT - MANUAL
	METER
	PRESSURE/TEMPERATURE TEST POINT
	PRESSURE GAUGE
	PRESSURE GAUGE AND COCK
	THERMOMETER AND THERMOWELL
	OPEN FUNNEL DRAIN

PIPE FITTINGS

LINE/TYPE	DESCRIPTION
	VERTICAL PIPE (UP OR DOWN)
	PIPING CAP OR PLUG
	PIPING ELBOW UP
	PIPING ELBOW DOWN
	PIPING REDUCER, CONCENTRIC (FLAT ON TOP)
	PIPING REDUCER, ECCENTRIC (FLAT ON TOP)
	PIPING ELBOW DOWN TO TEE
	PIPING ELBOW UP TO TEE
	PIPING TEE UP
	PIPING TEE DOWN
	UNION, SCREWED
	UNION, FLANGED

DIFFUSER NECK SIZE SCHEDULE

CFM RANGE	MINIMUM NECK SIZE
0 - 125	6"
126 - 225	8"
226 - 300	10"
301 - 400	12"
401 - 500	14"

LINEAR DIFFUSER AND NECK SIZE SCHEDULE

CFM RANGE	LINEAR DIFFUSERS			
	TBD-80	NECK	ML-39	NECK
0 - 125	2-SLOT	6"	2-SLOT	6"
126 - 225	2-SLOT	8"	2-SLOT	8"
226 - 300	4-SLOT	10"	4-SLOT	10"
301 - 400	4-SLOT	12"	4-SLOT	12"
401 - 500	4-SLOT	14"	5-SLOT	14"

1. PROVIDE RIGID RUN-OUT DUCT OF SAME SIZE AS DIFFUSER NECK DIAMETER.  
2. INCREASE RUN-OUT DUCT SIZE BY ONE FULL SIZE WHEN LENGTH OF RUN-OUT DUCT FROM MAIN SUPPLY DUCT EXCEEDS 20'-0". PROVIDE TRANSITION AT THE DIFFUSER.  
3. PROVIDE TITUS MODEL TBD-80 FOR LAY-IN CEILINGS AND ML-39 FOR HARD CEILINGS.

TERMINAL UNIT DESIGNATION VAV OR FFB

MAXIMUM PRIMARY AIR CFM SETTING

VAV-1 1000 KW or GPM 10 10

NOMINAL INLET DIA. (N)

ZONE NO.

NEW 24" x 24" LOUVERED FACE SUPPLY AIR DIFFUSER WITH 4-WAY THROW AND NECK SIZE AS REQUIRED BY DIFFUSER NECK SIZE SCHEDULE ON THIS SHEET. (KRUEGER MODEL 1400 OR EQUAL. PROVIDE PLO IF ADJACENT TO EXISTING PLO). PROVIDE FRAME FOR SURFACE MOUNTING IN GYPBOARD CEILING WHERE REQUIRED.

EXISTING 24" x 24" SUPPLY AIR DIFFUSER TO REMAIN. PROVIDE NEW DUCTWORK CONNECTION WHERE REQUIRED.

AIR DEVICE CFM

NEW 48" LONG 2-SLOT LINEAR SUPPLY AIR DIFFUSER WITH INTERNALLY INSULATED PLENUM AND NECK SIZE AS REQUIRED BY DIFFUSER NECK SIZE SCHEDULE ON THIS SHEET.

EXISTING LINEAR SUPPLY SLOT AIR DIFFUSER WHICH SHALL BE REMOVED OR RELOCATED AND REUSED IN ANY LOCATION MARKED (R) (PER DIFFUSER NECK SIZE SCHEDULE) OR AS SHOWN BY ARROW. CAP OFF EXISTING DUCT TAP AND REMOVE UNUSED RUN-OUT DUCTWORK ASSOCIATED WITH REMOVED DIFFUSER AS REQUIRED.

EXISTING DUCT

NEW OR RELOCATED DUCT WITH EXTERNAL INSULATION

NEW ROUND DUCT EXTERNALLY INSULATED. SAME SIZE AS TERMINAL INLET, UNLESS WHEN THE LENGTH OF DUCT EXCEEDS 20'-0", INCREASED BY ONE SIZE.

ACCESS PANEL FOR ALL HARD CEILINGS.

NEW VAV WITH TAG VAV-1

4'-0" MIN.

FLEXIBLE DUCT 6'-0" MAX.

SPIN IN FITTING

LINED PLENUM 8'-0" MIN.

CONTROL WIRING/TUBING

NEW THERMOSTAT TO MATCH EXISTING BUILDING STANDARD, OR AS OTHERWISE REQUIRED FOR CONTROL OF SPECIAL EQUIPMENT MARKED (N).

EXISTING THERMOSTAT TO REMAIN. VERIFY THAT THERMOSTAT AND CONTROL TUBING OR WIRING IS OPERATIONAL AND PROVIDE NEW IF REQUIRED.

EXISTING THERMOSTAT WHICH SHALL BE RELOCATED AS SHOWN OR TO ANY LOCATION MARKED (R).

NEW LOCATION OF EXISTING 24" x 24" SUPPLY AIR DIFFUSER, WITH NECK SIZE PER DIFFUSER NECK SIZE SCHEDULE ON THIS SHEET.

EXISTING 24" x 24" SUPPLY AIR DIFFUSER WHICH SHALL BE REMOVED OR RELOCATED AND REUSED IN ANY LOCATION MARKED (R) (PER DIFFUSER NECK SIZE SCHEDULE) OR AS SHOWN BY ARROW. CAP OFF EXISTING DUCT TAP AND REMOVE UNUSED RUN-OUT DUCTWORK ASSOCIATED WITH REMOVED DIFFUSER AS REQUIRED.

EXISTING RETURN AIR GRILLE WHICH SHALL BE REMOVED OR RELOCATED TO ANY LOCATION MARKED (R).

NEW LOCATION OF EXISTING RETURN AIR GRILLE.

NEW 24" x 24" PERFORATED FACE RETURN AIR GRILLE. (TITUS MODEL PXR OR EQUAL).

EXISTING 24" x 24" RETURN AIR GRILLE TO REMAIN.

MDP  
ENGINEERING GROUP

1800 GLENARH PLACE, 8th FLOOR  
DRIVER, CO 80032  
PH: 303.389.0095 | FAX: 303.389.0098  
www.MDPENG.com

JOB#: 12101.54

© COPYRIGHT, 2024  
BY MDP ENGINEERING GROUP, P.C.

These plans are the intellectual property  
of MDP ENGINEERING GROUP, P.C.  
and may not be duplicated, reproduced  
or disclosed without written consent.  
Copyrights and infringements will be  
strictly enforced.

BRIGHTLAND

POINT AT INVERNESS

SECOND FLOOR - SUITE 250

8310 SOUTH VALLEY HIGHWAY

ENGLEWOOD, COLORADO 80112

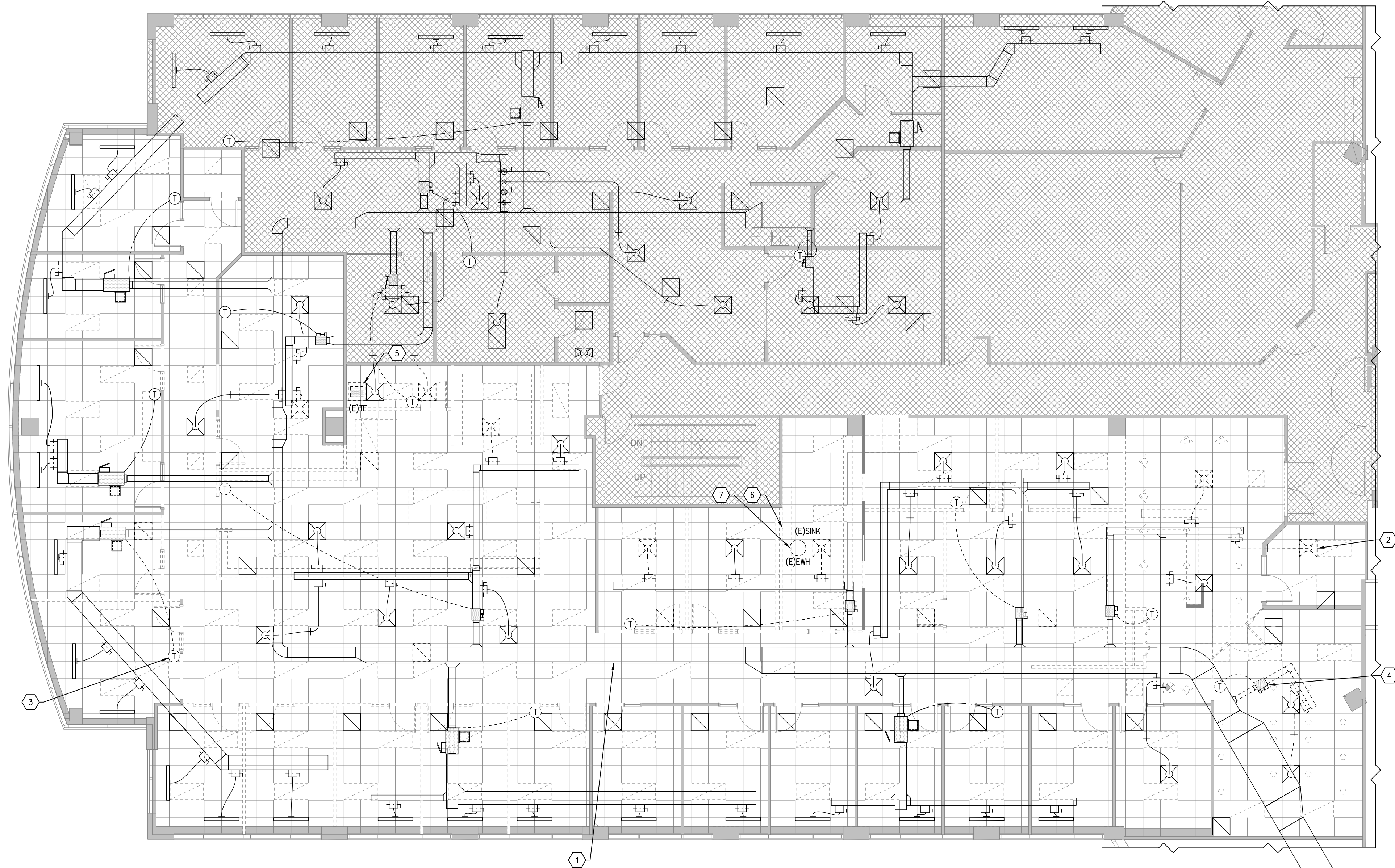
ISSUES / REVISIONS

FEBRUARY 12, 2024

LEGEND AND DETAILS

02/M.1





1 PARTIAL SECOND FLOOR MECHANICAL DEMO PLAN  
SCALE: 1/8" = 1'-0"  
0 2' 4' 8' 16' 32'

#### # MECHANICAL DEMO DETAIL NOTES

1. EXISTING BASE BUILDING DUCTWORK TO REMAIN. (TYP)
2. DEMO EXISTING DIFFUSER/RETURN GRILLE AND RETAIN FOR RELOCATION. CONTRACTOR TO REPAIR TO LIKE NEW CONDITION, RETURN EXTRA TO BUILDING STORAGE. (TYP)
3. DEMO EXISTING THERMOSTAT AND RETAIN FOR RELOCATION. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION, REPAIR/REPLACE AS NECESSARY. (TYP)
4. DEMO EXISTING AIR TERMINAL WITH ALL ACCESSORIES. CONTRACTOR TO RETURN TO BUILDING STORAGE, CAP SUPPLY DUCT AND MAKE READY FOR RECONNECTION IN NEW WORK.
5. REMOVE EXISTING TRANSFER FAN WITH ALL ACCESSORIES.
6. REMOVE EXISTING PLUMBING FIXTURE AND WATERLINE WITH ALL ACCESSORIES. REMOVE ASSOCIATED PIPING BACK TO PLENUM AND BELOW FLOOR AND CAP. MAKE READY FOR RECONNECTION IN NEW WORK.
7. REMOVE EXISTING WATER HEATER FOR REPLACEMENT WITH NEW. CAP ALL ASSOCIATED PIPING AND MAKE READY FOR RECONNECTION IN NEW WORK.



February 16, 2024

**BRIGHTLAND**  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112



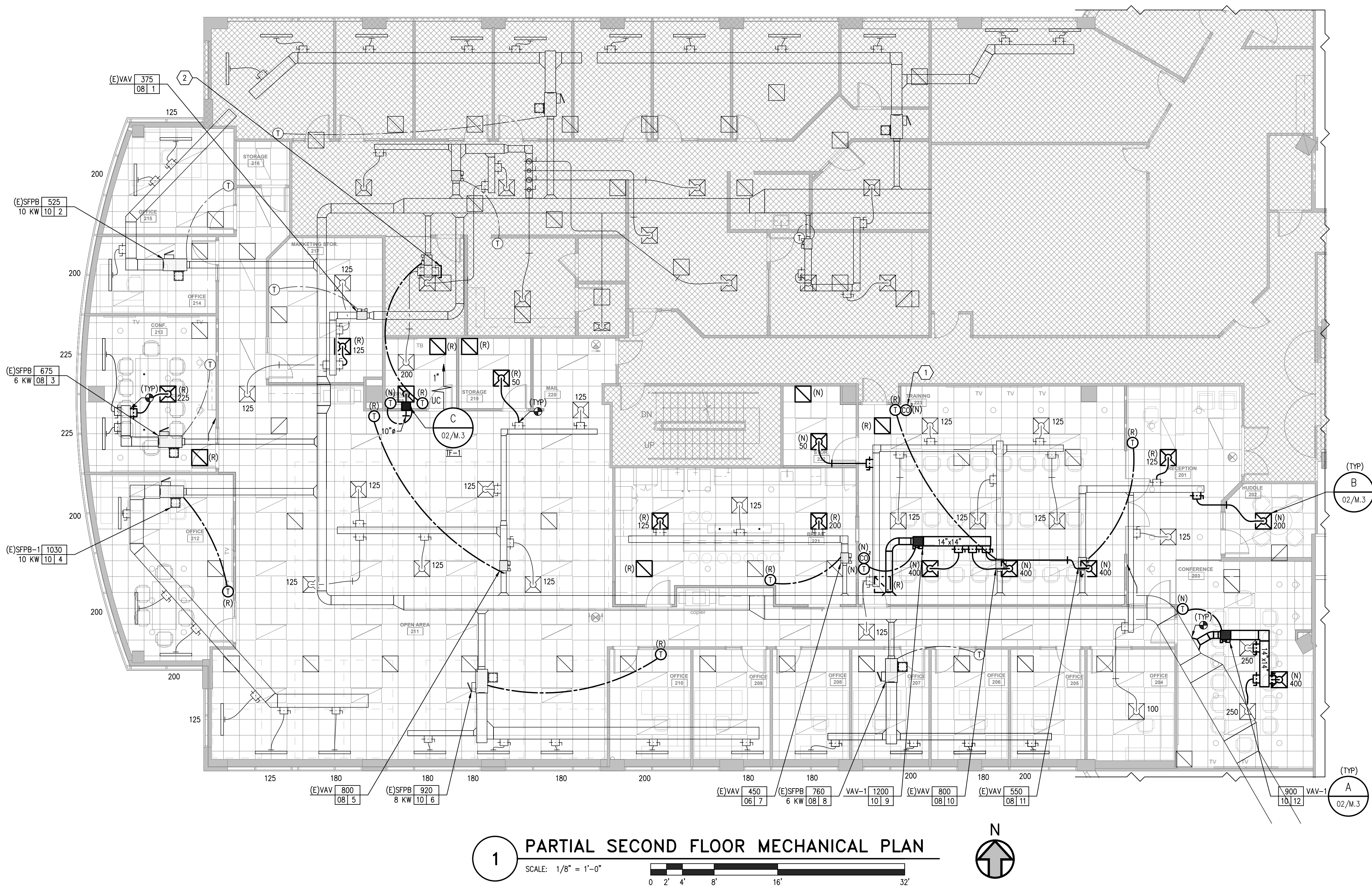


February 16, 2024

**BRIGHTLAND**  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112

ISSUES / REVISIONS  
FEBRUARY 12, 2024

PARTIAL 2ND FLOOR MECHANICAL PLAN  
02/M.3



**1 PARTIAL SECOND FLOOR MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**GENERAL NOTES**

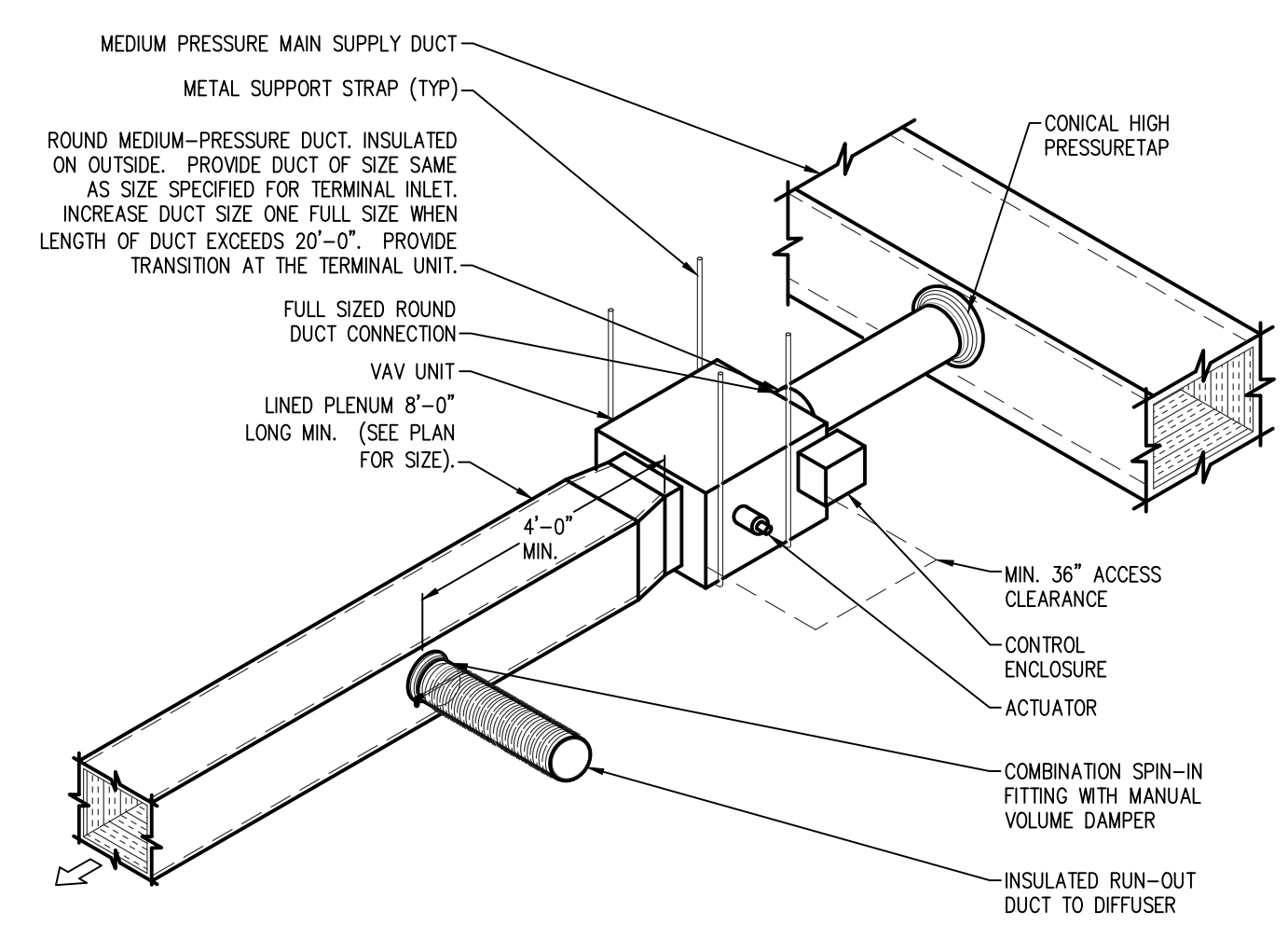
- DDC CONTROLS BY LONG.
- CONTRACTOR TO SEAL ANY HOLES, CUT, OR PUNCTURES IN MEDIUM PRESSURE DUCTWORK.
- PROVIDE NEW DISCHARGE AIR TEMP SENSOR ON ALL FAN POWER BOXES NEW OR EXISTING WITH IN SCOPE OF WORK.
- BUILDING AIR HANDLER SUPPLIES 20% OUTSIDE AIR.
- ALL DEMISING WALLS TO HAVE 6" AIR GAP.
- COMPLETE MECHANICAL IS ONLY COMPANY TO SERVICE THIS ADDRESS FOR TEST AND BALANCE.

