



Bid 639
New HVAC Modernization Project for Pacifica High School

BID CLARIFICATION ADDENDUM #1

Dated: October 18, 2020

All interested parties seeking to submit responses to the Oxnard Union High School District's Bid #639 shall execute the certification at the end of this addendum and shall attach the addendum to the documents submitted to the District.

The Oxnard Union High School District hereby amends Bid 639 New HVAC Modernization Project for Pacifica High School as follows:

- 1) **Question:** Where will the temporary power be pulled from?
Answer: Temp. power can be pulled from existing panels
- 2) Please refer to **Attachment A** for Pre-Bid RFI from Signet Controls
- 3) Please refer to **Attachment B** for Pre-Bid RFI from Next Level
- 4) Please refer to **Attachments C, E, F, & G** for Pre-Bid RFIs from Viola
- 5) Please refer to **Attachment D** for Pre-Bid RFI from Telacu
- 6) Please see **Attachment H** - Architect's addendum 1 for Pacifica High School Project.

BIDDER'S CERTIFICATION

I acknowledge receipt of the foregoing Addendum # 1 and accept all conditions contained herein.

Dated: _____ **BIDDER:** _____
(company/entity)

By: _____ **Printed Name:** _____
(authorized representative signature)

Title: _____

Bid Clarification Addendum #1
Attachment A
Signet Controls RFI

BID QUESTION

Job Name:	New HVAC Modernization for Oxnard and Pacifica High Schools (Both)	Project Bid #:	627
Contractor:	Signet Controls Inc.	Question #:	Signet-001
Requested By:	Navin Kashyap	Date:	07/09/2020
To:	Oxnard High School District & Bernards		
Attn:	Deanna Rantz @ Deanna.rantz@oxnardunion.org ; Poul Hanson @ poul.hanson@oxnardunion.org ; Karl Aldridge @ kaldridge@bernards.com & Arvind Balaji @ abalaji@Bernards.com		
Spec / Dwg #	Spec Section 23 09 00 – Direct Digital Controls System for HVAC / Drawings – MP5.xx Series		

Description:

Direct Digital Controls System for HVAC

Specifications and Mechanical Drawings M5.xx indicates "Carrier iVu" as Basis of Design for the HVAC Controls System. Signet Controls would like to propose "**Alerton**", as a non-proprietary open protocol BACnet based control system to provide competitive bidding on the project and meet the CA Public funded contract law requirements.

Alerton Ascent BACnet system is compatible with the Carrier iVu system and complies with the Direct Digital Control System details provided in Specification section 230900. We have attached additional information regarding the proposed substitution product – **Alerton**.

We believe that by allowing Signet Controls to competitively bid on this project, the Oxnard High School District shall receive substantial savings and also a superior on the HVAC Controls System.

Our team is available to visit and coordinate with the Oxnard High School Facilities team and demonstrate the compatibility between the proposed Alerton and Carrier iVu Systems.

Please feel free to contact us for any additional information or supporting documentation you desire on this RFI / Bid Question.

BQ / RFI Response:

Product is not sustainable or compatible to existing systems without adaptations. The use of tis product would create a huge cost burden and hardship on the district as an example redesign, additional training, additional staff, programming, monthly and service impacts. (Hardship) As previously responded this product is not acceptable alternative to the immediate projects design.

Accepted:

General Cont.: _____ Date: _____

Arch/Eng: _____ Date: _____

Owner: **Karl P. Aldridge** Digitally signed by Karl P. Aldridge
DN: C=US, E=Kaldridge@bernards.com,
O=Bernards, CN=Karl P. Aldridge
Date: 2020.07.09 17:07:12-0700 _____ Date: 7/9/2020

Construction Manager and Representative

ALERTON PRODUCT DATA



ALERTON

 **ASCENT**
BY ALERTON

Powered by BACtalk

Building Management Systems
Full Product Line



When climbing, it is essential to stay focused, maintain command, and always listen for guidance on the best path to follow. **The same is true for building management systems.**

Discover higher levels of efficiency, control and customer satisfaction with Alerton Ascent.

This innovative system was designed from the ground up with the building occupant, operator and owner in mind. The result is the pinnacle of building management—a system that delivers superior integration, design, efficiency, reliability, affordability, and usability.

Alerton Ascent is led by three key products: Ascent Compass software, the Ascent Control Module (ACM), and the Ascent Microset 4 Wall Sensor.

Are you ready to reach the peak of building performance?



ASCENT COMPASS

Software



Every journey in the right direction starts with a compass.

Leading Alerton's Ascent product line, Compass is a powerful, dynamic interface enabling users to monitor and control their facilities from anywhere, at any time. It incorporates the latest browser technology and is truly the marriage of current technology and building automation. Ascent offers users an unparalleled user experience.

Top Compass features:

- Easy to learn and operate
- Real-world workflows help busy building operators save time and money
- HTML5 allows users to view web content on multiple devices without using Flash and third-party plug-ins
- Group navigation trees are fully customizable
- User interface Omnigraphics offers visual cues and simplifies system interaction

Help your customers be more aware of their surroundings.

Part of Alerton's Ascent product line, the newly designed Microset 4 is like no other wall sensor on the market. It simultaneously displays room and outside air temperatures, relative humidity, fan status and CO₂—all in a single, state-of-the-art sensor. The vivid touch screen, crisp edge-to-edge glass, small bezel, elegant layered construction, and quality stainless steel ventilation detail are all designed for aesthetic and durability.

It all adds up to an aesthetically pleasing wall sensor with technical functionality that is second to none for all types of jobs, buildings and campuses.

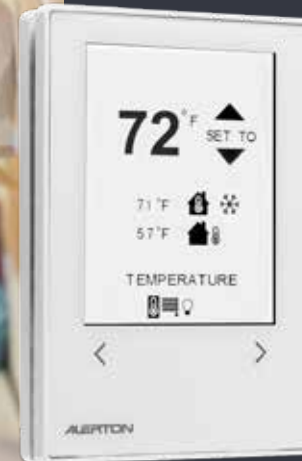
Top Microset 4 features:

- Sleek and modern, yet rugged, the Microset 4 complements any wall it's mounted on
- Intuitive touch screen user interface
- Innovative smart light shows system status at a glance
- Backwards compatibility allows owners to update the look of their building without large capital expenses
- CO₂ sensing and MS/TP versions provide flexibility and expanded functionality
- Built-in balance/calibration modes provide efficient and timely commissioning



ASCENT MICROSET 4

Wall Sensor



ASCENT CONTROL MODULE

Global Controller



Elevate your level of control with the Ascent Control Module (ACM)

The backbone of Alerton's Ascent product line, the Ascent Control Module (ACM) is the industry's most agile controller in its class. It combines Alerton's pioneering and proven BACnet prowess with Tridium's® Niagara Framework® flexibility.

The Ascent Control Module replaces the current BCM array—and the Alerton Integration Engine (AIE)—by providing a powerful assortment of features, such as multiple global controller instances, and multiple communication networks. The ACM is ideal for retrofit applications, new construction jobs, projects where BACnet is built-in, and installations where integration protocols are used. Simply put, the ACM is one of the most powerful and versatile controllers on the market.

Top Control Module features:

- Offers/provides a Niagara® station and a Alerton BACnet global controller to provide twice the programming options to fit virtually any project
- Quad core processor for faster computing power, communication, and control
- 6 global controller instances and 6 MS/TP trunks; one device exceeds the functionality of 6 individual devices
- Virtually limitless number of alarms, schedules and trendlogs
- Option cards offer scalability for additional communication trunks and protocols



Get peak performance from any kind or size of building. Our experience includes mission critical facilities, data center, labs, K-12 school districts, university campuses, airports, government facilities, high-rise office buildings, and hotels.
Alerton Ascent rises to any challenge.





Powered by BACtalk

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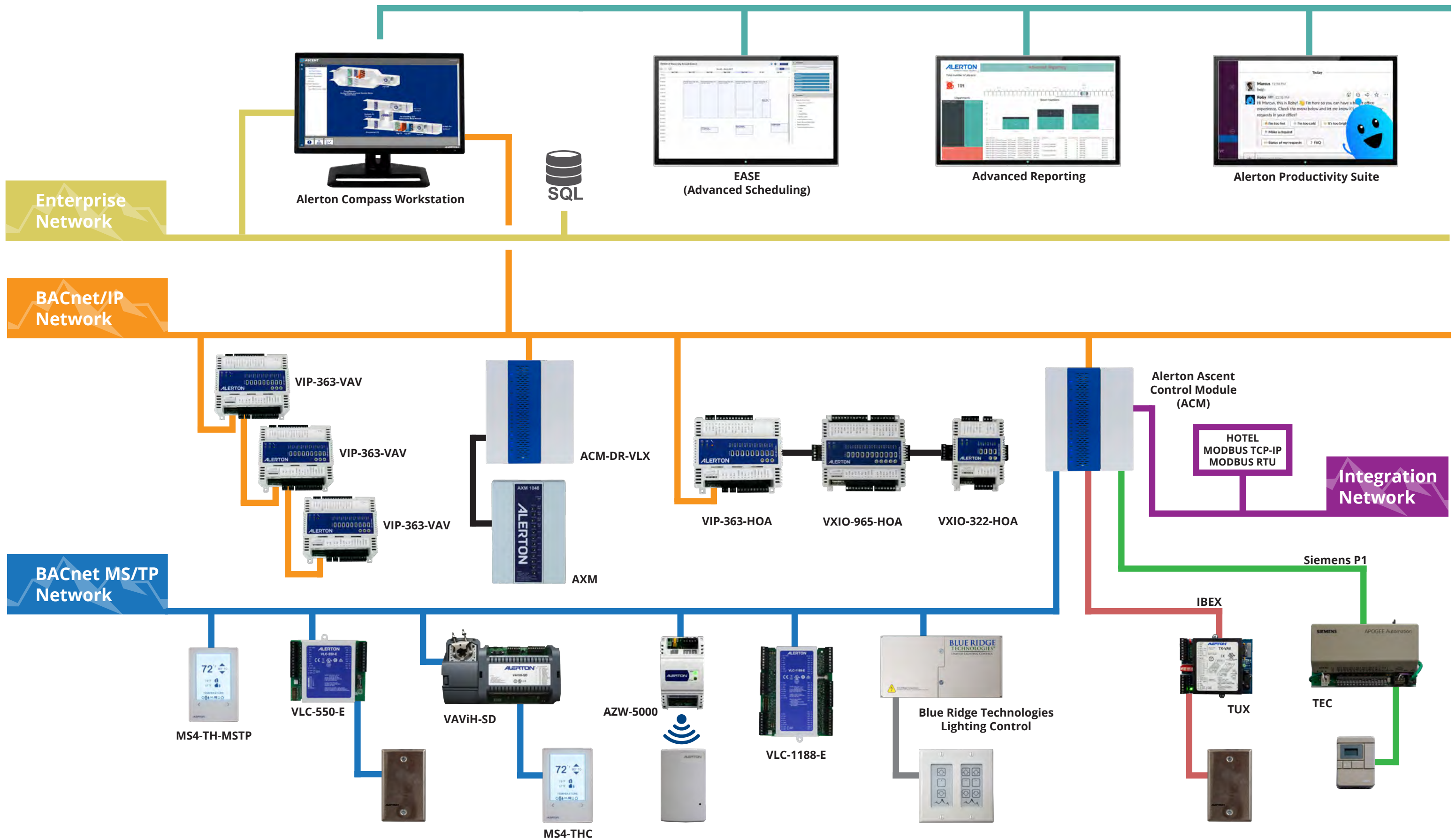


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Architecture

REACH THE PEAK OF BUILDING PERFORMANCE



K-12 SCHOOLS

BEST IN CLASS PERFORMANCE SO STUDENTS CAN THRIVE



ALERTON UNDERSTANDS THE LINK BETWEEN THE PHYSICAL ENVIRONMENT AND STUDENT ACHIEVEMENT.

Maintaining schools is challenging. You must provide students and faculty with a safe, comfortable and positive environment. Yet you are expected to do so with tighter budgets, while providing accountability to parents, elected officials and the school board. Adaptable, comprehensive and flexible, Alerton Ascent provides maximum building performance with minimal effort. We ensure each learning, administrative or recreation area on campus offers the ideal environment for your students, faculty and administration.

Alerton Ascent provides:

- Multi-Building Scheduling
- Centralized Monitoring
- Remote Access Capability, Wide-Area Network Support
- Maintenance Management
- Energy Conservation Demand Limiting/ Management
- Lighting/Irrigation Control
- Central Plant Management
- Indoor Air Quality
- Life Safety/Security Integration
- Partnership with Energy Services Companies

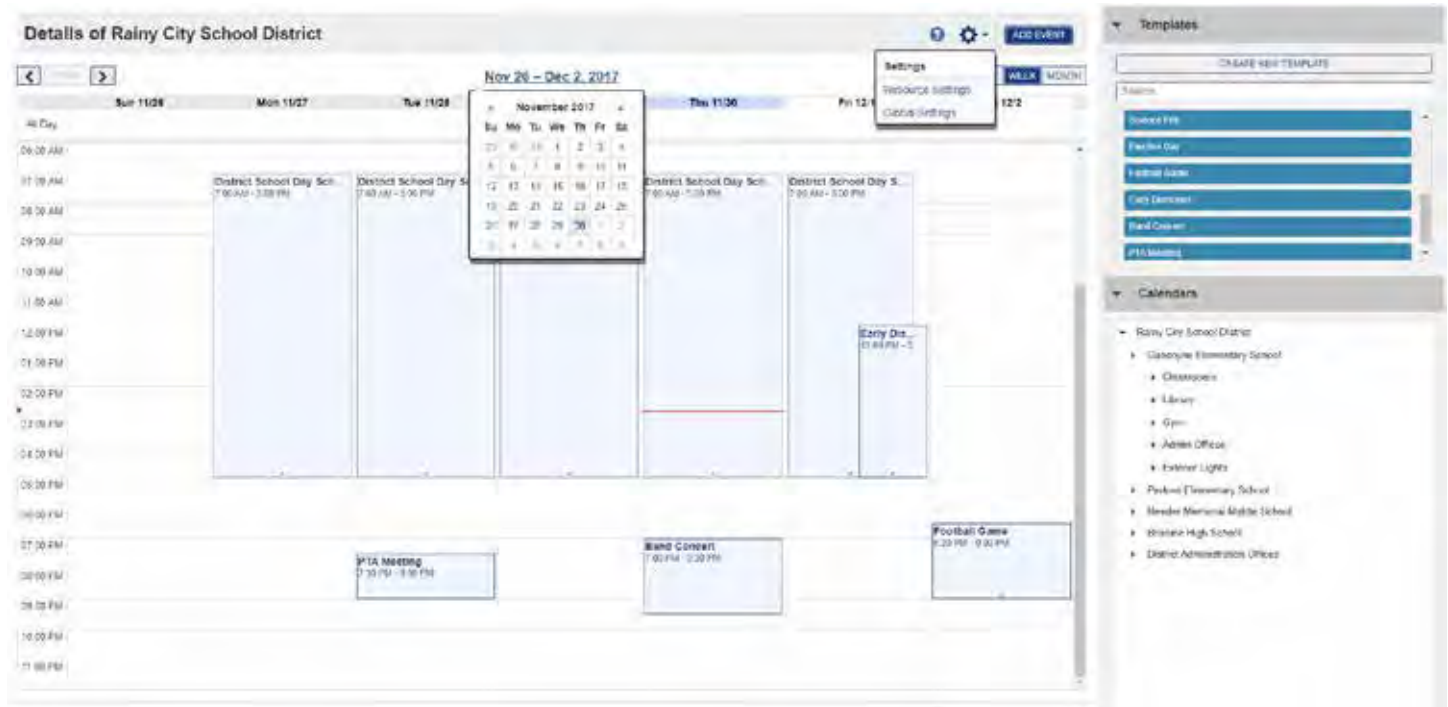


ALERTON

Inspiration. Innovation. Integration.

MANAGE COMPLEX SCHEDULING TASKS WITH EASE (EVENT ASSIST SCHEDULING ENGINE, ALERTON'S ADD-ON ADVANCED SCHEDULING FEATURE) IN ONE SCHOOL OR ACROSS AN ENTIRE DISTRICT OR CAMPUS.

Modify precise temperature and humidity settings in science and computer labs, libraries, cafeterias and classrooms. Scheduling with EASE improves facility manager productivity and reduces labor costs: holidays, short days, sporting and special events, evening classes and summer sessions, and create templates for ad hoc days like a "snow day" — can all be completed in advance.



Navigate through all locations and dates with EASE Schedules show both the event and any offsets for optimum start and end times for energy efficiency.

CHOOSE A HIGHER GRADE OF AUTOMATION AND CONTROL FOR YOUR FACILITIES.

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Alerton dealers have mastered the ABCs of engineering, installation, integration, service and support. Your local Alerton sales and service team works with you to create and maintain systems tailored to meet your school's unique needs. Alerton providers will earn your business by listening to your concerns and responding with personal attention, innovative solutions and flexible support options. We also offer specialized, hands-on training to achieve maximum performance from your buildings.



COMPASS™ SOFTWARE

Part of Alerton’s BACtalk™ Ascent product line, Compass is a comprehensive, powerfully designed product that replaces Alerton Building Suite and Envision for BACtalk as the operator workstation of the future.

Use of informative display layers with an improved tree-style navigation structure provides intuitive and guided browsing sessions. User-specific and group-specific navigation enforces access privileges and streamlines the user experience.

Graphical controls bring data to life. OmniGraphic images transform background images into interactive controls to visually communicate system status. Plus, with Alerton’s OmniZoon, graphics automatically adjust to monitor display size for better visibility and system management.

Compass provides a familiar user experience through a standard user interface, enabling you to get users quickly up to speed on the software and your building’s systems. Plus, with improved localization features, multiple Web-UI users can connect to the same Compass System using their native language and comfortable numeric formats.

Build dynamic graphics faster and easier with Compass’ updated isometric graphics library. This library also serves as a foundation for users to build their own libraries. Compass supports many graphic formats and sizes and easily converts Alerton legacy graphics (bitmaps) to HTML 5 format, enabling you to quickly integrate graphical content to the web without using Flash and third-party plug-ins.

Note: Compass with the SQL option supports the Alerton Engineering Services (AES) energy dashboard. An AES-built dashboard can help track energy usage and cost savings and can be customized for specific applications. For more information about AES services, email aes@alerton.com.

FEATURES AND HIGHLIGHTS

ENERGY MANAGEMENT

- Efficient equipment start times, sophisticated load optimization, and energy use monitoring that helps you track savings.

EASY TO USE

- Configurable, tree-style navigation.

TENANT ACTIVITY

- Detect and log after-hours tenant override activity, then generate appropriate tenant bills.

FLEXIBLE

- Converts legacy displays and graphics to current standard file formats.

DYNAMIC

- Create systems that are easy to upgrade and improve.

TECHNICAL DATA

CONNECTIVITY

NETWORK BACnet Ethernet, Annex J BACnet/IP.

COMPUTER REQUIREMENTS

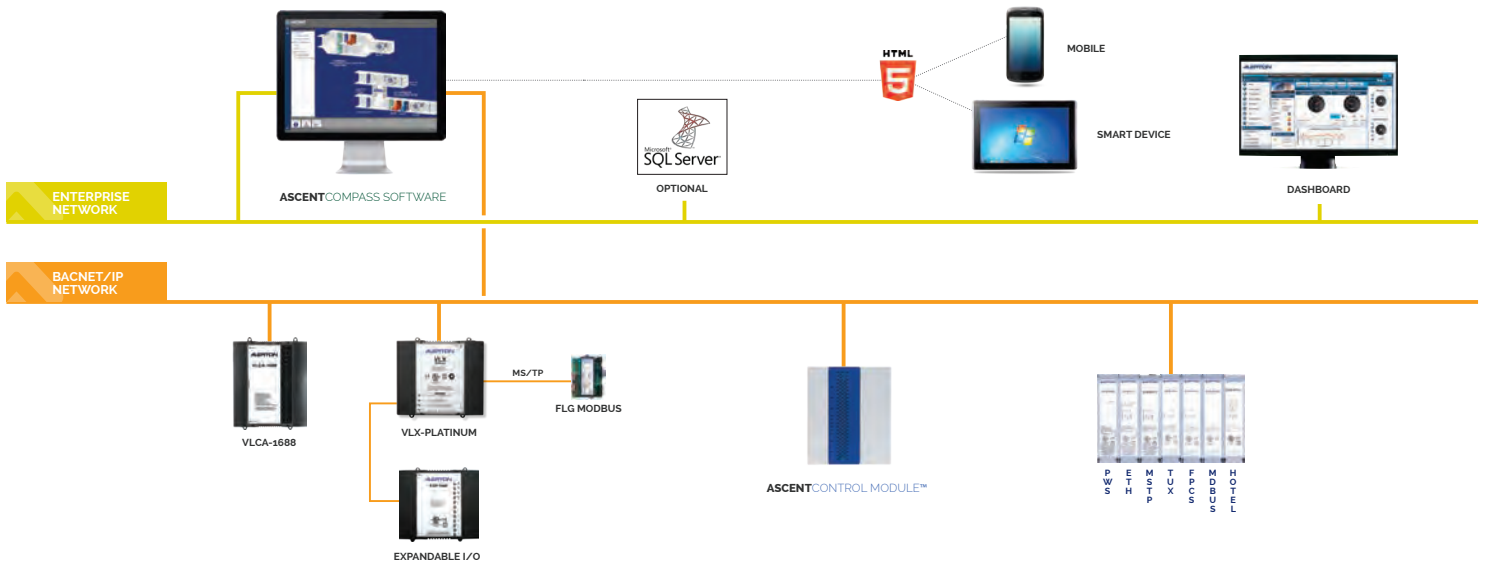
See the table below to determine minimum computer specifications for the primary Compass workstation. Additional memory is recommended for projects that have many concurrent users, displays, or templates.

For example, a project that has ten or more users and 100 or more displays and templates may need additional memory. For Compass client workstations, use a computer with a dual-core processor and at least 4GB RAM.

Compass Model	BACnet Devices	Operating System	CPU Cores	Memory
COMPASS-1-ENT	up to 3000*	64-bit	Eight-core	16GB
COMPASS-1-XL	up to 1000	Win7	Quad-core	8GB
COMPASS-1-LG	up to 450	Win8, Win8.1	Quad-core	8GB
COMPASS-1-MD	up to 150	Win10	Quad-core	8GB
COMPASS-1-MD	up to 150	Win Server 2012	Dual-core	4GB
COMPASS-1-SM	up to 50		Dual-core	4GB

*NOTE: The number of supported devices in the Enterprise model can be extended in 1000 device increments by applying one or more device packs (COMPASS-1-ENTDP).

Specifications subject to change without notice.



ENERGY

TRENDLOGS View trendlogs in graph or text format with multiple points per log. Archived in database format for compatibility with office applications.

ENERGY LOGS Hourly or daily energy use and demand displayed in text format. Archived in database format for compatibility with office applications.

DEMAND LIMITING Flexible demand metering supports various media. Shed and restore binary and analog loads according to load priority. Base strategies on time of day or season. View results in real time.

MANAGEMENT A wide range of building management tools are available, including:

- Display capability
- Scheduling
- Alarms
- Optimum start
- Tenant activity
- Zones
- Reporting and printing
- Auto archiving
- Job merge

ORDERING INFORMATION*

ITEM NUMBER

COMPASS-1-ENT	Enterprise license, up to 3000 devices + SQL support
COMPASS-1-XL	Extra Large license, up to 1000 devices + SQL support
COMPASS-1-LG	Large license, up to 450 devices
COMPASS-1-MD	Medium license, up to 150 devices
COMPASS-1-SM	Small license, up to 50 devices
COMPASS-1-SQL	SQL support add-on for COMPASS-1-SM/MD/LG
COMPASS-1-ENTDP	Add-on for Enterprise license only (COMPASS-1-ENT) to support an additional 1,000 devices

***IMPORTANT!** Please see the Compass Installation and Upgrade Guide (LT-COMPASSIUG) for more information about Compass licensing, including part numbers for upgrading to Compass from EBT or ABS, Host IDs, and procedures for installing software license keys.

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SOFTWARE FOR
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ACM GLOBAL CONTROLLER

The backbone of Alerton's BACtalk™ Ascent product line, the Ascent Control Module (ACM) is the industry's most agile controller in its class. It combines Alerton's pioneering and proven BACnet® capability with Tridium's® Niagara Framework® flexibility.

It provides a powerful assortment of features such as multiple global controller instances, and multiple communication networks.

The ACM can incorporate up to six (6) global controller instances and supports up to six (6) MS/TP trunks or EIA-485 LANs, consolidating the functionality of these controllers into a single configurable platform, and exceeding the functionality of six individual devices.

Two onboard Ethernet ports support 10/100/1000 Mbps Ethernet connections to the BACnet network, Modbus TCP or for NiagaraAX integration protocols such as LON IP and SNMP.

Easy to add option cards offer scalability for additional communication trunks as needed using the two slots available on the ACM. For example, you can use one option card slot for additional BACnet communication and the second card slot for LON communication by simply adding a dual 485 card and a LON card, respectively. Or you can use up to four card slots to support applications with large point count requirements for a central plant.

The ACM's quad-core processor future-proofs the system by providing high DDC execution speed for all the computing power you need. Two-direction DIN channel and direct panel mount options enable you to mount the ACM in different positions for the best fit.

The ACM hosts automation features such as schedules, trendlogs, alarms, zones and demand limiting.

FEATURES AND HIGHLIGHTS

SCALABLE

- Supports up to six EIA-485 LANs; two EIA-232 connections; two LON LANs; four TUX trunks; or 4 EXP trunks.

INTEROPERABLE

- Supports the BACnet Protocol on Ethernet, BACnet IP, and MS/TP; Modbus TCP and RTU (EIA-485 and EIA-232); Alerton TUX, Alerton EXP, as well as many Niagara supported protocols.

ENTERPRISE READY

- Supports BACnet/IP and can operate as a BACnet broadcast management device (BBMD) with NAT support for integration on enterprise and wide-area networks.

POWERFUL

- Advanced processor and extended memory provide a fast, reliable platform for running DDC programming and global automation routines.

SEGMENTED DDC CODE

- Allows multiple DDC program instances to run within a single controller, providing the ability to logically group sub-systems, improve uptime by enabling service on one system without impacting another, and maximizing flexibility in programming configuration.

TECHNICAL DATA: ACM

POWER 20-30 VAC @ 40 VA, 47–63 Hz, full-wave rectified, with optional battery backup (see other side).

DATA BACKUP/STORAGE One removable microSD card.

PROCESSOR AND MEMORY Efficient, high-speed, quad-core CPU based on the ARM® Cortex™-A9 architecture (Freescale i.MX6Quad); 1GB DDR3 SDRAM, 64-bit-wide, 533 MHz (1066 MT/s).

REAL-TIME CLOCK Provides system date and time.

BACNET/IP IP support for interoperability on enterprise and WANs. Functions as up to four BACnet broadcast management devices (BBMDs) in accordance with Annex J BACnet/IP. Supports both Alerton and BACnet Standard network address translation (NAT) implementations.

MS/TP Supports two onboard networks that can be used for BACnet MS/TP or EIA-485 and up to two expansion cards (two networks each) for a maximum of six BACnet MS/TP networks per ACM.

MODBUS supports both TCP and RTU (EIA-485 and EIA-232) protocols; configuration supports up to 384 Modbus devices.

TUX Supports up to four Alerton TUX trunks for connection of up to 64 TUXs per trunk communicating at 4800/9600 baud or up to 32 TUXs per trunk communicating at 1200 baud. Each TUX Option Card has two TUX trunks.

VLX/EXP Supports up to four instances of the VLX application; one instance is included with the ACM.

EXPANSION Supports up to two expansion cards for interface adapters, such as EIA-485, EIA-232, LON, and TUX.

COMMUNICATIONS Provides two Ethernet ports, two onboard EIA-485 networks, two expansion card slots give the ability to add up to four additional EIA-485 networks (for a total of six), or two EIA-232 connections, or two LONworks networks, or up to four TUX Trunks.

MOUNTING 35mm DIN rail, either vertical or horizontal orientation.

DIMENSIONS 7-1/4 W x 8-9/16 H x 1-11/16 D (inches)
185 W x 220 H x 44 D (millimeters); fits 12 x 12 x 4 (inch) panel enclosure.

ENVIRONMENTAL Without battery:
-4 to 149 °F (-20 to 65 °C), 0 to 95% RH, non-condensing.
Storage Temperature:
-4 to 185 °F (-20 to 85 °C), 0 to 95% RH, non-condensing.

PLATFORM Linux.

ETHERNET Two integrated 8P8C modular connectors for use with two 10Base-T, 100Base-TX, and 1000Base-T Ethernet networks.

SOFTWARE Programming interface is Alerton Compass operator workstation software. Niagara AX 3.8.

CERTIFICATIONS AND STANDARDS

- RoHS compliant
- CE (EN 60730-1)
- FCC Part 15 Class B
- ICES-003
- C-Tick listed
- UL 916 for open energy management equipment.

TECHNICAL DATA: ACM BATTERY

The ACM has an optional 12 volt NiMH battery, which provides backup power that allows for orderly shutdown should power remain OFF for more than 60 seconds.

POWER 12 VDC supply voltage

ENVIRONMENTAL

Operational temperature and humidity:
32 to 122 °F (0 to 50 °C), 0 to 95% RH, non-condensing
Recommended storage temperature and humidity (to extend life):
41 to 77 °F (5 to 25°C), RH 65% ±5% non-condensing
Allowed storage temperature and humidity:
32 to 122 °F (0 to 50 °C), RH 5 to 95% non-condensing

CERTIFICATIONS AND STANDARDS

- UL 2054 ed 2 rev 2011-09-14
- EN 62133 ed 1 (2002), ed 2 (2012)

TECHNICAL DATA: TUX OPTION CARD

Each card has two TUX trunks - a total of four TUX trunks can be added in an ACM.

ENVIRONMENTAL

Operational temperature and humidity:
-4 to 149 °F (-20 to 65°C), 5 to 95% RH, non-condensing
Storage temperature and humidity:
-40 to 149 °F (-40 to 65°C), 5 to 95% RH, non-condensing

CERTIFICATIONS AND STANDARDS

- (Same as ACM)

ORDERING INFORMATION*

ITEM NUMBER

ACM	Ascent Control Module
ACM-BATT	Optional ACM battery
ACM-OC-2X485	Dual EIA-485 option card
ACM-OC-232	EIA-232 option card
ACM-OC-LON	78kbps FTT10A LON option card
ACM-OC-2XTUX	Dual TUX Trunk option card
ACM-MDBS-DR-TCP	Alerton Modbus TCP protocol driver
ACM-MDBS-DR-RTU	Alerton Modbus RTU protocol driver
ACM-DR-VLX	Alerton VLX driver

***IMPORTANT!** Requires at least one base device license, Alerton (ACM032, ACM064, ACM128, ACM256, ACM384) or Niagara AX (AX016, AX032, AX064, AX128, AX256). Add-on Device packs also available for both Alerton and Niagara AX base licenses.

For a list of supported Niagara AX protocols, please consult you local Alerton authorized dealer.

Specifications subject to change without notice.

**INNOVATIVE
GLOBAL
CONTROLLER
WITH EXTENSIVE
FLEXIBILITY.**

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The Alerton® VisualLogic® VLC-1188-E is a versatile, BACnet-compliant, fully programmable field controller designed for central plant systems, air handling units, clean rooms, fume hoods, large terminal units, and similar control and process equipment. As a native BACnet controller, it integrates seamlessly with your BACnet system, communicating at up to 115 Kbps on a BACnet MS/TP LAN.

The VLC-1188-E supports the Alerton Microtouch™, as well as the BACtalk® Microset, Microset II, and Microset 4 intelligent wall sensors, which offer convenient data display, setpoint adjustment, and technician access to equipment setup parameters.

All VLC-1188-E control logic is programmed using Alerton's easy-to-learn graphical programming language, VisualLogic™. Programming and setup data is stored in non-volatile flash memory, ensuring stable and reliable operation.

High-resolution 16-bit universal inputs are auto-selectable for thermistor, dry contact, pulse, 0-5 V, 0-10 V, or 4-20 mA. High-resolution 16-bit analog outputs are auto-selectable for 0-10 V or 0-20 mA.

VISUALLOGIC® UNITARY FIELD CONTROLLER

FEATURES AND HIGHLIGHTS

- Fully BACnet-compliant on MS/TP LAN at up to 115.2 Kbps.
- Programmable control logic can be field-modified.
- Downloadable operating code to allow for future software improvements.
- 32-bit processor architecture with all program data backed up in nonvolatile flash memory.
- High-speed processing of DDC program, with an internal logical loop time of 100 msec.
- Backwards compatible with older VLC-1188 and VLC-1188C3 models.

APPLICATIONS

Recommended for control in central plant systems, heat pumps, air handling units, clean rooms, fume hoods, and large terminal units.



VLC-1188-E

UI	HBO	GB0	RO	AO	AF	F
UNIVERSAL INPUTS	HOT SWITCHED TRIAC BINARY OUTPUTS	GROUND SWITCHED BINARY OUTPUTS	RELAY OUTPUT	ANALOG OUTPUTS	AIR-FLOW SENSOR	FILTER
11	8	0	0	8	-	-

TECHNICAL DATA

POWER – 24 VAC @ 50-60 Hz. 28 VA minimum (maximum 100 VA across all BO loads). Half-wave rectified. See IMPORTANT NOTE below.

INPUTS – 16-bit universal inputs accept 3k (Ibex) or 10k thermistor (type II), dry contact, 0-20 mA, 0-10V, 0-5V, or dry-contact pulse. External 250-ohm resistor required for 0-20 mA inputs. Pulse input maximum frequency of 100 Hz. Pulse input minimum duty cycle 5mS ON / 5mS OFF (pulse input not supported on IN-0).

POWER OUTPUT FOR EXTERNAL SENSORS – 20 VDC $\pm 10\%$ @ 100 mA maximum

BINARY OUTPUTS – Triacs rated 24 VAC @ 50/60 Hz, 500 mA continuous and 800 mA (AC rms) for 60 milliseconds. See IMPORTANT NOTE below.

ANALOG OUTPUTS – 16-bit universal analog outputs support Voltage Mode: 0-10 VDC @ 10 mA maximum (1k ohm minimum); Current Mode: 4-20 mA @ 550 ohms Maximum.

MICROSET – Supports BACtalk® Microset™, Microset II, or Microset 4 on input 0 (IN-0).

INPUT/OUTPUT TERMINATIONS – Removable header-type screw terminals accept 14-24 AWG wire

MAX DIMENSIONS – 7.0" (178mm) H x 5.0" (127mm W x 1.5" (38mm) D

MOUNTING – Screw mounting

ENVIRONMENTAL – 0 to 158°F (-17 to 70°C) / 5 to 95%RH, non-condensing

COMMUNICATIONS – EIA-485 (RS-485) over twisted shielded-pair (TSP); auto-baud switching (9.6kbps, 19.2kbps, 38.4kbps, 76.8kbps, or 115.2kbps); communication status LED.

PROTOCOLS – BACnet MS/TP (master)

PROGRAMMING – Supports Alerton's BD4 DDC file format using Alerton's VisualLogic® toolset.

MICROPROCESSOR – 32-bit ARM Cortex-M4F, 80 MHz

MEMORY – 512 MB non-volatile flash.

SECURITY – Integrated secure boot prevents loading of tampered firmware.

ORDERING INFORMATION**ITEM NUMBER**

VLC-1188-E ALERTON VISUALLOGIC
CONTROLLER BACNET

CERTIFICATION AND CONFORMANCE

BACNET CONFORMANCE – An application specific controller (ASC) level device; tested and approved by BTL. See Protocol Implementation Conformance Statement (PICS). BTL Listing and compliance is pending.

UL – Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the UL Standard for Safety 916; listing includes both U.S. and Canadian certification.

EMC – EMC Directive 89/336/EEC (European CE Mark).

FCC – FCC Part 15, Subpart J, Class A.

IMPORTANT NOTE:

This device is UL listed and limited to 100VA maximum. Binary output loads are restricted by this maximum VA rating. If all 8 binary outputs are connected and fully loaded (@12VA each) the total VA of the device will exceed the UL listed and limited maximum rating. **DO NOT EXCEED 100VA MAXIMUM RATING!**



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The VLC-853-E supports the Alerton Microtouch™, as well as the BACtalk® Microset, Microset II, and Microset 4 intelligent wall sensors, which offer convenient data display, setpoint adjustment, and technician access to equipment setup parameters.

All VLC-853-E control logic is programmed using Alerton's easy-to-learn graphical programming language, VisualLogic™. Programming and setup data are stored in non-volatile flash memory, ensuring stable and reliable operation.

High-resolution 16-bit universal inputs are auto-selectable for thermistor, dry contact, pulse, 0-5 V, 0-10 V, or 4-20 mA.

High-resolution 16-bit analog outputs are auto-selectable for 0-10 V or 0-20 mA.

VISUALLOGIC® UNITARY FIELD CONTROLLER

FEATURES AND HIGHLIGHTS

- Fully BACnet-compliant on MS/TP LAN at up to 115.2 Kbps.
- Programmable control logic can be field-modified.
- Downloadable operating code to allow for future software improvements.
- 32-bit processor architecture with all program data backed up in nonvolatile flash memory.
- High-speed processing of DDC program, with an internal logical loop time of 100 msec.
- Backwards compatible with older VLC-853 and VLC-853C3 models.

APPLICATIONS

Recommended for central plant systems, air handling units, large terminal units, and similar control and process equipment.



VLC-853-E						
UI	HBO	GB0	RO	AO	AF	F
UNIVERSAL INPUTS	HOT SWITCHED TRIAC BINARY OUTPUTS	GROUND SWITCHED BINARY OUTPUTS	RELAY OUTPUT	ANALOG OUTPUTS	AIR-FLOW SENSOR	FILTER
8	5	0	0	3	-	-

TECHNICAL DATA

POWER – 24 VAC @ 50-60 Hz. 15 VA minimum (maximum 97 VA with loads). Half-wave rectified.

INPUTS – 16-bit universal inputs accept 3k (Ibex) or 10k thermistor (type II), dry contact, 0-20 mA, 0-10V, 0-5V, or dry-contact pulse. External 250-ohm resistor required for 0-20 mA inputs. Pulse input maximum frequency of 100 Hz. Pulse input minimum duty cycle 5mS ON / 5mS OFF (pulse input not supported on IN-0).

POWER OUTPUT FOR EXTERNAL SENSORS – 20VDC ±10% @100 mA maximum

BINARY OUTPUTS – Triacs rated 24 VAC @ 50/60 Hz, 500 mA continuous and 800 mA (AC rms) for 60 milliseconds.

ANALOG OUTPUTS – 16-bit universal analog outputs support Voltage Mode: 0-10VDC @ 10 mA maximum (1k ohm minimum); Current Mode: 4-20 mA @ 550 ohms Maximum.

MICROSET – Supports BACtalk® Microset, Microset II, or Microset 4 on input 0 (IN-0).

INPUT/OUTPUT TERMINATIONS – Removable header-type screw terminals accept 14-24 AWG wire.

MAX DIMENSIONS – 4.9" (125mm) H x 5.4" (137mm) W x 1.4" (36mm) D

MOUNTING – Screw mounting

ENVIRONMENTAL – 0 to 158°F (-17 to 70°C) / 5 to 95%RH, non-condensing

COMMUNICATIONS – EIA-485 (RS-485) over twisted shielded-pair (TSP); auto-baud switching (9.6kbps, 19.2kbps, 38.4kbps, 76.8kbps, or 115.2kbps); communication status LED.

PROTOCOLS – BACnet MS/TP (master)

PROGRAMMING – Supports Alerton's BD4 DDC file format using Alerton's VisualLogic® toolset.

MICROPROCESSOR – 32-bit ARM Cortex-M4F, 80 MHz

MEMORY – 512 MB non-volatile flash.

SECURITY – Integrated secure boot prevents loading of tampered firmware.

ORDERING INFORMATION**ITEM NUMBER**

VLC-853-E ALERTON VISUALLOGIC
CONTROLLER BACNET

CERTIFICATION AND CONFORMANCE

BACNET CONFORMANCE – An application specific controller (ASC) level device; tested and approved by BTL. See Protocol Implementation Conformance Statement (PICS). BTL Listing and compliance is pending.

UL – Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the UL Standard for Safety 916; listing includes both U.S. and Canadian certification.

EMC – EMC Directive 89/336/EEC (European CE Mark).

FCC – FCC Part 15, Subpart J, Class A.



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The Alerton® VisualLogic® VLC-550-E is a versatile, BACnet-compliant, fully programmable field controller designed for fan coils, a/c-units, heat pumps, and other terminal unit applications. As a native BACnet controller, it integrates seamlessly with your BACnet system, communicating at up to 115 Kbps on a BACnet MS/TP LAN.

The VLC-550-E supports the Alerton Microtouch™, as well as the BACTalk® Microset, Microset II, and Microset 4 intelligent wall sensors, which offer convenient data display, setpoint adjustment, and technician access to equipment setup parameters.

All VLC-550-E control logic is programmed using Alerton's easy-to-learn graphical programming language, VisualLogic™. Programming and setup data are stored in non-volatile flash memory, ensuring stable and reliable operation.

High-resolution 16-bit universal inputs are auto-selectable for thermistor, dry contact, pulse, 0-5 V, 0-10 V, or 4-20 mA.

VISUALLOGIC® UNITARY FIELD CONTROLLER

FEATURES AND HIGHLIGHTS

- Fully BACnet-compliant on MS/TP LAN at up to 115.2 Kbps.
- Programmable control logic can be field-modified.
- Downloadable operating code to allow for future software improvements
- 32-bit processor architecture with all program data backed up in nonvolatile flash memory.
- High-speed processing of DDC program, with an internal logical loop time of 100 msec.
- Backwards compatible with older VLC-550 and VLC-550C3 models.

APPLICATIONS

Recommended for unit ventilator and fan-coil applications, or any application that requires multi-speed fan or motor control.

VLC-550-E						
UI	HBO	GB0	RO	AO	AF	F
UNIVERSAL INPUTS	HOT SWITCHED TRIAC BINARY OUTPUTS	GROUND SWITCHED BINARY OUTPUTS	RELAY OUTPUT	ANALOG OUTPUTS	AIR-FLOW SENSOR	FILTER
5	5	0	0	0	-	-

TECHNICAL DATA

POWER – 24 VAC @ 50-60 Hz. 9 VA minimum (maximum 90 VA with loads). Half-wave rectified.

INPUTS – 16-bit universal inputs accept 3k (Ibex) or 10k thermistor (type II), dry contact, 0-20 mA, 0-10V, 0-5V, or dry-contact pulse. External 250-ohm resistor required for 0-20 mA inputs. Pulse input maximum frequency of 100 Hz. Pulse input minimum duty cycle 5mS ON / 5mS OFF (pulse input not supported on IN-0).

POWER OUTPUT FOR EXTERNAL SENSORS – 20 VDC $\pm 10\%$ @ 100 mA maximum

BINARY OUTPUTS – Triacs rated 24 VAC @ 50/60 Hz, 500 mA continuous and 800 mA (AC rms) for 60 milliseconds.

MICROSET – Supports BACtalk[®] Microset, Microset II, or Microset 4 on input 0 (IN-0).

INPUT/OUTPUT TERMINATIONS – Removable header-type screw terminals accept 14-24 AWG wire.

MAX DIMENSIONS – 4.9" (125mm) H x 5" (127mm) W x 1.4" (36mm) D

MOUNTING – Screw mounting

ENVIRONMENTAL – 0 to 158°F (-17 to 70°C) / 5 to 95%RH, non-condensing

COMMUNICATIONS – EIA-485 (RS-485) over twisted shielded-pair (TSP); auto-baud switching (9.6kbps, 19.2kbps, 38.4kbps, 76.8kbps, or 115.2kbps); communication status LED.

PROTOCOLS – BACnet MS/TP (master)

PROGRAMMING – Supports Alerton's BD4 DDC file format using Alerton's VisualLogic[®] toolset.

MICROPROCESSOR – 32-bit ARM Cortex-M4F, 80 MHz

MEMORY – 512 MB non-volatile flash.

SECURITY – Integrated secure boot prevents loading of tampered firmware.

ORDERING INFORMATION**ITEM NUMBER**

VLC-550-E ALERTON VISUALLOGIC
CONTROLLER BACNET

CERTIFICATION AND CONFORMANCE

BACNET CONFORMANCE – An application specific controller (ASC) level device; tested and approved by BTL. See Protocol Implementation Conformance Statement (PICS). BTL Listing and compliance is pending.

UL – Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the UL Standard for Safety 916; listing includes both U.S. and Canadian certification.

EMC – EMC Directive 89/336/EEC (European CE Mark).

FCC – FCC Part 15, Subpart J, Class A.



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Features and highlights

- **Economical**
Comes with 5 inputs, 6 binary outputs; the separate replaceable actuator enables quicker, less expensive repairs.
- **Adaptable**
Pre-loaded, DIP-switch selectable DDC applications for 5 types of VAV box control.
- **Flexible**
Left- or right-mountable actuator enables flexible mounting configurations.
- **Innovative**
Device addressing and application selection can all be done with common tools for easy installation or replacement.
- **Attractive**
Sleek, updated design.



The Alerton BACtalk® VAViH-SD™ controller with integrated actuator is a versatile BACnet-compliant controller, providing pressure-independent control of any single-duct variable air volume (VAV) box. It features a built-in airflow sensor, five universal inputs (AIs or BIs) and six binary outputs (BOs). As a native BACnet controller, the VAViH-SD integrates seamlessly with your BACnet system, communicating at up to 76.8 Kbps on a BACnet MS/TP LAN. The VAViH-SD-F includes a filter to reduce dust contamination.

Four of the BOs are hot-switched 24 VAC at 0.5A triac outputs; the other two BOs are ground-switched and are reserved for the integrated actuator. Four inputs are permanently configured to operate as open contact/thermistor inputs. The fifth input is user selectable: Open contact/thermistor, 0–5 VDC or 0–10 VDC. All inputs are 10-bit resolution.

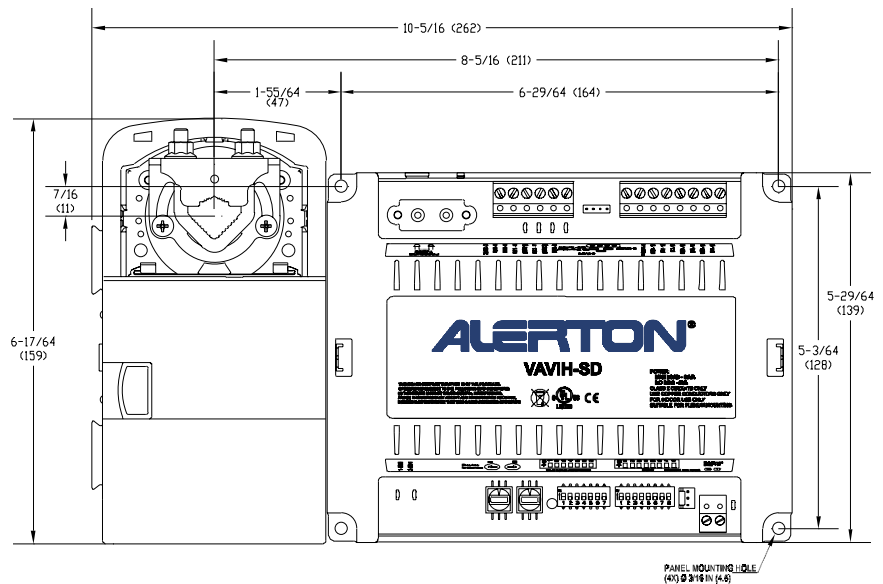
The BACtalk VAViH-SD contains an integral airflow sensor to provide pressure-independent operation of the VAV box. Each airflow sensor is factory-calibrated at multiple velocity points. Minimum, maximum, and reheat airflows can be entered either at a Microset™ wall unit or an operator workstation. A technician can adjust airflow parameters in the field during balancing to compensate for slight variations in box installation and type.

The direct-coupled, brushless actuator is a high-reliability, maintenance-free ON-OFF/floating point control model manufactured by Honeywell. Its universal V-bolt clamp assembly mounts directly to the damper operating shaft.

All control algorithms are factory-loaded into nonvolatile flash memory and can be completely field-modified. The VAViH-SD can execute control algorithms independently of other equipment. All calibration, programming, and operator-entered setup data is stored in flash memory for further assurance of stable, reliable, and independent operation.

Technical data

- **Power** 24 VAC @ 10 VA min. plus binary output loads (65 VA max.). Utilizes a half-wave rectifier, which enables a single transformer to power multiple VLCs.
- **Inputs** 5 inputs with 10-bit resolution. Input 0 supports the BACtalk Microset. Inputs 0–3 support open contact/10K thermistor. Input 4 allows user-selectable configuration: Open contact/10K thermistor, 0–5 VDC or 0–10VDC.
- **Binary Outputs** 6 binary outputs for staged heat or fan control. Except for BO 3 and 4, which are ground-switched for damper motor control, all BO terminals are hot-switched, optically coupled triac outputs rated 24 VAC @ 0.5 A.
- **Airflow Sensor** 0–1.25 inches water column differential pressure sensor.
- **Actuator torque rating** 44 lb-in or 5nm.
- **Processor and Memory** Motorola AZ-60 processor with on-board flash memory. Flash memory provides nonvolatile program and data storage, and allows for updates to the firmware for future product enhancements.
- **Maximum Dimensions** 2.5" (64mm) H X 6.9" (175mm) W X 5.5" (140mm) D.
- **Terminations** Removable header-type screw terminals accept 14–24 AWG wire.



- **Environmental** 0–158 deg. F (-17–70 deg. C). 0–95% RH, non-condensing.
 - **Communications** BACnet MS/TP LAN up to 76.8 Kbps.
 - **BACnet Conformance** Fits application specific controller (ASC) profiles as tested and approved by BTL. See Protocol Implementation Conformance Statement (PICS).
 - **Ratings** Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the UL Standard for Safety 916, 3rd Edition. Listing includes U.S. and Canadian certification. Suitable for plenum mounting.
- FCC Part 15, Class A.
EN 55022, Class A.
EN 61000-3-2, 61000-3-3, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-8, 61000-4-6, 61000-4-11

Ordering information

VAViH-SD

VAViH-SD with 5 universal inputs, 6 binary outputs; 2 of the binary outputs drive integrated Honeywell actuator

VAViH-SD-C

VAViH-SD field controller with available custom DDC

Specifications subject to change without notice

VisualLogic™ Display (VLD)

Features and highlights

- **Capable**
Internal temperature and humidity sensors, 3 universal inputs, 6 binary outputs and 2 analog outputs.
- **Interoperable**
BACnet-compliant on MS/TP LAN at up to 76.8 Kbps.
- **Versatile**
Fully DDC programmable, capable of standalone or integrated operation.
- **Flexible**
Fully programmable, configurable display, easy to locate wireless sensors.
- **Powerful**
Offers control of a second VLC using peer-to-peer commands. Modes of operation allow control based on occupancy or schedules.
- **Fast**
Internal DDC logic loop of 100 msec.
- **Visually appealing**
Based on industry standard platform, sleek sophisticated design with touchscreen display.



Alerton's BACnet®-based VisualLogic® Display (VLD) is a communicating, intelligent sensor-controller combination with built-in temperature and humidity sensors that targets common controls applications such as roof top units, fan-coil units and heat pumps. It provides a cost-effective solution to meet in-room hotel requirements—an easy-to-use interface, easy-to-see digital display, and Celsius/Fahrenheit change over—where you already have Alerton systems in public or common areas. A versatile wireless addition provides door and occupancy sensor function. Direct digital control (DDC) enables powerful control of units, sophisticated, customizable displays, and a superb user interface.

The VLD combines a configurable display and a VisualLogic controller, making it ideal for retrofits of thermostat installations and places where a single-piece combination is easier to install.

The VLD communicates over an MS/TP LAN so it operates as a fully-functioning BACnet controller and easily integrates with the building automation system. Alerton can also provide seamless integration with hotel reservation and check-in systems with the BCM-HOTEL.

Based on an established industry platform and a sleek, sophisticated design that millions of people have already installed in their own homes, the VLD is a single, cost competitive unit with a familiar and user-friendly interface, so it's an easy to use choice for your customers. The VLD is compatible with Alerton's wireless occupancy kit so you can offer a plug-and-play wireless solution for applications needing motion or door sensing, such as hotel rooms.

Technical Data

- **Power** 24 VAC @ 53 VA min. Half-wave rectified. One leg of 24 VAC connects to earth (panel) ground.
- **Inputs** 3 universal inputs with 12-bit accuracy, providing DDC-controlled voltage, current and resistive modes.
- **Internal Sensors** 1 internal temperature sensor, -40–199 deg. F (-40–93 deg. C); 1 internal humidity, 5–95% RH, non-condensing.
- **Binary Outputs** 6 outputs each rated at 24 VAC, 0.5A and using latching pilot relays capable of conducting one (1) amp continuously.
- **Universal Analog Outputs** 2 outputs with 12-bit resolution. Each auto-detects for 0–10 VDC or 4–20 mA. 4–20 mA outputs are sourced by the VLD. Connected loads must return to the VLD ground. The VLD automatically switches from 0–10V mode to 4–20mA current mode when it detects a load value of less than 500 ohms.
- **Processor & Memory** Powerful 32-bit processor with extensive flash memory and RAM resources. Flash memory provides nonvolatile program and data storage, and allows for encrypted updates to the program for future product enhancements.
- **Dimensions** 4.60" (117mm) H x 6.00" (152 mm) W x 1.20" (31mm) D including wallplate.
- **Terminations** A separate wallplate is provided and mounted to the wall; this wallplate provides screw terminal connections for all wiring. When the VLD is seated in the wallplate, all connections are made.
- **Environmental** 0–120 deg. F (-17–49 deg. C). 0–95% RH, non-condensing.
- **Communications** BACnet MS/TP LAN up to 76.8Kbps.
- **Ratings**
EMC Directive 89/336/EEC (European CE Mark)
FCC Part 15, Subpart J, Class A

Ordering Information

Item number	Description
VLD-362	VisualLogic Display controller with 2 fixed inputs, 3 universal inputs, 6 binary outputs and 2 analog outputs
AL-OC-KIT	Wireless occupancy kit; includes (1) receiver, (1) PIR sensor, and (1) door contact sensor
AL-OC-REC	Wireless receiver unit
AL-OC-PIR	Wireless passive infrared (PIR) motion sensor
AL-OC-DS	Wireless door contact sensor

Specifications subject to change without notice

VLD-362-FF, VLD-362-FF-W Fixed Function VLD

Features and highlights

- **Flexible**
19 pre-loaded applications for a quick, out-of-the-box solution.
- **Wireless option (VLD-362-FF-W)**
Integrated wireless receiver saves wiring time and costs, provides more location options.
- **Capable**
Internal temperature and humidity sensors, 3 universal inputs, 6 binary outputs, 2 analog outputs, factory-loaded applications.
- **Interoperable**
BACnet-compliant on MS/TP LAN at up to 76.8 Kbps.
- **Versatile**
Non-programmable versions that support Alerton DDC logic, capable of stand-alone or integrated operation.
- **Powerful**
Offers control of an additional VLC using peer-to-peer commands. Modes of operation allow control based on occupancy or schedules.
- **Fast**
Internal DDC logic loop of 100 msec.
- **Visually appealing**
Sleek sophisticated design with touch screen display.



Alerton's BACnet®-based VisualLogic™ Display (VLD-362-FF and VLD-362-FF-W) with fixed function is a non-programmable version of the original VLD-362. There are two available fixed function models—the VLD-362-FF with fixed function and the wireless VLD-362-FF-W with fixed function—that ship with 19 pre-loaded applications for specific and common projects including fan-coil, heat pump and air conditioning.

The VLD-362-FF and VLD-362-FF-W are a communicating, intelligent sensor-controller combination with built-in temperature and humidity sensors used to control applications such as roof top units, fan-coil units and heat pumps. They provide a cost-effective solution for occupancy and crowd monitoring in hotel rooms, conference rooms, school portables and more. The VLD-362-FF and VLD-362-FF-W meet in-room hotel requirements—an easy-to-use interface, easy-to-see digital display, and Celsius/Fahrenheit change over—where you already have Alerton systems in public or common areas. Direct digital control (DDC) enables flexible control of units, sophisticated, customizable displays, and an easy to use user interface. Pre-loaded applications enable fast configuration of units using the user interface.

The VLD-362-FF-W, the wireless version of the fixed function VLD-362-FF, combines a configurable display and a VisualLogic controller, making it ideal for retrofits of thermostat installations and places where a single-piece combination is easier to install. Its wireless capability offers the flexibility to choose different placements in a monitored space for maximum coverage.

The VLD-362-FF and VLD-362-FF-W communicate over an MS/TP LAN so each operates as a fully-functioning BACnet controller and easily integrates with the building automation system. Alerton can also provide seamless integration with hotel reservation and check-in systems with the BCM-HOTEL.

The VLD-362-FF-W is a single, cost competitive unit with a familiar and user-friendly interface, so it's a simple choice for customers who want an easy to use, wireless solution for occupancy-based sensing.

Technical Data

- Power** 24VAC power from a UL Listed Class-2 24VAC transformer (not provided). The VLD-362W uses a half-wave rectifier to convert the AC power supply to onboard power. This enables multiple devices with half-wave power supplies to be powered from a single, grounded transformer.
 Min. Load = 17VA (all BOs OFF).
 Max. Load = 89VA (all BOs ON).
 If BO power jumper is not removed, then all BOs are powered from the controller's transformer.
 Minimum load includes controller and analog outputs at full load (20mA into 500 Ohms).
 All BOs are N.O. (Normally Open) contacts with a maximum switch rating of 24VAC @ 0.5A (12VA).
 Maximum load assumes all 6 binary output loads are powered from the controller transformer and connected loads are the maximum allowed (24VAC @ 0.5A). Actual power requirements depend on connected loads.
- Wireless Receiver (VLD-362-FF-W version only)** 433.92 Mhz; range is 50 feet.
- Inputs** 3 universal inputs with 12-bit accuracy, providing controlled voltage, current and resistive modes.
- Internal Sensors** 1 internal temperature sensor, 0–120 deg. F (-17.8–48.9 deg. C); 1 internal humidity, 5–95% RH, non-condensing.
- Binary Outputs** 6 relay outputs; normally open contacts with a maximum switch rating of 24VAC @ 0.5A (12VA). BO-0, BO-2 and BO-5 are powered from the controller transformer. BO-1, BO-3 and BO-4 are powered from control transformer through removable jumper, allowing these BOs to be powered from a separate power source.
- Universal Analog Outputs** 2 outputs with 12-bit resolution. Each auto-detects for 0–10VDC or 4–20mA. 4–20mA outputs are sourced by the VLD. Connected loads must return to the VLD ground. The VLD-362W automatically switches from 0–10V mode to 4–20mA current mode when it detects a load value of less than 500 Ohms.
- Processor & Memory** Powerful 32-bit processor with extensive flash memory and RAM resources. Flash memory provides nonvolatile program and data storage, and allows for encrypted updates to the program for future product enhancements.
- Dimensions** 4.60" (117mm) H x 6.00" (152 mm) W x 1.20" (31mm) D including wallplate.
- Terminations** A separate wallplate is provided and mounted to the wall; this wallplate provides screw terminal connections for all wiring. When the VLD-362W is seated in the wallplate, all connections are made.
- Environmental** Residential, commercial and light-industrial environments. 0–120 deg. F (-17–49 deg. C). 0–95% RH, non-condensing.
- Communications** BACnet MS/TP LAN up to 76.8 Kbps.
- Ratings**
 Listed Underwriters Laboratory for Open Energy Management Equipment (PAZX) under the UL Standard for Safety 916; listing includes both U.S. and Canadian certification.
 EMC Directive (European CE Mark) EN 60950 (VLD-362-FF model only).
 FCC Part 15, Class B.

Ordering Information

Item number	Description
VLD-362-FF	Non-programmable VisualLogic Display controller with 2 fixed inputs, 3 universal inputs, 6 binary outputs and 2 analog outputs, and factory-loaded DDC
VLD-362-FF-W	Non-programmable VisualLogic Display controller with integrated wireless receiver, 2 fixed inputs, 3 universal inputs, 6 binary outputs and 2 analog outputs, and factory-loaded DDC
AL-OC-PIR	Wireless passive infrared (PIR) motion sensor
AL-OC-DS	Wireless door contact sensor

Specifications subject to change without notice

“DUAL SOURCING” WHITE PAPER

Despite the promise of open protocols and interoperability, the majority of facility managers are still locked into a proprietary sole source vendor for building automation system (BAS) technology. Using a sole source vendor can be appealing because he offers the simplicity of having just one contact for everything a building needs: there's no need to stock surplus equipment or train staff on multiple systems. But sole sourcing exposes the facility manager to that single vendor's stringent fee structure. The flip side to sole sourcing is entertaining open—or competitive—bids. This, too, can be a hassle because the risky mix of different products across facilities increases the complexity of service and support down the road.

So how can a facility manager get the best of both worlds? How can he retain the simplicity of a sole source arrangement, but keep that one vendor honest in his pricing? The answer is *dual sourcing*, which qualifies a select few open protocol vendors—according to strict criteria developed by the facility manager—who collaborate with the current vendor to provide all the building controls. The competition keeps life cycle costs down and the limited vendor list keeps complexities at a minimum.

This white paper will help facility managers identify whether their building is locked in by a sole source vendor, develop strategies to assess the costs and benefits of that arrangement, and offer a how-to for unlocking a building. Facility managers will be able to qualify open protocol vendors, develop comparisons and initiate technical strategies they can start using today.

Are you locked in?

Having a sole source relationship with a controls contractor or mechanical contractor isn't in itself a bad thing. In fact; it may be right for a facility manager. If he's in a single-source situation, however, he wants to realistically assess the cost to him. This section offers tips and tools to do that.

What does "locked in" really mean?

Basically, "locked in" means a lack of choice. In a sole source scenario, a facility manager is pretty much subject to whatever controls his vendor picks to outfit the building. The vendor's system capabilities dictate the facility manager's retrofit or expansion plans. His building controls budget is in the vendor's hands.