**# MECHANICAL DETAIL NOTES**

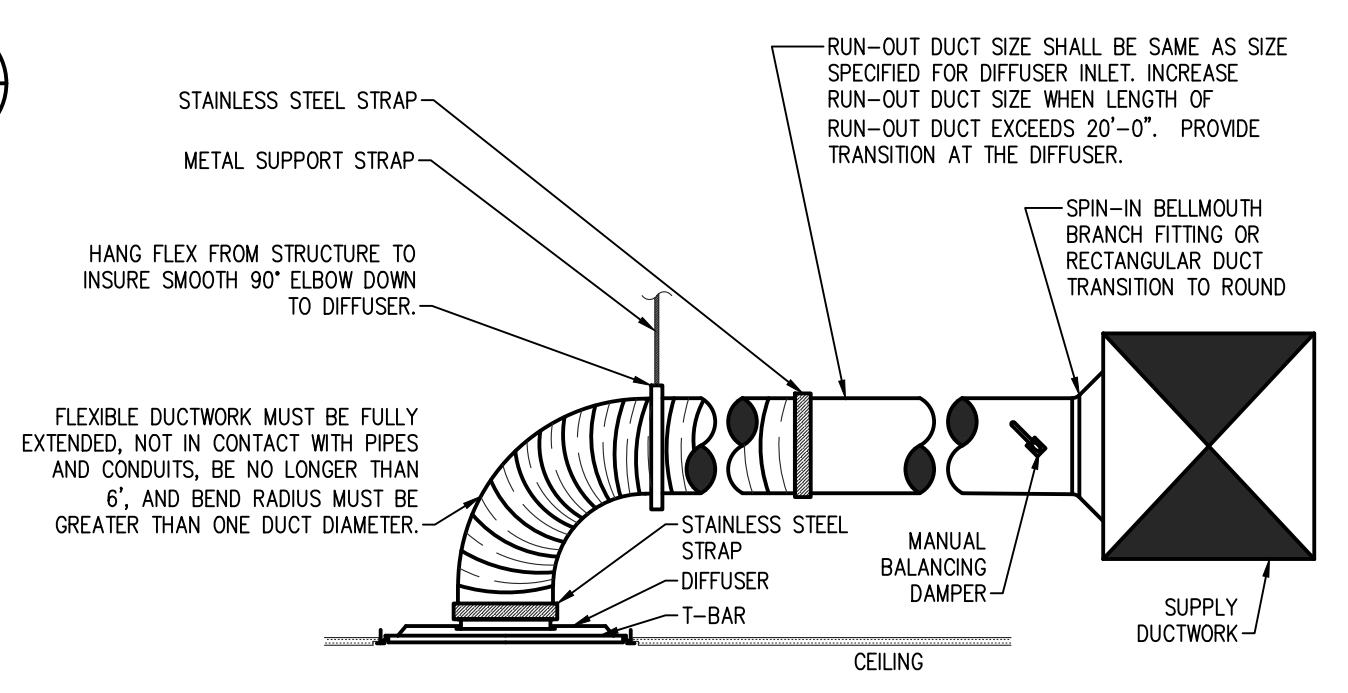
- PROVIDE DEMAND CONTROL VENTILATION CONTROLS IN HIGH DENSITY ROOM LARGER THAN 500 SQUARE FEET AND CONNECT TO RESPECTIVE AIR TERMINAL. (TYP)
- CAP AND SEAL AIR TIGHT ALL UNUSED DUCT TAPS. (TYP)

FAN SCHEDULE											
TAG	MANUFACTURER	MODEL	SERVICE / LOCATION	MOUNT TYPE	CFM	E.S.P. (IN. W.C. @ ALT.)	FAN RPM	MOTOR (WATTS)	ELECTRICAL VOLTS/PH/HZ	OPERATIONAL WEIGHT (LBS.)	SPECIFIC NOTES
TE-1	GREENHECK	SP-A390	COOLING/CEILING	CEILING	300	0.25	1350	135	120/1/60	24	A
<u>CONTROL NOTES:</u> A. CONTROL FROM LINE VOLTAGE THERMOSTAT. ENERGIZE AT 75° (ADJUSTABLE). <u>GENERAL NOTES:</u> 1. ALL FANS SHALL BE UL LISTED. 2. PROVIDE DISCONNECT MEANS FOR SINGLE PHASE EQUIPMENT. 3. PROVIDE FULL SIZED DISCHARGE DUCT WITH PROPER TRANSITIONS AND FLEX CONNECTION.											

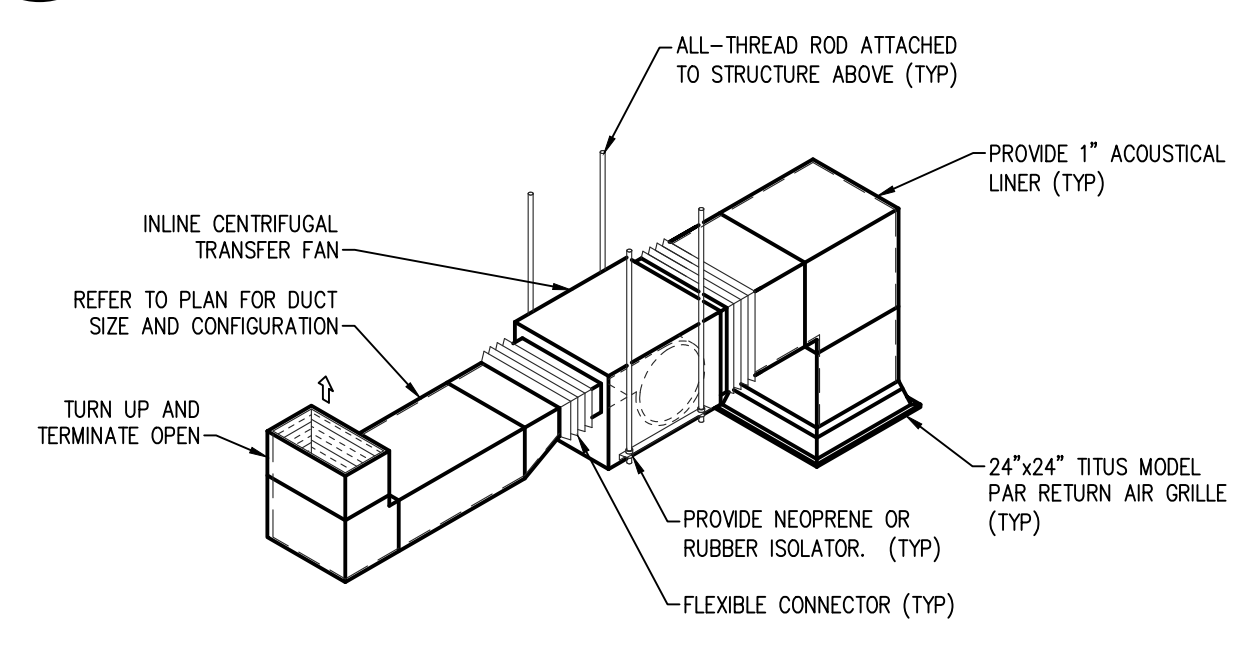
VARIABLE AIR VOLUME TERMINAL SCHEDULE										
TAG	MANUFACTURER	MODEL	PRIMARY AIR				DISCHARGE PLENUM SIZE	MAX. NC LEVELS		SPECIFIC NOTES
			INLET SIZE (ø)	OUTLET SIZE	CFM RANGE (MIN/MAX)	MIN. AIR CFM (% OF MAX)		RAD.	DIS.	
VAV-1	TITUS	ESV	10"	14" x 12.5"	120/1200	10	16" x 12" OR SEE PLAN	24	29	
GENERAL NOTES:										
1. SELECTIONS ARE BASED ON TITUS. APPROVED ALTERNATE MANUFACTURERS: PRICE, KRUEGER. IF ALTERNATES ARE USED, CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES OR COSTS.										
2. CASING: SINGLE WALL, 22-GAUGE GALVANIZED STEEL.										
3. CASING LINER: 1" THICK ECOSHIELD OR RIGID FIBERGLASS LINER WITH ALUMINUM FOIL FACING COMPLYING WITH NFPA 90A AND UL 181.										
4. UNITS SHALL BE PRESSURE INDEPENDENT AND PROVIDED WITH MULTI-POINT, CENTER AVERAGING INLET VELOCITY SENSOR.										
5. FIELD OR FACTORY MOUNTED DDC CONTROLS (CONTRACTOR OPTION), ELECTRONIC THERMOSTAT, AND EXTERNAL LOW VOLTAGE CONTROL POWER TRANSFORMER.										
6. MAX. NC LEVELS BASED ON 1" W.C. INLET PRESSURE AND 0.5" W.C. OUTLET PRESSURE USING AHRI 885-2008, APPENDIX E.										



**A VAV UNIT AND DUCTWORK DETAIL**  
SCALE: NO SCALE



**B 24"x24" LAY-IN DIFFUSER DETAIL**  
SCALE: NO SCALE

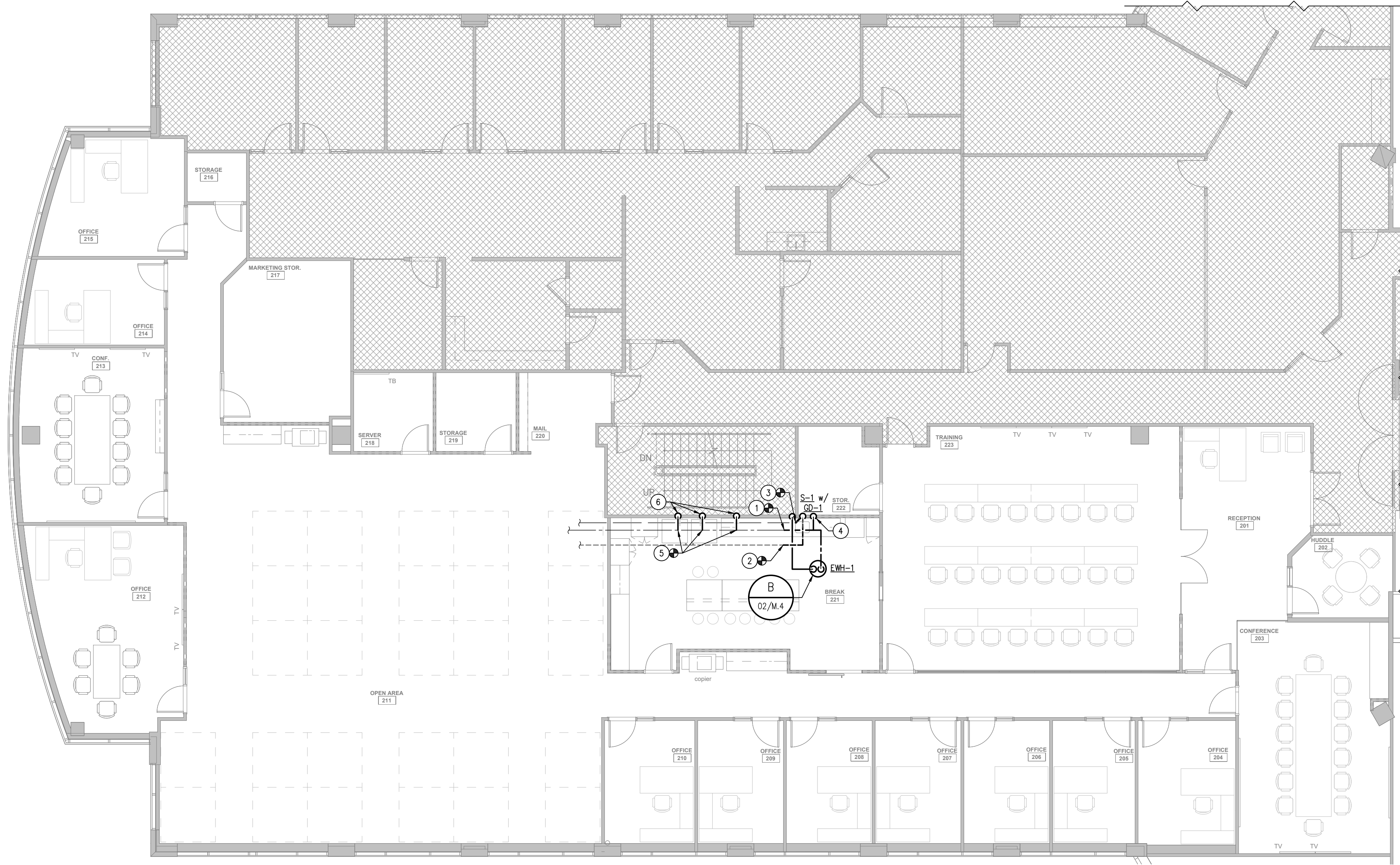


**C INLINE CEILING TRANSFER FAN DETAIL**  
SCALE: NO SCALE

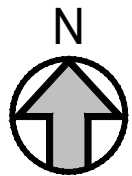
Outside Airflow Calculation												
Zone Identification				Standard Case: 2021 IMC Ventilation Rate Procedure					System Outdoor Air: 20%			
Floor	Zone/Room #	Occupancy Category (Table 403.3)	Area (A <sub>z</sub> ) (Ft <sup>2</sup> )	People Outdoor Air Rate (R <sub>p</sub> ) (cfm/person)	Table 403.3 Area Outdoor Air Rate (R <sub>a</sub> ) (cfm/Ft <sup>2</sup> )	Occupant Density (#/1000 Ft <sup>2</sup> )	Total Occupants (P <sub>z</sub> ) (people)	Breathing Zone Outdoor Air Flow (V <sub>bz</sub> ) (CFM)	Table 403.3.1.2 Air Distribution Configuration	Zone Air Distribution Effectiveness (E <sub>z</sub> )	Zone Outdoor Air Flow (V <sub>za</sub> ) (CFM)	Zone Primary Air Flow (CFM)
2nd	Conference 213	Conference/meeting	313	5.0	0.06	50	16	99	Ceiling supply of warm air 15°F or more above space temperature and ceiling return.	0.80	123	675
2nd	Training 223	Conference/meeting	903	5.0	0.06	50	46	284	Ceiling supply of warm air 15°F or more above space temperature and ceiling return.	0.80	355	1825
2nd	Huddle 202	Conference/meeting	98	5.0	0.06	50	5	31	Ceiling supply of warm air 15°F or more above space temperature and ceiling return.	0.80	39	200
2nd	Conference 203	Conference/meeting	450	5.0	0.06	50	23	142	Ceiling supply of warm air 15°F or more above space temperature and ceiling return.	0.80	178	900



Drawing: 1:8310 S. Valley Hwy - Point At Inverness 12101.02 - Brightland 54 Drawing 54 Drawing 2024.01.29 - First Issue 2 M.4 - Plumbing Plan.dwg Plotted by: Tony Mangrich On: Friday, February 16, 2024 8:20:53 AM



1 PARTIAL SECOND FLOOR PLUMBING PLAN  
SCALE: 1/8" = 1'-0"

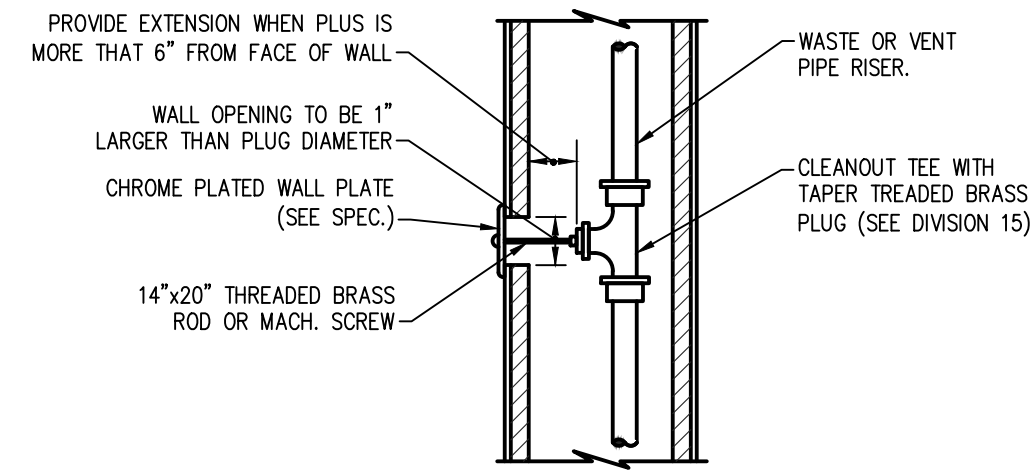


#### PLUMBING DETAIL NOTES

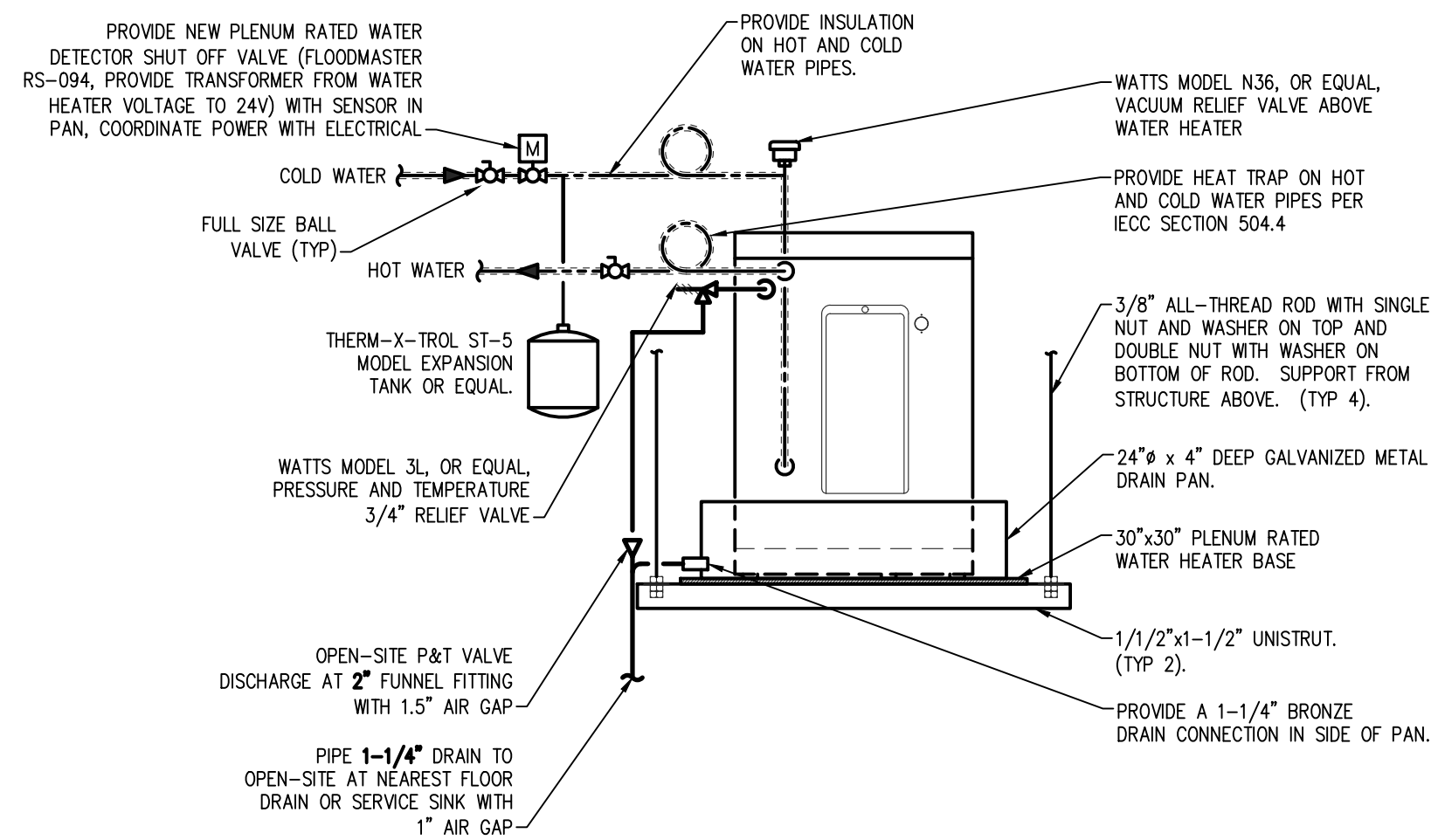
- CONNECT 3/4" CW TO EXISTING ACTIVE MAIN IN APPROXIMATE LOCATION SHOWN. CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND LOCATION PRIOR TO CONSTRUCTION. PROVIDE ISOLATION VALVE.
- CONNECT 2" V TO EXISTING ACTIVE MAIN IN APPROXIMATE LOCATION SHOWN. CONTRACTOR TO FIELD VERIFY EXACT ROUTING, LOCATION, AND INVERT PRIOR TO CONSTRUCTION.
- CONNECT 2" W TO EXISTING ACTIVE MAIN IN APPROXIMATE LOCATION SHOWN. CONTRACTOR TO FIELD VERIFY EXACT ROUTING, LOCATION, AND INVERT PRIOR TO CONSTRUCTION.
- PROVIDE 1/2" CW AND 3/4" HW DOWN IN WALL VALVED AND CAPPED FOR CONNECTION TO NEW S-1. PROVIDE 1/2" HW VALVED OFFSET CONNECTION TO NEW DISHWASHER.
- CONNECT 1/2" CW TO EXISTING ACTIVE MAIN AND ROUTE TO EQUIPMENT SHOWN.
- PROVIDE 1/2" CW DOWN IN WALL TO VALVED WALLBOX FOR CONNECTION TO NEW REFRIGERATOR/COFFEE MAKER. PROVIDE WITH NECESSARY BACK FLOW DEVICE. COORDINATE WITH ARCHITECT FOR FINAL LOCATION.

#### PLUMBING FIXTURE SCHEDULE

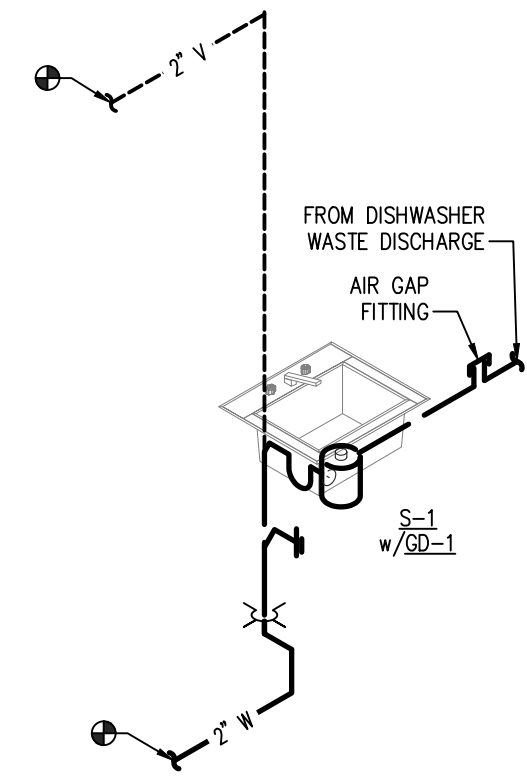
PLUMBING FIXTURE SCHEDULE						
ALL PLUMBING FIXTURE SELECTIONS, REGARDLESS OF THIS SCHEDULE SHALL BE SUBMITTED FOR THE BUILDING OWNER'S AND ARCHITECT'S PRE-APPROVAL PRIOR TO CONTRACTOR'S PURCHASE ORDER OF ALL PLUMBING FIXTURES.						
TAG	DESCRIPTION	FIXTURE CONNECTION SIZES				SPECIFIC NOTES
		W	V	CW	HW	
EW-1	ELECTRIC WATER HEATER: BRADFORD-WHITE MODEL LE120U3-1, 19 GALLON CAPACITY, 1.5 KW, 277V/1PH/60HZ, SUSPENDED ELECTRIC WATER HEATER. 6 GPH RECOVERY AT 100°F RISE. 24.75" HIGH x 18" DIA. SIDE PIPE CONNECTIONS. PROVIDE DIELECTRIC PIPE UNIONS. PIPE T & P VALVE AND DRAIN PAN DISCHARGE AS REQUIRED BY DETAIL ON DRAWINGS. PROVIDE WITH ALUMINUM ANODE ROD.	-	-	3/4"	3/4"	
GD-1	GARBAGE DISPOSER: INSINKERATOR MODEL BADGER 5, CONTINUOUS FEED, WITH 1/2 HP MOTOR, GALVANIZED STEEL GRINDING ELEMENTS WITH TWO STAINLESS STEEL SWIVEL LUGS. 115V/1PH/60HZ, 6.9 AMPS. PROVIDE WALL SWITCH.	1-1/2"	-	-	-	
S-1	SINK - A.D.A.: KOHLER MODEL K-27785, 18 GAUGE, 304 STAINLESS STEEL, 19" X 33.5" X 5" DEEP, SINGLE COMPARTMENT UNDERMOUNT SINK WITH UNDERCOATING. PROVIDE DELTA MODEL 9159-DST ARCTIC STAINLESS SINGLE HANDLE FAUCET WITH 8" SWIVEL SPOUT, 1-1/2" TAILPIECE, 1-1/4" BRANCH TAIL-PIECE, CAST BRASS P-TRAP WITH CLEANOUT, FLEXIBLE SUPPLIES, ANGLE STOPS AND MODEL J-35 CRUMB CUP STRAINER.	2"	2"	1/2"	1/2"	



A WALL CLEANOUT (WCO) (SIZES 1-1/2"-6")  
SCALE: NO SCALE



B SUSPENDED ELECTRIC WATER HEATER DETAIL  
SCALE: NO SCALE



C WASTE AND VENT ISOMETRIC  
SCALE: NO SCALE



February 16, 2024

**BRIGHTLAND**  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112



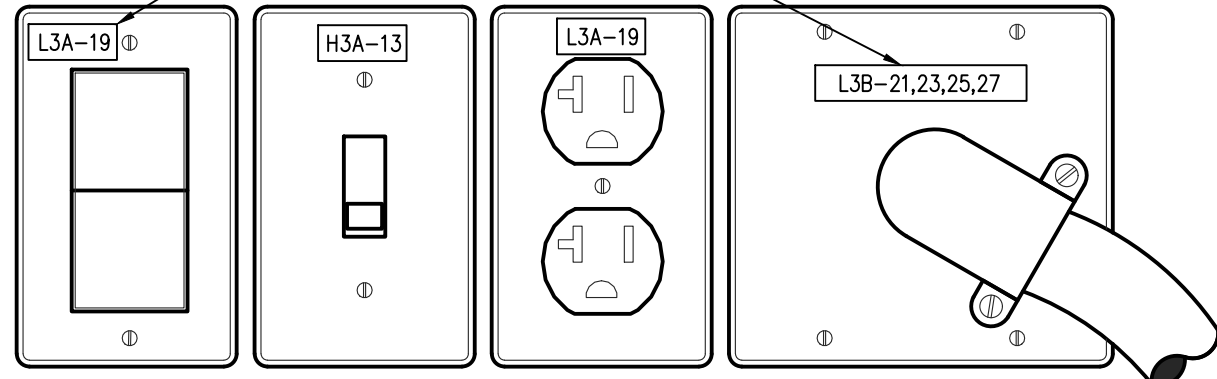


ELECTRICAL LEGEND			
NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED ON THESE DRAWINGS			
GENERAL		LIGHTING	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ELECTRICAL DETAIL NOTE TAG		SHADING INDICATES CONNECTION TO EMERGENCY CIRCUIT OR 90-MINUTES SELF-CONTAINED BATTERY PACK
	FEEDER TAG		DIRECT/INDIRECT OR LENSED HIGH EFFICIENCY LIGHT FIXTURE
	RELOCATE EQUIPMENT, DEVICE ARROW		RECESSED 2'x4' AND 2'x2' LIGHT FIXTURE
	HEAVY LINEWEIGHT ITEMS INDICATE NEW WORK TO BE DONE		RECESSED 1'x4' LIGHT FIXTURE
	LIGHT LINEWEIGHT ITEMS INDICATE EXISTING TO REMAIN		SURFACE MOUNTED 1'x4' LIGHT FIXTURE
	DASHED LINEWEIGHT ITEMS INDICATE EXISTING TO BE REMOVED		STRIP LIGHT FIXTURE
	NEW OR RELOCATED CIRCUIT RUN		DOWNLIGHT
	CIRCUIT RUN, EXISTING TO REMAIN		DIRECTIONAL WALL WASHER/ADJUSTABLE DOWNLIGHT
	CIRCUIT RUN, EXISTING TO BE REMOVED		WALL SCONCE
	UNDER FLOOR CIRCUIT RUN		TRACK LIGHT
	UNDERGROUND CIRCUIT RUN		EXIT SIGN WITH FACING AND DIRECTIONAL ARROWS
	CONDUIT CAP		EMERGENCY LIGHT UNIT
	HOMERUN TO PANEL, NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS		REMOTE EMERGENCY LIGHT HEAD
SWITCHING		ONE-LINE	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SNAP SWITCH, SUBSCRIPT LETTER, IF SHOWN, INDICATES CONTROL OF FIXTURES MARKED WITH SAME SUBSCRIPT LETTER		TWO-POLE SWITCH
	THREE-WAY SWITCH		FAULT CURRENT POINT VALUE REFERENCE
	FOUR-WAY SWITCH		GROUNDING CONNECTION
	DIMMER SWITCH		SERVICE WEATHERHEAD
	KEY SWITCH		METER
	SWITCH WITH PILOT LIGHT ("ON" WHEN THE SWITCH IS "OFF")		SURGE PROTECTION DEVICE
	LOW VOLTAGE SWITCH		GENERATOR
	RAISE/LOWER WALL SWITCH		TRANSFORMER
	Thermal OVERLOAD SWITCH		PAD-MOUNTED TRANSFORMER
	GANGED SWITCHES		ELECTRICAL PANEL
	OCCUPANCY SENSOR FOR LIGHTING CONTROLS		AUTOMATIC TRANSFER SWITCH
ABBREVIATIONS			CIRCUIT BREAKER
ACR	ABOVE COUNTERTOP		FUSED DISCONNECT SWITCH
AFI	ARC-FAULT CIRCUIT INTERRUPTER		COMMUNICATION
AUX	ABOVE FINISHED FLOOR		COMBINATION PHONE/DATA OUTLET
BC	BLANK COVER		DATA OUTLET
C	CONTROLLED DEVICE		TELEPHONE OUTLET
E	EXISTING		TELEPHONE BOARD
EPO	EMERGENCY POWER OFF		GROUND BAR
GFI, GFPE	GROUND FAULT PROTECTION FOR PERSONNEL		SECURITY
GFL, GFCE	GROUND FAULT PROTECTION OF EQUIPMENT		CARD READER
HP	HORSEPOWER		SECURITY CAMERA
L	LOOKABLE PER NEC 110.25		
N	NOT		
NEC	NATIONAL ELECTRICAL CODE		
NIC	NOT IN CONTRACT		
(R)	RELOCATED		
(TYP)	TYPICAL		
UF	UNDER FLOOR		
UG	UNDER GROUND		
USB	WIRING DEVICE WITH USB OUTLET(S)		
WP	WEATHERPROOF (NEMA 3R RATING OR WEATHERPROOF WHILE IN USE)		
ADA DEVICES			
SYMBOL	DESCRIPTION		
	DOOR SIGNAL PUSH BUTTON AND BELL		
	DOOR SIGNAL DISCONNECT SWITCH		
	HEARING IMPAIRED VISUAL DEVICE TIED TO THE DOOR SIGNAL AND PHONE		
	DOOR SIGNAL LOW VOLTAGE TRANSFORMER		

PROJECT DESIGN CODES	
YEAR	CODE
2023	NATIONAL ELECTRICAL CODE (NEC)
2021	INTERNATIONAL BUILDING CODE (IBC)
2021	INTERNATIONAL FIRE CODE (IFC)
2021	INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

## 1 TYPICAL COVER PLATE CIRCUIT(S) LABELING DETAIL

SCALE: NO SCALE



## ELECTRICAL GENERAL NOTES

CONTRACTOR SHALL COMPLY WITH NOTES AS APPLICABLE TO PROJECT. NOTES ON INDIVIDUAL DRAWINGS TAKE PRECEDENCE.