The facility manager should take a look at his retrofit or expansion needs. Any plans to expand or update the building will significantly impact the scope and design of the building

controls. This is also true if there is a change in the nature of tenants or their space—for example, adding food vendors or a healthcare-affiliated occupant. Subsequently, a facility manager must determine what his existing proprietary vendor can and will charge to undergo the remodels; if the vendor has more influence than the facility manager on the future of his own building, that facility manager is definitely locked in.

The most tangible way for a facility manager to assess whether or not he is locked into a sole source arrangement is to look at his vendor's pricing conventions:

- Does the sole source vendor offer standard pricing?
- Does the facility manager get discount pricing for the equipment he orders most often?
- Does the sole source vendor itemize materials and labor on his bill?
- Does the facility manager understand and agree to every line item he pays for on his service contract?
- Does the sole source vendor charge fair or comparable market prices for add-ons or changes to the system?

If the answer is "no" to any of these, a facility manager's lack of choice should be a clear indication of being locked in to his sole source vendor.

Finally, it can be determined whether or not a facility manager is locked into a sole source vendor by less tangible criteria—for example, his interaction with the vendor. Does the vendor reply promptly to the facility manager's calls or emails? Does he listen to issues with concern and respond with thoughtful answers? Does he identify cost-saving ideas without being asked? Does he make the facility manager feel like he has a lot of choice or input in how his own building is run? If a facility manager answers no to any of these questions, he very well may be locked in.

Sole sourcing—flat-spec or negotiated work—is dangerous because it gives the vendor the "state-run" stranglehold on the facility manager's BAS. First, if the vendor says a specific piece of equipment or service call is needed, the facility manager has little choice but to agree. Second, there are no checks and balances with respect to price comparison. After the initial construction phase, where the vendor may lowball the facility manager just to get the job, subsequent phase cost increases can be astronomical.

A case study

In a real-life scenario, one proponent of dual sourcing—a large, west coast municipality—achieved an average savings

White Paper: Dual Sourcing— Unlocking the Chains that Bind a BAS

of 20% on its overall heating, ventilating and air conditioning (HVAC) controls expenditures. The City has five departments that oversee everything from arts and recreation to public safety, utilities and transportation. Most City properties feature a significant physical plant inside. In 2003, concerned with the high and escalating costs for its proprietary building controls, the facilities projects manager performed a study to analyze what the City paid compared to market price, and whether the high fees were related to technical issues or simply premium pricing for a proprietary solution. The analysis was based on several recently completed projects and submitted bids, including projected costs for future work.

The facilities projects manager used three resources to find industry standards:

- RS Means CostWorks, a comprehensive, industry standard database of unit costs, assemblies costs or square foot models, crew costs and more
- Corporate profit-and-loss statements for the proprietary vendor
- Polling HVAC industry professionals

He discovered the proprietary vendor charged up to 51% above market price. On five recent City projects where the proprietary vendor's bids equaled \$4.6 million, these excess charges totaled more than \$1.5 million. On one particular comparison between two similar commercial high-rises, the facilities manager determined that the proprietary vendor charged \$1.33 per square foot while an Alerton BACtalk system cost only \$1.00 per square foot—resulting in a difference of more than \$168,000. The scope of work had been nearly identical.

The City then considered its options. It could open up its building controls projects to competitive bidding. It could attempt to have a more strategic partnership with the proprietary vendor—which would include asking them to open their books to the City. As a third option, the City could opt to dual source the building controls. Further study revealed that, for subsequent work required on City properties, dual sourcing made the most sense, both economically and for the long term.

To decide which BACnet vendor would collaborate with the already-installed proprietary system, the City outlined particular criteria for contenders to meet:

- Open protocol (BACnet) products down to the lowest equipment levels
- Unlimited software license versus annual renewal and seat fees

- A good local presence in both construction and service
- Factory-trained engineers
- Ability to challenge the current vendor on pricing and service
- Parts assembled in the USA
- A realistic level of compatibility with my existing system
- A manufacturer that demonstrates flexibility and innovation in their product designs—as an indication of future product developments
- Good long-term reference customers who are willing to let potential customers tour their sites

The City chose Alerton as its open systems vendor to integrate with the proprietary equipment. In a dual sourcing scenario with Alerton's BACtalk system, the City found that it could achieve average savings of 20% or more on equipment and service. Its annual operating costs could continue indefinitely at or near the same level. And compared to the savings, the City's training costs are minimal.

Assessing the costs of being locked in

Wherever possible, a facility manager should assess costs and benefits in quantitative terms. Track accurate hard figures when he can. For example, after he finds the costs of goods for his building system, he can then use those costs to get a rough idea of the profit margin his sole source vendor makes. How to do this? Carry out a competitive analysis: determine what is standard in the industry. A facility manager should find out what the overhead is for his sole source vendor. If the vendor's overhead is high and profit margin narrow, he may be charging the facility manager inflated fees to make up the difference.

The facilities project manager in the case study example above used the RS Means CostWorks database to obtain accurate industry standards for costs on an average project. Industry databases are comprehensive, easily available, and can save a facility manager a lot of time and money in the search for a building controls contractor.

Next, get help. A controls consultant will share his or her industry knowledge of the practices involved with installing and maintaining building controls. This knowledge includes the methods vendors use to bill time for a particular project, the dynamics of dealing with the electrical contractor, and details of the relationship between domestic or international supply vendors and the local dealer. The controls consultant

**White Paper: Dual Sourcing—
Unlocking the Chains that Bind a BAS**

can look at the fees, hours and charges and determine their appropriateness compared to the amount of work being done.

An independent auditor has a specific financial responsibility to the building controls project and will act as its accountant. He or she will review the hourly rates and calculate the charges for overhead or management. The auditor will also analyze profit and loss on the project and review the discount structure relative to product pricing from other vendors.

A facility manager shouldn't get railroaded into thinking something is vital to the building's system operation when it isn't. The myth of training is a good example of this. The cost of training was a show stopper for many who initially sought to unlock their systems by learning more about them. In reality, training is—or should be—a small percentage of the overall building operations budget.

Finally, facility managers should keep in mind that while their organization truly is unique, all building systems share certain characteristics. As such, there shouldn't be too many "gotchas" in the building controls budget. In reviewing costs for new construction, normal maintenance, major maintenance and upgrades, the facility manager should make sure his single source vendor's pricing doesn't unduly exceed what the market recommends. For example, parts and inventory for the HVAC system should take no more than about 8% of any typical building's annual operating budget; equipment replacement, no more than 15%. Also, certain components of an HVAC system have a set range of installation costs—for example, packaged terminal air conditioners at \$5–\$7 per square foot—that don't change across building types.¹ Also, non-economic factors such as

tenant comfort can heavily influence the cost of building controls and a facility manager must take into consideration what his sole source vendor charges for less tangible deliverables.

Unlocking the BAS

If a facility manager finds that he is—or feels—locked into his sole source building controls vendor, he has an alternative. There are just a few steps to take to unlock the BAS and open the door to a more mutually beneficial relationship with controls providers.

Qualify open protocol vendors

The first step for a facility manager is to qualify open protocol vendors in his area. He can then create a matrix of the features he requires in a partner, then evaluate his vendors on those criteria. The City in the case study example above included in its matrix a large installed base of satisfied customers, a large staff of factory-trained engineers and BACnet interoperability. Facility managers should assign values to their own required features, based on the very specific needs of their building and working style. Table 1 below shows a sample evaluation checklist.

Whatever criteria a facility manager chooses to rank potential vendors, open protocols and a strong service commitment should be weighted heavily for any organization seeking to unlock its proprietary building controls system.

Assess the technology

A facility manager must ensure the proposed technology is cost effective and suitable for his needs—not just now,

Vendor Evaluation Checklist	Importance (1–10)	Included Yes/No	Points	
Open protocol (BACnet) products down to the lowest equipment levels	10	Yes	10	
Unlimited software license versus annual renewal and seat fees	8	Yes	8	
A good local presence in both construction and service	9	Yes	9	
Factory-trained engineers	6	Yes	6	
Ability to challenge the current vendor on pricing and service	10	Yes	10	
Parts assembled in the USA	5	Yes	5	
A realistic level of compatibility with my existing system	6	No	0	
A manufacturer that demonstrates flexibility and innovation in their product designs—as an indication of future product developments	8	Yes	8	
Good long-term reference customers who are willing to let potential customers tour their sites	10	Yes	10	
Additional questions				
		Total	66	

Table 1. Sample vendor evaluation checklist

White Paper: Dual Sourcing— Unlocking the Chains that Bind a BAS

but in the future as well. The broader the acceptance of the technology, the better off the facility manager will be and the more options he'll have down the road. Most vendors offer BACnet today because it is the most widely accepted industry protocol for building controls.

Some questions a facility manager should ask himself include:

- Is this technology featured in a large installed base, with customers who are happy with their building controls solution?
- Is this technology innovative, providing solutions that I haven't found elsewhere?
- Is it flexible enough to fit the unique needs of my building without increasing the complexity of my system?
- Does this technology come with a comprehensive service offering so that my building runs as specified without being nickel-and-dimed on every service call?
- Does this technology offer an unlimited software license so that I get the most cost effective price per user?
- Is this technology offered by a locally owned vendor, one who has ties to my community and a low overhead?

Next Steps

Once the facility manager has determined he wants to unlock his BAS, he can begin the dual sourcing process. The first step is to change his specification. A consulting-specifying engineer (CSE) can use an online spec-building tool such as OpenSPECS (<http://specify.bacnet.com>) to flesh out the precise components needed to spec an open system for the building.

The facility manager will take the spec to his existing vendor and negotiate diligently with him. A controls consultant can review the spec and advise the facility manager during talks with his current vendor. If there is still a significant gap between market price and the current vendor's price, the facility manager should then engage the second, open protocol vendor for dual sourcing.

The last step for the facility manager is to send out a competitive bid through the usual RFP process. Because he already qualified open-protocol vendors during his research—and because he's only choosing one of them as his dual sourcing partner—he eliminates the risk of complicating his system with a mix of different products.

Dual sourcing is a win-win scenario. A facility manager retains familiarity with his current system and saves the relationship with his existing vendor. And he saves the costs of swapping out an entire BAS while gaining an open-protocols partner who rounds out his BAS with extensible, cost competitive solutions.

1 "Maximizing HVAC Mechanical Systems," PowerPoint presentation, 2003 National Association of State Energy Officials Conference, February 11, 2003, <http://www.naseo.org/events/outlook/2003/presentations/Weise.pdf>

Tim Holmes is director of marketing for Alerton, a building controls line owned by Honeywell in Redmond, WA.

Sidebar

1. Is this vendor a "price-challenger" to my current vendor or does he have a history of pricing products above the market?
2. Can this vendor demonstrate industry leadership, longevity and stability?
3. Do the vendor and the manufacturer demonstrate innovation and flexibility in their product designs, manufacturing methods and business structures?
4. Is the vendor's local organization focused on providing high quality service and support for my organization's future growth?
5. Regardless of local organization size, can this vendor meet my current needs?
6. Has this vendor demonstrated a long-term commitment to his existing customers' needs?
7. Does this vendor have a cost effective product and installation plan for my unique situation?
8. Can this vendor guarantee BACnet interoperability and future compatibility at all levels?
9. Does this vendor offer an unlimited software license so that my operations budget isn't "nickel-and-dimed" on seat licenses and annual renewal fees?
10. Does this vendor offer a realistic level of compatibility with my existing system to protect my original investment?

SIGNET QUALIFICATIONS



signet controls, inc

OPEN AUTOMATION SOLUTIONS

**PRESENTATION OF
COMPANY PROFILE & CAPABILITES**

FOR



**OXNARD UNION
HIGH SCHOOL DISTRICT**

Signet Controls Inc.
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Moorpark, CA 93021
t: (818) 859 9999
f: (877) 888 4648

Signet Controls, Inc. would like to thank you for the opportunity to provide the Oxnard Union High School District with an overview of the company profile and its capabilities to deliver “Open Automation Energy Management Systems” installation and services. This document intends to present Signet Controls qualifications, project execution strategy, and a commitment to the delivery of quality products and services.

COMPANY PROFILE

- A. Over the last 13 years, Signet Controls has established itself as one of the leading providers of unique “Open Automation Solutions” in the Central Coast of California with comprehensive technological expertise. We establish lasting relationships through dedicated customer service, exceptional performance and integrity.
- B. Signet Controls primary focus is to provide open protocol Energy Management Systems. These systems provide management of building functions to improve efficiency, reduce energy consumption, improve efficiency, increase comfort, improve management control and communications, and reduce overall costs of operation.
- C. Signet Controls is a company molded by its customers, team members and partners. We provide support for pre-construction design, engineering, project management, design / build services, installation, training, and service for high-end residential & commercial controls systems. In the Commercial construction market we have created an expertise by executing diverse projects such as Hospitals, Military bases, Office Buildings, Universities, Colleges and K-12 Schools & Manufacturing Organizations. Due to our expertise in customizing solutions for each application, we also implement systems in high-end residential homes and properties.
- D. Signet Controls has a customer centric approach to every activity and is successful in leveraging the expertise of its associates. We track and ensure quality during every phase for successful execution of projects. Our organization structure is different from the “normal” contractor-oriented business profile – we have put in place a structure where every associate has an incentive to grow and participate into every aspect of the business – from sales to execution. This unique structure provides a “one point of contact” for our customers and forges long-term relationships in the territories we serve. Our team focuses on finding various avenues to do business in a “smarter and more efficient way” rather than “harder and the same old way”. We believe this to be our core competence.
- E. We are committed to teamwork within our company, with our suppliers and with our customers to provide unique solutions with the best possible installations and optimum system performance. We maintain our unique market position by attracting only experienced talented and innovative industry professionals. Our team members have experience on control systems from various different manufacturers giving us the “Systems Integration” expertise that is required in the current evolution of the controls industry. We are devoted to training and education for both our employees and our customers.
- F. Signet Controls utilizes innovative open systems from Alerton, Distech Controls, Johnson Controls and Tridium which are non-proprietary that allow a single window into all building systems. These non-proprietary systems provide the owner freedom to choose a partner or competitively bid additions or future expansions on an installed system.

- G. Signet Controls has an experienced team with broad capabilities. Some of these are:
- a. Survey and project design
 - b. Implementation of Energy Savings techniques on building equipment
 - c. Design and installation of Energy Management Systems
 - d. Programming and Start-up of Control Systems
 - e. Integration of multiple Control, Lighting, Access, CCTV, Fire, and Smoke Systems
 - f. Project Management & Technical expertise
 - g. Technical Support with Remote monitoring and emergency service
 - h. Customized training of customers and staff
 - i. Energy Saving and system upgrades support
- H. Below are a few projects that our team has worked on:
- a. Ventura County Medical Center, Ventura, CA
 - b. Community Memorial Hospital, Ventura, CA
 - c. St. John's Regional Medical Center, Oxnard, CA
 - d. St. John's Pleasant Valley Hospital, Camarillo, CA
 - e. Santa Paula Hospital, Santa Paula, CA
 - f. University of California, Santa Barbara, CA
 - g. Topa Financial Plaza, Oxnard, CA
 - h. Bruker Nano Surfaces, Goleta, CA
 - i. Oxnard School District, Oxnard, CA – 15 Schools
 - j. Moorpark High School, Moorpark, CA
 - k. Santa Barbara USD, Santa Barbara, CA – 2 Schools
 - l. Carpinteria USD, Carpinteria, CA – 3 Schools
 - m. Atascadero High School, Atascadero, CA
 - n. East Los Angeles College, Monterey Park, CA
 - o. LA Pierce College, Winnetka, CA
 - p. LA Mission College, Sylmar, CA
 - q. Isla Mar Residence, Santa Barbara, CA
 - r. Thousand Oaks – Civic Art Plaza, Thousand Oaks, CA
 - s. City of Oxnard – Main Library, Oxnard, CA
 - t. Calabasas Civic Center, Calabasas, CA
 - u. El Encanto Hotel, Santa Barbara, CA
 - v. Homewood Suites, Oxnard, CA
 - w. Port Hueneme Naval Base, CA - Seabee Museum
 - x. Point Mugu Naval Base, CA – Bldg. 24, 25, 36, 323, 352, 512, 532, 607, 738 & NASSM
 - y. Camp Roberts – Satellite Communications Facility, US Army Corps of Engineers, CA
 - z. Fort Hunter Liggett – TASS Training Center, Jolon, CA
- I. In the past 13 years Signet Controls has executed more than 100 projects on schedule and within budget. This expertise and experience will help us be successful on supporting the Oxnard Union High School District on various projects.
- J. General Information:
- a. Type of Company => S-Corp
 - b. State & Year Incorporated => CA, 2006
 - c. Federal ID => 20-5754575
 - d. CA Contractor License Type & No. => C20 - 912113 (exp. 3/31/2022)

Product Overview

Signet Controls provides automation solutions from the following manufacturers:

 <p>Authorized Representative</p> <p>www.alerton.com</p> <p>Open Protocol BACnet & Web Based Systems, Integration Platform – BACnet, Siemens, Modbus</p>	 <p>Authorized Representative</p> <p>www.distech-controls.com</p> <p>Open Protocol BACnet & Web Based Systems, Integration Platform – BACnet, Siemens, Modbus</p>
 <p>BY JOHNSON CONTROLS</p> <p>Authorized Representative</p> <p>http://www.johnsoncontrols.com/buildings/building-management/facility-explorer</p> <p>Open Protocol BACnet & Lonworks Systems, VFD's, Field Devices & Analytics</p>	 <p>revolutionary software solutions™</p> <p>www.tridium.com</p> <p>Open Protocol Integration Platform for BACnet, LonWorks & Legacy Systems</p>
 <p>Platinum Distributor</p> <p>www.belimo.us</p> <p>Energy Valves, Control Valves and Dampers Actuators</p>	  <p>www.veris.com www.functionaldevices.com</p> <p>Sensors, Devices, Relays, Powers Supplies, Energy Recording & Monitoring Systems</p>

Expertise Overview

- A. Signet Controls team provide the building automation marketplace with an experienced team of professionals who have demonstrated capabilities in a broad range of applications - a partial list includes the following:
 - a. Integrated HVACR Energy Management and Control Systems
 - b. Lighting Control Systems
 - c. Power Quality and Electrical Energy Measurement Systems
 - d. Technical Support Services
 - e. Remote Monitoring of Automation Systems

- B. Signet Controls has assembled a team with the credentials and experience in project management, design, and implementation of integrated open system control projects to achieve all your goals.

Service Support Overview

A. Signet Controls looks forward to working with the Oxnard Union High School District Project representatives to support the installed Energy Management System at various facilities. Signet Controls will nominate a project team which will utilize a disciplined approach to support the project while maintaining budgets and schedules.

B. Service Management Approach:

1. Signet Controls Service Management approach is based on experience of managing large and complicated projects with a process that has been improvised over the years to control costs, maintain support excellence and system operability.
2. The team lead by the Operations Manager will be responsible for the following activities:
 - a. Coordination with Facilities team
 - b. Field Coordination during Preventive Maintenance tasks
 - c. Overseeing improvement and Ongoing Development projects
 - d. Service & Maintenance support
3. As the primary contact, the Operations Manager attends project meetings, negotiates specific client requests, schedules construction activities, reviews progress and secures approvals of submittals, installation activity, and completed work. Some other tasks of the Service Ops Manager include review and approval of shop drawings, review and revision of record drawings, evaluation and approval of subcontractor and vendor payments, preparation and presentation of change orders, monitoring of installer performance, and clarification of contract documents.
4. The Operations Manager has complete on-site authority to resolve problems. This authority includes, but is not limited to, the ability to allocate resources, settle conflicts, and initiate corrective actions as needed to resolve a problem.
5. The Operations Manager has operational and decision-making authority within the limitations of the contract. Examples of site-level decisions include personnel hire and dismissal, purchasing of services and materials, and establishment of project policies and procedures.

C. Key Contact Associates:

Navin Kashyap and Rahvie Pagely will be the main point of contact for all matters concerning project execution on the projects designed by the Oxnard Union High School District. Both Navin and Rahvie have more than 25 years' experience in all aspects of the Building Automation industry and their contact information is as below:

Account Executive: *Navin Kashyap*
Phone / Fax: *(818) 859-9999 / (877) 888-4648*
E-mail: navink@signetcontrols.com

Project Director: *Rahvie Pagely*
Phone / Fax: *(805) 990-5453 / (877) 888-4648*
E-mail: rahviep@signetcontrols.com

D. Quality Control

1. Signet Controls has a customer centric approach to every activity, and we track and ensure quality during every phase for successful execution of projects. We solicit input from our customers to ensure that we have exceeded their expectations and also on areas we need to improve on. As a local company, we cannot afford any unresolved customer issues. Our team members understand the importance of delivering excellent quality on every project they work on.
2. This commitment to customer satisfaction demands that we begin to clearly understand each and every customer's unique requirement and that we deliver our products and services in conformance with these requirements. Signet Controls is dedicated to make every customer a reference account through the delivery of quality goods and services. Within Signet Controls, managers and employees are evaluated on their ability to develop and manage a Quality Project from start to finish.

E. Training

1. For a successful project, it is important that the project team is trained and qualified to support the project. Training is an ongoing process at Signet Controls. With developments in technology and new product release our team undergoes extensive training to be skilled in every task they undertake.
2. Our service team will coordinate with the facilities team to ensure that appropriate training is provided to the Customers personnel. Training will play a critical role in providing the customer's operations staff an understanding of every aspect of the system architecture and operation. This will help to maximize energy savings through efficient operation of the equipment. This training will also help minimize maintenance and installation costs. Trained personnel bring in additional ideas, cooperate in scheduling, avoid conflicts, report problems early, and take over maintenance with confidence.
3. Customized on-site training by our experienced technicians and engineers is tailored to the needs of our customers and allows the customer's technicians the opportunity to learn on their own systems at their own pace.
4. Factory training is available to all customers and is scheduled year-round for our customers and employees. This training facility provides basic and advanced classes, including operator and supervisor instruction, programming, trouble shooting, software generation, hardware diagnostics, and preventative maintenance.

F. Service/Maintenance & Warranty

1. Service

- a. Our staff is experienced in the operation and maintenance of the products that we represent and we are available to provide service round the clock. Your emergency call will be responded very effectively and efficiently; typically, our technician will arrive on site and ready to diagnose your problem at the earliest.
- b. Signet Controls has staff capable of remotely logging in & telephone assistance for our service customers. At times we may be able to solve problems over the telephone without dispatching a service technician.
- c. The development of a preventive maintenance program that keeps facility systems operating at peak performance relative to energy consumption and comfort is critical for a smooth operating building. Analyzing how maintenance is and will be accomplished can save substantial costs in the areas of repairs, parts inventories, component replacements, and service contracts. Our staff can assist the customer to implement this program based on the project requirements.
- d. Our service team can provide many levels of Technical Service Support programs depending on the customer's needs. From monthly, quarterly, half-yearly or annual system inspection services to full Protection coverage that covers everything that we install.

2. Warranty

- a. Signet Controls will provide a full part and labor warranty on HVAC Control Systems installed as part of ongoing improvements. Signet Controls will repair, replace or adjust or any parts found to be defective free of charge.

CORE SERVICE TEAM RESUMES'

Distinguished Qualifications

- President of Signet Controls, Inc.
- Worked with a variety of industries and clients.
- Ex-Operations Manager of Climatec-BTG in Irvine.
- Education
University of Southern California, MBA

University of Mumbai, India
Bachelor of Engineering

Responsibilities

As the President of Signet Controls, Inc. his responsibilities include overall Sales, Operations and Financial aspects of the organization, effective deployment of resources to complete projects with the allocated time and budget. Efficient coordination of sales, control systems design, engineering, commissioning and start-up teams on various projects. He also oversees customer and contractor training.

Experience

Mr. Kashyap has over 25 years' experience in the Building Automation Industry. Starting as a project engineer at Siemens with the responsibility for the design and installation of HVAC Controls and Building Automation Systems he has been involved in various projects in the commercial, industrial and recreational markets. Over the years he has gained experience in sales and marketing, operations and project management, system engineering, application development, start-up and commissioning along with training of end user. As Operations Manager with Climatec he was responsible for successfully managing all aspects of the execution phase, resource allocation and coordination with the end customer to ensure smooth and successful completion of projects.

Relevant Project Experience from the Past 10 Years

Central Plant (ELAC, Monterey Park, CA)

Responsible for design, programming and commissioning for the Alerton EMS systems at the Central Plant. The Central Plant consisted of a 9,300-ton hour thermal energy storage system with 3 chillers, a COGEN System and a 30 million BTU HHW System. This is a project at the East Los Angeles Community College under the Build-LACCD program.

Central Plant (LAPC, Woodland Hills, CA)

Responsible for design, management, programming and commissioning for the Alerton EMS systems at the Central Plant. The Central Plant consisted of a 6,400-ton hour thermal energy storage system with 4 chillers, a COGEN System and a supplemental solar heating system. This is a project at the Los Angeles Pierce Community College under the Build-LACCD program.

Center for the Sciences Building (LAPC, Winnetka, CA)

Responsible for the design & management of the Alerton EMS System at the project. This is a LEED certified project for the Los Angeles Pierce Community College under the Build-LACCD program.

Toyota Motor Sales (Torrance, CA)

Responsible for design, management, programming and commissioning for the Alerton EMS systems for the HQ Expansion (5 buildings) and two redundant Central Plants. Each Central Plant consisted of 3 absorption chillers and a 20 million BTU HHW system. This is one the biggest certified LEED Gold projects in USA.

Calabasas Civic Center (Calabasas, CA)

Responsible for design, installation, programming and start-up of the new Civic Center, Library and Central Plant. The Central Plant consisted of 2 Chillers and a 10 million BTU HHW System.

Distinguished Qualifications

- Operations Manager of Signet Controls
- Senior Operations Manager for Siemens, San Diego, CA
- Operations Manager for Johnson Controls, Seattle, WA
- Project Manager for Johnson Controls, Vancouver, BC.
- Senior Specialist for Johnson Controls, Vancouver, BC

Responsibilities

As the Operations Manager of Signet Controls, Inc. his responsibilities include overall Operations and Financial aspects of the organization, effective deployment of resources to execute projects with the allocated time and budget. Efficient coordination of sales, control systems design, engineering, commissioning and start-up teams on various projects.

Experience

Mr. Pagely has over 30 years' experience in the Building Automation Industry. Starting as a project System Specialist at Johnson Controls with the responsibility for the design, programming and installation of HVAC Controls, Fire Alarm, Security and Building Automation Systems he has been involved in various projects in the commercial, industrial and recreational markets. Over the years he has gained experience in design, programming, project management, Service and Solutions Operations. As Operations Manager with Siemens he was responsible for successfully managing all aspects of the execution phase, resource allocation and coordination with the end customer to ensure smooth and successful completion of projects.

Relevant Project Experience from the Past 10 Years

MGA Entertainment – (Chatsworth, CA)

Responsible for managing the \$750K retrofit installation, start-up and commissioning of the EMS installed at Headquarters buildings. The project consisted of Systems Integration to Daikin VRF, Aeon CRAC, Encelium Lighting, Generator, Accutrol

City of San Diego City Water Division – (San Diego, CA)

Responsible for overseeing the \$6.1M Security System retrofit project team consisting of a Project Manager, Project Assistant, Technician(s) and Design Team.

San Diego Convention Center – (San Diego, CA)

Responsible for overseeing the \$1.5M Fire Alarm retrofit project team consisting of a Project Manager, Technician(s) and Design Team.

Kaiser Permanente – (San Diego, CA)

Responsible for overseeing the \$5.2M HVAC New Installation project team consisting of a Project Manager, Technician(s) and Design Team.

US County Courthouse – (San Diego, CA)

Responsible for overseeing the \$2.1M HVAC New Installation project team consisting of a Project Manager, Technician(s) and Design Team

University of Washington Research & Technology Building – (Seattle, WA)

Responsible for overseeing the \$1.5M HVAC New Installation project team consisting of a Project Manager, Technician(s) and Design Team

Distinguished Qualifications

- Senior Systems Specialist for Signet Controls
- Project Manager for PASCO in Syracuse, NY
- Senior System Specialist / Design Engineer for Climatec in Irvine, CA
- Design Engineer for Trane BSG in Syracuse, NY

Responsibilities

As the Project Executive for Signet Controls, Inc., his responsibilities include HVAC Systems controls Design, development of a systematic process to ensure that all building systems are commissioned and perform to meet the design intent. Customized Graphics creation, Programming and Control Logic Development, verification of HVAC controls performance during the construction phase, development of testing & checklist documentation, final testing and commissioning of these systems as to accuracy and performance.

Experience

Mr. Babcock has over 15 years' experience in the building automation industry. He started as a Controls Design Engineer with the responsibility for the designing and programming of HVAC controls, life safety and lighting systems. Mr. Babcock is responsible for the complete design of all building automation systems from conceptual design through final construction drawings on retrofit and new construction projects.

Relevant Project Experience from the Past 10 Years

St John's Health Center (Santa Monica, CA)

Responsible for the design, programming and installation and start-up for the Alerton EMS system and Life Safety Smoke Control System.

Los Angeles Mission College (LAMC, Sylmar, CA)

Responsible for the programming, graphics and integration of various control systems (Alerton, Carrier CCN and Trane) into a common Tridium system interface for the entire campus.

St Jude's Medical Center (Fullerton, CA)

Responsible for the design, programming and installation and start-up for the Alerton EMS system.

Ronald Reagan Library (Simi Valley, CA)

Responsible for the design, programming and installation and start-up for the Honeywell EMS system.

Oxnard School District (Oxnard, CA)

Responsible for the programming, graphics and integration of 3rd party control systems (ALC) into a Alerton Energy Management system interface for 17 Schools

Cortland School District (Cortland, NY)

Responsible for managing the programming, installation, start-up and commissioning of the Alerton/Tridium EMS and Honeywell Security System installed at seven schools ranging from elementary to a high school.

Distinguished Qualifications

- Project Specialist for Signet Controls.
- Project Manager/Estimator for American Building Automation Inc. in Ventura, CA.
- Low voltage instrumentation installer for Frankrich in Ventura, CA.

Responsibilities

As the Project Executive for Signet Controls, Inc., his responsibilities include supervision of HVAC systems controls installation, development of a systematic process to ensure that all building systems are installed and perform as to the design intent, engineering & programming, verification of contractor performance during the construction phase and development of all pre-functional and functional test documentation, final testing and commissioning of these systems as to accuracy and performance.

Experience

Mr. Salas has over 10 years of experience in the Automation and HVACR industry. He started as a Low voltage instrumentation installer. He soon became the manager of an Underwriters Laboratory (UL) listed panel shop, and head of purchasing. Years of installation and panel manufacturing led Mr. Salas to become an Applications Engineer. His responsibilities also include Estimation and Project Supervision.

Relevant Project Experience from the Past 10 Years

City of Oxnard – Main Library Retrofit (Oxnard, CA)

Responsible for managing the retrofit installation, start-up and commissioning of the EMS installed at Main Library buildings. The project consisted of 5 AHU's, 85 VAV zones, 2 CHW plants & 1 HHW plant.

Library Retrofit (Cuesta College, San Luis Obispo, CA)

Responsible for retrofit installation, programming, start-up and commissioning of the EMS installed at two buildings. Custom Air Handlers were fabricated on the rooftop to provide VAV control to all zones.