- BEFORE SUBMITTING THE BID ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE PREMISES, AND/OR JOB SITE, SO AS TO ASCERTAIN THE EXISTING CONDITIONS IN WHICH HE WILL BE OBLIGED TO OPERATE IN PERFORMING HIS PART OF THE CONTRACT TO ANTICIPATE ANY POSSIBLE SPACE RESTRICTIONS OR CONSTRAINTS THAT COULD AFFECT TIMELY COMPLETION OF THE ELECTRICAL WORK IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL REPORT TO THE ARCHITECT OR ANY OTHER AUTHORITY ANY CONDITIONS THAT MIGHT PREVENT THE SPECIFIED ELECTRICAL WORK FROM BEING PERFORMED IN THE MANNER INTENDED. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED TO THE ELECTRICAL CONTRACTOR FOR FAILURE TO VISIT THE PROJECT SITE, OR FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE.
- THE ELECTRICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES WORK RELATES TO OR IS IS DEPENDENT ON ELECTRICAL WORK TO BECOME FULLY INFORMED OF THE EXTENT AND CHARACTER OF THEIR SPECIFIED WORK AND BE ABLE TO COORDINATE IT WHILE AVOIDING POSSIBLE INTERFERENCE WITH THE ELECTRICAL WORK.
- IT IS THE INTENTION OF THESE SPECIFICATIONS AND DRAWINGS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION. WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN, "FURNISH AND INSTALL COMPLETE AND READY FOR USE." "REPLACE" SHALL MEAN, "TO PUT NEW IN PLACE OF EXISTING".
- THE ARCHITECTURAL SPECIFICATIONS, GENERAL AND SPECIAL CONDITIONS FOR THE WORK OF THIS PROJECT, BASE BUILDING DRAWINGS AND SPECIFICATIONS, SHALL BE EXAMINED BY ELECTRICAL CONTRACTOR BEFORE SUBMITTING A BID.
- WITH SUBMISSION OF THE BID, THE ELECTRICAL CONTRACTOR SHALL GIVE WRITTEN NOTICE TO THE ARCHITECT/ENGINEER OF ANY NECESSARY ITEMS OR WORK THAT HAVE BEEN OMITTED FROM THE DRAWINGS OR SPECIFICATIONS. IN THE ABSENCE OF SUCH WRITTEN NOTICE IT IS MUTUALLY AGREED THAT THE ELECTRICAL CONTRACTOR HAS INCLUDED THE COST OF ALL REQUIRED ITEMS IN HIS BID, AND THAT THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR THE APPROVED SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
- THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE AND SATISFACTORY ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS. HE SHALL PROVIDE, WITHOUT EXTRA CHARGE, ALL INCIDENTAL ITEMS REQUIRED, AS A PART OF THIS ELECTRICAL INSTALLATION. THE INSTALLATION SHALL BE SO MADE THAT ITS SEVERAL COMPONENT PARTS WILL FUNCTION TOGETHER AS A WORKABLE SYSTEM, AND SHALL BE LEFT WITH ALL PARTS ADJUSTED AND IN WORKING ORDER.
- SECURE AND PAY FOR ALL PERMITS, TAXES, ROYALTIES, LICENSES, AND INSPECTIONS IN ASSOCIATION WITH THE WORK SPECIFIED UNDER ELECTRICAL DIVISION AND INDICATED ON THE DRAWINGS. FILE ALL NECESSARY PLANS, PREPARE ALL DOCUMENTS, AND OBTAIN ALL NECESSARY APPROVALS REQUIRED BY ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION ALL WORK PERFORMED UNDER THIS CONTRACT SHALL REMAIN EXPOSED TO VIEW UNTIL APPROVED BY THE INSPECTION AUTHORITY.
- ALL WORK SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION CODES (NFPA), INTERNATIONAL CODE COUNCIL (ICC) CODES, INCLUDING ENERGY CONSERVATION CODE (IECC), AND ALL APPLICABLE LOCAL, STATE, MUNICIPAL, AND CITY CODES, ORDINANCES AND REGULATIONS.
- BEFORE STARTING WORK, ELECTRICAL CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ARCHITECT/ENGINEER SHOP DRAWINGS, BROCHURES, INSTALLATION INSTRUCTIONS, AND DESCRIPTIVE EQUIPMENT DATA REQUIRED TO SPECIFIED EQUIPMENT, WIRING DEVICES, AND ACCESSORIES FOR APPROVAL. THESE DOCUMENTS SHALL BE SUBMITTED IN ELECTRONIC (PDF) FORMAT. ALL SUBMITTALS MUST BE CLEAR AND CONCISE. PARTIAL, PRECISE, "PRECEDENTIAL", OR CATALOGUES NOT BE REVIEWED AND WILL BE RETURNED AS INCOMPLETE. (NO EXCEPTIONS. ALLOW A MINIMUM OF SEVEN (7) WORKING DAYS FOR ENGINEER REVIEW). THE CONTRACTOR SHALL IDENTIFY AND LONG LEAD TIME ITEMS WHICH MAY IMPACT THE OVERALL PROJECT SCHEDULE. ALL BIDS SHALL INCLUDE COSTS ASSOCIATED WITH THE PURCHASE AND DELIVERY OF EQUIPMENT TO MEET THE PROJECT SCHEDULE. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO THE APPROVAL OF SHOP DRAWINGS, BROCHURES, INSTALLATION INSTRUCTIONS, AND SCHEDULES. APPROVAL BY THE ARCHITECT/ENGINEER IS INTENDED TO CULMINISH CONFORMANCE WITH THE PROJECT DESIGN CONCEPT AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
- THE NAMING OF THE MANUFACTURER OR BRAND WITH CATALOG NUMBER OR OTHER PRODUCT IDENTIFICATION WITHOUT THE WORDS "OR EQUAL" IN THE SPECIFICATIONS OR NOTES SHALL INDICATE THAT IT IS THE ONLY PRODUCT APPROVED FOR PURCHASE. IF THE WORDS "OR EQUAL" ARE USED, THEY SHALL BE INTERPRETED AS ESTABLISHING A QUALITY OR PERFORMANCE STANDARD FOR THE MATERIAL OR PRODUCT TO BE PURCHASED. THIS SHALL INDICATE THAT THE ELECTRICAL CONTRACTOR IS NOT RESTRICTED TO THE USE OF THE NAMED AND IDENTIFIED PRODUCT IF A SUBSTITUTE APPROVED BY THE ARCHITECT/ENGINEER IS AVAILABLE. HOWEVER, WHERE A SUBSTITUTION IS REQUESTED, IT WILL BE PERMITTED ONLY WITH THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER, NO SUBSTITUTE MATERIAL OR PRODUCT SHALL BE ORDERED, FABRICATED, SHIPPED, OR PROCESSED IN ANY MATTER PRIOR TO THE APPROVAL OF THE ARCHITECT/ENGINEER. THE ELECTRICAL CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ADDITIONAL EXPENSES, AS REQUIRED, MAKING CHANGES FROM THE ORIGINAL MATERIAL OR PRODUCT SPECIFIED.
- THE TERM "AS REQUIRED" REFERS TO COMPONENTS THAT MAY BE REQUIRED TO COMPLETE THE NOTED SYSTEM INDICATED IN THE PROJECT DOCUMENTS.
- THE TERM "VERIFY" REFERS TO A CONDITION WHICH MUST BE CONFIRMED PRIOR TO PROCEEDING WITH THE ORDERING OF MATERIAL OR THE FABRICATION AND INSTALLATION OF A COMPONENT.
- ABBREVIATIONS THROUGHOUT THE DOCUMENTS COMPLY WITH DOCUMENT ABBREVIATION LIST ON LEGEND OR ARE THOSE IN COMMON USE. ENGINEER WILL DEFINE THE INTENT OF ANY IN QUESTION.
- THE DRAWINGS ARE DIAGRAMATIC IN CHARACTER. LOCATIONS SHOWN FOR ELECTRICAL EQUIPMENT, DEVICES, CIRCUITING, ETC., ARE APPROXIMATE. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK WITH THE ARCHITECTURAL, PLUMBING, HVAC, AND OTHER TRADE DRAWINGS FOR THE EXACT DIMENSIONS, CLEARANCES, AND ROUGH-IN LOCATIONS. THE ELECTRICAL CONTRACTOR SHALL COOPERATE WITH THE OTHER TRADES IF FIELD ADJUSTMENTS ARE REQUIRED TO ACCOMMODATE THE WORK OF OTHERS.
- DRAWINGS SHALL NOT BE SCALED FOR ROUGH-IN MEASUREMENTS OR USED AS SHOP DRAWINGS. WHERE DIMENSIONS ARE SHOWN ON PLANS OR DETAILS, THESE DIMENSIONS ARE TO BE FIELD-VERIFIED BY THE ELECTRICAL CONTRACTOR FIELD CONDUCTOR AND SHALL BE COMPATIBLE WITH THE REQUIREMENTS OF OTHER TRADES, AND THE MANUFACTURER'S SUBMITTALS FOR EQUIPMENT TO BE INSTALLED. SHOULD ANY CONFLICTS ARISE WHICH CANNOT BE RESOLVED IN THE FIELD WITHOUT CHANGING THE DESIGN INTENT, THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- RECORD DOCUMENTS
  - THE ELECTRICAL CONTRACTOR SHALL MAINTAIN ACCURATE RECORDS OF ALL DEVIATIONS IN WORK AS INSTALLED FROM WORK SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS, AND IDENTIFY ORIGIN OF CHANGE.
  - KEEP A COMPLETE SET OF RECORD DOCUMENT PRINTS IN CUSTODY DURING ENTIRE PERIOD OF CONSTRUCTION AT THE CONSTRUCTION SITE, ON COMPLETION OF THE PROJECT, TWO COMPLETE SETS OF MARKED-UP PRINTS SHOWING THESE DEVIATIONS SHALL BE DELIVERED TO GENERAL CONTRACTOR AND ARCHITECT/ENGINEER. THIS CONTRACT WILL NOT BE CONSIDERED COMPLETED UNTIL THESE RECORD DRAWINGS HAVE BEEN RECEIVED AND REVIEWED BY THE ENGINEER.
- WHILE ALL WORK IS IN PROGRESS, EXCEPT FOR SHORT DESIGNATED INTERVALS DURING WHICH CONNECTIONS ARE TO BE MADE, CONTINUITY OF SERVICE TO ALL EXISTING SYSTEMS SERVING OCCUPIED SPACES SHALL BE MAINTAINED. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH OWNER AT ALL TIMES FOR ALL NEW-TO-EXISTING CONNECTIONS, SYSTEM SHUTDOWNS, AND RESTART-UP.
- ANY WORK WHICH WILL AFFECT THE BUILDING OCCUPANTS, INCLUDING, BUT NOT LIMITED TO, WORK WHICH GENERATES EXCESSIVE NOISE, DUST, SMOKE, OR INCONVENIENCE TO BUILDING OCCUPANTS, SHALL BE PERFORMED AFTER BUSINESS HOURS, UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE BUILDING MANAGER OR OWNER.
- ELECTRICAL ITEMS AFFECTED BY REMODEL WORK ARE SHOWN ON DRAWINGS ALONG WITH EXISTING ELECTRICAL INSTALLATION. EXISTING ELECTRICAL INSTALLATION SHOWN IS NOT NECESSARILY ALL-INCLUSIVE. RETAIN CIRCUIT CONTINUITY FOR EXISTING ELECTRICAL EQUIPMENT, FIXTURES, AND DEVICES THAT ARE TO REMAIN. SUCH EQUIPMENT SHALL BE RECONNECTED TO EXISTING CIRCUITS OR CONNECTED TO NEW CIRCUIT(S) AS INDICATED ON DRAWINGS. ENSURE ALL ELECTRICAL DEVICES IN WORK AREA ARE FULLY FUNCTIONAL. FOR DEVICES OR JUNCTION BOXES LOCATED IN WALLS, THAT MUST REMAIN IN PLACE FOR CIRCUIT CONTINUITY, PROVIDE BLANK COVER PLATES TO MATCH WALL PLATES STYLE IN THE AREA OF WORK. FOR ALL OTHER UNUSED JUNCTION BOXES, REMOVE WIRING AND PROVIDE BLANK COVER PLATE, OR COORDINATE WITH GENERAL CONTRACTOR FOR PATCHING OF WALL TO MATCH ADJACENT SURFACE AS DIRECTED BY ARCHITECT.
- REPORT ANY EXISTING DAMAGED EQUIPMENT OR SYSTEMS TO THE OWNER PRIOR TO BEGINNING THE PROJECT.
- BEFORE ANY EQUIPMENT IS INSTALLED, DETERMINE THAT SAID EQUIPMENT WILL PROPERLY FIT WITHIN THE SPACE ALLOCATED. INSTALL ALL EQUIPMENT AND MATERIALS IN SUCH A MANNER AS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE. ALLOW AMPLE SPACE FOR REMOVAL OF ALL PARTS THAT REQUIRE REPLACEMENT OR SERVICING.
- SUFFICIENT ACCESS AND WORKING SPACE SHALL BE PROVIDED AND MAINTAINED ABOUT ALL ELECTRICAL EQUIPMENT TO PERMIT READY AND SAFE OPERATION AND MAINTENANCE OF SUCH EQUIPMENT PER NEC ARTICLE 110 REQUIREMENTS.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW, UNMAYED, BEAR THE UL LABEL WHERE APPLICABLE, AND BE AS SPECIFIED FOR USE IN EACH SPECIFIC LOCATION. ANY INCIDENTAL ACCESSORIES NECESSARY TO COMPLETE THE WORK IN ALL RESPECTS AND MAKE IT READY FOR OPERATION, EVEN IF NOT SPECIFICALLY SPECIFIED, SHALL BE FURNISHED, DELIVERED, AND INSTALLED BY THE ELECTRICAL CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE CLIENT.
- NOT ALL DETAILS OF SYSTEMS ARE SHOWN ON DRAWINGS, NOR ARE THEY SPECIFIED HEREIN. ELECTRICAL SYSTEMS SHALL BE SUCH AS TO LEGALLY PASS ALL INSPECTIONS BY THE LOCAL INSPECTION DEPARTMENT, STATE AND FEDERAL AUTHORITIES HAVING JURISDICTION.
- MINOR DETAILS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF A SYSTEM OR EQUIPMENT, SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S ESTIMATE, AS IF SPECIFIED OR SHOWN HEREIN.
- ALL NEW, RELOCATED AND EXISTING MATERIALS, IN CEILING PLENUMS NOT ENCLOSED IN CONDUIT, SHALL BE CLASS 1 RATED, NOT EXCEEDING RATING OF 25 FLAME SPREAD AND 50 SMOKE DEVELOPED. REMOVE AND REPLACE ALL EXISTING MATERIALS IN WORK AREA NOT IN COMPLIANCE.
- COORDINATE THE INSTALLATION OF ELECTRICAL MATERIALS AND EQUIPMENT ABOVE AND BELOW CEILINGS WITH SUSPENSION SYSTEM, MECHANICAL EQUIPMENT, AND OTHER BUILDING COMPONENTS. ALL COMPONENTS SHALL BE LOCATED AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE CEILING CAVITY SPACE CAREFULLY WITH ALL TRADES.
- THE CONDUIT SYSTEM AND ELECTRICAL ENCLOSURES, NEW AND EXISTING, SHALL BE SECURELY BONDED

TOGETHER AND SUPPORTED PER NEC REQUIREMENTS.

- CONDUIT JOINTS SHALL BE CUT SQUARE AND REAMED SMOOTH. BENDS OR OFFSETS SHALL BE MADE WITH AN APPROVED BENDING METHOD. BENDS SHALL BE MADE SO THAT THE CONDUIT IS NOT DAMAGED AND ITS INTERNAL DIAMETER IS NOT EFFECTIVELY REDUCED. THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360° TOTAL) BETWEEN PULL POINTS.
- CONCEALED CONDUIT SYSTEMS SHALL BE RUN IN A DIRECT LINE WITH LONG SWEEP BENDS AND OFFSETS. EXPOSED CONDUIT RUNS SHALL BE PARALLEL TO AND AT RIGHT ANGLES TO BUILDING LINES.
- ALL ROOF PENETRATIONS SHALL BE SEALED WATER TIGHT. PROVIDE FLASHING AND COUNTER FLASHING AS REQUIRED. COORDINATE ROOFING WORK WITH THE GENERAL CONTRACTOR.
- CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO SUBSTANTIAL COMPLETION OF CONSTRUCTION OR INSTALLATION OF CEILING TILE, TO SCHEDULE A FINAL PUNCH LIST WALK THROUGH.
- THE CONTRACTOR SHALL PREPARE AN OPERATING AND MAINTENANCE MANUAL COVERING ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER THIS DIVISION. SUBMIT AN OUTLINE OF A PREVENTATIVE MAINTENANCE PROGRAM FOR EACH SYSTEM.
- WARRANTIES:
  - PROVIDE COMPLETE WARRANTY INFORMATION FOR EACH ITEM, WHICH SHALL INCLUDE NAME OF PRODUCT OR EQUIPMENT; DATE OF BEGINNING OF WARRANTY OR BOND; DURATION OF WARRANTY OR BOND; AND NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF MANUFACTURING/SERVING PERSONNEL, AS WELL AS PROCEDURES FOR FILING A CLAIM AND OBTAINING WARRANTY SERVICES.
  - THE CONTRACTOR SHALL WARRANT ALL MATERIALS, WORKMANSHIP AND THE SUCCESSFUL OPERATION OF ALL EQUIPMENT AND APPARATUS INSTALLED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE WORK AS IDENTIFIED IN THE GENERAL CONDITIONS.
- DEMOLITION:
  - DURING THE DEMOLITION PHASE OF THIS CONTRACT, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO VERIFY DEMOLITION SCOPE AND ITEMS WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS. EXISTING LIGHT FIXTURES, ELECTRICAL DEVICES, EQUIPMENT, AND RELATED ITEMS SHALL BE CAREFULLY REMOVED EITHER AS SHOWN ON THE DEMOLITION DRAWINGS AS BEING REMOVED, OR AS REQUIRED FOR THE WORK UNDER THIS CONTRACT. THESE ITEMS SHALL BE TAGGED, PROTECTED FROM DAMAGE, AND STORED AS DIRECTED BY THE BUILDING MANAGEMENT/OWNER, ARCHITECT OR ENGINEER.
  - EXISTING LIGHT FIXTURES IN WORK AREA, NOTED ON DRAWINGS TO BE RE-USED SHALL BE THOROUGHLY CLEANED AND/OR REFINISHED TO MATCH NEW.
  - CONTRACTOR SHALL REMOVE SWITCHES, DATA/TELEPHONE OUTLETS, AND ELECTRICAL OUTLETS SCHEDULED FOR DEMOLITION. ALL UNUSED POWER WIRING SHALL BE REMOVED BACK TO JUNCTION BOX IN CEILING SPACE, OR TO THE ELECTRICAL PANEL FEEDING THE CIRCUIT. THE SPARE CIRCUIT BREAKER SHALL BE SWITCHED TO THE "OFF" POSITION, AND NOTED ON PANEL DIRECTORY AS SPACE WITH THE JUNCTION BOX LOCATION IF APPLICABLE.
  - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING OUT ALL CIRCUITS WHICH ARE, OR MAY BE, AFFECTED BY THIS PROJECT TO ENSURE CIRCUIT CONTINUITY, AND TO PREVENT OVERLOADING OF ANY SINGLE CIRCUIT. CONTRACTOR SHALL ENSURE THAT CIRCUITS SHARED BETWEEN PROJECT AREA AND EXISTING TENANT SPACES REMAIN INTACT PER ORIGINAL DESIGN INTENT. CORRECT ANY MISLABELED -BOXX COVER IDENTIFICATION PANELS, BRANCH CIRCUIT IDENTIFICATION. REFER TO DETAIL NOTES ON PLANS THAT APPLY TO WORK TO BE PERFORMED UNDER THIS CONTRACT. CIRCUIT BREAKERS FOR ALL UNUSED CIRCUITS SHALL BE TURNED TO THE "OFF" POSITION AND LABELED AS SPARE ON REVISED PANEL DIRECTORIES.
  - PROVIDE NEW JUNCTION BOXES, NEW CONDUIT AND WIRING AS REQUIRED TO REPAIR, REROUTE AND RECONNECT CONDUCTORS THAT ARE DAMAGED, DISTURBED OR OTHERWISE ADVERSELY AFFECTED BY THE DEMOLITION AND REMODEL WORK.
  - THE LOCATIONS OF EXISTING LIGHTING FIXTURES, POWER DEVICES AND WIRING, ETC., SHOWN ON THE DRAWINGS HAS BEEN TAKEN FROM EXISTING DRAWINGS AND ARE, THEREFORE, ONLY AS ACCURATE AS THAT INFORMATION. ALL EXISTING CONDITIONS SHALL BE VERIFIED AT THE FIELD WITH NECESSARY ADJUSTMENT BEING MADE TO THE DRAWING INFORMATION.
- WHERE EXISTING DEVICES CONFLICT WITH NEW WALL CONSTRUCTION, RELOCATE OR REMOVE EXISTING DEVICES AND REPAIR OR REPLACE AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY. COORDINATE FINAL DIRECTIONS WITH ARCHITECT PRIOR TO DEMOLITION.
- FEEDERS AND BRANCH CIRCUITS SHALL BE PROVIDED WITH APPROPRIATELY SIZED INSULATED EQUIPMENT GROUNDING CONDUCTOR, WHETHER SPECIFICALLY NOTED OR NOT. IF NOTED, THE ELECTRICAL CONTRACTOR IS REQUIRED TO USE THE SIZE OF GROUNDING CONDUCTOR INDICATED ON DRAWINGS. THIS CONDUCTOR SHALL BE CONNECTED FROM THE ELECTRICAL PANEL GROUND BAR TO THE DESIGNATED GROUNDING CONNECTION ON THE ELECTRICAL DEVICE SERVED. ENSURE LISTED GROUND BAR KITS HAVE BEEN INSTALLED PER NEC REQUIREMENTS IN THE ELECTRICAL PANELS.
- ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL JUNCTION AND PULL BOXES TO PROVIDE ACCESS POINTS FOR PULLING AND FEEDING CONDUCTORS INTO A RACEWAY SYSTEM. JUNCTION AND PULL BOXES AND THEIR COVERS SHALL BE MADE FROM SHEET STEEL, AND SHALL BE BARE METAL OR FINISHED IN GRAY ENAMEL PAINT. BOXES SHALL BE IN INDUSTRY STANDARD SIZES.
- OUTLET BOXES WITH THE CORRECT FITTING FOR THE APPLICATION SHALL BE LOCATED AT EACH CONDUCTOR SPICE POINT. AT EACH OUTLET, SWITCH POINT, OR JUNCTION POINT, AND AT EACH PULL POINT FOR THE CONNECTION OF CONDUIT AND OTHER RACEWAYS. OUTLET BOXES FOR CONCEALED WIRING SHALL BE MADE FROM GALVANIZED OR CADMIUM-PLATED STEEL. BOXES SHALL HAVE A DEPTH OF AT LEAST 1.5 INCHES. WHETHER SINGLE OR GANGED, THE BOXES SHALL BE LARGE ENOUGH SIZE TO ACCOMMODATE THE NUMBER OF WIRING DEVICES AND CONDUCTORS AS SPECIFIED IN THE FIELD SCHEDULE OF THE CURRENT NEC. SECURE BOXES WITH MOUNTING BRACKET, BRACES, HANGER OR BOX MOUNTING DEVICES.
- POWER AND DATA/TELECOMMUNICATIONS OUTLETS, FLUSH OR SURFACE MOUNTED ON WALLS, SHALL BE MOUNTED 18" ABOVE FINISHED FLOOR FROM FLOOR TO CENTERLINE OF THE BOX (AFT), LIGHT SWITCHES SHALL BE MOUNTED 48" AFT TO CENTERLINE OF THE BOX, IN ORDER TO COMPLY WITH AUA REQUIREMENTS, UNLESS OTHERWISE NOTED. REFER TO ARCHITECTURAL DRAWINGS FOR DEVICE INSTALLATION HEIGHTS PRIOR TO ROUGH-IN.
- ELECTRICAL DEVICES (SWITCHES, RECEPTABLES, ETC.) SHALL BE BUILDING STANDARD TYPE 20A RATED UNLESS OTHERWISE SPECIFIED ON DRAWINGS. VERIFY DEVICE CONFIGURATION, COLOR, FINISH, AND MATERIAL REQUIREMENTS WITH ARCHITECT.
- WIRING INSIDE THE BUILDING SHALL BE COPPER, INSULATION TYPE THHN/THWN, UNLESS OTHERWISE NOTED. THE MINIMUM CONDUCTOR SIZE SHALL BE 12 AWG. CONDUCTORS SIZED FROM 8 AWG AND LARGER SHALL BE STRANDED. WHERE MC TYPE FLEXIBLE CABLE IS INSTALLED IN LIEU OF WIRE AND CONDUIT, FULL-SIZE EQUIPMENT GROUNDING CONDUCTOR SHALL RUN WITH CURRENT CARRYING CONDUCTORS. (MC TYPE FLEXIBLE CABLE MAY BE USED ONLY AS AUTHORIZED BY OWNER AND DESIGN ENGINEER, AND WITH APPROVAL OF LOCAL CODE AUTHORITY).
- CONDUCTORS SIZES 6AWG AND SMALLER SHALL BE FACTORY COLOR-CODED WITH AN INDUSTRY-STANDARD DESIGNATED COLOR FOR EACH PHASE AND A NEUTRAL CONDUCTOR. CONDUCTORS SIZES 4 AND LARGER SHALL HAVE COLORS FIELD APPLIED USING THE COLOR MARKING TAPE OR BY PAINTING THE INSULATION. THESE COLORS SHALL BE USED CONSISTENTLY THROUGHOUT THE SYSTEM.
- ALL JOINTS OR SPLICES FOR 10 AWG CONDUCTORS OR SMALLER SHALL BE MADE WITH UL-APPROVED WIRE NUTS, "IN-SURE" PUSH-IN CONNECTORS, OR COMPRESSION-TYPE CONNECTORS.
- ALL JOINTS OR SPLICES FOR CONDUCTORS 8 AWG AND LARGER SHALL BE MADE WITH A MECHANICAL COMPRESSION CONNECTOR. IF THE CONDUCTORS HAVE BEEN BENT MECHANICALLY AND ELECTRICALLY SECURE, THE ENTIRE JOINT OR SPLICE SHALL BE COVERED WITH 3M SCOTCH BRAND NO. 33 TAPE, OR APPROVED EQUAL, TO MAKE THE INSULATION VALUE AT THE JOINT OR SPLICE EQUAL TO THE VALUE OF THE CONDUCTORS INSULATION. THE CONNECTORS SHALL BE UL APPROVED.
- UNLESS OTHERWISE INDICATED, ALL WIRING FOR BRANCH CIRCUITS SHALL BE 12 AWG WHEN PROTECTED BY A 15- or 20- amp CIRCUIT BREAKER. IF DISTANCE FROM PANEL TO FIRST DEVICE IS 75 FEET OR GREATER FOR 120-VOLT CIRCUITS, OR 150 FEET OR GREATER FOR 277-VOLT CIRCUITS, 10 AWG WIRING SHALL BE INSTALLED.
- ALL EXISTING LIGHTING FIXTURES, POWER AND DATA/TELECOMMUNICATIONS OUTLETS ARE TO REMAIN WHERE SHOWN ON PLAN IN A LIGHT SLOD LINE WEIGHT, UNLESS OTHERWISE NOTED. RETAIN CIRCUIT CONTINUITY FOR THESE DEVICES AS REQUIRED.
- FOR ALUMINUM CONDUCTOR TERMINATIONS, ALUMINUM BI-METALLIC PIN CONNECTORS ARE RECOMMENDED UNLESS COMPACT-TYPE CONNECTORS ARE USED. THESE CONNECTORS SHALL BE UL LISTED, RATED FOR USE UP TO 600V AND TEMPERATURE UP TO 90°C. CONNECTORS SHALL BE INSTALLED WITH MANUFACTURER'S SPECIFIED CRIMPING TOOLS AND DIES.
- INSTALLATION IN AREAS OF DRYWALL CEILING SHALL BE COORDINATED SUCH THAT ACCESS PANELS ARE NOT REQUIRED. ELEMENTS REQUIRING ACCESS SHALL BE LOCATED IN THE AREAS OF ACCESSIBLE CEILING, OR IN THE LOCATIONS COORDINATED WITH ARCHITECT. ACCESS PANELS REQUIRED WITH DRYWALL CEILINGS SHALL BE INSTALLED SYMMETRICALLY WITH OTHER PANELS OR DEVICES, AND SHALL BE MINIMUM SIZE REQUIRED, "MUD-IN" TYPE, AND FIRE RATED, IF REQUIRED. ACCESS PANELS IN FIRE-RATED WALLS AND CEILINGS SHALL HAVE PROPER UL LABEL AND FIRE RATING LISTING.
- WALL AND CEILING ROUGH-IN INSTALLATIONS FOR LOW-VOLTAGE CONDUIT WIRING OF ANY TYPE SUCH AS DATA/TELECOMMUNICATIONS WIRING, FIRE ALARM WIRING, HVAC CONTROL WIRING, SECURITY SYSTEMS, WIRING, TV CABLING, OPTICAL FIBER CABLING, ETC., SHALL BE COMPLETE AND READY FOR INSPECTION AT THE TIME ELECTRICAL ROUGH-IN INSPECTIONS ARE REQUESTED. ALL SHARP EDGES, CONDUIT ENDS AND METAL STUDS, ETC., FOR LOW-VOLTAGE CABLING SHALL BE PROTECTED BY INSULATED BUSHINGS OR GROMMETS, AND SECURELY FASTENED IN THE OPENINGS FOR THE WALL ROUGH-IN INSPECTIONS. WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER (GROUPED CABLES ROUTED WITH SQUARE CORNERS AND PARALLEL TO BUILDING LINES). CABLES SHALL BE INSTALLED PER NEC REQUIRED SEPARATIONS, AND SUPPORTED FROM THE BUILDING STRUCTURE. CABLE TIES USED IN DUCTS, PLENUMS, AND OTHER AIR-HANDLING SPACES ARE REQUIRED TO HAVE A TESTING LABORATORY LISTING NUMBER AND LABEL ON EACH UNOPENED PACKAGE AS BEING APPROVED FOR USE IN THESE LOCATIONS.
- ELECTRICAL CONTRACTOR SHALL COMPLY WITH NEC AND LOCAL CODES FOR CONDUIT FILL REQUIREMENTS DEPENDING ON WIRE SIZES, QUANTITY, AND CORRECTION FACTORS. COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION IF UPGRADE OF THE EXISTING ELECTRICAL INSTALLATION IS REQUIRED. THIS UPGRADE MAY INCLUDE REPLACEMENT OF THE EXISTING CONDUITS AND WIRING AFFECTED BY SCOPE OF THIS PROJECT TO ACCOMMODATE CURRENT CODE CONDUIT FILL AND CORRECTION REQUIREMENTS. INCLUDE COST ASSOCIATED WITH THIS UPGRADE IN THE BID.
- ELECTRICAL CABINETS AND ENCLOSURES LOCATED IN PUBLIC AREAS SHALL BE LOOKABLE TYPE.
- PENETRATIONS THROUGH STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT SPECIFIC WRITTEN PERMISSION FROM STRUCTURAL ENGINEER AND ARCHITECT. SUBMIT REQUESTS FOR PENETRATIONS TO

ARCHITECT FOR REVIEW AND DISPOSITION. PRIOR TO CORE DRILLING THROUGH FLOORS, VERIFY CLEARANCE OF BEAMS, DUCTWORK, ETC., IN CEILING SPACE BELOW, AND X-RAY FOR CONDUIT AND/OR REBAR IN SLAB. COORDINATE WITH BUILDING MANAGEMENT/OWNER TO INFORM TENANT BELOW FOR SCHEDULING OF CORE DRILLING AND TO ADVISE CONCERNING PROTECTION FOR ANY SENSITIVE EQUIPMENT PRIOR TO COMMENCEMENT OF WORK. ALL X-RAYS AND CORE DRILLS MUST BE SCHEDULED FOR AFTER HOURS UNLESS BUILDING MANAGEMENT/OWNER AUTHORIZES OTHERWISE.

- RACEWAYS SHALL BE PROVIDED WITH EXPANSION FITTINGS WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION, AND TO ALLOW FOR MINOR MOVEMENT OF THE STRUCTURAL ELEMENTS OF THE BUILDING. EXPANSION FITTINGS FOR METAL RACEWAYS SHALL BE MADE ELECTRICALLY CONTINUOUS BY EQUIPMENT BONDING JUMPERS OR OTHER MEANS.
- PROVIDE TYPEWRITTEN, UPDATED PANELBOARD DOOR DIRECTORIES FOR ALL AFFECTED PANELS, REFLECTING ACCURATE BRANCH CIRCUIT DESTINATIONS. CLEARLY MARK JUNCTION BOXES IN CEILING SPACE WITH PANEL DESIGNATIONS AND CIRCUIT NUMBERS. PROVIDE NEW ENGRAVED PLASTIC LABELS TO REPLACE ANY DAMAGED, MISLABELED, TEMPORARY OR OTHERWISE ILLEGIBLE IDENTIFICATION LABELS FOR DISTRIBUTION EQUIPMENT AFFECTED BY THIS CONTRACT. ATTACH THESE LABELS PERMANENTLY TO EQUIPMENT WITH RIVETS OR SCREWS. SELF ADHESIVE TYPE IS NOT ACCEPTABLE. LABEL OUTLET AND SWITCH COVER PLATES WITH PANEL DESIGNATION AND CIRCUIT NUMBERS.
- REQUIREMENTS FOR MECHANICAL EQUIPMENT ELECTRICAL CONNECTIONS:
  - ELECTRICAL CONTRACTOR SHALL OBTAIN A COPY OF THE MECHANICAL AND PLUMBING EQUIPMENT SUBMITTALS TO COMPARE AGAINST CURRENT MECHANICAL EQUIPMENT SCHEDULE. REPORT ANY DISCREPANCIES TO ELECTRICAL ENGINEER FOR VERIFICATION OF THE EQUIPMENT SELECTION, AND REQUIRED REVISION OF THE DRAWINGS OR SCHEDULES.
  - ELECTRICAL CONTRACTOR SHALL REVIEW MECHANICAL AND PLUMBING DRAWINGS, SCHEDULES AND SUBMITTALS FOR VERIFICATION OF THE EQUIPMENT, WIRING AND ADDITIONAL INSTALLATION REQUIREMENTS. WHEN EQUIPMENT DELIVERED TO JOB SITE, ELECTRICAL CONTRACTOR SHALL VERIFY THIS DATA WITH EQUIPMENT NAMEPLATES OR MANUALS. IF SIGNIFICANT DISCREPANCIES OCCUR, CONTACT ELECTRICAL ENGINEER FOR REVISION OF THE CONSTRUCTION DOCUMENTS.
  - PROVIDE SAFETY DISCONNECT SWITCHES FOR ALL MECHANICAL EQUIPMENT UNLESS PROVIDED BY MECHANICAL CONTRACTOR AS SPECIFICALLY DIRECTED ON MECHANICAL DRAWING OR SPECIFICATION REQUIREMENTS.
  - ELECTRICAL WIRING IN CONNECTION WITH THE AUTOMATIC TEMPERATURE CONTROL SYSTEM, WHERE SHOWN ON THE ELECTRICAL DIVISION DRAWINGS, SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR. ALL OTHER WIRING, INCLUDING 120V REQUIRED FOR PROPER OPERATION OF THE AUTOMATIC TEMPERATURE CONTROL SYSTEM, SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.
- PROVIDE FIRE STOPPING MATERIAL AND SYSTEMS, AS LISTED IN THE UL FIRE RESISTANCE DIRECTORY, EQUAL TO THE FIRE RESISTANCE RATING OF THE RESPECTIVE WALL OR FLOOR ASSEMBLY FOR ALL PENETRATIONS OF CONDUIT, SLEEVES, WIRING, CABLES AND OTHER ELECTRICAL ITEMS THROUGH FIRE-RATED CORRIDOR WALLS, FIRE RESISTIVE WALLS, FIRE RESISTIVE SHAFTS, AND FLOOR PENETRATIONS.
- TELECOMMUNICATIONS
  - REFER TO TELECOMMUNICATIONS DRAWINGS, AND COORDINATE WITH TELECOMMUNICATIONS CONTRACTOR FOR EXACT LOCATION, REQUIREMENTS, SPECIFICATION AND ROUTING FOR ALL CONDUITS, RACEWAYS, JUNCTION BOXES AND FLOOR PENETRATIONS PRIOR TO ROUGH-IN.
  - AT TELEPHONE AND DATA SERVICE POINTS FOR EACH MODULAR FURNITURE GROUPING, THE ELECTRICAL CONTRACTOR SHALL PROVIDE MINIMUM 4-11/16" x 4-11/16" x 1/2" STEEL JUNCTION BOX WITH TWO 1" CONDUITS (OR AS OTHERWISE SPECIFIED BY TELECOMMUNICATIONS CONTRACTOR) WITH PULL WIRE. STUB CONDUITS ABOVE CEILING LINE AND BUSH. CABLING SHALL BE PULLED AND WREED BY OTHERS. COORDINATE ALL WORK WITH TELECOMMUNICATIONS CONTRACTOR PRIOR TO ROUGH-IN.
  - ALL TELECOMMUNICATIONS CABLING SHALL BE INSTALLED BY TENANT'S VENDOR.
  - CLIENT'S TELECOMMUNICATIONS CONTRACTOR SHALL REMOVE ALL ABANDONED AND UNUSED TELECOMMUNICATIONS CABLING, CONDUIT, JUNCTION BOXES, AND ASSOCIATED WIRING LOCATED IN THE CEILING SPACE BACK TO POINT OF ORIGIN. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE CONTRACTOR FOR THE REMOVAL OF THE PHONE/DATA CABLING. BEFORE DISCONNECTING AND REMOVING ANY EQUIPMENT, DEVICES OR CABLING, THE APPROPRIATE CONTRACTOR SHALL COORDINATE WITH CLIENT AND ARCHITECT TO ENSURE THAT EQUIPMENT IS SCHEDULED TO BE REMOVED. IF REQUESTED, THE ELECTRICAL CONTRACTOR COULD BE CONTRACTED FOR THIS SCOPE.
  - ELECTRICAL CONTRACTOR SHALL VERIFY QUANTITY AND TYPE OF DATA/PHONE/AUDIO/VIDEO PORTS TO BE INCLUDED IN FLOOR POKE-THRU DEVICES, OR FLOOR OUTLET BOXES, WITH TELECOMMUNICATIONS CONTRACTOR PRIOR TO ORDERING OF SUB-PLATES AND REQUIRED ACCESSORIES.
  - ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL GROUND BAR IN THE PHONE/DATA ROOM. PROVIDE #6 AWG COPPER CONDUCTOR FROM BUILDING GROUNDING ELECTRODE CONDUCTOR TO GROUND BAR. COORDINATE EXACT BAR LOCATION AND ADDITIONAL REQUIREMENTS WITH TELECOMMUNICATIONS CONTRACTOR.
- FIRE ALARM
  - GENERAL CONTRACTOR SHALL SOLICIT BIDS FROM BUILDING OWNER'S DESIGNATED FIRE ALARM CONTRACTOR FOR DESIGN AND INSTALLATION OF AN APPROVED FIRE ALARM SYSTEM AND DEVICES WHICH SHALL COMPLY WITH ALL APPLICABLE CODES AND ALL REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. THE ELECTRICAL CONTRACTOR SHALL VERIFY WITH BUILDING MANAGEMENT/OWNER CONCERNING DESIGNATED FIRE ALARM CONTRACTOR.
  - REQUIRED MODIFICATIONS TO EXISTING FIRE ALARM SYSTEM SHALL BE PROVIDED ON A DESIGN/BUILD BASIS BY FIRE ALARM CONTRACTOR. PRIOR TO BIDDING, FIRE ALARM CONTRACTOR SHALL FIELD VERIFY EXISTING FIRE ALARM SYSTEM CAPABILITY AND FIRE ALARM DEVICE LOCATIONS IN THIS SCOPE OF WORK. IF REQUIRED BY LOCAL JURISDICTION, FIRE ALARM SYSTEM SHALL BE UPGRADED TO MEET CURRENT CODE. FIRE ALARM CONTRACTOR SHALL PREPARE AND SUBMIT ALL SHOP DRAWINGS AND EQUIPMENT BROCHURES TO AUTHORITIES HAVING JURISDICTION, SUCH AS FIRE DEPARTMENT, BUILDING DEPARTMENT, ETC., AS REQUIRED, FOR REVIEW AND APPROVAL. CONTRACTOR SHALL ALSO PROVIDE THE ENGINEER WITH ONE (1) SET OF DRAWINGS, CALCULATIONS AND EQUIPMENT SUBMITTALS FOR HIS REVIEW AND RECORD.
  - IF REQUIRED, RELOCATE EXISTING SMOKE DETECTORS, REMOTE INDICATOR LIGHTS, FIRE ALARM HORNS, STROBES, SPEAKERS, ETC., BASED ON REMODELED AREA MODIFICATION, AND RECONNECT TO EXISTING SYSTEM AS REQUIRED. NEW FIRE ALARM DEVICES SHALL BE OF THE SAME MANUFACTURER AS THE EXISTING DEVICES AND SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. PROVIDE ADDITIONAL CONDUCTORS, 2W's, 1W's, AND OTHER EQUIPMENT NECESSARY IN ORDER TO EXPAND SYSTEM AS REQUIRED. PROVIDE SYNCHRONIZING MODULES FOR STROBES. IF REQUIRED, REPLACE EXISTING FIRE ALARM DEVICES, THAT ARE NOT CURRENTLY BUILDING STANDARD OR COMPATIBLE, WITH NEW BUILDING STANDARD FIRE ALARM DEVICES. PRIOR TO PURCHASING FIRE ALARM DEVICES, PROVIDE OUT SHEETS, SHOP DRAWINGS, AND SEQUENCE OF OPERATION TO BUILDING MANAGEMENT AND FIRE PREVENTION BUREAU FOR THEIR APPROVAL, AND TO ENGINEER FOR HIS REVIEW.
  - PROVIDE NEW BUILDING STANDARD FIRE ALARM STROBES, ADA HIGH INTENSITY, COMPATIBLE WITH EXISTING OR NEW FIRE ALARM SYSTEM AS REQUIRED. MODIFY EXISTING FIRE ALARM OUTLET CONDUCTORS AND FIRE ALARM PANELS PER MANUFACTURER'S REQUIREMENTS. MOUNT STROBES +80" AFF OR 6" BELOW THE CEILING, WHICHEVER IS LOWER. REPLACE EXISTING STROBE LIGHTS WITH NEW BUILDING STANDARD STROBE LIGHTS, AND ENSURE ALL STROBE LIGHTS ARE SYNCHRONIZED.
  - FIRE ALARM CONTRACTOR SHALL FURNISH DUCT DETECTORS (120V OR 24V), WITH REMOTE INDICATING LIGHT AND TEST SWITCH, FOR ALL MECHANICAL AIR-MOVING SYSTEMS WHERE REQUIRED BY CODE OR LOCAL AUTHORITIES. DETECTORS SHALL BE OF THE SAME MANUFACTURER AS EXISTING OR NEW FIRE ALARM SYSTEM. MECHANICAL CONTRACTOR SHALL INSTALL DETECTORS IN THE MECHANICAL DUCTWORK, AS REQUIRED BY CODE, TO FACILITATE MOTOR SHUTDOWN UPON DETECTION OF SMOKE. ELECTRICAL CONTRACTOR SHALL HARDWIRE DETECTOR TO THE FAN MOTOR (THROUGH A POWER-INTERRUPTING RELAY) FOR SHUTDOWN UPON DETECTION OF SMOKE, AND IF REQUIRED BY CODE, THE FIRE ALARM CONTRACTOR SHALL CONNECT TO FIRE ALARM SYSTEM AS "TROUBLE ALARM." COORDINATE ALL REQUIREMENTS AND SPECIFICATIONS WITH BUILDING ENGINEER OR BUILDING FIRE ALARM REPRESENTATIVE. SUBMIT DRAWINGS AND EQUIPMENT CUT SHEETS FOR ENGINEERS' REVIEW AND FIRE DEPARTMENT APPROVAL.
  - FIRE/SMOKE DAMPERS SHALL BE ACTIVATED PER INTERNATIONAL MECHANICAL CODE SECTION 607.3.3.3. ACTIVATION SHALL BE PROVIDED BY FIRE ALARM CONTRACTOR.
  - IF A PRE-ACTION DRY PIPE SPRINKLER SYSTEM IS REQUIRED FOR THIS PROJECT, THE PRE-ACTION FIRE ALARM SYSTEM CONTROL PANEL SHALL BE ANNUNCIATED ON THE BUILDING MAIN FIRE ALARM CONTROL PANEL (FACP) IN THE FIRE COMMAND CENTER (FCC).
  - IF THE PROJECT REQUIRES A UPS SYSTEM AND COMPUTER ROOM AIR CONDITIONING (CRAC) UNITS, THE UPS SYSTEM AND CRAC UNITS SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM AND TO THE PRE-ACTION FIRE ALARM CONTROL PANEL. THE UPS SYSTEM, CRAC UNITS, AND SMOKE DAMPERS SERVING THE COMPUTER ROOM SHALL BE SHUT DOWN UPON ACTIVATION OF FIRE ALARM SYSTEM. PROVIDE INTERFACE WIRING AS REQUIRED. PROVIDE WIRING FROM CRAC UNIT TO MOISTURE SENSORS OR SITE MONITORING SYSTEM IF IT IS PROVIDED UNDER MECHANICAL DRAWINGS. PROVIDE WIRING FROM CRAC UNIT TO FIRE ALARM SYSTEM. SHOW AND ALARM UPON DUCT DETECTOR ACTIVATION AS PART OF UL SYSTEM. COORDINATE ALL OF THE ABOVE WITH APPROPRIATE UPS, PDU AND CRAC UNIT MANUFACTURERS.
- SECURITY
  - ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND REQUIREMENTS FOR J-BOX ROUGH-INS, CONDUIT RUNS WITH PULL WIRE AND POWER REQUIREMENTS FOR SECURITY SYSTEM WITH SECURITY SYSTEM CONTRACTOR PRIOR TO ROUGH-IN. THE SECURITY SYSTEM CONTRACTOR SHALL ALSO COORDINATE ALL WORK WITH FIRE ALARM CONTRACTOR FOR COORDINATION OF THE INTERCONNECTION OF THE SECURITY SYSTEM WITH FIRE ALARM SYSTEM AS REQUIRED PER LOCAL CODES AND FIRE DEPARTMENT REGULATIONS.
- AUDIO-VISUAL EQUIPMENT
  - ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND REQUIREMENTS FOR J-BOX ROUGH-INS, CONDUIT RUNS WITH PULL WIRE, REQUIRED PENETRATIONS, AND POWER REQUIREMENTS FOR AUDIO-VISUAL EQUIPMENT WITH AUDIO-VISUAL CONTRACTOR PRIOR TO ROUGH-IN.