Isla Mar Residence (Santa Barbara, CA)

Currently managing installation for an Energy Management System at a high end residential property. This residence is more than 25,000 sq. feet and has a geothermal system with water source heat pumps.

El Encanto Hotel (Santa Barbara, CA)

Currently managing installation for an Energy Management System at a high-end resort in Santa Barbara. This project consists of a central plant and various cottages along with an extensive primary residence.

Space Launch Complex (ULA, Vandenberg AFB, CA)

Responsible for complete Environmental Controls System design and verification. Environmental Controls System redundancy and capacity testing, including presentations to NASA.

PM Bldg 531, 33 Retrofit (Point Mugu Navy Base, CA)

Responsible for complete design, control system installation supervision of the secure Missile and Tracking installations. System supported Range Operations, and required integration to existing EMS..

Distinguished Qualifications

- Project Executive for Signet Controls.
- Engineering Specialist for Siemens in New York / New Jersey
- Project Engineer for Automated Logic in New York / New Jersey
- Project Engineer for ABM Systems in New York / New Jersey

Responsibilities

As the Project Executive for Signet Controls, Inc., his responsibilities includes supervision of HVAC systems controls installation, development of a systematic process to ensure that all building systems are programmed, commissioned and perform to meet the design intent. Customized Graphics creation, Programming and Control Logic Development, verification of HVAC & Lighting controls performance during the construction phase, Development of testing & checklist documentation, final testing and commissioning of these systems as to accuracy and performance.

Experience

Mr. Benaiche has over 12 years' experience in the Electrical and Building Automation industry. He started as an Electrical Engineer with Sonatarch with the responsibility of collaborating with Mechanical Engineers to resolve product development and maintenance issue. He then joined ABM Systems and gained expertise on the Alerton Systems. After joining Automated Logic Service team, he was exposed to multiple projects with a variety of system and quickly became comfortable supporting the various customer. Mr. Benaiche is responsible for the complete coordination of all building automation systems from conceptual design through final construction phase on retrofit and new construction projects.

Relevant Project Experience from the Past 10 Years

Siemens (New York / New Jersey)

Responsible for providing Service Support to existing customers. Created Submittal and O & M Documents and made revisions to control logic and graphics to meet customer requirements. Tested programs and performed Commissioning activity for retrofit and new construction projects.

Automated Logic (New York / New Jersey)

Responsible for providing Project planning and execution for customers. Collaborate with Project Managers and internal project team to ensure on-time completion of projects. Performed programming, create DDC Control Logic, create Graphics and start-up for Automated Logic HVAC Controls Systems.

ABM System (New York / New Jersey)

Responsible for providing Design Coordination, project planning and execution for customers. Collaborate with internal project team to ensure accuracy of Submittals, O & M Manuals, Bill of Materials, for in-budget completion of projects. Performed programming, create DDC Control Logic, create Graphics and start-up for Alerton HVAC Controls Systems.

Distinguished Qualifications

- Systems Specialist for Signet Controls.
- Commissioning Authority for GRD Energy Inc.
- Commissioning Representative for AW Consulting Inc.
- Representative for GRD Energy Inc.

Responsibilities

As the Project Executive for Signet Controls, Inc., his responsibilities include HVAC systems controls installation, development of a systematic process to ensure that all building systems are commissioned and perform to meet the design intent. Customized Graphics creation, Programming and Control Logic Development, verification of HVAC controls performance during the construction phase, Development of testing & checklist documentation, final testing and commissioning of these systems as to accuracy and performance.

Experience

Mr. Walter has over 5 years' experience in the building automation industry. He started as a commissioning representative with Engineering Economics Inc with the responsibility of commissioning of HVAC Controls at variety of installations. With Signet Controls, Alex is responsible for the coordination of all building automation systems from initial field installation through final construction phase on retrofit and new construction projects. He also participates on supporting existing customers on Service projects and technical aspects of HVAC control systems.

Relevant Project Experience from the Past 5 Years

St. Johns Pleasant Valley – New Tower (Camarillo, CA)

Responsible for managing the programming, installation, start-up and commissioning of the Alerton EMS installed at the new Tower Hospital Wing.

Ventura County Medical Center – Hospital Replacement Wing (Ventura, CA)

Responsible for start-up and commissioning of the Alerton/Tridium EMS installed at the new Hospital Wing at Ventura County Medical center.

Topa Financial Plaza – Bldg. 300 & 500 (Oxnard, CA)

Responsible for managing the programming, installation, start-up and commissioning of the Alerton EMS installed at the existing High-Rise Buildings.

Sidwell Friends School (Washington, DC)

Commissioning Authority for the RetroCx project on the LEED Platinum school.

World Wildlife Fund (Washington, DC)

Commissioning Technician for the RetroCx project.

Symantec Data Center (Tucson, AZ)

Commissioning Technician for the new LEED Gold Data Center project.

U.S. Food and Drug Administration (Silver Spring, MD)

Commissioning Technician for the new Headquarters project.

**SMALL BUSINESS ENTERPRISE &
MINORITY BUSINESS ENTERPRISE
CERTIFICATION**

Printed on: 9/10/2019 10:26:02 PM

To verify most current certification status go to: <https://www.caleprocure.ca.gov>

Office of Small Business & DVBE Services

Certification ID: 2016275**Legal Business Name:**

Signet Controls Inc.

Doing Business As (DBA) Name 1:**Doing Business As (DBA) Name 2:****Address:**

15350 Mallory Court
Moorpark
CA 93021

Email Address:

navink@signetcontrols.com

Business Web Page:

www.signetcontrols.com

Business Phone Number:

818 859 9999

Business Fax Number:

877 888 4648

Business Types:

Construction , Service

Certification Type	Status	From	To
SB(Micro)	Approved	09/10/2019	09/30/2021
SB-PW	Approved	09/10/2019	09/30/2021

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Call OSDS Main Number: 916-375-4940

707 3rd Street, 1-400, West Sacramento, CA 95605



***SUPPLIER CLEARINGHOUSE
CERTIFICATE OF ELIGIBILITY***

CERTIFICATION EXPIRATION DATE: **October 23, 2020**

The Supplier Clearinghouse for the Utility Supplier Diversity Program of the California Public Utilities Commission hereby certifies that it has audited and verified the eligibility of:

***Signet Controls Inc.
Minority Business Enterprise (MBE)***

pursuant to Commission General Order 156, and the terms and conditions stipulated in the Verification Application Package. This Certificate shall be valid only with the Clearinghouse seal affixed hereto.

Eligibility must be maintained at all times, and renewed within 30 days of any changes in ownership or control. Failure to comply may result in a denial of eligibility. The Clearinghouse may reconsider certification if it is determined that such status was obtained by false, misleading or incorrect information. Decertification may occur if any verification criterion under which eligibility was awarded later becomes invalid due to Commission ruling. The Clearinghouse may request additional information or conduct on- site visits during the term of verification to verify eligibility.

This certification is valid only for the period that the above firm remains eligible as determined by the Clearinghouse. Utility companies may direct inquiries concerning this Certificate to the Clearinghouse at (800) 359-7998 in Los Angeles.

VON: 11080118

DETERMINATION DATE: October 23, 2017

Bid Clarification Addendum #1

Attachment B

Next Level RFI

July 27, 2020

RFI Number: **001**

Attn: Bernards
Karl Aldridge

Re: Project: **Oxnard High School**

Subj: Request for Information – 23 09 00 Direct Digital Control System

COST IMPACT:

	YES	X (Savings)	NO
--	------------	-------------	----

SCHEDULE IMPACT:

	YES	X	NO
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QUESTION:

Project Specification 23 09 00 states “Carrier OPEN BACnet Controls” as only Acceptable Manufacturer. Next Level EMS would like to propose “**Siemens**” **BACnet**, as alternate Open Controls for competitive bidding on the project.

Attached is an overview and some technical details for the non-proprietary BACnet Siemens HVAC Controls System.

Please confirm if Siemens is an acceptable manufacturer.

REFERENCE: 23 09 00 Direct DIGITAL Control System

SUGGESTION:

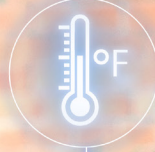
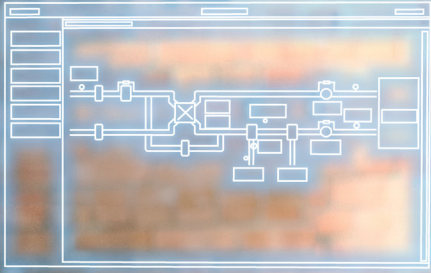
Plans and Specifications see noted below for response.

FINAL RESPONSE:

Product is not sustainable or compatible to existing systems without adaptations. The use of this product would create a huge cost burden and hardship on the district as an example redesign, additional training, additional staff, programming, monthly and service impacts. (Hardship) As previously responded this product is not acceptable alternative to the immediate projects design.

SIEMENS

Ingenuity for life

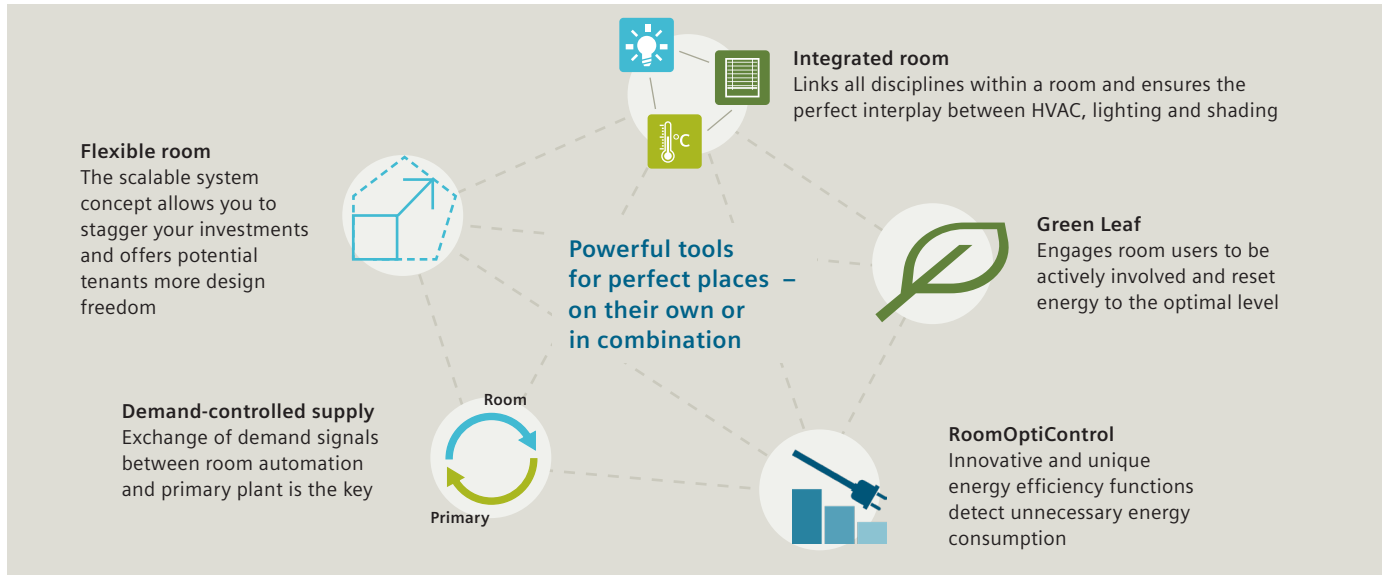


Desigo™ Total Room Automation

The unique solution for enhanced
comfort and productivity

usa.siemens.com/talon

Experience the ultimate comfort while increasing your productivity



Intelligent comfort for any room

Desigo™ Total Room Automation links all disciplines within a room and ensures the perfect interplay between heating, ventilation, air conditioning, lighting and shading. Desigo™ Total Room Automation ensures a comfortable room climate, good air quality and optimal lighting conditions with as little energy consumption as possible. Optionally, all room disciplines can be operated easily and intuitively from a single room operator unit. This creates a pleasant workplace environment and increases the motivation and productivity of room users.

High energy efficiency for your building

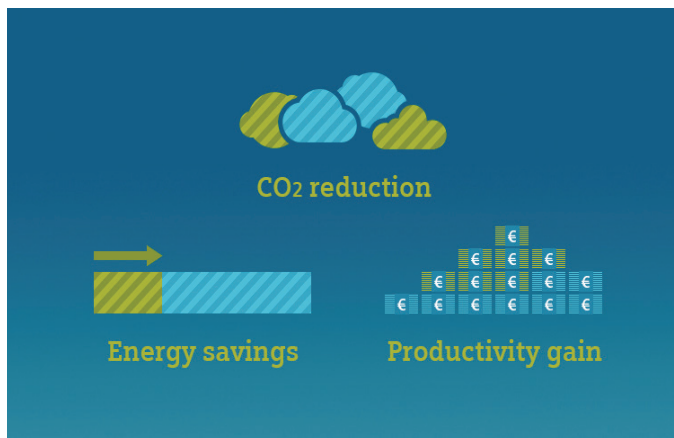
RoomOptiControl makes the perfect system. It guarantees that temperature, air quality and humidity limits – AirOptiControl – are not surpassed and reduces energy utilization up to 50 percent contrasted with a steady air volume framework. Through demand-controlled supply signals from room automation to primary plant, only the required energy is provided without ever compromising comfort conditions.

Save up to 25 percent energy by involving room users

The room operator unit's Green Leaf symbol changes from green to red, when unnecessary HVAC, lighting or shading energy consumption is detected. Simply pressing the Green Leaf symbol resets the room automation to the most energy-efficient operation. Thus the room user is actively involved in energy-efficient operation, while enjoying the flexibility to adapt room conditions to individual needs.

More flexibility for your building

Business goals and room usage change, and customer requirements grow. Desigo™ Total Room Automation can be expanded step by step, giving you the ability to add new features when you need them. Since it supports international communication standards, it can be integrated seamlessly into existing installations.



Siemens room automation systems control and harmonize key elements of room comfort – heating, ventilation, air conditioning, lighting and shading. Siemens flexible approach adapts to any need and its proven technology helps improve the confidence and comfort of tenants and end users.

Green Leaf symbol for optimized room climate

Active energy management by room users

RoomOptiControl, an innovative energy-efficiency feature, detects unnecessary energy consumption and alerts users by changing the color of the Green Leaf symbol on the room operator unit from green to red.

To reset the room controller to energy-efficient operation without loss of comfort, the user simply touches the symbol. The Green Leaf symbol returns to green.



Energy-optimized operation



Unnecessary energy consumption; energy saving potential exists

Highlights

- Energy-efficient operation through easy-to-use Green Leaf symbol
- Workplace comfort with optimized room conditions and air quality
- Better concentration because of fatigue-free lighting conditions
- CO₂ level in the air can be properly measured

Straightforward operation for a comfortable room climate

All disciplines within a room can be operated conveniently from a single room operator unit. The Desigo™ Total Room Automation room operator units are so user friendly that operating errors – and associated energy losses – are virtually eliminated. In addition, the unique Green Leaf symbol alerts users when unnecessary energy consumption occurs. Simply pressing the Green Leaf symbol is all it takes to reset the room automation system to energy-efficient operation.

Pleasant air quality in the workplace

A pleasant workplace climate improves concentration and has a positive effect on motivation and productivity. Desigo™ Total Room Automation's innovative AirOptiControl application creates the

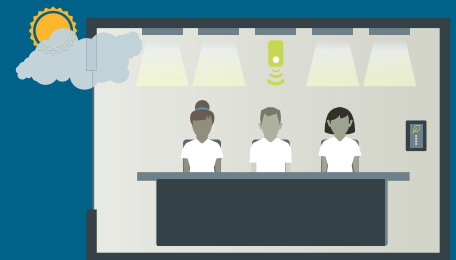
ideal framework. It ensures that temperature, air quality and humidity limits are not exceeded and lowers energy consumption by up to 50 percent compared to a constant air volume system.

For example, communicating sensors can measure and adjust the CO₂ level in the air as well as the humidity and room temperature.

Ideal lighting conditions for productive work

Optimized lighting conditions at the workplace prevent eye strain. Desigo™ Total Room Automation automatically adjusts the lighting level to match the time of day. When needed, shading can be provided to utilize the positive effects of glare-free daylight on health over artificial light.

Through intelligent, energy-saving control of lighting and shading, Desigo™ Total Room Automation ensures optimized lighting conditions in the workplace. For example, artificial light is dimmed depending on natural light and information from presence detectors and controlled by integrated brightness sensors. Blinds are optimally adjusted to minimize glare, make use of natural light and protect from the heat and the cold.



Maximum flexibility, minimal investment



Desigo™ Total Room Automation offers maximum flexibility. With its advanced segment concept, the building floor plan and the room layout can be adjusted easily and quickly – without modifying electrical or HVAC installations.

This means less initial expenditure and lower costs for the basic configuration.

Lower initial costs due to scalability

The scalable system concept allows you to offer tenants or buyers a great deal of freedom to design the space any way they wish. The basic configuration can be limited to a minimal installation, which can be easily expanded by tenants based on their requirements – from the room layout to individual workplace lighting. This shortens the construction phase and makes it easier to lease or sell the building.

Easy adaptation to changing requirements

When a reorganization becomes necessary or when the room usage or the tenant changes, the unique segment concept of Desigo™ Total

Room Automation will lower your costs. Floors in the building are subdivided into room segments and these, in turn, are flexibly combined into rooms. When the room layout changes, you can quickly adjust the segment grouping.

Flexible settings for different work situations

The room operator units also offer flexible functionality. Scenes that trigger multiple actions in the room can be programmed for different work situations – e.g., normal operation, break, meeting or presentation – and modified if needed.

Highlights

- Low initial costs due to scalability
- Flexible segment concept easily adapts to changes in room usage
- Room ambience can be changed by switching scenes

Using individually preprogrammed “scenes” displayed on the room operator unit, you can change the room conditions simply by fingertip. The scenes select the room temperature, ventilation, shading and lighting appropriate for each situation. For a presentation, the light is dimmed and the shades are lowered, while during a break, lighting and ventilation are turned on and heating or cooling is relaxed.



Pictured here: Desigo Control Point

Desigo offers you a broad range of room operator units: whether a simple temperature, humidity or CO₂ sensor, a unit with operator adjustment, units with or without the Green Leaf symbol, all in either a wall- or flush-mounted design. The high-quality touch screen room operator unit features capacitive color display and can be installed horizontally or vertically.



Pictured here: QMX3 Room Units and Sensors

Innovative technology to minimize maintenance costs

Highlights

- The right product for any installation requirement
- Easy integration due to open communication standards
- Fast commissioning using plug-and-play products and predefined applications

A comprehensive range for any requirement

The Desigo™ Total Room Automation product range meets all functionality and installation requirements. In addition to room automation stations, it also includes operator units, push buttons, communicating sensors for wall and flush mounting and presence detectors with integrated brightness sensors. The Desigo™ Total Room Automation product range also combines harmoniously with different switch designs from Siemens and other manufacturers.

Standardized communication for easy installation and use

Standardized communication lowers installation and investment costs. You can easily reuse existing HVAC and lighting installations and optimize their functionality.

Less effort for more convenience

Desigo™ Total Room Automation offers you convenient handling, which makes installation, reconfiguration and maintenance significantly easier and faster. Simply remove the old unit and plug in the new one, and add and commission peripherals without engineering. Similarly, devices can be replaced without tools and engineering. An extensive library of tested applications facilitates planning and commissioning.





Long-term partnership with maximum reliability

Reliability from experience

Siemens offers optimized room automation from a single source. You will benefit from a reliable partner with more than 60 years of experience in HVAC control technology, more than 30 years of experience in building automation systems and active involvement in international standardization bodies. In addition, Desigo™ Total Room Automation is based on the proven quality of a broad installed base.

Quality throughout

Our extensive application knowledge is reflected in our products, systems and applications. They are thoroughly tested in the in-house laboratories from Siemens under real-life conditions to ensure smooth, error-free and efficient operation.

In touch with the latest trends

With its high level of compatibility and continuous development, Desigo™ Total Room Automation protects your investment across the entire lifecycle of your building. Changes, expansions or upgrades can be made gradually. Since Desigo™ Total Room Automation complies with global standards such as BACnet and KNX, you can rest assured that your building and room automation solution meets the latest requirements.

Highlights

- Reliability of an experienced, competent partner
- Investment protection across the entire lifecycle
- Reliability through tested, proven components and applications
- Meeting global standards



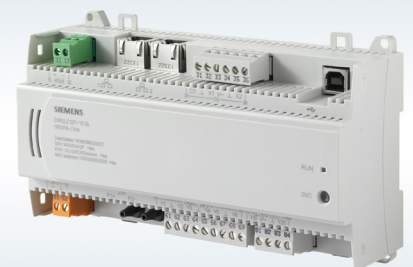
BACnet is an open communication standard for building automation used worldwide. Independent testing and certification authorities guarantee the reliability of BACnet devices.

Desigo™ Total Room Automation stations use BACnet to communicate with each other and with the management level. This ensures universal communication from the room to the management level.



KNX is an international open standard network communications protocol for building automation based on the communication

stack of EIB enlarged with physical layers, configuration modes and the application experience of BatiBUS and EHS. Desigo™ Total Room Automation integrates pre-defined applications for all HVAC functions plus basic functions required for lighting and shading. Extra functions can be provided by integrating KNX network in the building automation control system.



Pictured here: DXR

Siemens Industry, Inc.
Smart Infrastructure
1000 Deerfield Parkway
Buffalo Grove, IL 60089
Tel: (847) 215-1000

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QMX3 Room Sensors for Siemens DXR Series Controllers



QMX3.P30/P40/P70
Sensing Only



QMX3.P02
Sensor/Room
Operator



QMX3.P34/P44/P74
Sensor with Full Display



QMX3.P37
Room Sensor/Operator
with Display

Description

The QMX3 Series includes sensors, switches and room operator units exclusively for use with Siemens DXR Series Controllers. The devices communicate with the controller using PL-Link protocols. All units can be installed on a standard 2" x 4" electrical box with no additional back plates required. No-logic versions are available for some units.

QMX3.P02

- Temperature sensor.
- Configurable touch keys for light and shade control.

QMX3.P30

- Temperature sensor.

QMX3.P34

- Temperature sensor.
- Backlit LCD display and touch keys for HVAC control.
- Green Leaf active energy management.

QMX3.P37

- Temperature sensor.
- Backlit LCD display and configurable touch keys for light and shade control.
- Green Leaf active energy management.

QMX3.P40

- Temperature and humidity sensor

QMX3.P44

- Temperature and humidity sensor
- Backlit LCD display and touch keys for HVAC control

QMX3.P70

- Temperature, humidity and air quality sensor.
- LED air quality indicator.

QMX3.P74

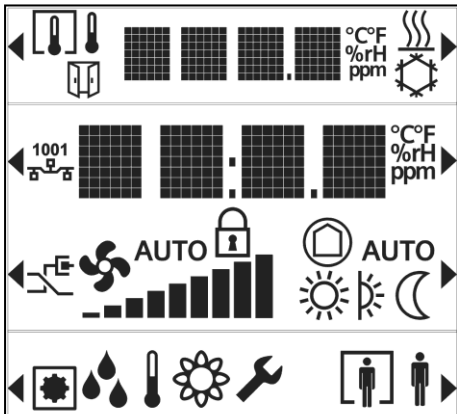
- Temperature, humidity and CO₂ sensor.
- Backlit LCD HMI and touch keys for HVAC control.
- Green Leaf active energy management.

Specifications*

Temperature	
Measuring range	32°F to 122°F (0°C to 50°C)
Accuracy	± 0.36°F @ 77°F (0.2°C @ 25°C)
Humidity (P4x and P7x)	
Measuring Range	0 to 95% rh
Accuracy	± 4% (20 to 80% rh)
CO ₂ (P70 and P74)	
Measuring Range	400 to 10,000 PPM
Accuracy < 2K ppm	± (30 ppm +4% measured CO ₂) @ 73°F (23°C) and 101.3 kPa
Temp. dependency	± 2 ppm/°C typical
Pressure dependency	0.14% of value/hPa
Long-term drift	± 20 ppm per year
Calibration	Not required
Operating voltage range	PL-Link DC 21 to 30V Max.
Power consumption	15 mA at 24 Vdc
Agency Listings	UL 916 FCC Part 15 CSA C22.2 #0 and #205
Color	White or black
Dimensions	5.25" x 3.5" x 0.71" (133.4 mm x 88.4 mm x 18 mm)
Shipping Weight	7.6 oz. (216 g)

*Accuracies shown are for sensing elements; actual system accuracy may vary.

Display (QMX3.P34 and QMX3.P74 Only)



NOTES:

- User-accessible values and settings will vary based on overall system configuration.
- Some values (for example, open window indicator, and outdoor air temperature) require additional

	Current Room Temperature/Humidity/Air Quality
	Indicates indoor or outdoor temperature (User-selectable).
	Indicates that a window is open.
	Heating/cooling mode indicator
	Green leaf indicates optimum settings are active. (One-touch resets to optimum setpoints.)
	Displays temperature setpoint (User-adjustable)
	Displays current fan speed (User-adjustable)
	Displays current room operating mode (User-selectable)
	Displayed value selector (RH/Temp/Air Quality) (User-selectable)
	Room occupancy indicator
	Start-up/commissioning mode indicators (See start-up and commissioning documents)
	Indicates parameters are locked

Product Ordering Information

Category	Model Number	Orderable Part Number	Temperature Sensor	Humidity Sensor	CO2 Sensor	Air Quality Indicator LED	Backlit Display and Touch Keys	Green Leaf LED	Configurable Touch Keys	Window for Labels	Color
Sensors	QMX3.P30*	QMX3.P30*	•	-	-	-	-	-	-	-	White
	QMX3.P30-1WNB	QMX3.P30-1WNB	•	-	-	-	-	-	-	-	White (no logo)
	QMX3.P30-1BSC	S55624-H123	•	-	-	-	-	-	-	-	Black
	QMX3.P40	S55624-H116	•	•	-	-	-	-	-	-	White
	QMX3.P40-1BSC	S55624-H124	•	•	-	-	-	-	-	-	Black
	QMX3.P70	QMX3.P70	•	•	•	•	-	-	-	-	White
	QMX3.P70-1BSC	S55624-H125	•	•	•	•	-	-	-	-	Black
Room Operator Units	QMX3.P02	QMX3.P02	•	-	-	-	-	-	•	•	White
	QMX3.P02-1BSC	S55624-H128	•	-	-	-	-	-	•	•	Black
	QMX3.P34*	QMX3.P34*	•	-	-	-	•	•	-	-	White
	QMX3.P34-1WNB	QMX3.P34-1WNB	•	-	-	-	•	•	-	-	White (no logo)
	QMX3.P34-1BSC	S55624-H126	•	-	-	-	•	•	-	-	Black
	QMX3.P44	S55624-H143	•	•	-	-	•	•	-	-	White
	QMX3.P44-1BSC	S55624-H144	•	•	-	-	•	•	-	-	Black
	QMX3.P74*	QMX3.P74*	•	•	•	-	•	•	-	-	White
	QMX3.P74-1WNB	QMX3.P74-1WNB	•	•	•	-	•	•	-	-	White (no logo)
	QMX3.P74-1BSC	S55624-H127	•	•	•	-	•	•	-	-	Black
	QMX3.P37	QMX3.P37	•	-	-	-	•	•	•	•	White
	QMX3.P37-1BSC	S55624-H129	•	-	-	-	•	•	•	•	Black
Accessories	QMX3-GSKT	QMX3-GSKT	QMX3 Insulating Gasket (10-pack). For installing sensors on a hollow wall.								
	OCI702	S55800-Y101	USB to PL-LINK Interface with Power Supply (Required for commissioning)								
	QMX3-BP	QMX3-BP	QMX3 Replacement Back Plates (12-pack)								
	5WG11938AB01	5WG11938AB01	KNX/PL-Link Bus Connector (25-pack)								

* For COO = USA, add suffix "-1WSB" to the part number (P30, P34 and P74 models only).

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Desigo® DXR

Room Automation Stations

DXR2.E18



Automation station with increased functionality and flexibility to support the demands for standard control of terminal HVAC equipment and Total Room Automation (TRA) applications. TRA offers the highest level of flexibility for energy-optimized solutions without sacrificing comfort.

- Compact, programmable room automation stations for HVAC, lighting, and shading.
- BACnet IP Ethernet Communication (BTL certified).
- 2 port Ethernet switch.
- KNX PL-Link bus to connect sensors, actuators, and operator units (including bus power).
- USB interface.
- Operating voltage AC 24V.
- Mounted on standard DIN rails or on the wall.
- Plug-in terminal blocks.

Features

- Total Room Automation applications combining multiple disciplines (HVAC, lighting, blinds/shading) into one comprehensive solution.
- BTL Listed as a BACnet Advanced Application Controller (B-AAC) device.
- Fully programmable using block programming.
- Proven, pre-loaded applications.
- Operational modes (Comfort, Standby, Economy, Protection, and so on).

Preconfigured applications

Fan Coil Unit (FCU)

- FAN COIL 2-Pipe CW/HW and HW Valves
- FAN COIL 4-Pipe CW and HW Valves
- FAN COIL staged DX Cooling and staged Heating
- FAN COIL with CW and staged Electric Heat
- FAN COIL–UNIT VENT with CW, HW and Outside Air Damper (OAD) control
- FAN COIL–UNIT VENT with CW, ELEC and OAD control
- FAN-COIL-UNIT VENT with DX, HW and OAD control
- FAN COIL-UNIT VENT with DX, ELEC and OAD control

Chilled Beam

- Chilled Beam Passive 2 Pipe Heating/Cooling and Radiator 1-Stage Electric

Heat Pump

- HP Variable Speed, Two Stage Elec Heat and One Stage Elec Rad with OAD
- HP Variable Speed, Water Source, HW Heat and Modulating Elec Rad with OAD
- HP Single Stage, One Stage Elec Heat and HW Rad with OAD
- HP Multi Stage, Two Stage Elec Heat and HW Rad with OAD
- HP Multi Stage, Hot Gas Reheat, One Stage Elec Heat and HW Rad with OAD
- HP Multi Stage, Ground Source, Hot Gas Reheat, One Stage Elec Heat and HW Rad with OAD

Additional Applications

- Electrical terminal heating coils, PWM, single, multi-stage or analog
- Terminal fans, single, multi-stage or analog
- Chill water, DX or hot water coils and heating/cooling coils (2-pipe or 4-pipe)
- Variable Air Volume (VAV), Dual Duct and Fan Powered VAV (FPB)
- Radiant ceiling including Chilled beams, cooling, heating and heating/cooling (2-pipe or 4-pipe) control
- Radiator/Baseboard: hot water, steam or electric
- Lighting – up to four separated or overlapping zones
 - Manual switching and dimming
 - Occupancy control and Vacancy control
 - Automatic Daylight Harvesting - step or constant level control
 - Stairwell lighting
 - Scene control

- Blinds – one or two separate zones
 - Manual control: Up, Down, Predefined positions
 - Occupancy control and Vacancy control
 - Glare Protection
 - Energy efficiency functions including solar radiation optimization
 - Slat angle
 - Scene control

Pre-loaded Application Options

Fan coil unit

- Single, multiple or variable speed fan control.
- Outside air damper control with economizer.
- Ventilation Control or Demand Control Ventilation (DCV) with separate outside air damper (OAD) setpoints for each operational mode.
- Supply (discharge) air temperature control for modulation heating or cooling coils.
- Dehumidification control.
- Terminal coils: heating (hot water or electric), cooling (chilled water or DX) and heating/cooling coil (2-pipe or 4-pipe).
- Radiant ceiling including Chilled beams and Radiator control.