Drawing: \\MDPSRV\Public\Jobs\8310 S. Valley Hwy - Point At Inverness\12101.02 - Brightland\54 Drawings\2024\01-29 - First Issue\2-E.1 - Electrical Demo.dwg Plotted by: Clayton Fenske On: Friday, February 16, 2024 11:17:48 PM



1 PARTIAL SECOND FLOOR ELECTRICAL DEMO PLAN  
SCALE: 1/8" = 1'-0"



### DEMOLITION NOTES

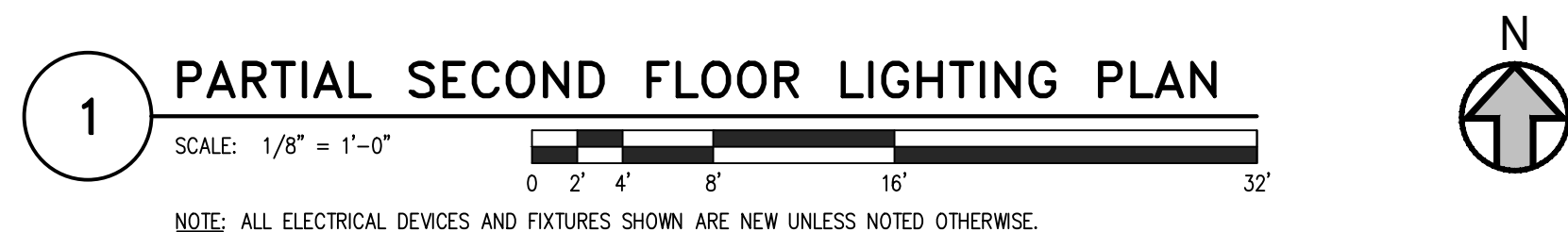
1. DURING THE DEMOLITION PHASE OF THIS CONTRACT, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO VERIFY DEMOLITION SCOPE AND ITEMS WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
2. EXISTING LIGHT FIXTURES, ELECTRICAL DEVICES, EQUIPMENT, AND OTHER RELATED ITEMS SHALL BE CAREFULLY REMOVED EITHER AS SHOWN ON DEMOLITION DRAWINGS AS BEING REMOVED, OR AS REQUIRED FOR THE WORK UNDER THIS CONTRACT. THESE ITEMS SHALL BE TAGGED, PROTECTED FROM DAMAGE, AND STORED FOR FUTURE USE OR DISPOSED AS DIRECTED BY THE BUILDING MANAGEMENT/OWNER, ARCHITECT OR ENGINEER.
3. CONTRACTOR SHALL REMOVE SWITCHES, DATA/TELEPHONE OUTLETS, AND ELECTRICAL OUTLETS SCHEDULED FOR DEMOLITION. ALL UNUSED POWER WIRING SHALL BE REMOVED BACK TO JUNCTION BOX IN CEILING SPACE OR TO THE ELECTRICAL PANEL FEEDING THE CIRCUIT. THE SPARE CIRCUIT BREAKER SHALL BE SWITCHED TO THE "OFF" POSITION AND NOTED ON PANEL DIRECTORY AS SPARE WITH THE JUNCTION BOX LOCATION IF APPLICABLE.
4. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RINGING OUT ALL CIRCUITS WHICH ARE OR MAY BE AFFECTED BY THIS PROJECT TO ENSURE CIRCUIT CONTINUITY AND TO PREVENT OVERLOADING OF ANY SINGLE CIRCUIT. CONTRACTOR SHALL ENSURE THAT CIRCUITS SHARED BETWEEN PROJECT AREA AND EXISTING TENANT SPACES REMAIN INTACT PER ORIGINAL DESIGN INTENT. CORRECT ANY MISLABELED J-BOX COVERS WITH ACCURATE PANEL/BRANCH CIRCUIT IDENTIFICATION. REFER TO DETAIL NOTES ON PLANS THAT APPLY TO WORK TO BE PERFORMED UNDER THIS CONTRACT. CIRCUIT BREAKERS FOR ALL UNUSED CIRCUITS SHALL BE TURNED TO THE "OFF" POSITION AND LABELED AS SPARE ON REVISED PANEL DIRECTORIES.
5. PROVIDE NEW JUNCTION BOXES, NEW CONDUIT AND WIRING AS REQUIRED TO REPAIR, REROUTE AND RECONNECT CONDUCTORS THAT ARE DAMAGED, DISTURBED OR OTHERWISE ADVERSELY AFFECTED BY THE DEMOLITION AND REMODEL WORK.
6. THE LOCATIONS OF EXISTING AND REMOVED LIGHT FIXTURES, POWER DEVICES AND WIRING, ETC., SHOWN ON THE DRAWINGS HAS BEEN TAKEN FROM EXISTING DRAWINGS AND VERIFIED DURING THE FIELD SURVEY, AND ARE, THEREFORE, ONLY AS ACCURATE AS THAT INFORMATION. ALL EXISTING CONDITIONS SHALL BE VERIFIED AT THE FIELD WITH NECESSARY ADJUSTMENT BEING MADE TO THE DRAWING INFORMATION.
7. ELECTRICAL CONTRACTOR SHALL COORDINATE ADDITIONAL WORK REQUIRED FOR DEMOLITION SCOPE OF THIS PROJECT WITH MECHANICAL AND PLUMBING CONTRACTORS. COORDINATE IF ANY EQUIPMENT WILL BE REMOVED OR RELOCATED. DISCONNECT EQUIPMENT AND REMOVE ASSOCIATED RACEWAY AND CONDUCTORS BACK TO THE POINT OF ORIGIN. IF EQUIPMENT IS BEING RELOCATED, EXTEND EXISTING BRANCH CIRCUIT(S) TO NEW EQUIPMENT LOCATION AND RECONNECT EQUIPMENT AS EXISTING. RETAIN CIRCUIT CONTINUITY FOR REMAINING EQUIPMENT IF REQUIRED.



February 16, 2024

**BRIGHTLAND**  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112





LUMINAIRE SCHEDULE								
TYPE	LAMPS	DESCRIPTION	DIMMING TYPE	MOUNTING	LOAD, VA	VOLTS	MANUFACTURER / CATALOG NO.	SPECIFIC NOTES
A	LED 3500K 82CRI 3000LM	2'x4' GRID TROFFER	0-10V 10%	RECESSED	23	120-277	LITHONIA LIGHTING ZBL14--*-*-30L--*-G21-LP835	
AE	LED 3500K 82CRI 3000LM	2'x4' GRID TROFFER WITH EMERGENCY BATTERY BACKUP	0-10V 10%	RECESSED	23	120-277	LITHONIA LIGHTING ZBL14--*-*-30L--*-G21-LP835-EL7L	
B	LED 3500K	DOWNLIGHT	0-10V 10%	RECESSED	20 (MAX)	120-277	TBD BY ARCHITECT	
BE	LED 3500K	DOWNLIGHT WITH EMERGENCY BATTERY BACKUP	0-10V 10%	RECESSED	20 (MAX)	120-277	TBD BY ARCHITECT	
C	LED 3500K	WALLWASH	0-10V 1%	SUSPENDED	20 (MAX)	120-277	TBD BY ARCHITECT	
D	LED 3500K 80CRI 10008LM DIR. 9024LM IND.	12-FOOT LINEAR DIRECT/INDIRECT FIXTURE	0-10V 1%	RECESSED	161	120-277	H.E. WILLIAMS MX2UD-12'00--L8/8350/L8/8350--* *-DM-UNV	
E	LED 3500K	DECORATIVE PENDENT	0-10V 1%	SUSPENDED	100 (MAX)	120	TBD BY ARCHITECT	
EX	LED	EXIT SIGN WITH GREEN LETTERING ON CONTRASTING FIELD AND EMERGENCY BATTERY BACKUP	-	SURFACE	5	120/277	MATCH BUILDING STANDARD	

**GENERAL NOTE:**

- VERIFY FIXTURE CATALOG NUMBER, FINISH, LENGTH, LAMPS SELECTION, AND ADDITIONAL INSTALLATION REQUIREMENTS WITH ARCHITECT/OWNER PRIOR TO ORDERING.
- LIGHT SOURCE, SUBSTITUTIONS OF EQUAL QUALITY AND PERFORMANCE WILL BE ACCEPTED WITH PRIOR OWNER/ARCHITECT APPROVAL.
- COORDINATE DIMMING TYPE AND DIMMERS COMPATIBILITY WITH FIXTURE PROVIDER. NO SHARED NEUTRAL IS ALLOWED FOR DIMMING SWITCH LEGS.
- DIMMING TYPE SHOWN AS "DIM" INDICATES THAT FIXTURE IS DIMMABLE, BUT ENGINEER HAS NO INFORMATION ABOUT USED TYPE OF DIMMING.
- SYMBOL "\*" IN THE CATALOG NUMBER INDICATES OPTIONS, TRIM, FINISH, AND COLOR SELECTIONS TO BE COORDINATED WITH THE ARCHITECT, INTERIOR DESIGNER, LIGHTING CONSULTANT, OR OWNER.
- IF WHEN A FIXTURE HAS MULTIPLE OPTIONS FOR LAMPS SIZE OR A SPECIFIED LAMP HAS DIFFERENT WATTAGE COMPARED TO THE FIXTURE DEFAULT LAMP SIZE, THE ELECTRICAL CONTRACTOR SHALL PROVIDE A NEW LABEL LIMITING REPLACEMENT LAMP TO SPECIFIED ON THIS SCHEDULE.
- BEFORE ORDERING LINEAR LIGHT FIXTURES WITH VARIABLE LENGTHS, THE ELECTRICAL CONTRACTOR SHALL VERIFY THE LENGTH OF THE FIXTURES UNLESS THE FIXTURES ARE CUT IN THE FIELD, SUCH AS TAPE LED FIXTURES, FOR SUSPENDED OR SURFACE-MOUNTED LIGHT FIXTURES WHICH ARE CONFIGURABLE AS A ROW, PROVIDE TO SUPPLIER A ROW INFORMATION ALONG WITH THE FIXTURE COUNTS TO ENSURE THAT UNNECESSARY POWER SUPPLY CORDS, AIRCRAFT CABLES, AND END CAPS WILL NOT BE ADDED TO THE MATERIAL LIST.

- ## LIGHTING CONTROL OPERATION NOTES

- FIXTURES SHALL BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%)
- MANUAL "ON/OFF/DIMMING" CONTROL PROVIDED WITH LINE VOLTAGE OCCUPANCY SENSOR
- ALL FIXTURES AUTOMATICALLY TURN OFF WITHIN NO MORE THAN 20 MINUTES FROM WHEN ROOM BECOMES VACANT

MARKETING STORAGE 217, SERVER 218, STORAGE 219,222 (NO WINDOWS, WALL OCCUPANCY SENSOR, SWITCHED FIXTURES, LESS THAN 150VA IN SIDELIGHT ZONE)

- FIXTURES SHALL BE TURNED ON MANUALLY
- MANUAL "ON/OFF" CONTROL PROVIDED WITH LINE VOLTAGE OCCUPANCY SENSOR
- ALL FIXTURES AUTOMATICALLY TURN OFF WITHIN NO MORE THAN 20 MINUTES FROM WHEN ROOM BECOMES VACANT

CONF. 203,213, OFFICE 212 BREAK 221 (WINDOWS/NO WINDOWS, CEILING SENSOR, 0-10V DIMMABLE FIXTURES, LESS THAN 150VA IN SIDELIGHT ZONE)

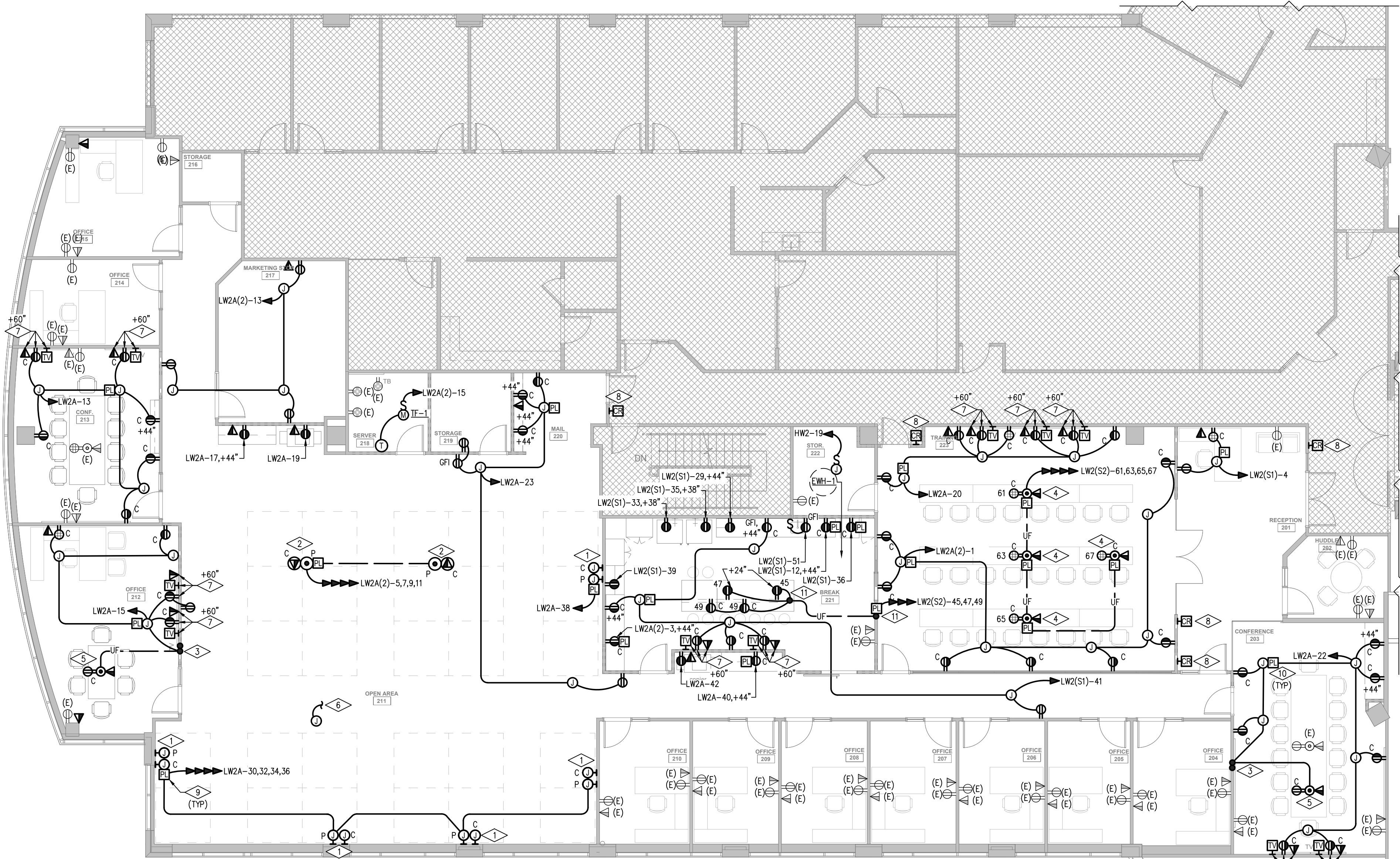
- FIXTURES SHALL BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%)
- MANUAL "ON/OFF/DIMMING" CONTROL SHALL BE PROVIDED WITH A WIRELESS SWITCH
- ALL FIXTURES AUTOMATICALLY TURN OFF WITHIN NO MORE THAN 20 MINUTES FROM WHEN ROOM BECOMES VACANT

RECEPTION 201, OPEN AREA 211, TRAINING 223, WALKING CORRIDORS (WINDOWS/NO WINDOWS, CEILING SENSORS 0-10V DIMMABLE FIXTURES, EMERGENCY RELAY MODULE WITH 0-10V DIMMING OUTPUT, LESS THAN 150VA IN SIDELIGHT ZONE)

- FIXTURES SHALL BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%)
- MANUAL "ON/OFF/DIMMING" CONTROL SHALL BE PROVIDED WITH A WIRELESS SWITCH.
- FIXTURES AUTOMATICALLY TURN OFF WITHIN NO MORE THAN 20 MINUTES FROM WHEN ROOM BECOMES VACANT
- EMERGENCY BATTERY BACKUP TURNS EMERGENCY FIXTURES TO 100% OF LIGHT OUTPUT DURING POWER OUTAGE FOR FIXTURES CONTROLLED BY DIMMER



Drawing: \\MDPSRV\Public\Jobs\8310 S. Valley Hwy - Point At Inverness\2101 02 - Brightland\54 Drawings\2024\01-29 - First Issue\2-E.3 - Power Plan.dwg Plotted by: Clayton Fenske On: Friday, February 16, 2024 11:52 PM



**1 PARTIAL SECOND FLOOR POWER PLAN**  
SCALE: 1/8" = 1'-0"  
NOTE: ALL ELECTRICAL DEVICES SHOWN ARE NEW UNLESS NOTED OTHERWISE.

**POWER DETAIL NOTES**

- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL FLUSH WALL MOUNTED J-BOXES FOR POWER AND DATA/COMMUNICATIONS CONNECTIONS TO MODULAR FURNITURE BASE. COORDINATE EXACT JUNCTION BOX LOCATIONS AND WIRING REQUIREMENTS WITH FURNITURE CONTRACTOR. PROVIDE 4-11/16" x 4-11/16" STEEL JUNCTION BOXES WITH DOUBLE GANG PLASTER RINGS. FROM DATA/COMMUNICATIONS JUNCTION BOX, INSTALL (2) 1" EMT CONDUITS (OR AS OTHERWISE SPECIFIED BY TELECOMMUNICATIONS CONTRACTOR) WITH PULL WIRE. STUB CONDUITS ABOVE CEILING LINE AND BUSH. CABLING SHALL BE PULLED BY OTHERS. COORDINATE WORK WITH TELECOMMUNICATIONS CONTRACTOR PRIOR TO ROUGH-IN. FINAL ELECTRICAL CONNECTIONS TO MODULAR FURNITURE SHALL BE MADE BY ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL CORE DRILL FLOOR AND PROVIDE NEW FURNITURE FEED POKE-THRU DEVICE WIREMOLD 4FATC SERIES OR EQUAL. THIS ASSEMBLY REQUIRES 4" DIAMETER CORE DRILLED HOLE AND PROVIDES 3/4" CONNECTION FOR POWER AND 1-1/4" CONNECTION FOR TELECOMMUNICATIONS WIRING. COORDINATE EXACT CORE DRILL LOCATION, COVER COLOR AND FINISH, AND WIRING REQUIREMENTS WITH TENANT, TELECOMMUNICATIONS CONTRACTOR AND FURNITURE CONTRACTOR PRIOR TO DEVICE ORDERING. FLOOR CORE SHALL BE LOCATED UNDER CORNER OF THE WORK SURFACE, AS CLOSE TO FURNITURE PANELS AS POSSIBLE WITHOUT BEING UNDER PANELS. SEE ELECTRICAL GENERAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS PRIOR TO CORE DRILLING.
- RECOMMENDED FLOOR PENETRATION LOCATION FOR CONDUITS AND/OR SLEEVES SERVING POKE-THRU FITTINGS. ELECTRICAL CONTRACTOR SHALL PROVIDE ONE (1) 1/2" EMT CONDUIT FOR POWER CONNECTIONS AND ONE (1) 1-1/4" EMT CONDUIT FOR DATA/COMMUNICATIONS WIRING. VERIFY CONDUIT SIZES, ROUTING AND ADDITIONAL REQUIREMENTS WITH MANUFACTURER SPECIFICATIONS, TENANT AND COMMUNICATIONS CONTRACTOR PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL CORE DRILL FLOOR AND PROVIDE AND INSTALL NEW FLUSH POKE-THRU ASSEMBLY: WIREMOLD WALKER SERIES CAT.#RCA OR EQUAL FOR POWER (FOURPLEX) AND TELECOMMUNICATIONS CONNECTIONS. THIS ASSEMBLY REQUIRES 4" DIAMETER CORE DRILLED HOLE. COORDINATE EXACT CORE DRILL AND PENETRATION LOCATIONS, QUANTITY, SIZE AND TYPE OF ASSEMBLY USED, OPTIONAL INSERTS SPECIFICATION AND WIRING REQUIREMENTS WITH TENANT AND COMMUNICATIONS CONTRACTOR PRIOR TO DEVICE ORDERING. VERIFY SIZE OF THE CONDUITS USED. SEE ELECTRICAL GENERAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS PRIOR TO CORE DRILLING.
- ELECTRICAL CONTRACTOR SHALL CORE DRILL FLOOR AND PROVIDE AND INSTALL NEW FLUSH POKE-THRU ASSEMBLY: LEGRAND WIREMOLD EVOLUTION SERIES CAT.#4AT OR EQUAL. IT PROVIDES POWER (DUPLEX), TELECOMMUNICATIONS AND/OR AV CONNECTIONS OR FOURPLEX OUTLET ONLY WITHOUT DATA/AV CONNECTIONS. THIS ASSEMBLY REQUIRES 4" DIAMETER CORE DRILLED HOLE AND 2-HOUR FIRE RATED. COORDINATE EXACT CORE DRILL AND PENETRATION LOCATIONS, QUANTITY, SIZE AND TYPE OF ASSEMBLY USED, OPTIONAL INSERTS SPECIFICATION, AND WIRING REQUIREMENTS WITH CLIENT AND COMMUNICATIONS CONTRACTOR PRIOR TO DEVICE ORDERING. VERIFY SIZE OF THE CONDUITS USED. SEE ELECTRICAL GENERAL NOTES FOR ADDITIONAL INFORMATION AND REQUIREMENTS PRIOR TO CORE DRILLING.
- ELECTRICAL CONTRACTOR TO PROVIDE 120V CONNECTION (PANEL LW2A(2), CIRCUIT #17), JUNCTION BOX AND ELECTRICAL CONNECTIONS TO LOW VOLTAGE CONTROL POWER TRANSFORMER FOR DDC CONTROLS. COORDINATE ANY ADDITIONAL INSTALLATION REQUIREMENTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL RECESSED TYPE STEEL DUAL-GANG OUTLET BOX FOR WALL-MOUNTED TV SCREEN. COORDINATE EXACT BOX LOCATION AND MOUNTING HEIGHT WITH ARCHITECT AND CLIENT PRIOR TO ROUGH-IN.
- CARD READER SYSTEM BY SECURITY CONTRACTOR. VERIFY EXACT SECURITY PANEL LOCATION. PROVIDE A RECEPTACLE OUTLET FOR CONTROL PANEL CONNECTION. PROVIDE WALL MOUNTED J-BOX WITH SINGLE GANG PLASTER RING AT CARD READER LOCATION AS REQUIRED. PROVIDE 3/4" CONDUIT FROM INSTALLED J-BOX. STUB CONDUIT MINIMUM 3" AT CEILING SPACE AND BUSH. PROVIDE PULL STRING INSIDE CONDUIT. COORDINATE EXACT CARD READER LOCATIONS AND ADDITIONAL INSTALLATION REQUIREMENTS WITH SECURITY CONTRACTOR. WIRING AND HARDWARE FOR SECURITY SYSTEM PROVIDED AND INSTALLED BY SECURITY CONTRACTOR. SECURITY CONTRACTOR SHALL TO COORDINATE SECURITY SYSTEM CONNECTION TO BUILDING FIRE ALARM SYSTEM FOR PROVIDING THE SEQUENCE OF OPERATION FOR DOOR LOOKS AND FIRE ALARM SYSTEM.
- PER 2021 IECC SECTION C405.11, AT LEAST ONE OUT OF UP TO FOUR (NOT LESS THAN 25 PERCENT) BRANCH CIRCUITS FEEDING THE MODULAR FURNITURE SHALL BE PROVIDED WITH THE CONTROLLED SWITCHING DEVICE OR A POWER PACK CONTROLLED BY THE INDIVIDUAL OCCUPANCY SENSOR OR CONNECTED TO THE LIGHTING OCCUPANCY SENSOR IN THE AREA. THE OCCUPANCY SENSOR CONTROL SHOULD TURN OFF CONTROLLED RECEPTABLES WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE AREA.
- PER 2021 IECC SECTION C405.11, THE ELECTRICAL CONTRACTOR SHALL PROVIDE SPILT-CONTROLLED RECEPTABLES WHERE RECEPTACLE ON THE ELECTRICAL PLAN IS LABELED WITH "C" FOR "CONTROLLED." THE RECEPTACLE SHALL BE PERMANENTLY MARKED PER NEC ARTICLE 406.3(F) AND ORIENTED WITH THE TOP RECEPTACLE TO BE CONTROLLED. THE CONTROLLED RECEPTACLE SHOULD BE CONTROLLED BY THE INDIVIDUAL OCCUPANCY SENSOR AND A POWER PACK OR HAVE A POWER PACK OR OTHER CONTROL DEVICE CONNECTED TO THE LIGHTING OCCUPANCY SENSOR IN THE AREA. THE OCCUPANCY SENSOR CONTROL SHOULD TURN OFF CONTROLLED RECEPTABLES WITHIN 20 MINUTES OF OCCUPANTS LEAVING THE AREA. A SINGLE POWER PACK OR CONTROLLED DEVICE CAN CONTROL MULTIPLE CONTROLLED RECEPTABLES IN THE AREA NOT EXCEEDING 5,000 SQUARE FEET CONNECTED TO THE SAME CIRCUIT.
- RECOMMENDED FLOOR PENETRATION LOCATION FOR CONDUITS AND/OR SLEEVES SERVING MILLWORK MOUNTED RECEPTABLES. ELECTRICAL CONTRACTOR SHALL PROVIDE ONE (1) 1/2" EMT CONDUIT FOR POWER CONNECTIONS. VERIFY CONDUIT SIZES, ROUTING AND ADDITIONAL REQUIREMENTS WITH MANUFACTURER SPECIFICATIONS, TENANT AND MILLWORK CONTRACTOR PRIOR TO ROUGH-IN.

MECHANICAL EQUIPMENT SCHEDULE								
KEY	DESCRIPTION	MOTOR, HP	LOAD, A	VA	VOLTS	PH	OCPD SIZE	BRANCH CIRCUIT CONDUCTORS
EW-H-1	ELECTRIC WATER HEATER	-	5.4	1500.0	277	1	20	(2-12 & 1-12 GND)
TF-1	TRANSFER FAN	1/25	1.1	135.0	120	1	20	(2-12 & 1-12 GND)
SPECIFIC NOTES: 1. ELECTRICAL CONTRACTOR SHALL OBTAIN A COPY OF THE MECHANICAL AND PLUMBING EQUIPMENT SUBMITTALS TO COMPARE AGAINST CURRENT MECHANICAL EQUIPMENT SCHEDULE. REPORT ANY DISCREPANCIES TO ELECTRICAL ENGINEER FOR VERIFICATION OF THE EQUIPMENT SELECTION AND REQUIRED REVISION OF THE DRAWINGS OR SCHEDULES. 2. FIELD VERIFY EQUIPMENT NAMEPLATES AND MANUALS AGAINST PARAMETERS SHOWN ON THIS SCHEDULE. IF SIGNIFICANT DISCREPANCIES OCCUR, CONTACT ELECTRICAL ENGINEER FOR REQUIRED REVISION OF THE DRAWINGS. 3. COORDINATE EXACT EQUIPMENT LOCATIONS AND ADDITIONAL INSTALLATION REQUIREMENTS WITH MECHANICAL/PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. 4. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR, UNLESS FURNISHED BY MANUFACTURER OR PROVIDED BY MECHANICAL CONTRACTOR. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR SCOPE OF THE EQUIPMENT SUPPLIED BY MECHANICAL AND ELECTRICAL CONTRACTORS. 5. COORDINATE POWER REQUIREMENTS FOR VARIABLE AIR VOLUME (VAV) BOX NEW INSTALLATION OR MODIFICATION OF THE EXISTING UNITS. PROVIDE INDIVIDUAL 120V POWER CONNECTION FOR EACH UNIT IF REQUIRED. 6. CONTROL PANEL SHORT CIRCUIT RATING SHALL BE INDICATED ON THE FACTORY INSTALLED LABEL AND SHALL BE ADEQUATE FOR THESE INSTALLATION CONDITIONS. 7. CONDUIT AND WIRE SIZES ARE SHOWN ON THE SCHEDULE FOR THE TYPICAL INSTALLATION WITHOUT ANY ADJUSTMENTS FACTORS APPLIED TO THE CONDUCTORS SIZE DUE TO THE LENGTH, TEMPERATURE, OR NUMBER OF THE CONDUCTORS IN THE RACEWAY.								
GENERAL NOTES: 1. ELECTRICAL CONTRACTOR SHALL OBTAIN A COPY OF THE MECHANICAL AND PLUMBING EQUIPMENT SUBMITTALS TO COMPARE AGAINST CURRENT MECHANICAL EQUIPMENT SCHEDULE. REPORT ANY DISCREPANCIES TO ELECTRICAL ENGINEER FOR VERIFICATION OF THE EQUIPMENT SELECTION AND REQUIRED REVISION OF THE DRAWINGS OR SCHEDULES. 2. FIELD VERIFY EQUIPMENT NAMEPLATES AND MANUALS AGAINST PARAMETERS SHOWN ON THIS SCHEDULE. IF SIGNIFICANT DISCREPANCIES OCCUR, CONTACT ELECTRICAL ENGINEER FOR REQUIRED REVISION OF THE DRAWINGS. 3. COORDINATE EXACT EQUIPMENT LOCATIONS AND ADDITIONAL INSTALLATION REQUIREMENTS WITH MECHANICAL/PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. 4. EQUIPMENT DISCONNECTS SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR, UNLESS FURNISHED BY MANUFACTURER OR PROVIDED BY MECHANICAL CONTRACTOR. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR SCOPE OF THE EQUIPMENT SUPPLIED BY MECHANICAL AND ELECTRICAL CONTRACTORS. 5. COORDINATE POWER REQUIREMENTS FOR VARIABLE AIR VOLUME (VAV) BOX NEW INSTALLATION OR MODIFICATION OF THE EXISTING UNITS. PROVIDE INDIVIDUAL 120V POWER CONNECTION FOR EACH UNIT IF REQUIRED. 6. CONTROL PANEL SHORT CIRCUIT RATING SHALL BE INDICATED ON THE FACTORY INSTALLED LABEL AND SHALL BE ADEQUATE FOR THESE INSTALLATION CONDITIONS. 7. CONDUIT AND WIRE SIZES ARE SHOWN ON THE SCHEDULE FOR THE TYPICAL INSTALLATION WITHOUT ANY ADJUSTMENTS FACTORS APPLIED TO THE CONDUCTORS SIZE DUE TO THE LENGTH, TEMPERATURE, OR NUMBER OF THE CONDUCTORS IN THE RACEWAY.								

RECEPTACLE CONTROLS SCHEDULE			
SYMBOL/KEY	DESCRIPTION	AQUITY CONTROLS LIGHT PRODUCT CATALOG NO.	SPECIFIC NOTES
W	WIRELESS ON/OFF PLUG LOAD CONTROL POWER PACK	RPP20 G2	
NOTES: 1. VERIFY DEVICES SELECTION, CATALOG NUMBER, FINISH, AND ADDITIONAL INSTALLATION REQUIREMENTS WITH BUILDING OWNER, CHIEF ENGINEER, CLIENT, ARCHITECT, AND LOCAL MANUFACTURER REPRESENTATIVE PRIOR TO ORDERING.			

**POWER NOTES**

- THESE NOTES APPLY TO ALL POWER AND ELECTRICAL PLANS INCLUDED IN THIS SET OF DRAWINGS.
- UP-TO-DATE AS-BUILT ELECTRICAL PLANS ARE NOT AVAILABLE FOR THIS PROJECT AREA. INFORMATION FOR THE EXISTING CIRCUITRY IS BASED ON EXISTING PANEL DIRECTORIES, AVAILABLE DRAWINGS, FIELD SURVEY OBSERVATIONS, AND ASSUMPTIONS. IF SIGNIFICANT DISCREPANCIES ARE FOUND THAT CAN NOT BE EASILY RESOLVED, CONTACT THE ARCHITECT OR ENGINEER.
- CIRCUIT NUMBERS SHOWN ON THE PLAN MAY NOT REFLECT ACTUAL CIRCUIT NUMBERS AS A RESULT OF UNDOCUMENTED MODIFICATIONS MADE BY PREVIOUS TENANT IMPROVEMENT PROJECTS. CIRCUIT NUMBERS SHOWN INDICATE THE QUANTITY OF AND LOAD FOR CIRCUITS REQUIRED FOR THIS PROJECT.
- EXISTING POWER AND COMMUNICATIONS OUTLETS ARE TO REMAIN WHERE SHOWN ON THE PLAN IN A LIGHT SOLID LINE WEIGHT UNLESS OTHERWISE NOTED. RETAIN CIRCUIT CONTINUITY FOR THESE DEVICES AS REQUIRED.
- PROVIDE CIRCUIT CONTINUITY FOR ALL DEVICES AFFECTED BY REMODEL WORK THAT ARE TO REMAIN. WHERE THE EXISTING RECEPTABLES IN THE EXTERIOR PERIMETER WALL CONFLICT WITH NEW WALL PARTITIONS, REMOVE THE DEVICE AND REWORK THE CIRCUIT FOR CONTINUITY AS REQUIRED.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT ALL EXISTING AND RELOCATED OUTLETS IN THE AREA OF WORK ARE FUNCTIONING. IF REQUIRED, REPLACE THE DEVICE WITH A NEW ONE.
- EXISTING POWER AND COMMUNICATIONS OUTLETS ARE TO REMAIN WHERE SHOWN ON THE PLAN AS IS UNLESS OTHERWISE NOTED. NEW WALL-MOUNTED POWER, DATA, AND COMMUNICATIONS OUTLETS SHALL BE MOUNTED 18" A.F.F. FROM THE FLOOR TO THE CENTERLINE OF THE BOX, U.N.O.) TO COMPLY WITH ADA REQUIREMENTS.
- THE CONTRACTOR SHALL COORDINATE THE EXACT OUTLET AND DEVICE LOCATIONS WITH THE CLIENT/ARCHITECT OR EQUIPMENT SUBCONTRACTOR.
- RECEPTACLE OUTLETS AND SWITCHES SHALL BE LABELED WITH DESIGNATED PANEL AND CIRCUIT NUMBER ON OR INSIDE THE COVER PLATE. JUNCTION BOXES IN CEILING SPACE AND DISCONNECTS SHALL HAVE CIRCUIT NUMBERS MARKED ON THE COVER. COORDINATE THE REQUIREMENTS WITH THE CLIENT.
- ALL 125-VOLT THROUGH 250-VOLT RECEPTABLES SUPPLIED BY SINGLE-PHASE BRANCH CIRCUITS RATED 150V OR LESS TO GROUND, 50 AMPERES OR LESS, AND ALL RECEPTABLES SUPPLIED BY THREE-PHASE BRANCH CIRCUITS RATED 150 VOLTS OR LESS TO GROUND, 100 AMPERES OR LESS, INSTALLED IN KITCHEN/FOOD PREPARATION AREAS OR WITHIN SIX FEET OF THE OUTSIDE EDGE OF THE SINK SHALL HAVE GROUND-FULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL PER NATIONAL ELECTRICAL CODE (NEC) ARTICLE 210.8. INSTALL THE GROUND-FULT CIRCUIT INTERRUPTER IN A READILY ACCESSIBLE LOCATION.
- WHEN THE RECEPTACLE IS MARKED AS "GFI," GFCI PROTECTION NEEDS TO BE PROVIDED. PROVIDE A GFCI-TYPE CIRCUIT BREAKER, RECEPTACLE, OR STAND-ALONE DEVICE. WHEN MULTIPLE RECEPTABLES ARE SHOWN AS "GFI" AND CONNECTED TO THE SAME CIRCUIT NOT PROTECTED BY A GFCI-TYPE CIRCUIT BREAKER, THE RECEPTACLE IN THE BRANCH CIRCUIT NEEDS TO BE GFCI-TYPE WITH ALL OTHER RECEPTABLES CONNECTED TO THE LOAD SIDE OF THIS RECEPTACLE.
- WHEN A SPECIFIED GFCI-TYPE CIRCUIT BREAKER IS NOT AVAILABLE FROM THE SELECTED MANUFACTURER, IT IS ACCEPTABLE TO USE STAND-ALONE DEVICES PROVIDING PERSONNEL OR EQUIPMENT GFCI PROTECTION AS INDICATED ON DRAWINGS.
- EACH MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES. DISCONNECTOR CAN BE ACCOMPLISHED THROUGH DESIGNATED HANDLE TIES USED WITH SINGLE-POLE CIRCUIT BREAKERS OR MULTI-POLE DEVICES. THE BRANCH CIRCUIT SERVING EMERGENCY POWER CIRCUITS SHALL NOT BE PART OF A MULTIWIRE BRANCH CIRCUIT.
- THE UNGROUNDED AND GROUNDED CONDUCTORS OF EACH MULTIWIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES OR SIMILAR MEANS IN AT LEAST ONE LOCATION WITHIN THE PANELBOARD OR OTHER POINT OF ORIGIN.
- MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO PERMANENTLY CONNECTED FREESTANDING PARTITIONS SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES.
- SCOPE OF WORK INCLUDES FLEX CONNECTION FROM WALL OR FLOOR POKE-THRU FITTING TO MODULAR FURNITURE ELECTRIFIED BASE. COORDINATE CONNECTION LOCATIONS WITH FURNITURE SUBCONTRACTOR PRIOR TO ROUGH-IN. ELECTRICAL CONTRACTOR TO MAKE FINAL ELECTRICAL CONNECTIONS TO FURNITURE SYSTEMS.
- OUTLET BOXES INSTALLED ON THE EDGES OF METAL STUDS ARE REQUIRED TO BE SECURED IN PLACE BY THE ADDITIONAL USE OF BOX-BACK SUPPORTS PER NEC ARTICLE 314.2.3.
- BEFORE ANY CORE DRILLING OF CONCRETE FLOORS OR WALLS, THE CONTRACTOR SHALL X-RAY. COORDINATE SCHEDULE WITH GENERAL CONTRACTOR.
- DATA AND TELECOMMUNICATIONS CABLING SHALL BE INSTALLED BY THE CLIENT'S VENDOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING REQUIRED JUNCTION BOXES AND RACEWAY ROUGH-INS WITH THE APPROPRIATE VENDOR.
- PROVIDE INDIVIDUAL 1" EMT CONDUIT FROM EACH PHONE/DATA OUTLET, CONSISTING OF MULTIPLE CONNECTORS AND REQUIRING MULTIPLE CABLES TO BE INSTALLED. STUBBED A MINIMUM OF 3" INTO ACCESSIBLE CEILING SPACE. INSTALL INSULATION BUSHING AND PROVIDE PULL WIRE. COORDINATE REQUIREMENTS WITH TELECOMMUNICATIONS CONTRACTOR.
- FROM EACH NEW SINGLE PHONE, COMMUNICATIONS, OR COAXIAL CABLE OUTLET, CONSISTING OF A SINGLE CONNECTOR AND REQUIRING A SINGLE CABLE TO BE INSTALLED, PROVIDE 3/4" CONDUIT STUBBED MINIMUM 3" INTO ACCESSIBLE CEILING SPACE AND BUSHED. PROVIDE PULL WIRE. COORDINATE REQUIREMENTS WITH TELECOMMUNICATIONS CONTRACTOR.
- WALL-MOUNTED BOXES (TELEPHONE, ELECTRICAL, ETC.) NOT TO BE LOCATED BACK-TO-BACK ON OPPOSITE SIDES OF THE WALL. THEY SHOULD BE INSTALLED WITH AN OFFSET, A MINIMUM OF 12 INCHES, OR ONE STUD SPACE, OR AS REQUESTED BY THE OWNER. ALL PENETRATIONS IN THE BOXES SHOULD BE SEALED AIR-TIGHT WITH ELASTIC CAULK. THESE BOXES SHALL ALSO BE COVERED WITH EITHER A FIRE OR SOUND PUTTY PAD. ENSURE THAT ELECTRICAL BOXES AND FIXTURES ARE INSTALLED PER IBC SECTIONS 713.3.2 AND 713.4.1.2 FOR MINIMUM MEMBRANE PENETRATION PROTECTION REQUIREMENTS.
- PROTRUSIONS ARE PROHIBITED IN DEDICATED ELECTRICAL SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT REQUIRING SERVICING WHILE ENERGIZED. THIS INCLUDES CONTROL PANELS AND ELECTRICAL DISCONNECTS AT OR INSIDE ROOFTOP HVAC UNITS, CONDENSING UNITS, AND AIR CONDITIONING UNITS LOCATED ABOVE CEILINGS AND AT GRADE LEVEL. PENETRATIONS SUCH AS ROOF JACKS FOR ELECTRICAL POWER, LOW VOLTAGE CONTROL POWER, REFRIGERANT LINES, VENT PIPES, ETC., INCLUDING GAS LINES, DUCTWORK, ROOF DRAINS, SCREENING WALLS, AND OTHER EQUIPMENT OF ANY TYPE, ARE NOT TO PROTRUDE INTO THIS SPACE. MINIMUM SPACE IN FRONT OF ELECTRIC EQUIPMENT SHALL BE THE WIDTH OF THE EQUIPMENT OR 30 INCHES, WHICHEVER IS GREATER, AND 36 INCHES EXTENDING OUT FROM THE ENCLOSURE FRONT TO A FLAT LEVEL ROOF, GRADE, FLOOR, OR PLATFORM TO THE HEIGHT OF 6.5 FEET.
- A 125-VOLT, SINGLE PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION WITHIN 25 FEET OF THE HEATING, AIR-CONDITIONING, AND REFRIGERATION EQUIPMENT PER NEC ARTICLE 210.6.3. THIS OUTLET SHALL BE LOCATED ON THE SAME LEVEL AS THE EQUIPMENT. IT SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT BRANCH-CIRCUIT DISCONNECT MEANS. THE GFCI PROTECTION SHALL BE PROVIDED FOR THIS RECEPTACLE PER NEC ARTICLE 210.8(E).
- A 125-VOLT, SINGLE PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION WITHIN 25 FEET OF THE INDOOR ELECTRICAL SERVICE AND INDOOR ELECTRICAL EQUIPMENT REQUIRING DEDICATED EQUIPMENT SPACES (ALL SERVICE EQUIPMENT, SWITCHBOARDS, SWITCHGEAR, PANELBOARDS, AND MOTOR CONTROL CENTERS.) THIS RECEPTACLE OUTLET SHALL BE LOCATED WITHIN THE SAME ROOM OR AREAS AS THE ELECTRICAL EQUIPMENT AND SHALL NOT BE CONNECTED TO THE LOAD SIDE OF THE EQUIPMENT'S DISCONNECTING MEANS. THE GFCI PROTECTION SHALL BE PROVIDED FOR THIS RECEPTACLE PER NEC ARTICLE 210.8(E).
- AN INDIVIDUAL DISCONNECTING MEANS SHALL BE PROVIDED IN SIGHT FROM THE LOCATION FOR EACH MOTOR OR THE DRIVEN MACHINERY IN ACCORDANCE WITH NEC ARTICLE 430.
- IT IS RECOMMENDED BUT NOT REQUIRED TO PROVIDE A VISIBLE IDENTIFICATION OF THE REQUIRED WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT, ESPECIALLY IN THE UTILITY SPACES AND STORAGE ROOMS, TO PREVENT IT FROM BEING USED AS STORAGE AND ENCOURAGE COMPLIANCE WITH NEC ARTICLE 110.26(B). STRIPED HAZARD TAPE, SOLID COLOR FLOOR MARKINGS, OR FLOOR SIGNS COULD BE USED. COORDINATE THE EXACT REQUIREMENTS WITH THE CLIENT.