Heat pump

- Heat Pump compressors: Single, multiple or variable speed.
- Air-to-air, water loop or ground water configurations.
- Single, multiple or variable speed fan control.
- Outside air damper control with economizer.
- Dehumidification control.
- Ventilation Control or Demand Control Ventilation (DCV) with separate outside air damper (OAD) setpoints for each operational mode.
- Terminal heating coil (hot water or electric) or hot gas coil.
- Radiant ceiling including Chilled beams and Radiator control.
- Greenleaf energy efficiency determination and display.
- Configurable plant operating modes (heating, cooling, warm up, cool down, flush/purge, and so on).

Functions

The selected application and its parameters as well as input and output configuration determine the room automation station's functionality.

A detailed description of functionality is available in the ABT (Automation Building Tool) online help.

Communication

- 2-Port Ethernet switch for cost-effective cabling via line topology.
- USB connection for service and commissioning, firmware download, and LAN access.
- The following functions are available with the KNX PL-Link bus:
 - Communication with room operator units, switches, sensors, actuators, and luminaires.
 - Plug-and-play connection of Siemens field devices with KNX PL-Link.
 - Integration of common devices using KNX S-Mode (ETS engineering required).

Type summary

Product Number	SSN	Description	Inputs	Outputs
DXR2.E18-101B (Version with 60 data points*)	S55376-C125	DXR2.E18 Room Automation Station	2 DI, 4 UI	8 DO Triacs, 4 AO 0 to 10V
DXR2.E18-101K (Version with 60 data points)	S55376-C155	Smoke Control DXR2.E18 Room Automation Station	2 DI, 4 UI	8 DO Triacs, 4 AO 0 to 10V

* 60 data point DXRs are typically used for Desigo Total Room Automation projects.

Accessories

Product Number	Designation
985-124	499 ohm Resistor Kit

Product Documentation

Topic	Title	Document ID
Installation and mounting	DXR Installation Instructions	A6V10550039
Global datasheet*	DXR2 24V IP DXR2 24V MS/TP	N9205 N9207
Setup and commissioning	DXR VAV Start-up Procedures DXR FPB Start-up Procedures DXR FCU Start-up Procedures Balancing Procedures	A6V10665935 A6V10665938 A6V10665941 A6V10665943
Room Unit Datasheet	Wall mounted	A6V10394781
BTL listing	DXR PIC Statement	A6V10665948

* Please see the Global datasheets for additional information not found in this submittal sheet.

Technical data

Housing

Color	RAL 7035 (light-gray)
Dimensions	180 mm (7.09 in) x 104.5 mm (4.11 in) x 59.5 mm (2.34 in)
Weight Packaging	ca. 360 g (12.69 oz) ca. 40 g (1.41 oz)

Function data

Communication	
A/D Resolution (analog in)	14 Bits
D/A Resolution (analog out)	12 Bits

Power data

Power supply	
Operating voltage	AC 24V -15%/+20%
Frequency	50/60 Hz
Internal fuse	4 A irreversible
Transformer with secondary current limitation of max. 10 A or external secondary current fuse	Max. 10 A, slow Max. 13 A, characteristic B, C, D as per EN 60898
Non-renewable fuse	
Circuit breakers	

Apparent power (VA) for transformer design						
Base Model	Base load	Max. load Triac output AC 24V~ 0.25 A each	Max. load all Aux. outputs AC 24V~	Max. load KNX PL-Link (at 50 mA)	Max. load DC 24V+ (2.4 W)	Max. Allowed Power consumption including connected field devices
DXR2.E18	8	8 x 6 = 48	18	4	6	72

Power for the Triac outputs must be reduced if the maximum load of 18 VA is required for AC 24V field supply on the DXR2.x18...



NOTE:

To calculate the total VA, add the Base Load + the number of Triacs + field supplies+ KNX PL-Link devices.

This cannot exceed the maximum power consumption. See the *Wiring Guidelines* for more information.

Inputs

Analog Inputs		
Resistance sensor	Temperature measurement	Voltage measurement
AI 1000 Ω	AI PT1K 375 (NA)*	AI 0 to 10V
AI 2500 Ω	AI PT1K 385 (EU)*	AI 0 to 10V (0 to 100%)
AI 10 KΩ	AI (LG-)Ni1000*	
AI 100 KΩ	AI Ni1000 DIN*)	
	AI T1 (PTC)*	
	AI NTC10K (Type II)**)	
	AI NTC100K**)	

* A fixed value of 1 Ω is calibrated to correct line resistance.

** Configurable default.

Digital Inputs	
Contact voltage	Universal input: 18V Digital input: 21V
Contact current	Universal input: 1.2 mA; 7.4 mA initial current Digital input: 1.6 mA; 9.4 mA initial current
Contact resistance for closed contacts	Max. 100 Ω
Contact resistance for open contacts	Min. 50 kΩ

Outputs

Analog Outputs	
0 to 10V	Max. 1 mA

Digital Outputs	
Type (Switching outputs triacs)	High side The Triac closes the contact to AC 24V
Switching voltage	AC 24V
Permissible load	250 mA/6 VA per output (cos phi 0.35) (500 mA/12 VA per output with PWM*)
Protection	Short-circuit proof

DC 24V output for field devices (1: V+)	
Output voltage	DC 24V
Permissible load	100 mA/2.4 W
Protection against overload	Short-circuit proof

Connections


Interfaces	
Ethernet	Plugs: 2 x RJ45, screened Interface type: 10Base-T/100BASE-TX, IEEE 802.3 compatible Bitrates: 10/100 Mbps, autosensing Protocol: BACnet over UDP/IP
USB (2.0)	Plug: Type B Data rate: 12 Mbps
KNX	Type: KNX TP1 PL-Link, galvanic isolation Baud rate: 9.6 Kbps Bus power: 50 mA Short-circuit proof Protection against faulty wiring at max. AC 24V

Wiring connections	
Pluggable screw terminals	Copper wire or copper strands with ferrules 1 x 0.6 mm dia. to 2.5 mm ² (22 to 14 AWG) or 2 x 0.5 mm dia. to 1 mm ² (24 to 18 AWG) Copper strands without ferrules 1 x 0.6 mm dia. to 2.5 mm ² (22 to 14 AWG) or 2 x 0.5 mm dia. to 1.5 mm ² (24 to 16 AWG)
Slotted screws	Small 1/8" blade, tightening torque 0.6 Nm (0.44 lb-ft)
Wiring lengths for signals	KNX PL-Link 80 m (260 ft) with internal bus power or 300 m (990 ft) with external power supply Ethernet 100 m (330 ft) Signal lines 80 m (260 ft) For inputs AI 100 K Ω , AI NTC10K, AI NTC100K: 30 m (100 ft) or 80 m (260 ft), if shielded.

KNX/PL-Link Network and Power Wiring.*	
Cable configuration	1 or 2 twisted pair - Pair 1 red/black - Pair 2 yellow/white
Gauge	20 AWG (solid copper)
Twists per foot	4 Minimum
Capacitance	30 pF/foot or less
Shields	100% foil with drain wire
UL type	300Vrms, CMP (75 °C or higher)
CSA type	300Vrms, FT6 (75 °C or higher)

* Alternative 18 AWG STP CMP (Belden 6320FE 8771000)

Conformity

	<p>⚠ CAUTION</p>
	<p>National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage. Observe national provisions and comply with the appropriate safety regulations.</p>

Ambient Conditions and Protection classification	
Climatic ambient conditions <ul style="list-style-type: none"> • Transport and storage • Operation 	<ul style="list-style-type: none"> • Temperature -25 to 70°C (-13 to 158°F) Air humidity 5 to 95% rh. • Temperature -5 to 45°C (23 to 113°F)/ -5 to 50°C (23 to 122°F) Air humidity 5 to 95% rh.

Standards, Directives and Approvals	
UL Listing	UL916; UL864 (Smoke Control 'K' variant only)
Suitable for plenum area installation	UL1995
Federal Communications Commission	FCC CFR 47 Part 15 Class B
CSA Compliance and cUL certification	C22.2 No. 205
Environmental compatibility - RoHS Compliant	The product environmental declaration contains data on environmentally compatible product design and assessments (composition, packaging, environmental benefit, and disposal).
BACnet BTL Listing	BTL-AAC
CEC Title 24 Supported	—
ASHRAE 90.1 Supported	—
Quality	ISO 9001 (Quality)

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Desigo® DXR

Actuating DXR2, BACnet/IP 24V

DXR2.E10PL-102B, DXR2.E10PLX-102B



Combination room automation station and actuator for buildings with increased demands placed on functionality and flexibility in Room Automation applications, VAV, Dual Duct and FPB applications. TRA offers the highest level of flexibility for energy-optimized solutions without sacrificing comfort.

- Compact, programmable room automation stations for HVAC, lighting, and shading.
- Integrated with actuator for ease of installation.
- BACnet IP Ethernet Communication (BTL certified).
- 2 port Ethernet switch.
- KNX PL-Link bus to connect sensors, actuators, and operator units (including bus power).
- USB interface.
- Operating voltage AC 24 V.
- Built-in 10 Nm actuator mounted directly on the damper shaft.
- Internal 0...500 Pa (0...2 in WC) differential pressure sensor.
- Plug-in terminal blocks.

Features

- Total Room Automation applications combining multiple disciplines (HVAC, lighting, blinds/shading) into one comprehensive solution.
- BTL Listed as a BACnet Advanced Application Controller (B-AAC) device.
- Fully programmable using block programming.
- Proven, pre-loaded applications.
- Operational modes (Comfort, Standby, Economy, Protection, and so on).

Preconfigured applications

Variable Air Volume (VAV) or Constant Volume (CV)

- VAV Cooling Only
- VAV with staged Electric Heat
- VAV with Hot Water
- VAV with Hot Water and Supply Temp Control

Dual Duct Variable Air Volume (VAV)

- VAV Dual duct – Cold duct and Hot duct with configurable ventilation delivery with hot water or electric heating coils and radiator
- VAV Dual duct – Cold duct and dedicated ventilation duct with DCV with hot water or electric heating coils and radiator

VAV with Fan Powered Boxes (FPB)

- VAV Series FPB with staged Electric Heat
- VAV Series FPB with Hot Water
- VAV Series FPB with Hot Water and Supply Temp Control
- VAV Parallel FPB with staged Electric Heat
- VAV Parallel FPB and Hot Water
- VAV Parallel FPB with Hot Water and Supply Temp Control

Chilled Beam

- Chilled Beam Passive Heating and Cooling with Hot Water Radiator
- Chilled Beam Active Heating and Cooling VAV with Hot Water Radiator
- Chilled Beam Active Heating and Cooling VAV with Electric 1-Stage Radiator

Additional Applications

- Electrical terminal heating coils, PWM, 1...3 stages or analog
- Series or Parallel fans, 1...3 stages or analog
- Chill water coils and heating/cooling coils (2-pipe or 4-pipe)
- Supply/Extract (Exhaust) airflow tracking and control
- Radiant ceiling including Chilled beams, cooling, heating and heating/cooling (2-pipe or 4-pipe) control
- Radiator/Baseboard: hot water, steam or electric
- Lighting – up to four separated or overlapping zones
 - Manual switching and dimming
 - Occupancy control and Vacancy control
 - Automatic Daylight Harvesting - step or constant level control
 - Stairwell lighting
 - Scene control

- Blinds – one or two separate zones
 - Manual control: Up, Down, Predefined positions
 - Occupancy control and Vacancy control
 - Glare Protection
 - Energy efficiency functions including solar radiation optimization
 - Slat angle
 - Scene control

Pre-loaded Application Options

- Separate maximum and minimum flow setpoints for both heating and cooling control.
- Separate minimum ventilation flow setpoints for each occupancy mode.
- CO2 sensor and Demand control ventilation with maximum ventilation flow setpoint.
- Flexible occupancy modes: Comfort, Pre-Comfort, Economy and Protection.
- Supply (discharge) air temperature control for modulating heating or cooling coils.
- Configurable occupancy sensor control.
- Relative humidity sensor and room dew point calculation.
- Greenleaf energy efficiency determination and display.
- Configurable plant operating modes (heating, cooling, warm up, cool down, flush/purge, and so on).

Functions

The selected application and its parameters as well as input and output configuration determine the room automation station's functionality.

A detailed description of functionality is available in the ABT (Automation Building Tool) online help.

Communication

- 2-Port Ethernet switch for cost-effective cabling via line topology.
- USB connection for service and commissioning, firmware download, and LAN access.
- The following functions are available with the KNX PL-Link bus:
 - Communication with room operator units, switches, sensors, actuators, and luminaires.
 - Plug-and-play connection of Siemens field devices with KNX PL-Link.
 - Integration of common devices using KNX S-Mode (ETS engineering required).

Type summary

Type	Order number	Inputs	Outputs
DXR2.E10PL-102B (Version with 30 data points)	S55376-C145	1 DI, 2 UI, 1 ΔP sensor	4 DOs, 1 AO.
DXR2.E10PLX-102B (Version with 60 data points)	S55376-C146	1 DI, 2 UI, 1 ΔP sensor	4 DOs, 1 AO.

Accessories

Type	Order number	Designation
985-124		499 ohm Resistor Kit

Product Documentation

Topic	Title	Document ID
Installation and mounting	ADXR Installation Instructions	A6V11260017
Global datasheet*	ADXR2 24V IP ADXR2 24V MS/TP	A6v11259958 A6V11259964
Setup and commissioning	DXR VAV Start-up Procedures DXR FPB Start-up Procedures Balancing Procedures	A6V10665935 A6V10665938 A6V10665943
Room Unit Datasheet	Wall mounted	A6V10394781
BTL listing	ADXR PIC Statement	

* Please see the Global datasheets for additional information not found in this submittal sheet.

Technical Data

Housing

Color	RAL 7035 (light-gray)
Dimensions	201 mm (7.91 in) x 136.94 mm (5.39 in) x 81.72 mm (3.22 in)
Weight DXR2.x10... Packaging	ca. 831 g (29.3 oz) ca. 200 g (7.05 oz)

Function data

Communication	
A/D Resolution (analog in)	14 Bits
D/A Resolution (analog out)	12 Bits

Actuator	
Torque	88 lb-in (10 Nm)
Runtime for 90° opening or closing	90 sec. (50 Hz or 60 Hz)
Nominal angle of rotation	90°
Maximum angular rotation	95°
Shaft size	3/8...5/8 inch (8...16 mm) Dia. 1/4...1/2 inch (6...13 mm) Dia.
Minimum shaft length	3/4 inch (20 mm)

Power data

Power supply	
Operating voltage	AC 24 V -15%/+20%
Frequency	50/60 Hz
Internal fuse	4 A irreversible
Transformer with secondary current limitation of max. 10 A or external secondary current fuse	Max. 10 A, (Class 2, 4A) Max. 13 A, characteristic B, C, D as per EN 60898
Non-renewable fuse	
Circuit breakers	

Apparent power (VA) for transformer design						
	Base load including I/O without load by field devices	Max. output load Triac at 500 mA each	Max. load for AC 24 V field supply at 200 mA	Max. load KNX PL-Link at 50 mA	Max. load for DC 24 V field supply at 100 mA	Power consumption including connected field devices
DXR2.E10P...	11	4 x 12 = 48	-	4	-	63



NOTE:

To calculate the total VA, add the Base Load + the number of Triacs + field supplies+ KNX PL-Link devices.

This cannot exceed the maximum power consumption. See the *Wiring Guidelines* for more information.

Inputs

Analog Inputs		
Resistance sensor	Temperature measurement	Voltage measurement
AI 1000 Ω	AI PT1K 375 (NA)*	AI 0 to 10V
AI 2500 Ω	AI PT1K 385 (EU)*	AI 0 to 10V (0 to 100%)
AI 10 KΩ	AI (LG-)Ni1000*	
AI 100 KΩ	AI Ni1000 DIN*)	
	AI T1 (PTC)*	
	AI NTC10K (Type II)**)	
	AI NTC100K**)	

* A fixed value of 1 Ω is calibrated to correct line resistance.

** Configurable default.

Digital Inputs	
Contact voltage	Universal input: 18V Digital input: 21V
Contact current	Universal input: 1.2 mA; 7.4 mA initial current Digital input: 1.6 mA; 9.4 mA initial current
Contact resistance for closed contacts	Max. 100 Ω
Contact resistance for open contacts	Min. 50 kΩ

Differential pressure sensor (inputs P1+, P1-)	
Connections (nipple diameter)	Dia. 5.2 mm (0.20 in)
Measuring range	0 to 500 Pa (0 - 2.01 in WC)
Overload range	0 to 100 kPa (0 - 402 in WC)
Measuring range accuracy	4.5%
Zero point accuracy	0.2 Pa
Resolution	12 bit

Outputs

Analog Outputs	
AO 0-10 V	Max. 1 mA

Switching outputs Triac (outputs Y3...Y6)	
Type	High side The Triac closes the contact to AC 24 V
Switching voltage	AC 24 V
Permissible load	500 mA / 12 VA per output
Protection	Short-circuit proof

Connections


Interfaces	
Ethernet	Plugs: 2 x RJ45, screened Interface type: 10Base-T/100BASE-TX, IEEE 802.3 compatible Bitrates: 10/100 Mbps, autosensing Protocol: BACnet over UDP/IP
USB (2.0)	Plug: Type B Data rate: 12 Mbps
KNX	Type: KNX TP1 PL-Link, galvanic isolation Baud rate: 9.6 kbps Bus power: 50 mA Short-circuit proof Protection against faulty wiring at max. AC 24 V

Wiring connections	
Pluggable screw terminals	Copper wire or copper stranded wire with connector sleeves 1 x 0.6 mm \varnothing to 2.5 mm ² (22 to 14 AWG) or 2 x 0.6 mm \varnothing to 1 mm ² (22 to 18 AWG) Copper stranded wire without connector sleeves 1 x 0.6 mm \varnothing to 2.5 mm ² (22 to 14 AWG) or 2 x 0.6 mm \varnothing to 1.5 mm ² (22 to 16 AWG)
Stripping length	6...7.5 mm (0.24...0.29 in)
Slotted screws	Size 1, tightening torque 0.6 Nm (0.44 lb-ft)
Wiring lengths for signals	KNX PL-Link 80 m (260 ft) with internal bus power or 300 m (990 ft) with external power supply Ethernet 100 m (330 ft) Signal lines 80 m (260 ft) For inputs AI 100 kOhm, AI NTC10K, AI NTC100K: 30 m (100 ft) or 80 m (260 ft), if shielded.

KNX/PL-Link Network and Power Wiring.*	
Cable configuration	1 or 2 twisted pair - Pair 1 red/black - Pair 2 yellow/white
Gauge	20 AWG (solid copper)
Twists per foot	4 Minimum
Capacitance	30 pF/foot or less
Shields	100% foil with drain wire
UL type	300Vrms, CMP (75 °C or higher)
CSA type	300Vrms, FT6 (75 °C or higher)

* Alternative 18 AWG STP CMP (Belden 6320FE 8771000)

Conformity

	<p>⚠ CAUTION</p>
	<p>National safety regulations Failure to comply with national safety regulations may result in personal injury and property damage. Observe national provisions and comply with the appropriate safety regulations.</p>

Ambient conditions and protection classification	
Climatic ambient conditions <ul style="list-style-type: none"> • Transport and Storage • Operation 	<ul style="list-style-type: none"> • Temperature -25 to 70°C (-13 to 158°F) Air humidity 5 to 95% rh. • Temperature -5 to 45°C (23 to 113°F)/ -5 to 50 °C (23 to 122°F) Air humidity 5 to 95% rh.

Standards, directives and approvals	
UL Listing	UL916
Suitable for plenum area installation	UL1995
Federal Communications Commission	FCC CFR 47 Part 15 Class B
CSA Compliance and cUL certification	C22.2 No. 205
Environmental compatibility - RoHS Compliant	The product environmental declaration contains data on environmentally compatible product design and assessments (composition, packaging, environmental benefit, disposal).
BACnet BTL Listing	BTL-AAC
CEC Title 24 Supported	
ASHRAE 90.1 Supported	
Quality	ISO 9001 (Quality).

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Bid Clarification Addendum #1

Attachment C

Viola RFI #1



RFI BID CLARIFICATION REQUEST

RFI # 001

REQUESTED BY: Tim Viola

DATE: 7/28/2020

PROJECT NAME: Bid 627 Oxnard & Pacifica High Schools HVAC
Modernization (Both)

Spec #: 28 31 00-
3.1.A.2

SUBMITTED TO: Oxnard Union High School District

PGS: 1

ATTENTION: Arvind Balaji & Karl
Aldridge

EMAIL: abalaji@bernards.com,
kaldridge@bernards.com

FAX: _____

YOUR RESPONSE TO THE FOLLOWING BID CLARIFICATION REQUEST IS REQUIRED BY ASAP

Re Fire Alarm system and the GUI/graphics annunciator:

Does the District prefer to use a wall based LED display like those created by H.R. Kirkland, or would they like to have a computer based work station that shows the location of the alarm in its respective building?

Check here if additional pages attached

PROPOSED SOLUTION

None at this time.

Check here if additional pages attached

The following information is provided in response to your bid clarification request above. This is not a change order or an approval for extra work

IMEG recommends Silent Knight 6860 Annunciator in lieu of GUI type annunciator or computer based work station.

By: _____

Check here if additional pages attached

Name: _____ **Title:** _____ **Date:** _____

Bid Clarification Addendum #1

Attachment D
Telacu RFI #1



TELACU Construction Management
604 N. Eckhoff Street
Orange, CA 92868
Ph: 714.541.2390
Fax: 714.541.9411

NEW HVAC FOR (BOTH) OXNARD HIGH SCHOOL AND PACIFIC HIGH SCHOOL
BID: 627

Pre-Bid RFI # 01

From: Kelly Coultrup, Chief Estimator
Office (714) 541-2390
Fax (714) 541-9411
Cell (714) 623-8983
kcoultrup@TELACU.com

Date: 8/11/2020

Submitted: Via e-mail to bvillasenor@Bernards.com

1. Fire Alarm Conduit

On Pacifica Sheet FA0.2 note 6, mentions pulling new fire alarm wire through (2) 2" conduits routed through existing site boxes.

At the job walk, we didn't see these 2" underground conduits or existing site boxes and the routing isn't shown on the fire alarm site plan.

Please provide the routing for the new fire alarm wires linking the buildings, and clarify if new trenching, conduits, and stie pull boxes will be required?

Pull existing Fire Alarm wires/cables from (E) conduits. Reinstall the (E) with (N) FA wires/cables into the (E) conduits. Refer to addendum for more information's.

End of Pre-Bid RFI # 01

Bid Clarification Addendum #1

Attachment E

Viola RFI # 3



RFI BID CLARIFICATION REQUEST

RFI # 003

REQUESTED BY: Tim Viola

DATE: 8/19/2020

PROJECT NAME: Bid 627 Oxnard & Pacifica High Schools HVAC Modernization (Both)

Spec #: _____

SUBMITTED TO: Oxnard Union High School District

PGS: 1

ATTENTION: Arvind Balaji & Karl Aldridge

EMAIL: abalaji@bernards.com, kaldridge@bernards.com

FAX: _____

YOUR RESPONSE TO THE FOLLOWING BID CLARIFICATION REQUEST IS REQUIRED BY ASAP

- A. Spec section 22 05 00-1.4 in both spec. books lists coordination drawings and requirements for MEP trades to avoid conflicts. Are coordination drawings required for this project? If so, who is responsible for locating and drawing the existing systems that will interfere with the work and are not scheduled to be replaced or removed (i.e. fire sprinkler piping)?
- B. Are secondary condensate drain lines and or secondary drain pans required for the new mechanical equipment?
- C. During the initial job walk it was noticed that there are many existing interior block walls at both campuses that may not be shown or called out on the drawings. Can a wall legend please be provided that shows the types of walls and if fire rated or not?
- D. Pacifica High School drawing MPD2.2 shows a drywell near grid line K-4 with a note about offsetting condensate but there are no condensate lines shown to be ran there. Please advise if this an error.

Check here if additional pages attached

PROPOSED SOLUTION

None currently.

Check here if additional pages attached

The following information is provided in response to your bid clarification request above. This is not a change order or an approval for extra work

IMEG Response:

- A. Division of work is at the responsibility of the general contractor.
- B. Will be addressed in Addendum 1.
- C. A wall type color legend has been included within this response for both campuses.
- D. Drywall and note will be removed in Addendum 1.

Response by: Christian Guynes, 2020-08-20

By: _____

Check here if additional pages attached

Name: _____ **Title:** _____ **Date:** _____



Virginia Dare Tower
10470 Foothill Blvd.
Rancho Cucamonga
California 91730-3754
tel: 909 987 0909
fax: 909 980 9980

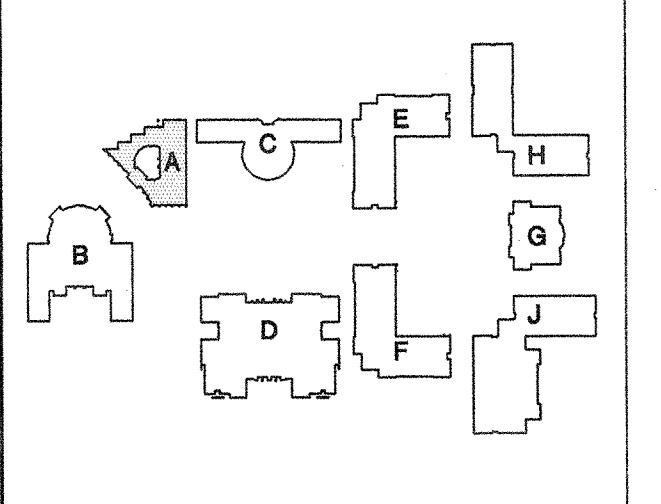
PACIFICA HIGH SCHOOL

OXNARD UNION HIGH SCHOOL DISTRICT

ROOM LEGEND	
NO.	DESCRIPTION
A 101A	RECEPTION/LOBBY
A 101B	CORRIDOR
A 101C	CORRIDOR
A 101D	CORRIDOR
A 102	CORRIDOR
A 103	RECEPTION
A 104	WAITING ROOM/LOBBY
A 105	INDEPENDENT STUDY PROGRAM OFFICE
A 106	SECRETARY OFFICE
A 107	PRINCIPAL OFFICE
A 108	ASSISTANT PRINCIPAL OFFICE
A 109	CLERICAL OFFICE
A 110	CONFERENCE ROOM
A 111	WOMENS TOILET ROOM
A 112	WORKROOM
A 113	MENS TOILET ROOM
A 114	ELECTRICAL ROOM
A 115	JANITOR ROOM
A 116	ELECTRICAL EQUIPMENT ROOM
A 117	CAREER OFFICE
A 118	CAREER CENTER
A 119	WAITING ROOM/LOBBY
A 120	NURSE OFFICE
A 121	TREATMENT ROOM
A 122	COT ROOM
A 123	COT ROOM
A 124	STORAGE ROOM
A 125	TOILET ROOM
A 126	RECEPTION/WAITING ROOM
A 127	CONFERENCE ROOM
A 128	ATHLETIC DIRECTOR OFFICE
A 129	COUNSELOR ROOM
A 130	STORAGE ROOM
A 131	COUNSELOR ROOM
A 132	COUNSELOR OFFICE
A 133	STAFF LOUNGE
A 134	PSYCHOLOGIST OFFICE
A 135	COUNSELOR OFFICE
A 136	COUNSELOR OFFICE
A 137	COUNSELOR OFFICE
A 138	COUNSELOR OFFICE
A 139	ASSISTANT PRINCIPAL OFFICE
A 140	ASSISTANT PRINCIPAL OFFICE
A 141	ATTENDANCE OFFICE
A 142	REGISTRAR OFFICE
A 143	RECORD STORAGE ROOM
A 144	VAULT
A 145	ELECTRICAL EQUIPMENT ROOM

REFERENCE NOTES	
0306	CONCRETE BENCH
0501	TUBE STEEL/COLUMN POST- SEE STRUCT. DWGS.
0504	METAL ANNING, REF. DETAIL 16/A10.9
0526	ROOF ACCESS LADDER, REF. DETAIL 6 AND 17/A10.8
0533	4" METAL STUD FRAMING, REF. STRUCT. DWGS.
0613	PLASTIC LAM. BASE CABINET
0614	PLASTIC LAM. UPPER CABINET
0615	PLASTIC LAM. TALL CABINET
0616	PLASTIC LAM. SHELF
0617	PLASTIC LAM. DISPLAY CASE
0618	PLASTIC LAM. COUNTER TOP
0619	PLASTIC LAM. COUNTER TOP AND SPLASH
0804	5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH
1001	SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
1014	3 HOOKS/4 HOLDERS MOP RACK & SHELF
1020	SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
1023	DRINKING FOUNTAIN, REF. PLUMBING DRAWINGS
1044	FIRE EXTINGUISHER IN RECESSED WTD. CABINET, REF. DETAIL 12 & 13/A10.5
1046	CAST DEDICATION PLAQUE, REF. DETAIL 10/A10.3
1049	OPERABLE PANEL PARTITION
1114	UNDER-COUNTER REFRIGERATOR
1118	REFRIGERATOR/FREEZER, N.I.C.
1125	PHOTOCOPY MACHINE, N.I.C.
1126	MICROWAVE OVEN, N.I.C.
1506	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
1507	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
1509	SERVICE SINK, REF. PLUMBING DWGS.
1511	SINK, REF. PLUMBING DWGS.