February 16, 2024


**BRIGHTLAND**  
POINT AT INVERNESS  
SECOND FLOOR - SUITE 250  
8310 SOUTH VALLEY HIGHWAY  
ENGLEWOOD, COLORADO 80112



Panel: LW2(Sec1&2)																									
Location: 2nd Floor West Electrical Room												Status: Existing						Voltage: 208/120				Bus Rating: A: 250			
Fed from: 250AF Disconnect												Mounting: Surface						Phase: 3				Main 3-pole CB Size, A: MLO			
Feeder OCPD: 250												Feed: Bottom						Wire: 4				AIC Rating: 10,000			
Tr-r Size, Kva:												Note: Siemens S1 Panelboard													
CB #	CB Note	CB #	Description	Load VA	CB Size	Phase	Size	CB Size	Load VA	Description	CB #	CB Note	CB #												
1		6	VAV-2	500	20	1	A	1	20	800	Lighting - SW Conf	1	2												
3		6	EWV	550	20	1	B	1	20	540	Recepts - Reception 201 - Brightland	2	4												
5		2	Recept's - #245 Offices	720	20	1	C	1	20	540	Recepts	2	6												
7		2	Recept's - #245 Offices	720	20	1	A	1	20	540	Recepts	2	8												
9		2	Recept's - #245 Offices	720	20	1	B	1	20	450	Existing Load	6	10												
11		5	Coffeemaker - WM	1000	20	1	C	1	20	180	Recept - Ded - Break - #260 - Brightland	2	NGFI 12												
13		5	DW - VM	1200	20	1	A	1	20	1500	Copier - 245	6	14												
15		5	GD - VM	850	20	1	B	1	20	540	Recepts - SW	2	16												
17		2	Recept's - WM	720	20	1	C	1	20	540	Recepts - SW	2	18												
19		5	Refrigerator - 245	900	20	1	A	1	20	540	Recepts - SW	2	20												
21		5	Dishwasher/Disposal - 245	1200	20	1	B	1	20	180	Ded. Recept - 240 IT Closet	2	22												
23		5	Coffee - 245	1000	20	3	C	1	20	1000	Vending - SW	6	24												
25		2	Recept's - Conf/Office - #240	720	/		A	1	20	1000	Coffeemaker - SW	5	26												
27		2	Recept's - #240	540	/		B	1	20	1000	Microw ave - 245	5	28												
29		N, GFI	Coffee Maker - Brightland	1000	20	1	C	1	20	85	TF-1 245	3	30												
31		6	TTB - #240	400	20	1	A	1	20	180	Recept - Ded - Kitchen SW	2	32												
33		N, GFI	Refrigerator - Break 221	900	20	1	B	1	20	900	Refrigerator - SW	5	34												
35		N, GFI	Refrigerator - Break 221	900	20	1	C	1	20	900	Freezer - Ded. Break 221	5	NGFI 36												
37		2	Recept's - #250	540	20	1	A	1	20	540	Recept's - SW	2	38												
39		N, GFI	Microw ave - Break 221	1000	20	1	B	1	20	720	Recept's - SW	2	40												
41		N	2 Recept's - Brightland	1080	20	1	C	1	20	720	Recept's - SW	2	42												
43		6	TTB	400	20	1	A	1	20	720	Recept's - SW	2	44												
45		N, GFI	Microw ave - Break 221 - Island - Brightland	1000	20	3	B	1	20	540	Recept's - SW	2	46												
47		N, GFI	Microw ave - Break 221 - Island - Brightland	1000	/		C	1	20	540	Recept's - SW	2	48												
49		N, GFI	2 Recept's - Break 221 - Island - Brightland	360	/		A	3	20	540	Recept's - SW	2	50												
51		N, GFI	Disposal - Break 221	850	20	1	B	/		720	Recept's - SW	2	52												
53		6	Transfer Fan - SW	300	20	1	C	/		720	Recept's - SW	2	54												
55		2	Recept's - Corridor	540	20	1	A	1	20	1500	EWV - SW	4	56												
57		2	Recept's - Corridor	540	20	1	B	2	20	540	Recept's - #250	2	58												
59		6	Fire Dampers	300	20	1	C	/					60												
61		N	2 Floorbox - Ded. Training 223	1080	20	3	A	1	20		Spare		62												
63		N	2 Floorbox - Ded. Training 223	1080	/		B	1	20		Spare		64												
65		N	2 Floorbox - Ded. Training 223	1080	/		C	1	20	540	Recept's - Work Area #250	2	66												
67		N	2 Floorbox - Ded. Training 223	1080	20	1	A	2	20	1080	Recepts - 450 Conf	6	68												
69		6	Existing Load	500	20	1	B	/		540	Recept's - 450 Reception		70												
71		6	Existing Load	450	20	1	C	1	20	400	Fire Alarm Panel	6	72												
73		2	Furniture Feed - 245	540	20	1	A	1	20	360	Recept - 245 Offices	5	74												
75		2	Recept's - #250	540	20	2	B	1	20	900	Recept - 245 Offices	5	76												
77		5	DW - #250	850	/		C	2	20	1080	Furniture Feed - 245	2	78												
79		2	Furniture Feed - 245	540	20	1	A	/		1080	Furniture Feed - 245	2	80												
81		2	Furniture Feed - 245	540	20	1	B	1	20	1080	Furniture Feed - 245	2	82												
83		2	Furniture Feed - 245	540	20	1	C	1	20	1080	Furniture Feed - 245	2	84												
Code				Description of the load				Load, VA				Demand				Connected				Load Summary per Phase					
1				Lighting				800				125%				10000				100%					
2				Receptacles - First 10,000				10000				100%				18220 VA				Phase A --					
				Receptacles - Other 10,000				19180				50%				18650 VA				Phase B --					
3				Motor				85				100%				19355 VA				Phase C --					
				Largest Motor				85				125%													
4				Electrical Heating				1500				100%				Panel Connected Load:				57005 VA					
5				Kitchen Equipment				18710				65%				Panel Demand Load:				41098 VA					
6				Other				6750				100%													
7				Heating HVAC								100%													
8				Cooling HVAC								100%													
9				Sub Panel								100%													
10				Redundant								0%													



COMCHECK NOTE: ALL BLANK PAGES AND/OR SECTIONS OMITED, NO INFORMATION OMITTED.



COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC

Project Title: Brightland

Project Type: Alteration

Construction Site: 8310 South Valley Highway  
Englewood, Colorado 80112

Owner/Agent:

Designer/Contractor: MDP Engineering Group  
1800 Glenarm Place - 8th Floor  
Denver, Colorado 80202  
303.389.0095

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Office	7939	0.64	5081
Total Allowed Watts =			5081

Proposed Interior Lighting Power


A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture (C X D)	D Watt	E
Office (7939 sq.ft.)				
LED: AAG: 2x4: Other:	1	79	23	1817
LED: B/B/E: Downlight: Other:	1	20	36	720
LED: C: Wallwash: Other:	1	7	20	140
LED: D: 12' Linear: Other:	1	1	161	161
LED: E: Decorative Pendant: Other:	1	1	100	100
Total Proposed Watts =			2938	

Interior Lighting PASSES


Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Clayton Fenske - Electrical Engineer



02-16-2024



COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR4]†	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3 1 [EL22]†	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1 1 [EL18]†	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.1 2 [EL19]†	Occupancy sensors control function in warehouses: in warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.1 3 [EL20]†	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq ft. within the space, 2) general lighting in each zone permitted to turn on upon occupancy in control zone, 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.2.2 1 [EL21]†	Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.2.1.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4 1 [C405.2.4 2 [EL23]†	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.2.5 [EL27]†	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.7 [EL26]†	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.8 [EL27]†	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.9.1, C405.9.2 [EL28]†	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.10 [EL29]†	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C405.1.1 [EL30]†	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.11, C405.11.1 [EL31]†	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5, 7 [F17]†	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.1.1 [F15]†	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5 [F16]†	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.3 [F13]†	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

IECC COMPLIANCE NOTES

EVERY EFFORT HAS BEEN MADE ON THE PART OF THE ELECTRICAL ENGINEER TO INDICATE THE PROPER SELECTION AND PLACEMENT OF THE DEVICES. FINAL SELECTION, DETERMINATION OF CIRCUITING, WIRING, LOCATIONS, AND SETTING OF SENSITIVITY/DAYLIGHT/TIME ADJUSTMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR COMMISSIONING AGENT. MANUFACTURERS INSTALLATION INSTRUCTIONS SHOULD BE ADHERED TO.

- LIGHTING SYSTEM CONTROLS, THE MAXIMUM LIGHTING POWER FOR INTERIOR AND EXTERIOR APPLICATIONS, AND ELECTRICAL ENERGY CONSUMPTION SHALL COMPLY WITH THIS 2021 IECC SECTION C405.
- ALL OCCUPANCY AND DAYLIGHT SENSOR LOCATIONS ARE APPROXIMATE. COORDINATE PLACEMENT OF THESE DEVICES TO ACHIEVE OPTIMUM PERFORMANCE. PROPER SENSOR PLACEMENT SHOULD BE COORDINATED WITH OTHERS IN ORDER TO AVOID OBSTRUCTIONS THAT WOULD INTERFERE WITH OCCUPANCY SENSING ZONES AND MAINTAIN PRESCRIBED LIGHT LEVELS.
- REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
- ULTRASONIC CEILING-MOUNTED OCCUPANCY SENSORS SHOULD BE LOCATED A MINIMUM OF FOUR TO SIX FEET FROM HVAC SUPPLY/RETURN VENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT. THE TIME DELAY SHOULD NOT EXCEED 20 MINUTES. REFER TO SENSOR ADJUSTMENT REQUIREMENTS AS SHOWN ON DRAWINGS IF THE SENSOR IS FACTORY PRE-SET FOR FULL "AUTO-ON" MODE.
- PROVIDE ALL THE REQUIRED COMPONENTS FOR A FULLY FUNCTIONAL SYSTEM.
- COORDINATE THE WORK TO PROVIDE LUMINARIES AND LAMPS THAT ARE COMPATIBLE WITH THE LIGHTING CONTROLS TO BE INSTALLED.
- NOTIFY ENGINEER AND ARCHITECT OF ANY CONFLICTS OR DEVIATIONS FROM THE CONTRACT DOCUMENTS TO OBTAIN DIRECTION PRIOR TO PROCEEDING WITH WORK.
- LIGHTING SYSTEMS FUNCTIONAL TESTING PER REQUIREMENTS OF ARTICLE C408.3.1 SHALL BE PERFORMED BY REGISTERED DESIGN PROFESSIONAL PRIOR TO PASSING THE FINAL INSPECTION. EVIDENCE SHALL BE PROVIDED THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTRUCTIONS.
- THE TOTAL VOLTAGE DROP ACROSS THE COMBINATION OF CUSTOMER-OWNED SERVICE CONDUCTORS, FEEDER CONDUCTORS, AND BRANCH CIRCUIT CONDUCTORS SHALL NOT EXCEED 5 PERCENT.
- AT LEAST 50 PERCENT OF ALL 125V, 15- AND 20-AMP RECEPTACLES INSTALLED IN ENCLOSED OFFICES, CONFERENCE ROOMS, ROOMS USED PRIMARILY FOR COPY OR PRINT FUNCTIONS, BREAKROOMS, CLASSROOMS, AND INDIVIDUAL WORKSTATIONS, INCLUDING THOSE INSTALLED IN MODULAR PARTITIONS AND MODULE OFFICE WORKSTATION SYSTEMS, AND AT LEAST ONE OUT OF FOUR CIRCUITS (NOT LESS THAN 25 PERCENT) FEEDING MODULAR FURNITURE WITH RECEPTACLES NOT SHOWN ON CONSTRUCTION DOCUMENTS SHALL HAVE AUTOMATIC RECEPTACLE CONTROL COMPLYING WITH SECTION C405.11.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE SPLIT CONTROLLED RECEPTACLE(S) WITH THE TOP RECEPTACLE CONTROLLED, OR A CONTROLLED RECEPTACLE SHALL BE LOCATED WITHIN 12 INCHES OF EACH UNCONTROLLED RECEPTACLE. THE CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED IN ACCORDANCE WITH NEC (NFPA 70) AND BE UNIFORMLY DISTRIBUTED THROUGHOUT SPACE.
- THE CONTROL SHOULD BE PROVIDED USING ONE OF THE FOLLOWING METHODS:
  - A SCHEDULED BASIS USING A TIME-OF-DAY OPERATED CONTROL DEVICE THAT TURNS RECEPTACLE POWER OFF AT SPECIFIC PROGRAMMED TIMES FOR EACH DAY OF THE WEEK. THIS DEVICE SHOULD BE CONFIGURED TO CONTROL THE PORTION OF THE BUILDING NOT EXCEEDING 5,000 SQUARE FEET AND NOT MORE THAN ONE FLOOR. THE MANUAL 2-HOUR OVERRIDE SHOULD BE PROVIDED FOR EACH SUCH DEVICE.
  - AN OCCUPANT SENSOR CONTROL THAT TURNS THE CONTROLLED RECEPTACLES OFF WITHIN 20 MINUTES OF ALL OCCUPANTS LEAVING SPACE.
  - AN AUTOMATED SIGNAL FROM ANOTHER CONTROL OR ALARM SYSTEM THAT TURNS OFF CONTROLLED RECEPTACLES WITHIN 20 MINUTES AFTER DETERMINING THAT THE AREA IS UNOCCUPIED.
- NEW BUILDINGS WITH A GROSS-CONDITIONED FLOOR AREA OF 25,000 SQUARE FEET OR LARGER SHALL BE EQUIPPED TO MEASURE, MONITOR, RECORD, AND REPORT ENERGY CONSUMPTION DATA IN COMPLIANCE WITH SECTIONS C405.12.1 THROUGH C405.12.5.

FOR ADDITIONAL INFORMATION FOR PROVIDING FULLY FUNCTIONAL SYSTEM AND EQUIPMENT SUBMITTALS CONTACT LOCAL MANUFACTURER REPRESENTATIVE OR EQUIPMENT SUPPLIER.



MDP  
ENGINEERING GROUP

1800 GLENARM PLACE, 8th FLOOR  
DENVER, CO 80022  
PH: 303.389.0095 | FAX: 303.389.0098  
www.MDPENG.com

JOB#: 12101.54

© COPYRIGHT, 2024  
BY MDP ENGINEERING GROUP, P.C.

These plans are the intellectual property  
of MDP ENGINEERING GROUP, P.C.  
and may not be duplicated, reproduced  
or disclosed without written consent.  
Copyrights and infringements will be  
strictly enforced.

ISSUES / REVISIONS

FEBRUARY 16, 2024

BRIGHTLAND

POINT AT INVERNESS

SECOND FLOOR - SUITE 250

8310 SOUTH VALLEY HIGHWAY

ENGLEWOOD, COLORADO 80112

COMCHECK

02/E.5