WALL LEGEND	
1.	ALL WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 703 AND C.B.C. TABLE NO. 7-B, FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
2.	ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 8" METAL STUDS, U.O.N.
3.	ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5
4.	ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE ONLY, OF DOUBLE-WALL CONSTRUCTION.
5.	ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.N.O.
6.	REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
7.	REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.
	NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



CONSULTANT

APPROVED

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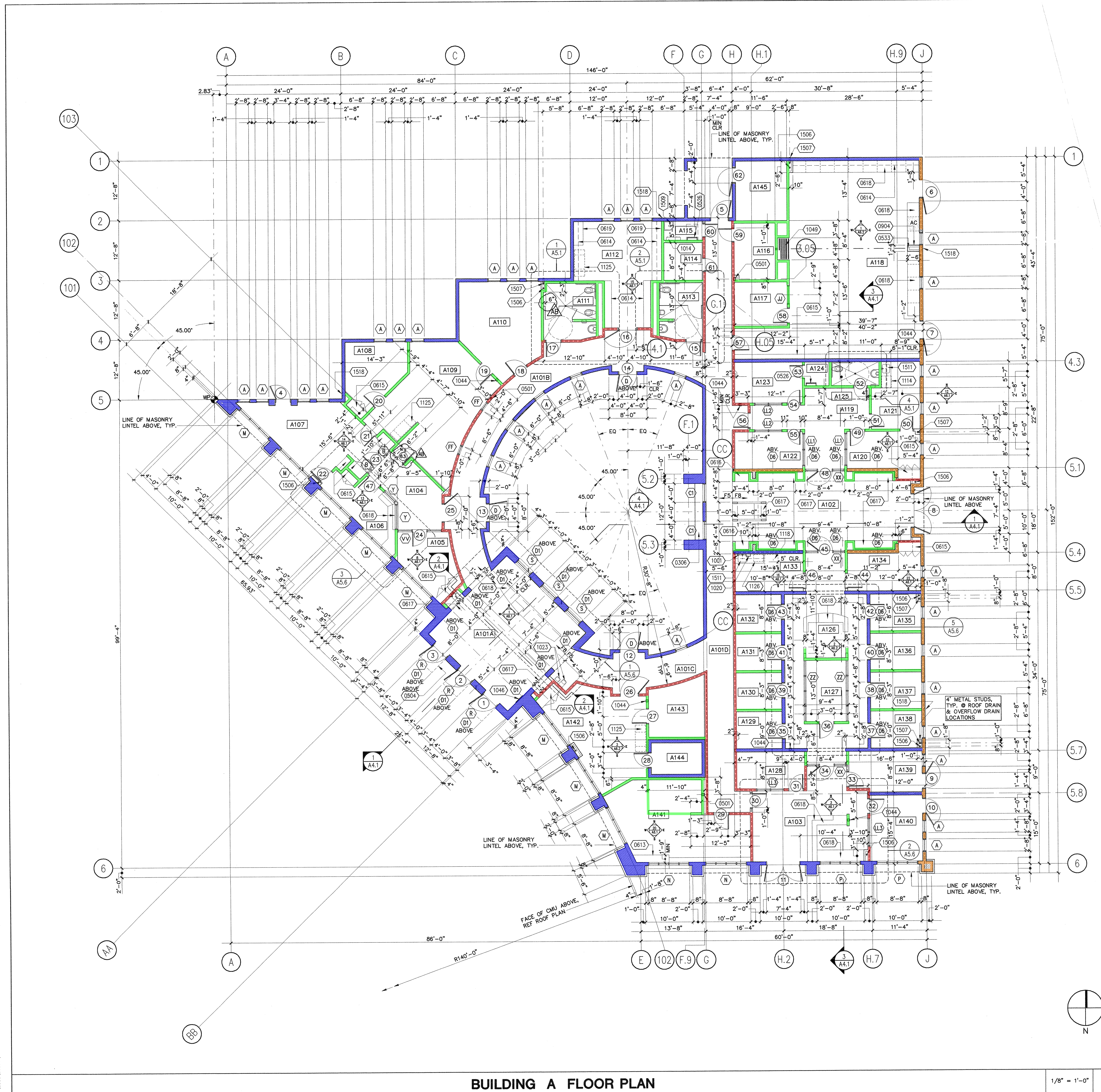
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1	11/1/02	AS-BUILTS	

**BUILDING A
ADMINISTRATION
FLOOR PLAN**

DRAWN
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DATE 1/19/98
SCALE AS NOTED
JOB NO. 96201

A21

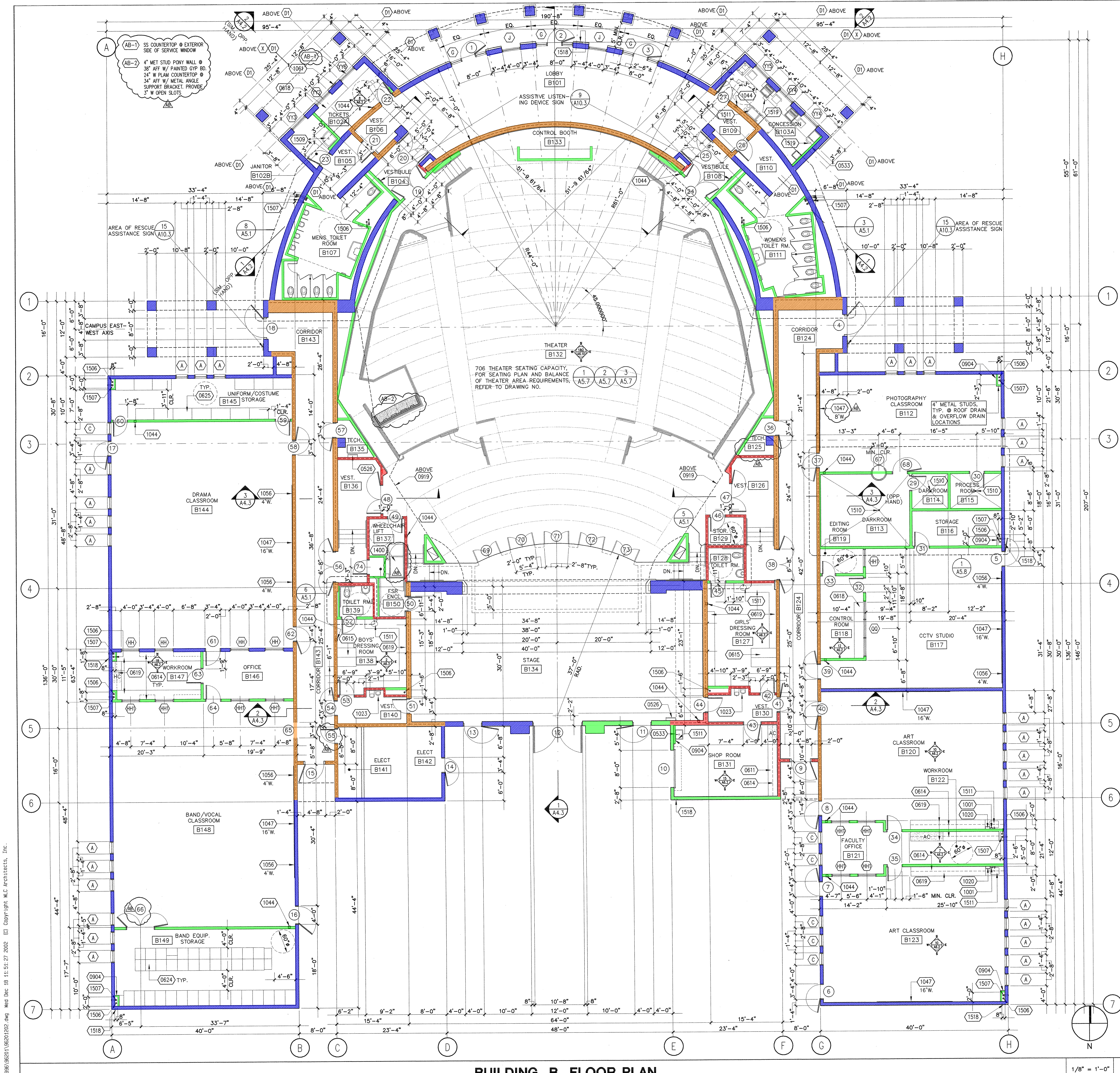
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BUILDING A FLOOR PLAN

1/8" = 1'-0" 1

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BUILDING B FLOOR PLAN

ROOM LEGEND	
NO.	DESCRIPTION
B 101	LOBBY
B 102A	TICKETS
B 102B	JANITOR
B 103A	CONCESSION ROOM
B 103B	SPARE
B 104	VESTIBULE
B 105	VESTIBULE
B 106	VESTIBULE
B 107	MENS' TOILET ROOM
B 108	VESTIBULE
B 109	VESTIBULE
B 110	VESTIBULE
B 111	WOMENS' TOILET ROOM
B 112	PHOTOGRAPHY CLASSROOM
B 113	DARKROOM
B 114	DARKROOM
B 115	PROCESS ROOM
B 116	STORAGE ROOM
B 117	CCTV STUDIO
B 118	CONTROL ROOM
B 119	EDITING ROOM
B 120	ART CLASSROOM
B 121	FACULTY OFFICE
B 122	WORKROOM
B 123	ART CLASSROOM
B 124	CORRIDOR
B 125	TECH
B 126	VESTIBULE (AREA FOR EVACUATION ASSISTANCE)
B 127	GIRLS' DRESSING ROOM
B 128	TOILET ROOM
B 129	STORAGE
B 130	VESTIBULE
B 131	SHOP ROOM
B 132	THEATER
B 133	CONTROL BOOTH
B 134	STAGE
B 135	TECH
B 136	VESTIBULE (AREA FOR EVACUATION ASSISTANCE)
B 137	WHEELCHAIR LIFT ROOM
B 138	BOYS' DRESSING ROOM
B 139	TOILET ROOM
B 140	VESTIBULE
B 141	ELECTRICAL EQUIPMENT ROOM
B 142	ELECTRICAL EQUIPMENT ROOM
B 143	CORRIDOR
B 144	DRAMA CLASSROOM
B 145	UNIFORM/COSTUME STORAGE
B 146	OFFICE
B 147	WORKROOM
B 148	BAND/VOCAL CLASSROOM
B 149	BAND EQUIPMENT STORAGE
B 150	F.S.R. ENCLOSURE

REFERENCE NOTES	
0526	ROOF ACCESS LADDER, REF. DETAIL 6 AND 17/A10.8
0533	4" METAL STUD FRAMING, REF. STRUCT. DWGS.
0611	WOOD WORKTOP
0614	PLASTIC LAM. UPPER CABINET
0615	PLASTIC LAM. TALL CABINET
0618	PLASTIC LAM. COUNTER TOP
0619	PLASTIC LAM. COUNTER TOP AND SPLASH
0624	MODULAR INSTRUMENT STORAGE SYSTEM
0625	MODULAR COSTUME STORAGE SYSTEM
0904	5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH
0919	GYPSUM BOARD SOFFIT
1001	SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
1020	SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
1023	DRINKING FOUNTAIN, REF. PLUMBING DRAWINGS
1044	FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
1047	MARKERBOARD AND RAIL
1056	TACKBOARD
1061	ASSISTIVE LISTENING DEVICE AVAILABILITY SIGN, REF. DET. 9/A10.3
1400	WHEELCHAIR LIFT, REF. DETAIL 2/A10.3
1506	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
1507	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
1509	SERVICE SINK, REF. PLUMBING DWGS.
1510	FLOOR DRAIN- REF. PLUMBING DWGS.
1511	SINK, REF. PLUMBING DWGS.
1518	RECESSED HOSE BIB, REF. PLUMB. DWGS.
1519	FLOOR SINK, REF. PLUMB. DWGS.

WALL LEGEND	
	1. ALL WALLS AND PERMANENT PARTITIONS SHALL BE OF ONE-HOUR FIRE-RESISTIVE CONSTRUCTION THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 603 AND C.B.C. TABLE NO. 7-B. FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
	2. ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1-3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
	3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5
	4. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
	5. ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.O.N.
	6. REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
	7. REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.

CONSULTANT	
	LARRY WOLFF C-9784 11/19/00 STATE OF CALIFORNIA

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BUILDING B PERFORMING ARTS FLOOR PLAN	
DRAWN	1/19/98
CHECKED	AS NOTED
DATE	1/19/98
SCALE	AS NOTED
JOB NO.	96201

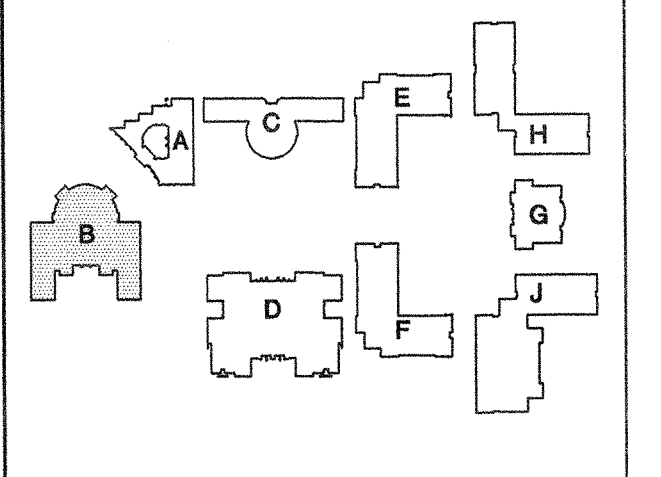
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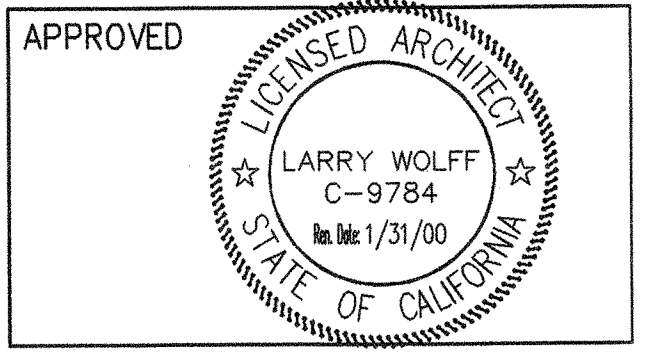
Virginia Dare Tower
10470 Foothill Blvd.
Rancho Cucamonga
California 91730-3754
tel: 909 987 0909
fax: 909 980 9980

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DISTRICT**



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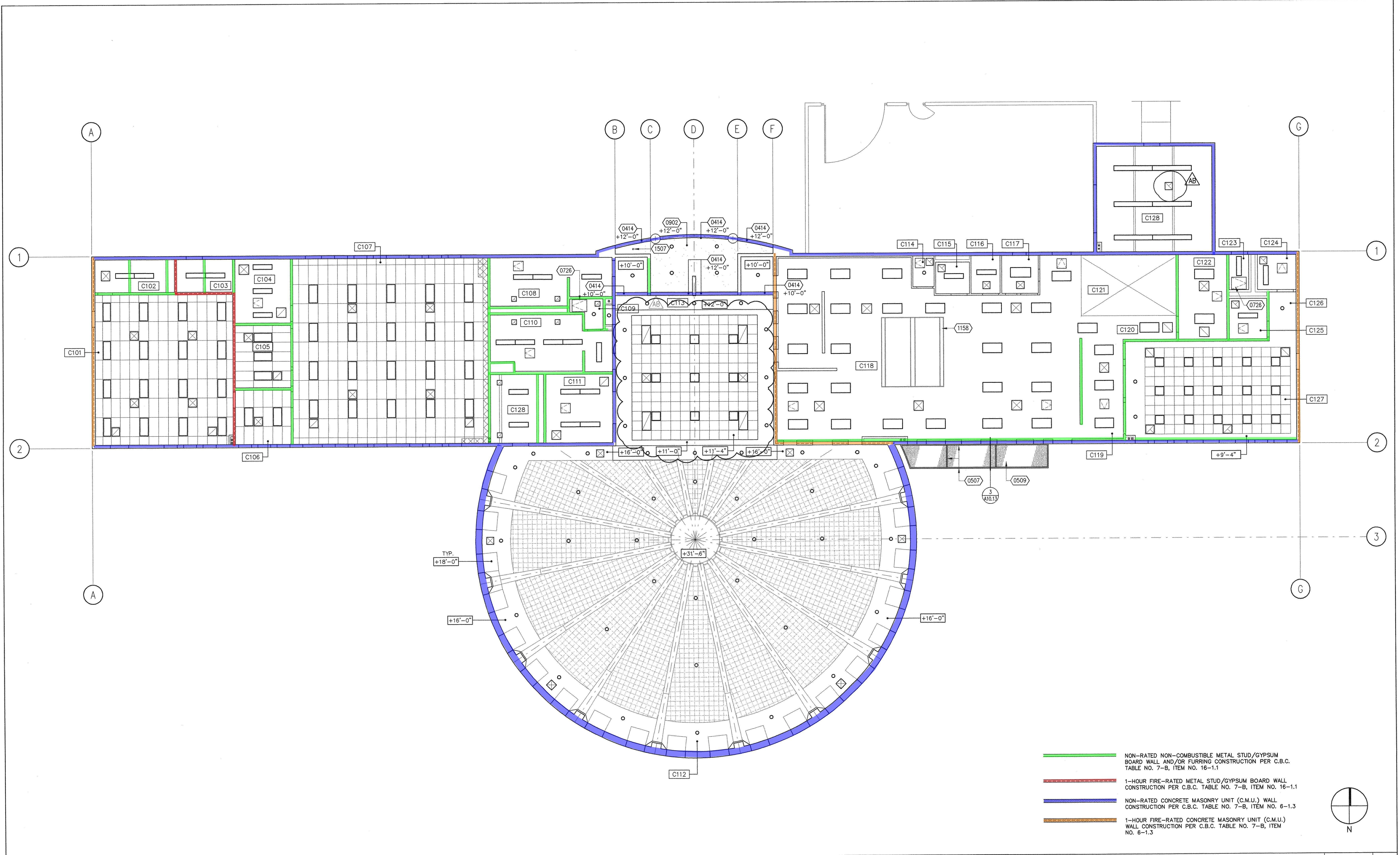
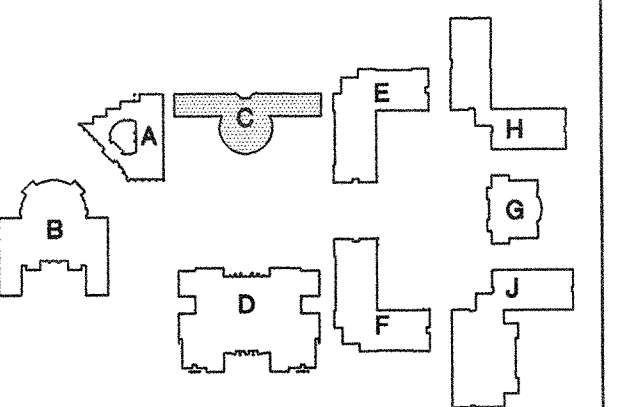
**BUILDING B
PERFORMING ARTS
FLOOR PLAN**

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SCALE AS NOTED
JOB NO. 96201

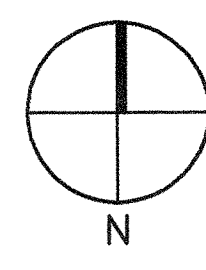
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- NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
- 1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
- NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
- 1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



BUILDING C REFLECTED CEILING PLAN

1/8" = 1'-0" **1**

ROOM LEGEND	
NO.	DESCRIPTION
C 101	STUDENT STORE
C 102	STORAGE ROOM
C 103	ELECTRICAL EQUIPMENT ROOM
C 104	STORAGE ROOM
C 105	OFFICE
C 106	ASB BOOKKEEPER
C 107	STUDENT ACTIVITY
C 108	WOMENS TOILET ROOM
C 109	JANITOR ROOM
C 110	MENS TOILET ROOM
C 111	CHAIR STORAGE ROOM
C 112	MULTI-PURPOSE ROOM
C 113	MULTI-PURPOSE ROOM
C 114	JANITOR ROOM
C 115	TOILET ROOM
C 116	CHANGE ROOM
C 117	OFFICE
C 118	KITCHEN
C 119	SERVING
C 120	HALLWAY

REFERENCE NOTES	
(0414)	C.M.U. LINTEL
(0507)	EXPOSED STEEL FRAMING PAINTED, REF. STRUCT. DWGS
(0509)	EXPOSED STEEL DECKING PAINTED, REF. STRUCT. DWGS.
(0726)	ROOF HATCH, REF. DETAIL 9/A10.9
(0902)	EXTERIOR PLASTER
(1158)	HOOD, REF. FOOD SERVICES DWGS.
(1507)	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.

CEILING LEGEND	
	SUPPLY AIR DIFFUSER AND RETURN/EXHAUST AIR GRILLE, REF. MECHANICAL DRAWINGS.
	LIGHTING FIXTURES, REF. ELECTRICAL DRAWINGS.
	1'-0" X 1'-0" ADHESIVE-APPLIED ACOUSTIC TILE OVER GYPSUM BOARD.
	2'-0" X 2'-0" EXPOSED T-GRID SUSPENDED CEILING SYSTEM WITH ACOUSTIC LAY-IN PANELS, REF. DETAIL 1 THROUGH 10/A10.4
	2'-0" X 4'-0" EXPOSED T-GRID SUSPENDED CEILING SYSTEM WITH ACOUSTIC LAY-IN PANELS, REF. DETAIL 1 THROUGH 10/A10.4
	EXTERIOR CEMENT PLASTER SOFFIT OVER CEILING JOISTS, REF. DETAIL 15/A10.4
	SUSPENDED GYPSUM BOARD SYSTEM OR GYPSUM BOARD OVER CEILING JOISTS, WHERE OCCURS, REF. ROOM FIN. SCHED./DETAIL 1, 11 12 AND 13/A10.4
	CASEWORK CLOSURE PANELS TO UNDERSIDE OF CEILING, REF. DETAIL 7/A10.6
	2'-0" X 2'-0" NOMINAL ATTIC ACCESS PANEL.

NOTE: REFER TO ELECTRICAL DRAWINGS FOR ALL CEILING-MOUNTED SPEAKER, OCCUPANT DETECTOR (LIGHTING), SECURITY DETECTOR, COMBINATION MINI HORN AND FLASHING LIGHT, AND FIRE ALARM MINI HORN WHERE OCCURS AND MOUNTING REQUIREMENTS.

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CONSULTANT

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 LARRY WOLFF
 C-9784
 1/31/00
 STATE OF CALIFORNIA

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**BUILDING C
REFLECTED
CEILING PLAN**

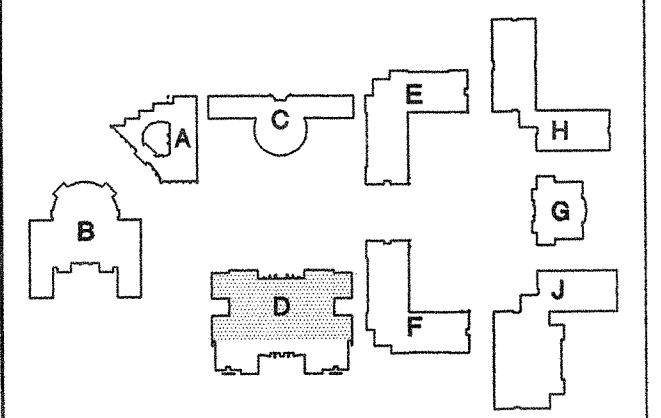
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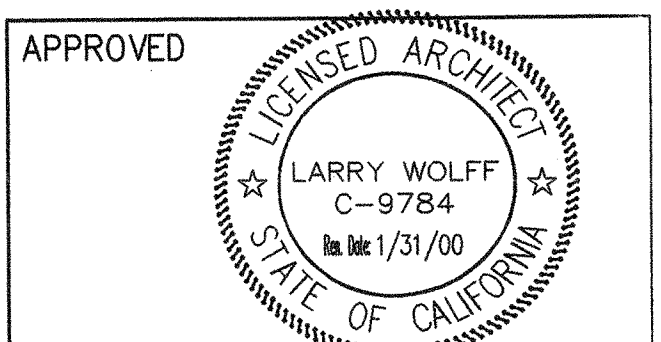
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PACIFICA HIGH SCHOOL

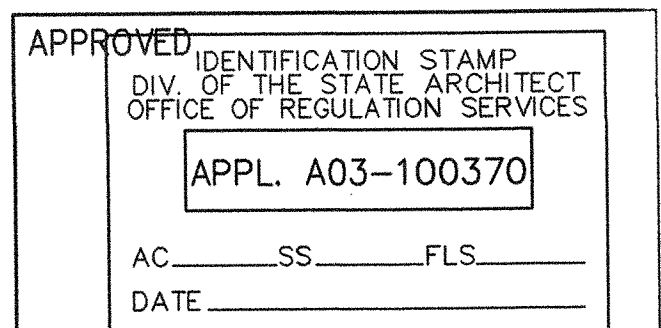
OXNARD UNION HIGH SCHOOL DISTRICT



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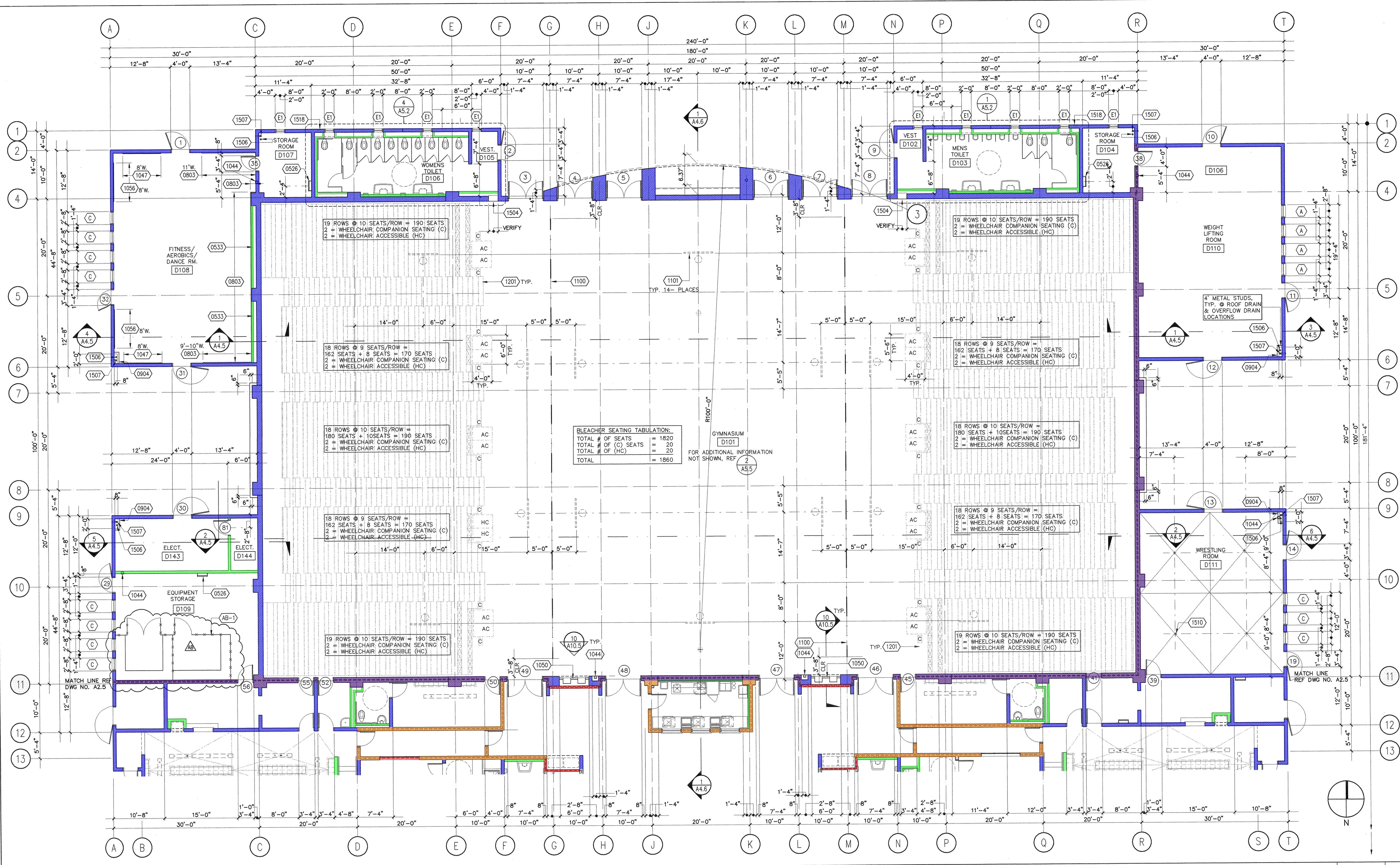
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BUILDING D GYMNASIUM PARTIAL FLOOR PLAN

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DATE 1/19/98
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JOB NO. 96201

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11" AS BUILTS



BUILDING D PARTIAL FLOOR PLAN

1/8" = 1'-0" **1**

ROOM LEGEND

NO.	DESCRIPTION	NO.	DESCRIPTION
D 101	GYMNASIUM		
D 102	VESTIBULE		
D 103	MENS TOILET ROOM		
D 104	STORAGE ROOM		
D 105	VESTIBULE		
D 106	WOMENS TOILET ROOM		
D 107	STORAGE ROOM		
D 108	FITNESS/AEROBICS/DANCE ROOM		
D 109	EQUIPMENT STORAGE ROOM		
D 110	WEIGHT LIFTING ROOM		
D 111	WRESTLING ROOM		
D 143	ELECTRICAL EQUIPMENT ROOM		
D 144	ELECTRICAL EQUIPMENT ROOM		

REFERENCE NOTES

(0526)	ROOF ACCESS LADDER, REF. DETAIL 6 AND 17/A10.8	(1510)	FLOOR DRAIN- REF. PLUMBING DWGS.
(0533)	4" METAL STUD FRAMING, REF. STRUCT. DWGS.	(1518)	RECESSED HOSE BIB, REF. PLUMB. DWGS.
(0803)	GLASS MIRROR	(AB-1)	CHAINLINK FENCING ENCLOSURE
(0904)	5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH		
(1044)	FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5		
(1047)	MARKERBOARD AND RAIL		
(1050)	DRINKING FOUNTAIN/CUSPIDOR, REF. PLUMBING DWGS.		
(1056)	TACKBOARD		
(1100)	MOTORIZED GYM CURTAIN PARTITION		
(1101)	INDOOR MOTOR-OPERATED BASKETBALL GOAL BACKSTOP		
(1201)	TELESCOPING BLEACHERS		
(1504)	CLASS 11 STANDPIPE SYSTEM & RECESSED CABINET, REF. PLUMB. DWGS.		
(1506)	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.		
(1507)	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.		

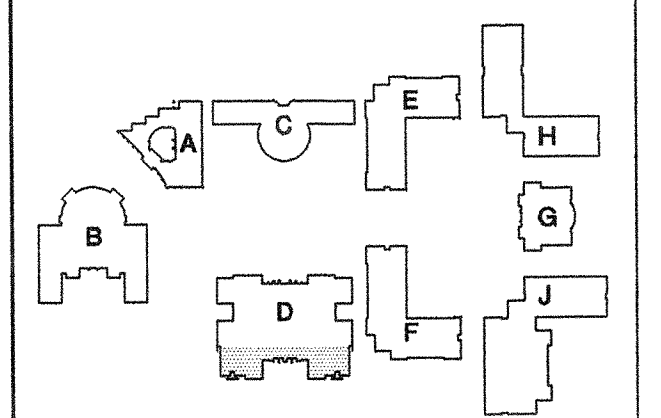
WALL LEGEND

	NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3

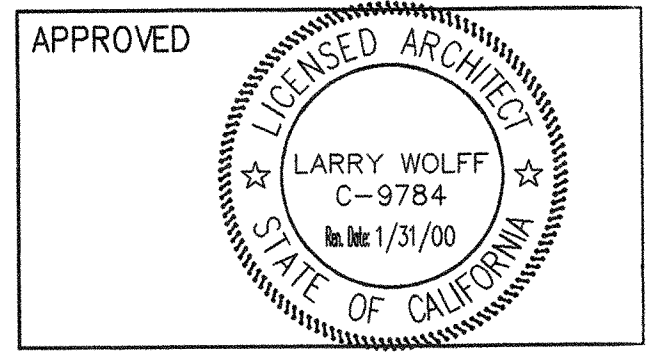
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- ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD, AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
- ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.N.O.
- REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
- REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.

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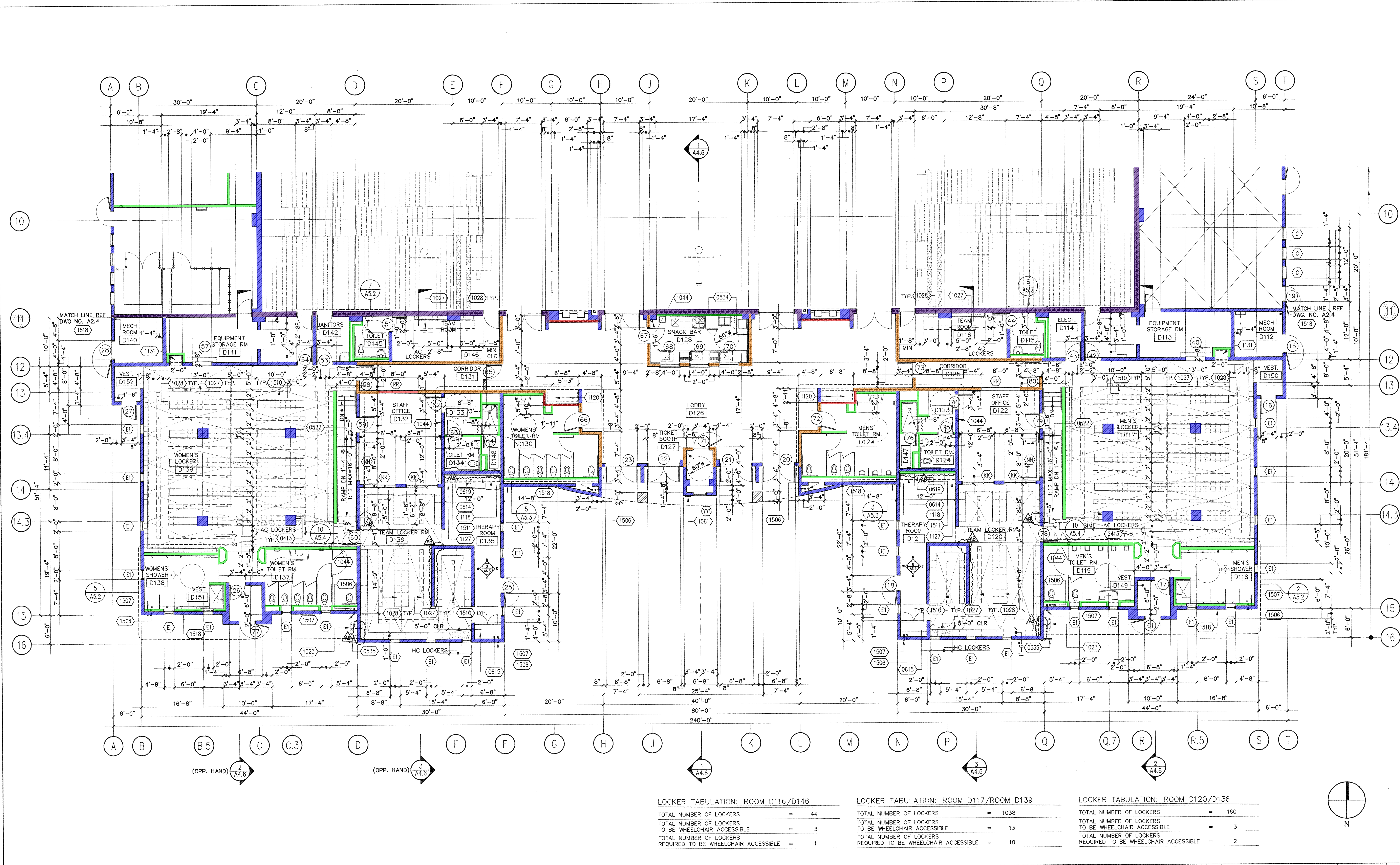
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AS	11/1/02		AS-BUILTS

BUILDING D GYMNASIUM PARTIAL FLOOR PLAN

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DATE 1/19/98
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A2.5

" AS BUILTS "



LOCKER TABULATION: ROOM D116/D146

TOTAL NUMBER OF LOCKERS	= 44
TOTAL NUMBER OF LOCKERS TO BE WHEELCHAIR ACCESSIBLE	= 3
TOTAL NUMBER OF LOCKERS REQUIRED TO BE WHEELCHAIR ACCESSIBLE	= 1

LOCKER TABULATION: ROOM D117/ROOM D139

TOTAL NUMBER OF LOCKERS	= 1038
TOTAL NUMBER OF LOCKERS TO BE WHEELCHAIR ACCESSIBLE	= 13
TOTAL NUMBER OF LOCKERS REQUIRED TO BE WHEELCHAIR ACCESSIBLE	= 10

LOCKER TABULATION: ROOM D120/D136

TOTAL NUMBER OF LOCKERS	= 160
TOTAL NUMBER OF LOCKERS TO BE WHEELCHAIR ACCESSIBLE	= 3
TOTAL NUMBER OF LOCKERS REQUIRED TO BE WHEELCHAIR ACCESSIBLE	= 2

BUILDING D PARTIAL FLOOR PLAN

1/8" = 1'-0" 1

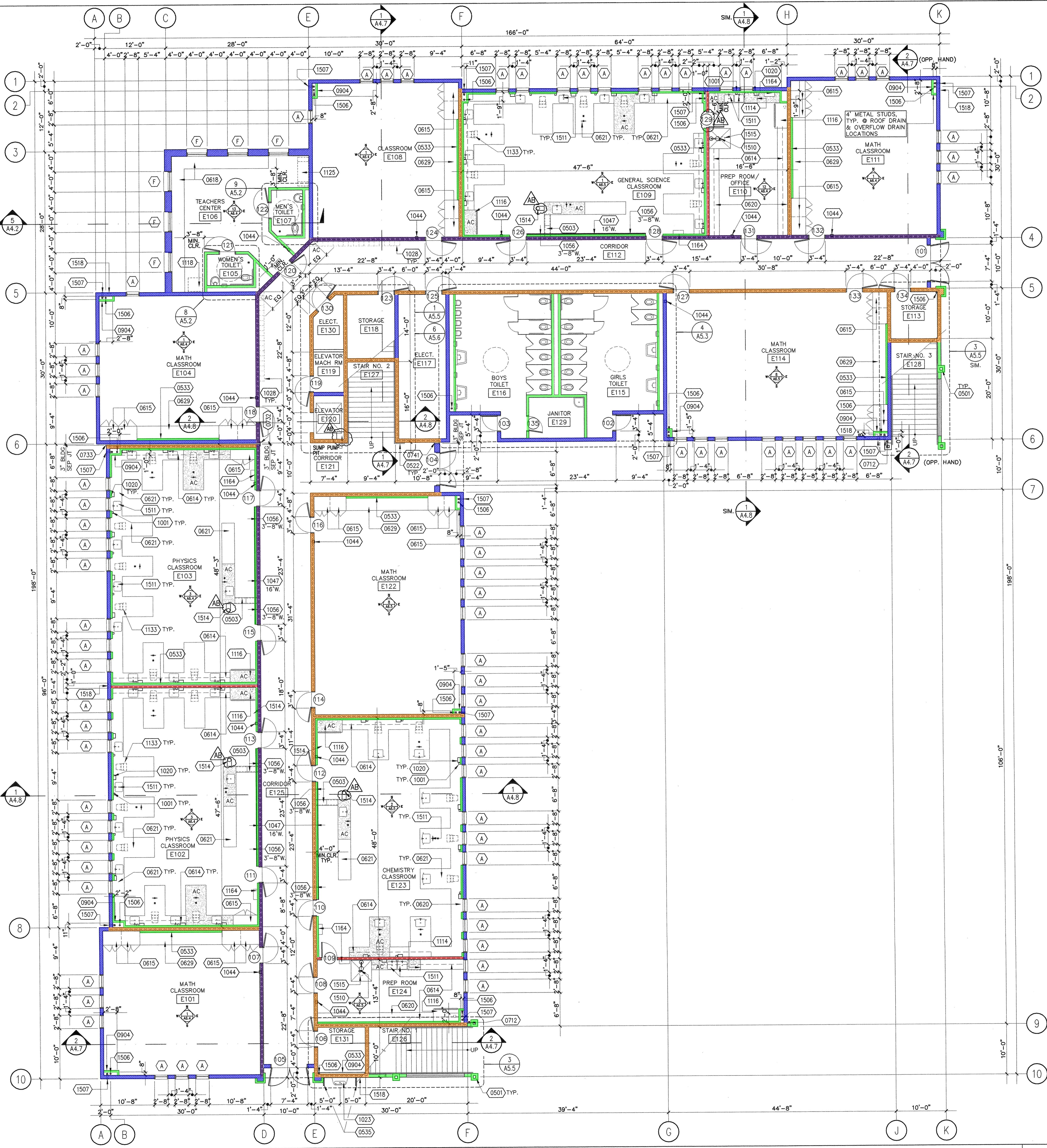
ROOM LEGEND		REFERENCE NOTES	
NO.	DESCRIPTION	NO.	DESCRIPTION
D 112	MECHANICAL ROOM	D 132	STAFF OFFICE
D 113	EQUIPMENT STORAGE ROOM	D 133	STAFF LOCKER ROOM
D 114	ELECTRICAL EQUIPMENT ROOM	D 134	TOILET ROOM
D 115	TOILET ROOM	D 135	THERAPY ROOM
D 116	TEAM ROOM	D 136	TEAM LOCKER ROOM
D 117	MENS LOCKER ROOM	D 137	WOMENS TOILET ROOM
D 118	MENS SHOWER ROOM	D 138	WOMENS SHOWER ROOM
D 119	MENS TOILET ROOM	D 139	WOMENS LOCKER ROOM
D 120	TEAM LOCKER ROOM	D 140	MECHANICAL ROOM
D 121	THERAPY ROOM	D 141	EQUIPMENT STORAGE ROOM
D 122	STAFF OFFICE	D 142	JANITOR ROOM
D 123	STAFF LOCKER ROOM		
D 124	TOILET ROOM	D 145	TOILET ROOM
D 125	CORRIDOR	D 146	TEAM ROOM
D 126	LOBBY	D 147	STORAGE
D 127	TICKET BOOTH	D 148	STORAGE
D 128	SNACK BAR	D 149	VESTIBULE
D 129	MENS TOILET ROOM	D 150	VESTIBULE
D 130	WOMENS TOILET ROOM	D 151	VESTIBULE
D 131	CORRIDOR	D 152	VESTIBULE

(0413)	C.M.U. COLUMN, REF. STRUCT. DWGS.
(0522)	HANDRAIL, REF. DETAIL 3, 4 AND 5/A10.8
(0534)	2 1/2" METAL STUD FRAMING, REF. STRUCT. DWGS.
(0535)	PIPE RAIL, REF. DETAIL
(0614)	PLASTIC LAM. UPPER CABINET
(0615)	PLASTIC LAM. TALL CABINET
(0619)	PLASTIC LAM. COUNTER TOP AND SPLASH
(1023)	DRINKING FOUNTAIN, REF. PLUMBING DRAWINGS
(1027)	SOLID PLASTIC BENCH, REF. DETAIL 2/A10.7
(1028)	SOLID PLASTIC LOCKERS, REF. ELEV. 24/A6.11 & DETAILS 6 & 7/A10.7
(1044)	FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
(1061)	ASSISTIVE LISTENING DEVICE AVAILABILITY SIGN, REF. DET. 9/A10.3
(1116)	REFRIGERATOR/PREEZER, N. I. C.
(1120)	VENDING MACHINES, N. I. C.
(1127)	ICE MAKER
(1131)	TOWEL BIN, NIC
(1506)	ROOF DRAIN DOWNSPOUT CONNECT TO S.O., REF. CIVIL/PLUMB. DWGS.
(1507)	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
(1510)	FLOOR DRAIN- REF. PLUMBING DWGS.
(1511)	SINK, REF. PLUMBING DWGS.
(1518)	RECESSED HOSE BIB, REF. PLUMB. DWGS.

WALL LEGEND	
	NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3

- ALL WALLS AND PERMANENT PARTITIONS SHALL BE OF ONE-HOUR FIRE-RESISTIVE CONSTRUCTION THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 603 AND C.B.C. TABLE NO. 7-B; FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
- ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5.
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
- ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.O.N.
- REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
- REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.

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BUILDING E FIRST FLOOR PLAN

1/8" = 1'-0" 1

ROOM LEGEND

NO.	DESCRIPTION
E 101	MATH CLASSROOM
E 102	PHYSICS CLASSROOM
E 103	PHYSICS CLASSROOM
E 104	MATH CLASSROOM
E 105	WOMEN'S TOILET ROOM
E 106	TEACHERS CENTER
E 107	MEN'S TOILET ROOM
E 108	CLASSROOM
E 109	GENERAL SCIENCE CLASSROOM
E 110	PREP ROOM/OFFICE
E 111	MATH CLASSROOM
E 112	CORRIDOR
E 113	STORAGE ROOM
E 114	MATH CLASSROOM
E 115	GIRLS TOILET
E 116	BOYS TOILET
E 117	ELECTRICAL EQUIPMENT ROOM
E 118	STORAGE ROOM
E 119	ELEVATOR MACHINE ROOM
E 120	ELEVATOR
E 121	CORRIDOR
E 122	MATH CLASSROOM
E 123	CHEMISTRY CLASSROOM
E 124	PREP ROOM
E 125	CORRIDOR
E 126	STAIR NO. 1
E 127	STAIR NO. 2
E 128	STAIR NO. 3
E 129	JANITOR ROOM
E 130	ELECTRICAL EQUIPMENT ROOM
E 131	STORAGE ROOM

REFERENCE NOTES

- 0501 TUBE STEEL/COLUMN POST-SEE STRUCT. DWGS.
- 0503 UTILITY TRENCH, REF. DETAIL 17/A10.7
- 0522 HANDRAIL, REF. DETAIL 3.4 AND 5/A10.8
- 0533 4" METAL STUD FRAMING, REF. STRUCT. DWGS.
- 0535 PIPE RAIL, REF. DETAIL 3/A1.13
- 0614 PLASTIC LAM. UPPER CABINET
- 0615 PLASTIC LAM. TALL CABINET
- 0618 PLASTIC LAM. COUNTER TOP
- 0620 EPOXY RESIN COUNTER TOP AND SPLASH
- 0621 EPOXY RESIN COUNTER TOP
- 0629 LEARNING WALL
- 0712 METAL DOWNSPOUT
- 0732 EXPANSION JOINT, REF. DETAIL 10/A10.12
- 0733 EXPANSION JOINT, REF. DETAIL 2A/A10.12
- 0741 EXPANSION JOINT, REF. DETAIL 10/A10.12
- 0904 5/8" TYPE 'K' GYP. BD. W/ TEXTURE FINISH
- 1001 SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
- 1020 SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
- 1023 DRINKING FOUNTAIN, REF. PLUMBING DRAWINGS
- 1028 METAL LOCKERS, REF. ELEV. 24/A6.11 & DETAILS 6 & 7/A10.7
- 1044 FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
- 1047 MARKERBOARD AND RAIL
- 1056 TACKBOARD
- 1114 UNDER-COUNTER REFRIGERATOR
- 1116 60" SCIENCE ROOM FUME HOOD
- 1118 REFRIGERATOR/FREEZER, N.I.C.
- 1125 PHOTOCOPIER MACHINE, N.I.C.
- 1133 COMPUTER, N.I.C.
- 1164 SAFETY GOGGLE CONTROL CENTER CABINET
- 1506 ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
- 1507 OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
- 1510 FLOOR DRAIN- REF. PLUMBING DWGS.
- 1511 SINK, REF. PLUMBING DWGS.
- 1514 WALL MOUNTED, SWING-DOWN, EYE/FACE WASH
- 1515 COMBINATION DRENCH SHOWER & EYE/FACE WASH
- 1518 RECESSED HOSE BIB, REF. PLUMB. DWGS.

NOTE: FURRED WALLS AT SCIENCE LAB ROOMS & TEACHER'S STATIONS FOR PLUMBING CHASES TYPICAL

WALL LEGEND

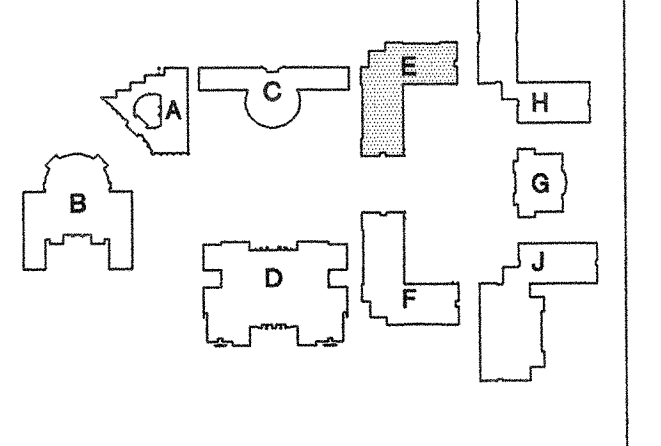
- ALL WALLS AND PERMANENT PARTITIONS SHALL BE OF ONE-HOUR FIRE-RESISTIVE CONSTRUCTION THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 903 AND C.B.C. TABLE NO. 7-B. FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
 - ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD, AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
 - ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.O.N.
 - REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
 - REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.
- NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
 - 1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 7-1
 - NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



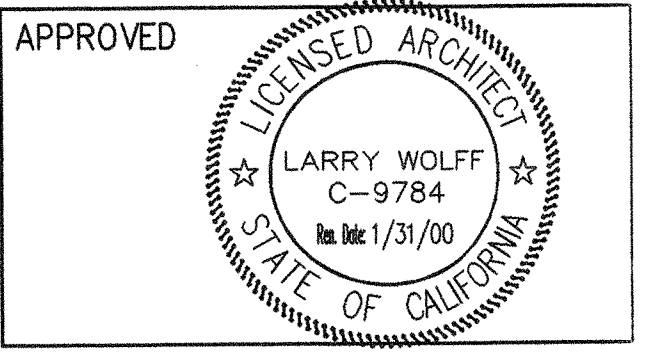
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tel: 909 987 0909
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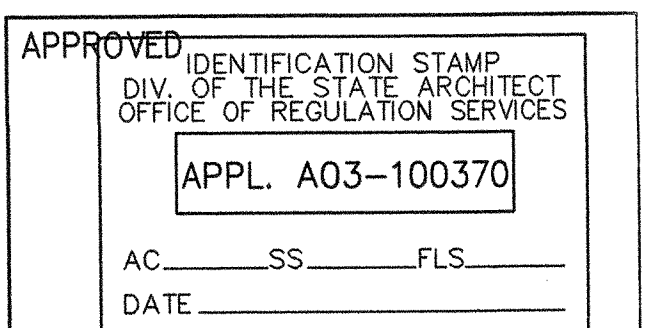
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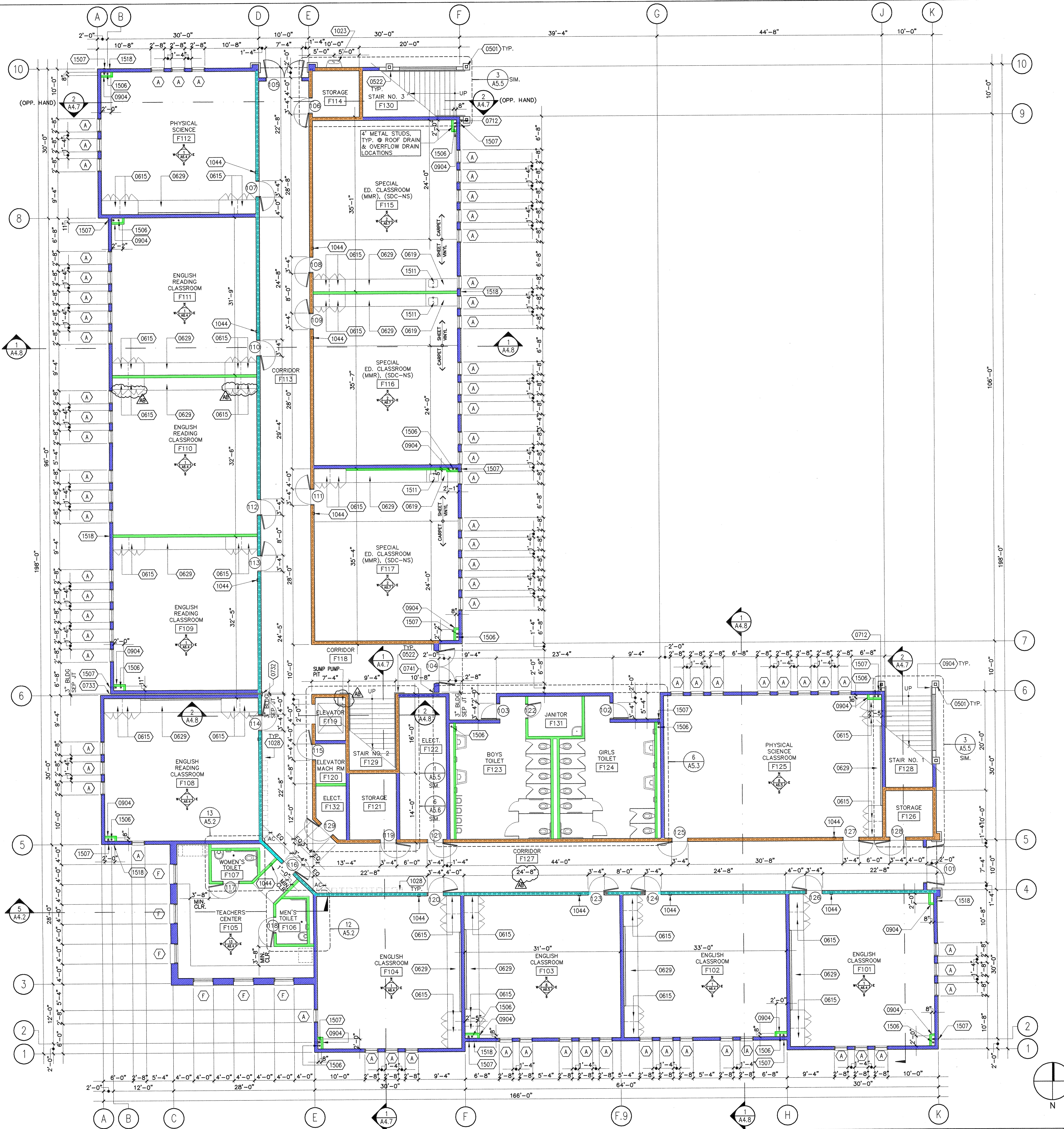
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1	11/1/02	AS	BUILTS

**BUILDING E
CLASSROOMS
FIRST FLOOR PLAN**

DRAWN
CHECKED
DATE 1/19/98
SCALE AS NOTED
JOB NO. 96201

A2.6

" AS BUILTS "



BUILDING F FIRST FLOOR PLAN

1/8" = 1'-0" **1**

ROOM LEGEND

NO.	DESCRIPTION
F 101	ENGLISH CLASSROOM
F 102	ENGLISH CLASSROOM
F 103	ENGLISH CLASSROOM
F 104	ENGLISH CLASSROOM
F 105	TEACHERS CENTER
F 106	MEN'S TOILET ROOM
F 107	WOMEN'S TOILET ROOM
F 108	ENGLISH READING CLASSROOM
F 109	ENGLISH READING CLASSROOM
F 110	ENGLISH READING CLASSROOM
F 111	ENGLISH READING CLASSROOM
F 112	PHYSICAL SCIENCE
F 113	CORRIDOR
F 114	STORAGE ROOM
F 115	SPECIAL EDUCATION CLASSROOM, MILDLY MENTALLY RETARDED (MMR), (SDC-NS)
F 116	SPECIAL EDUCATION CLASSROOM, MILDLY MENTALLY RETARDED (MMR), (SDC-NS)
F 117	SPECIAL EDUCATION CLASSROOM, MILDLY MENTALLY RETARDED (MMR), (SDC-NS)
F 118	CORRIDOR
F 119	ELEVATOR
F 120	ELEVATOR MACHINE ROOM
F 121	ELECTRICAL EQUIPMENT ROOM
F 122	JANITOR/STORAGE ROOM
F 123	BOYS TOILET
F 124	GIRLS TOILET
F 125	PHYSICAL SCIENCE CLASSROOM
F 126	STORAGE ROOM
F 127	CORRIDOR
F 128	STAIR NO. 1
F 129	STAIR NO. 2
F 130	STAIR NO. 3
F 131	JANITOR ROOM
F 132	ELECTRICAL EQUIPMENT ROOM

REFERENCE NOTES

- (0501) TUBE STEEL/COLUMN POST-SEE STRUCT. DWGS.
- (0522) HANDRAIL, REF. DETAIL 3.4 AND 5/A10.8
- (0615) PLASTIC LAM. TALL CABINET
- (0619) PLASTIC LAM. COUNTER TOP AND SPLASH
- (0629) LEARNING WALL
- (0712) METAL DOWNSPOUT
- (0732) EXPANSION JOINT, REF DETAIL 10/A10.12
- (0733) EXPANSION JOINT, REF DETAIL 2A/A10.12
- (0741) EXPANSION JOINT, REF DETAIL 1C/A10.12
- (0904) 5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH
- (1023) DRINKING FOUNTAIN, REF. PLUMBING DRAWINGS
- (1028) METAL LOCKERS, REF. ELEV. 24/A6.11 & DETAILS 6 & 7/A10.7
- (1044) FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
- (1506) ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
- (1507) OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
- (1511) SINK, REF. PLUMBING DWGS.
- (1518) RECESSED HOSE BIB, REF. PLUMB. DWGS.

WALL LEGEND

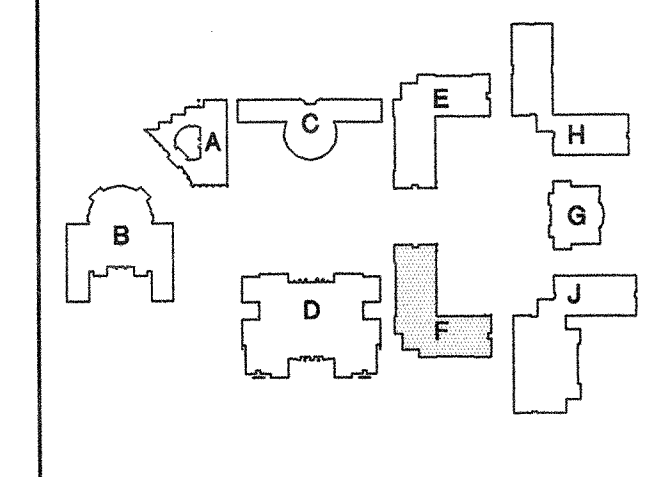
- ALL WALLS AND PERMANENT PARTITIONS SHALL BE OF ONE-HOUR FIRE-RESISTIVE CONSTRUCTION THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 903 AND C.B.C. TABLE NO. 7-8; FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
 - ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD, AND ANCHORED PER DETAIL NO. 1 THROUGH 8/A10.5.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
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- NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
 - 1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



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1	11/1/02	AS	BUILTS

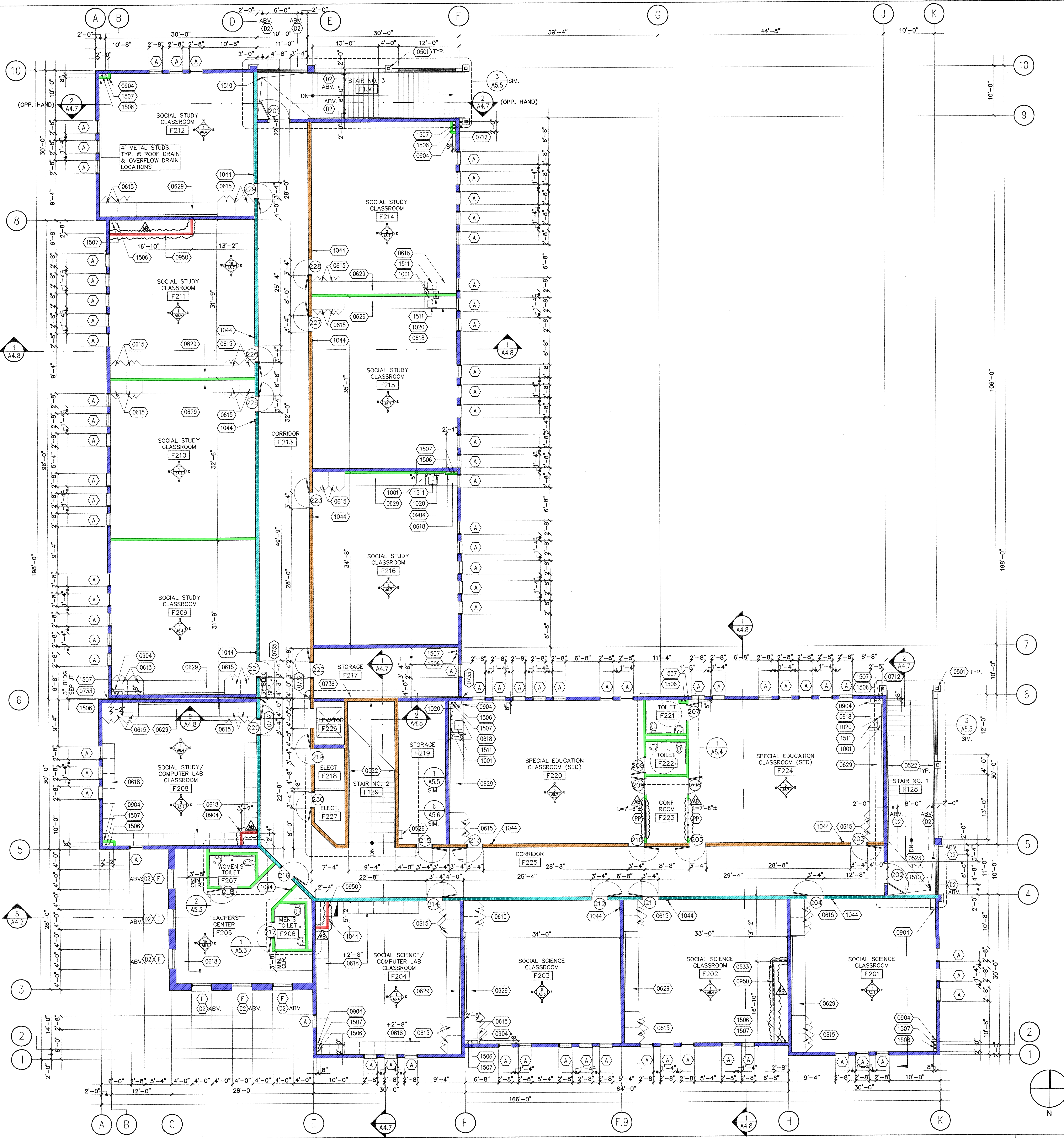
**BUILDING F
CLASSROOMS
FIRST FLOOR PLAN**

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CHECKED
DATE 1/19/98
SCALE AS NOTED
JOB NO. 96201

A2.8

" AS BUILTS "

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BUILDING F SECOND FLOOR PLAN

1/8" = 1'-0" 1

ROOM LEGEND	
NO.	DESCRIPTION
F 201	SOCIAL SCIENCE CLASSROOM
F 202	SOCIAL SCIENCE CLASSROOM
F 203	SOCIAL SCIENCE CLASSROOM
F 204	SOCIAL SCIENCE/COMPUTER LAB CLASSROOM
F 205	TEACHERS CENTER
F 206	MEN'S TOILET ROOM
F 207	WOMEN'S TOILET ROOM
F 208	SOCIAL SCIENCE/COMPUTER LAB CLASSROOM
F 209	SOCIAL STUDY CLASSROOM
F 210	SOCIAL STUDY CLASSROOM
F 211	SOCIAL STUDY CLASSROOM
F 212	SOCIAL STUDY CLASSROOM
F 213	CORRIDOR
F 214	SOCIAL STUDY CLASSROOM
E 215	SOCIAL STUDY CLASSROOM
F 216	SOCIAL STUDY CLASSROOM
F 217	STORAGE
F 218	ELECTRICAL EQUIPMENT ROOM
F 219	STORAGE ROOM
F 220	SPECIAL EDUCATION CLASSROOM SEVERELY EMOTIONALLY DISTURBED (SED)
F 221	TOILET ROOM
F 222	TOILET ROOM
F 223	CONFERENCE ROOM
F 224	SPECIAL EDUCATION CLASSROOM SEVERELY EMOTIONALLY DISTURBED (SED)
F 225	CORRIDOR
F 226	ELEVATOR
F 227	ELECTRICAL EQUIPMENT ROOM

REFERENCE NOTES	
(0501)	TUBE STEEL/COLUMN POST- SEE STRUCT. DWGS.
(0522)	HANDRAIL, REF. DETAIL 3, 4 AND 5/A10.8
(0523)	3'-6" HIGH GUARDRAIL, REF. DETAIL 14/A10.8
(0526)	ROOF ACCESS LADDER, REF. DETAIL 6 AND 17/A10.8
(0533)	4" METAL STUD FRAMING, REF. STRUCT. DWGS.
(0615)	PLASTIC LAM. TALL CABINET
(0618)	PLASTIC LAM. COUNTER TOP
(0629)	LEARNING WALL
(0712)	METAL DOWNSPOUT
(0732)	EXPANSION JOINT, REF. DETAIL 10/A10.12
(0733)	EXPANSION JOINT, REF. DETAIL 2A/A10.12
(0735)	EXPANSION JOINT, REF. DETAIL 10/A10.12
(0736)	EXPANSION JOINT, REF. DETAIL 11/A10.12
(0904)	5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH
(0950)	METAL STUD/5/8" GYP. BD. DUCTING ENCLOSURE
(1001)	SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
(1020)	SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
(1044)	FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
(1506)	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
(1507)	OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
(1510)	FLOOR DRAIN- REF. PLUMBING DWGS.
(1511)	SINK, REF. PLUMBING DWGS.

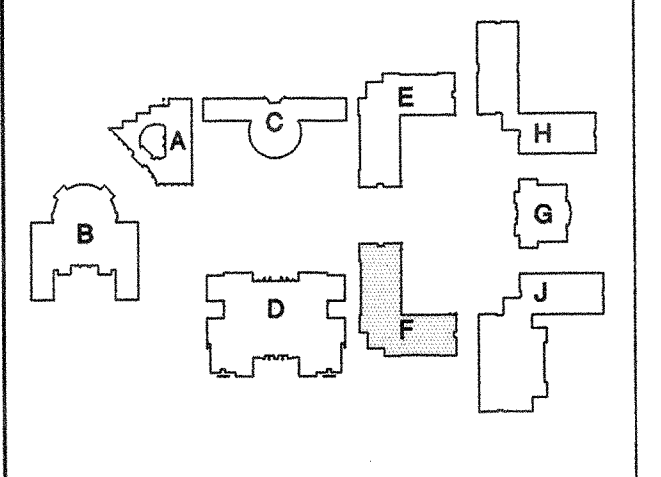
WALL LEGEND	
	NON-RATED NON-COMBUSTIBLE METAL STUD/GYPSUM BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



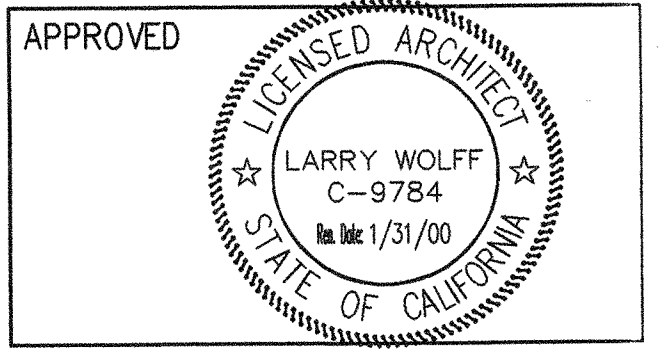
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tel: 909 987 0909
fax: 909 980 9980

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**BUILDING F
CLASSROOMS
SECOND FLOOR PLAN**

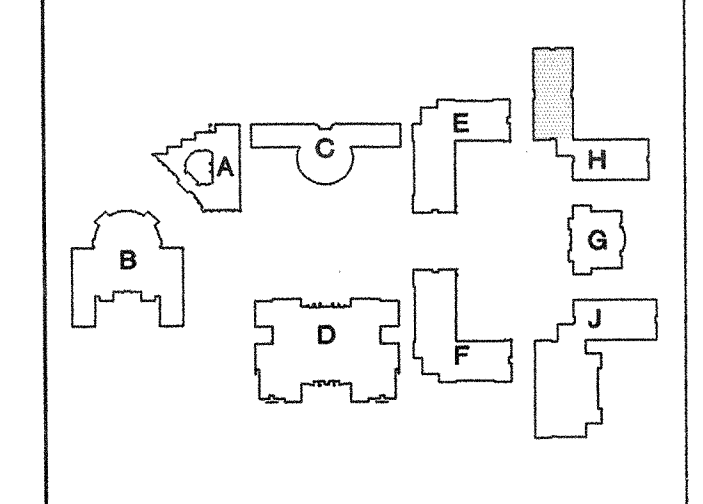
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JOB NO. 96201

A2.9

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1	11/1/02		AS-BUILTS

**BUILDING H
CLASSROOMS
PARTIAL FLOOR PLAN**

DRAWN _____
 CHECKED _____
 DATE 1/19/98
 SCALE AS NOTED
 JOB NO. 96201

A2.11

" AS BUILTS "

ROOM LEGEND

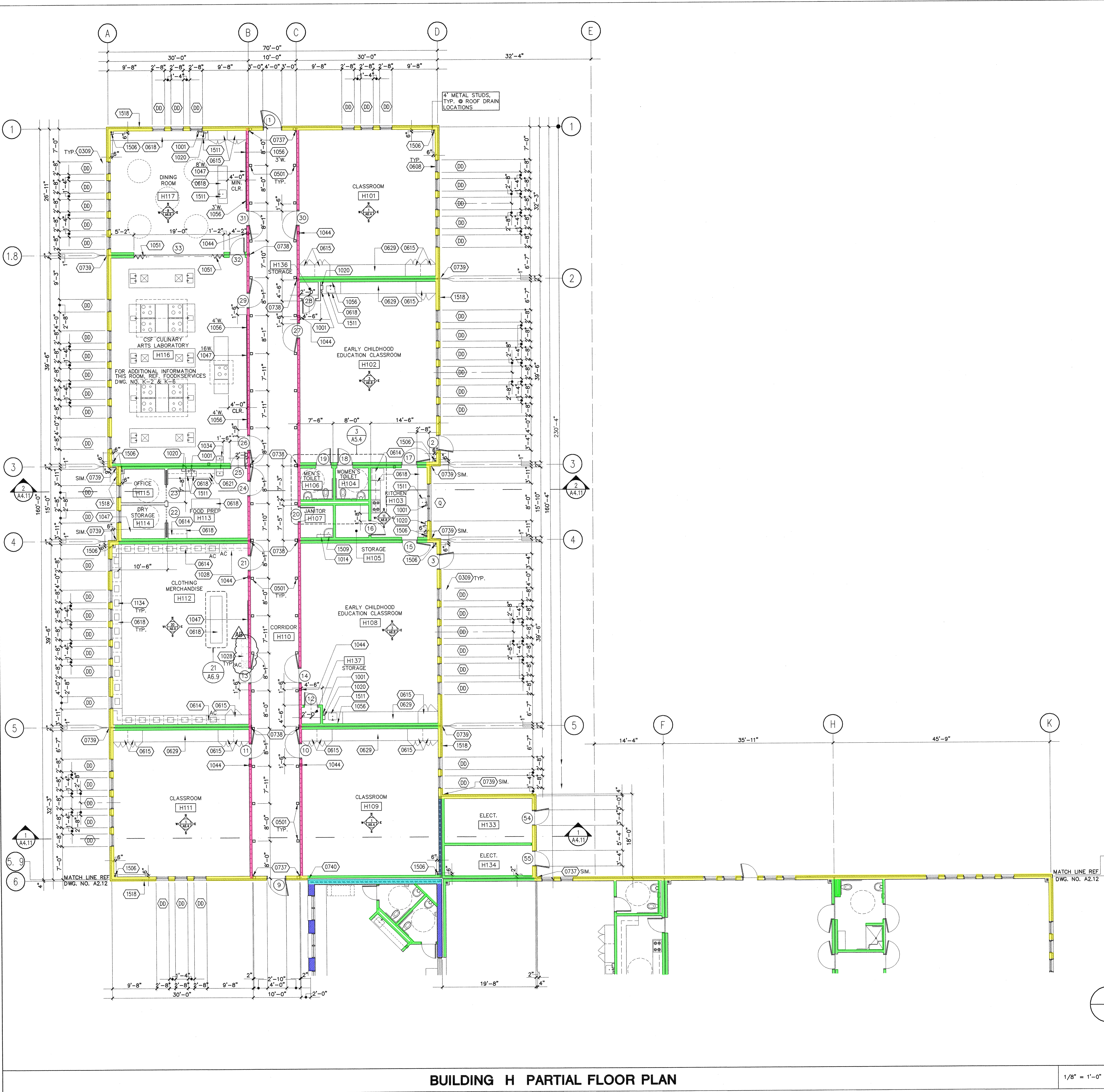
NO.	DESCRIPTION
H 101	CLASSROOM
H 102	EARLY CHILDHOOD EDUCATION
H 103	KITCHEN
H 104	WOMEN'S TOILET ROOM
H 105	STORAGE ROOM
H 106	MEN'S TOILET ROOM
H 107	JANITOR ROOM
H 108	EARLY CHILDHOOD EDUCATION
H 109	CLASSROOM
H 110	CORRIDOR
H 111	CLASSROOM
H 112	CLOTHING MERCHANDISE
H 113	FOOD PREPARATION ROOM
H 114	DRY STORAGE
H 115	OFFICE
H 116	CSF CULINARY ARTS LABORATORY
H 117	DINING ROOM
H 133	ELECTRICAL EQUIPMENT ROOM
H 134	ELECTRICAL EQUIPMENT ROOM
H 136	STORAGE
H 137	STORAGE

REFERENCE NOTES

- (0309) AREAWAY, REF. DETAIL 16/A10.5
- (0501) TUBE STEEL/COLUMN POST- SEE STRUCT. DWGS.
- (0608) SOLID POLYMER WINDOW SILL
- (0614) PLASTIC LAM. UPPER CABINET
- (0615) PLASTIC LAM. TALL CABINET
- (0618) PLASTIC LAM. COUNTER TOP
- (0621) EPOXY RESIN COUNTER TOP
- (0629) LEARNING WALL
- (0737) EXPANSION JOINT, REF. DETAIL 1A/A10.12
- (0738) EXPANSION JOINT, REF. DETAIL 1B/A10.12
- (0739) EXPANSION JOINT, REF. DETAIL 2C/A10.12
- (0740) EXPANSION JOINT, REF. DETAIL 2D/A10.12
- (1001) SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
- (1014) 3 HOOKS/4 HOLDERS MOP RACK & SHELF
- (1020) SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
- (1028) SOLID PLASTIC LOCKERS, REF. ELEV. 24/A6.11 & DETAILS 6 & 7/A10.7
- (1034) AUTOMATED HAND WASH STATION
- (1044) FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
- (1047) MARKERBOARD AND RAIL
- (1051) ACCORDION PARTITION
- (1056) TACKBOARD
- (1134) SEWING MACHINE
- (1506) ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
- (1509) SERVICE SINK, REF. PLUMBING DWGS.
- (1511) SINK, REF. PLUMBING DWGS.
- (1518) RECESSED HOSE BIB, REF. PLUMB. DWGS.

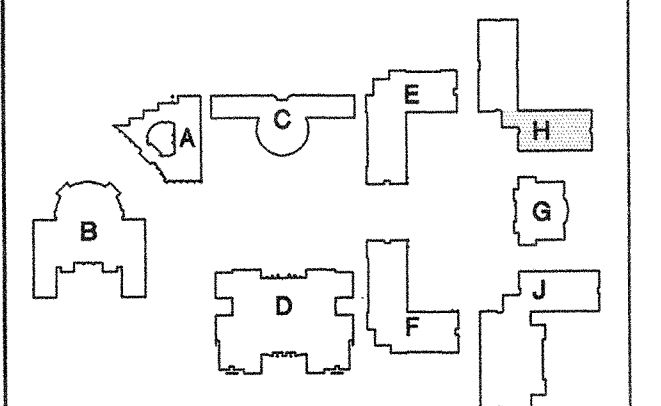
WALL LEGEND

- ALL WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 603 AND C.B.C. TABLE NO. 7-B; FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
 - ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 8" METAL STUDS, U.O.N.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DETAIL NO. 1 THROUGH 8, 17 AND 18/A10.5
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
 - ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.O.N.
 - REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
 - REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.
- NON-RATED NON-COMBUSTIBLE METAL STUD/GYP. BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
 - NON-RATED NON-COMBUSTIBLE METAL STUD WALL CONSTRUCTION WITH 1) SOLID GROUTED C.M.U. VENEER AT EXTERIOR FACE OF STUDS (REFER TO STRUCT. DWGS. FOR ANCHORAGE REQUIREMENTS) AND 2) EXTERIOR CEMENT PLASTER OVER EXTERIOR FACE OF STUDS AND GYP. BOARD AT INTERIOR FACE OF STUDS PER C.B.C. TABLE NO. 18-1.4
 - 2-HOUR FIRE RATED METAL STUDS/GYP. BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B ITEM NO. 16-1.2
 - 1-HOUR FIRE-RATED MET. STUD WALL CONSTRUCTION WITH CEMENT PLASTER AT CORRIDOR-SIDE FACE OF STUDS PER C.B.C. TABLE NO. 7-B, ITEM NO. 18-1.4
 - NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



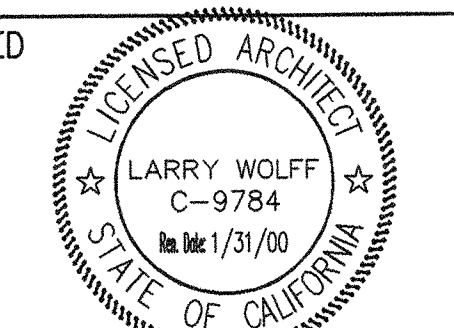
BUILDING H PARTIAL FLOOR PLAN

1/8" = 1'-0" 1



CONSULTANT

APPROVED



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APPROVED IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

APPL. A03-100370
AC. SS. FLS.
DATE

NO.	DATE	BY	REMARKS
1	11/1/02	AS	AS-BUILTS

**BUILDING H
CLASSROOMS
PARTIAL FLOOR PLAN**

DRAWN
CHECKED
DATE 1/19/98
SCALE 1/8" = 1'-0"
JOB NO. 96201

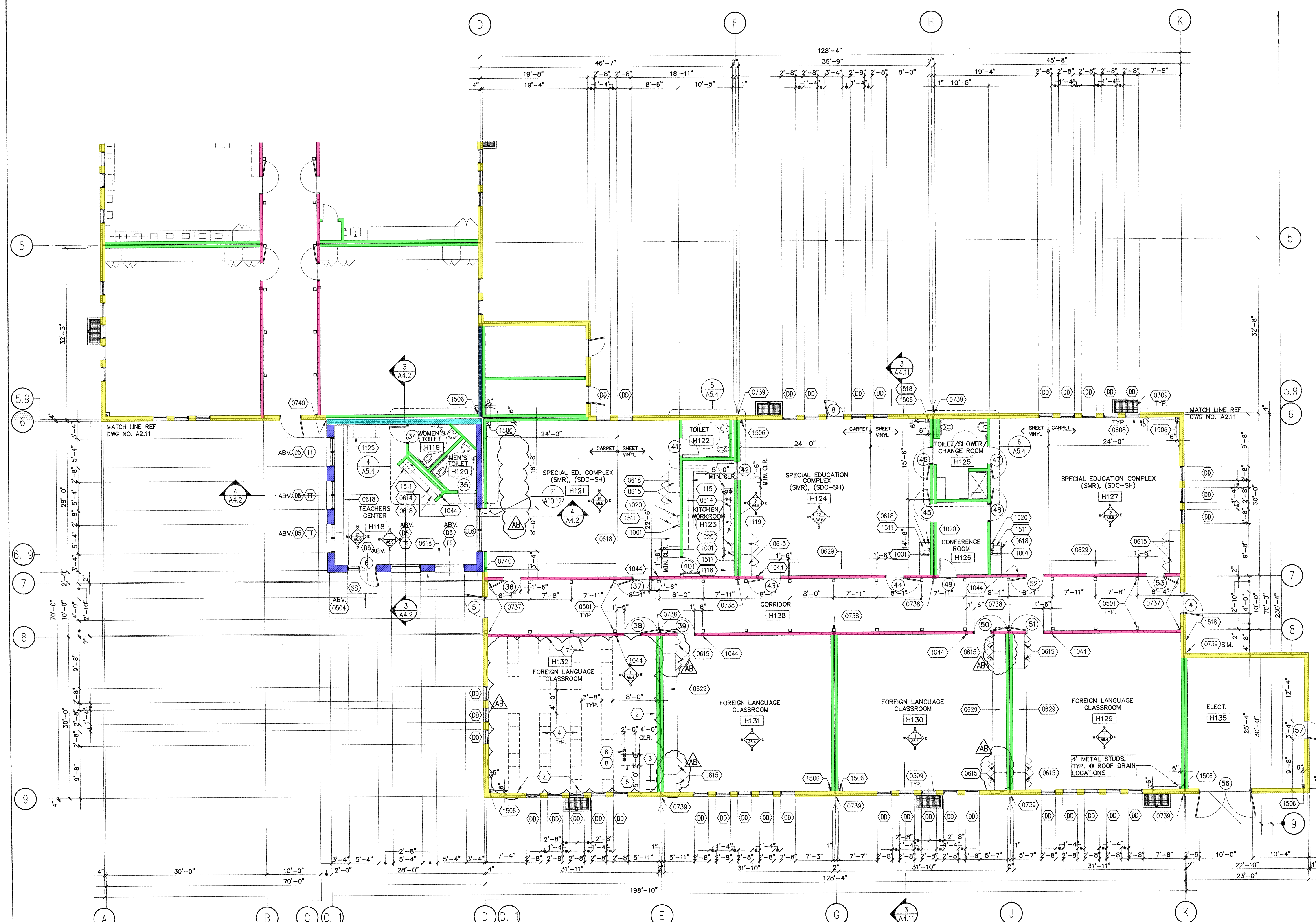
A2.12

" AS BUILTS "

ROOM LEGEND	
NO.	DESCRIPTION
H 118	TEACHERS CENTER
H 119	WOMEN'S TOILET ROOM
H 120	MEN'S TOILET ROOM
H 121	SPECIAL EDUCATION COMPLEX (SMR), (SDC-SH) SEVERELY MENTALLY RETARDED
H 122	TOILET ROOM
H 123	KITCHEN/WORKROOM
H 124	SPECIAL EDUCATION COMPLEX (SMR), (SDC-SH) SEVERELY MENTALLY RETARDED
H 125	TOILET/SHOWER/CHANGE ROOM
H 126	CONFERENCE ROOM
H 127	SPECIAL EDUCATION COMPLEX (SMR), (SDC-SH) SEVERELY MENTALLY RETARDED
H 128	CORRIDOR
H 129	FOREIGN LANGUAGE CLASSROOM
H 130	FOREIGN LANGUAGE CLASSROOM
H 131	FOREIGN LANGUAGE CLASSROOM
H 132	FOREIGN LANGUAGE CLASSROOM
H 135	ELECTRICAL EQUIPMENT ROOM

REFERENCE NOTES	
0309	AREAWAY, REF. DETAIL 16/A10.5
0501	TUBE STEEL/COLUMN POST-SEE STRUCT. DWGS.
0504	METAL AWNING, REF. DETAIL 16/A10.9
0608	SOLID POLYMER WINDOW SILL
0614	PLASTIC LAM. UPPER CABINET
0615	PLASTIC LAM. TALL CABINET
0618	PLASTIC LAM. COUNTER TOP
0629	LEARNING WALL
0737	EXPANSION JOINT, REF. DETAIL 1A/A10.12
0738	EXPANSION JOINT, REF. DETAIL 1B/A10.12
0739	EXPANSION JOINT, REF. DETAIL 2C/A10.12
0740	EXPANSION JOINT, REF. DETAIL 2D/A10.12
1001	SURFACE MOUNTED SOAP DISPENSER (N.I.C.)
1020	SURF. MTD. SINGLE FOLD PAPER TOWEL DISP.
1044	FIRE EXTINGUISHER IN RECESSED WTD. CABINET, REF. DETAIL 12 & 13/A10.5
1048	ROLLING FILE SYSTEM
1115	RANGE/OVEN
1118	REFRIGERATOR/FREEZER, N.I.C.
1119	DISHWASHER
1125	PHOTOCOPY MACHINE, N.I.C.
1506	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
1511	SINK, REF. PLUMBING DWGS.
1518	RECESSED HOSE BIB, REF. PLUMB. DWGS.

WALL LEGEND	
	1. ALL WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS THROUGHOUT. CONSTRUCTION SHALL CONFORM TO C.B.C. SECTION 603 AND C.B.C. TABLE NO. 7-B; FIRE-RESISTIVE WALL TYPES AND FLOOR CONSTRUCTION INDICATED IN PLANS AND BUILDING SECTIONS SHALL DETERMINE OPENING AND UTILITY PENETRATION PROTECTION REQUIREMENTS.
	2. ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. ST-3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
	3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DET. NO. 1 THRU 8, 17 & 18/A10.5
	4. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
	5. ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.O.N.
	6. REFER TO ROOM FINISH SCHEDULE AND/OR INTERIOR ELEVATIONS FOR WALL APPLIED FINISHES.
	7. REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.
	NON-RATED NON-COMBUSTIBLE METAL STUD / GYP. BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
	NON-RATED NON-COMBUSTIBLE METAL STUD WALL CONSTRUCTION WITH 1.) SOLID GROUTED C.M.U. VENEER AT EXTERIOR FACE OF STUDS (REFER TO STRUCT. DWGS. FOR ANCHORAGE REQUIREMENTS AND 2.) EXTERIOR CEMENT PLASTER OVER EXTERIOR FACE OF STUDS AND GYP. BOARD AT INTERIOR FACE OF STUDS PER C.B.C. TABLE NO. 18-1.4
	2-HOUR FIRE RATED METAL STUDS/GYP. BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.2
	1-HOUR FIRE-RATED METAL STUD WALL CONSTRUCTION WITH CEMENT PLASTER AT CORRIDOR-SIDE FACE OF STUDS PER C.B.C. TABLE NO. 7-B, ITEM NO. 18-1.4
	NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
	2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3



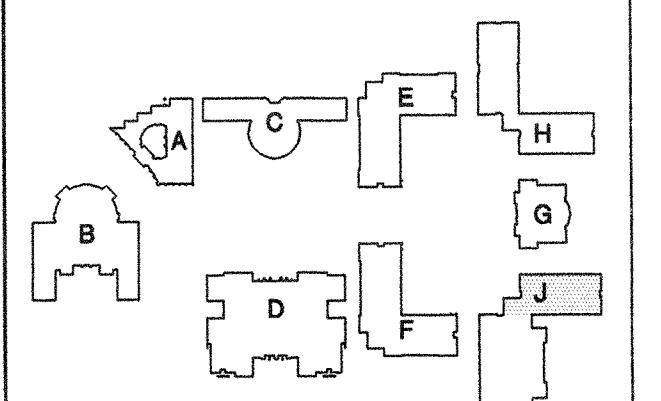
- 2) NOMINAL 4'-0" HIGH x 16'-0" MARKERBOARD, BOTTOM OF PEN TRAY @ +3'-0" A.F.F. LOCATE CENTERLINE OF MARKERBOARD AT CENTERLINE OF WALL
- 3) WALL MOUNTED TV BRACKET & TV/VCR REFER TO DET. 14/A10.5
- 4) STUDENT STATION, TYP., N.I.C.
- 5) TEACHER STATION, TYP., N.I.C.
- 6) PROVIDE FLOOR OPENING FOR CONDUIT ACCESS, ADD OPENING SUPPORTS PER DET. 22/91.3
- 7) PROVIDE FLOOR OPENING FOR CONDUIT ACCESS, REF. TO ATTACHED ELECT. PLANS
- 8) ADD STAINLESS STEEL METAL PLATE COVER, REF. TO DET 10/A10.13

BUILDING H PARTIAL FLOOR PLAN

1/8" = 1'-0" 1

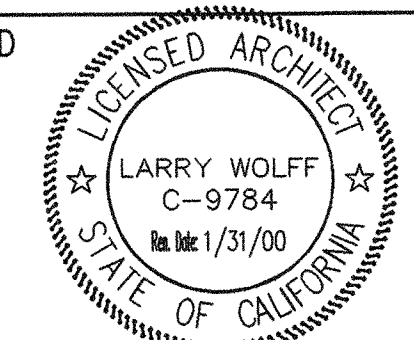
**PACIFICA
HIGH
SCHOOL**

**OXNARD UNION
HIGH SCHOOL
DISTRICT**

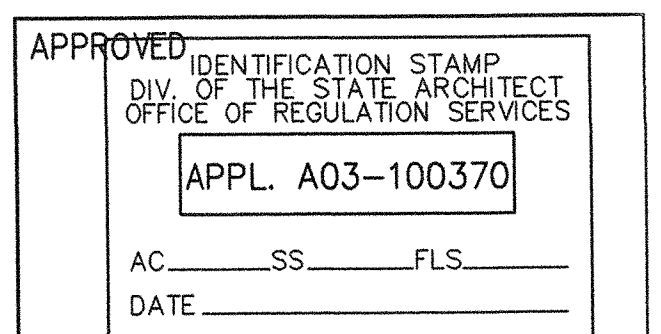


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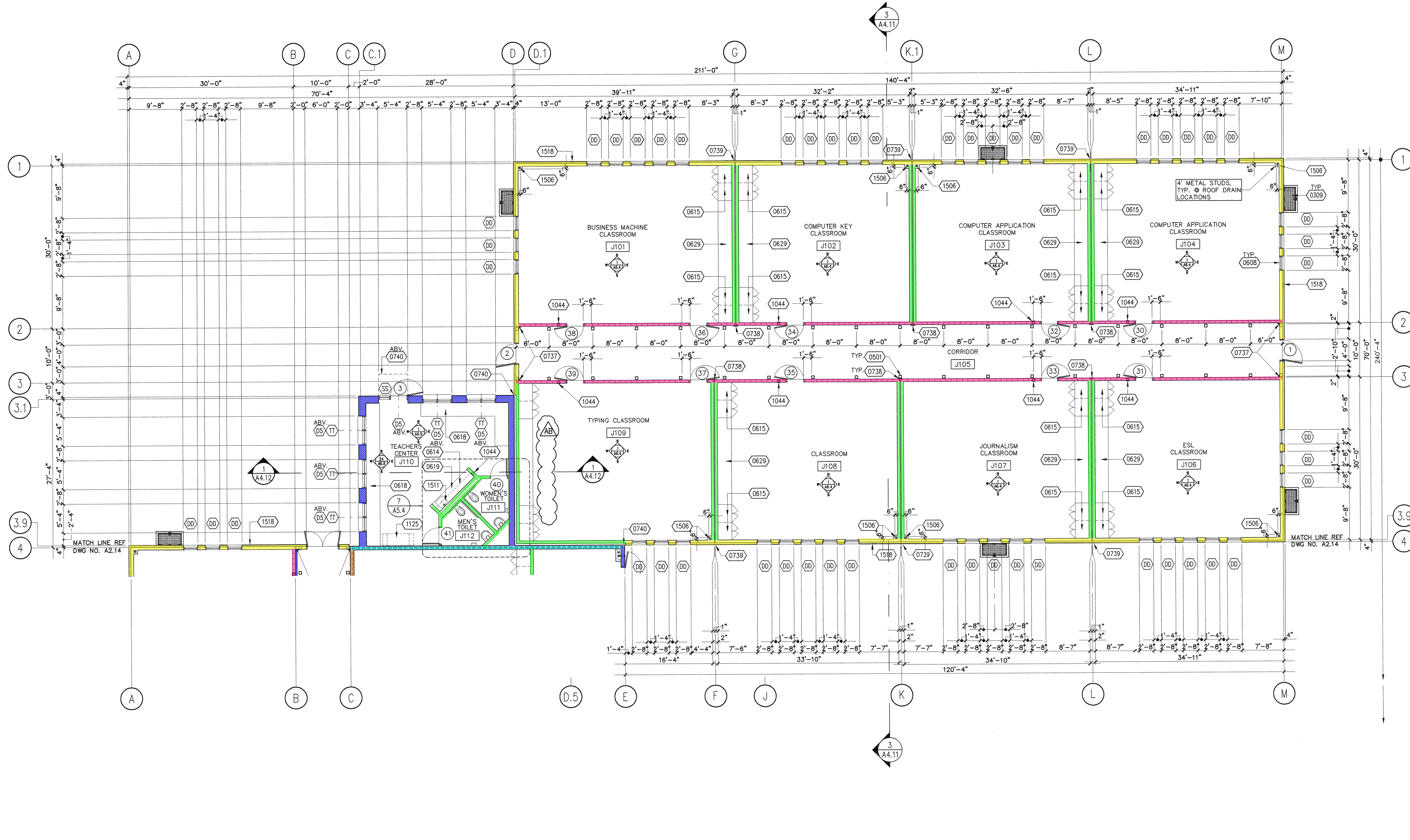
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1	11/1/02	AS	BUILTS

**BUILDING J
CLASSROOMS
PARTIAL FLOOR PLAN**

DRAWN
CHECKED
DATE 1/19/98
SCALE AS NOTED
JOB NO. 96201

A2.13

"AS BUILTS"



BUILDING J PARTIAL FLOOR PLAN

1/8" = 1'-0" **1**

ROOM LEGEND

NO.	DESCRIPTION	NO.	DESCRIPTION
J 101	BUSINESS MACHINE CLASSROOM		
J 102	COMPUTER KEY CLASSROOM		
J 103	COMPUTER APPLICATION CLASSROOM		
J 104	COMPUTER APPLICATION CLASSROOM		
J 105	CORRIDOR		
J 106	ENGLISH SECOND LANGUAGE CLASSROOM		
J 107	JOURNALISM CLASSROOM		
J 108	GENERAL CLASSROOM		
J 109	TYPING CLASSROOM		
J 110	TEACHERS CENTER		
J 111	WOMEN'S TOILET ROOM		
J 112	MEN'S TOILET ROOM		

REFERENCE NOTES

0309	AREAWAY, REF. DETAIL 16/A10.5	1506	ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
0501	TUBE STEEL/COLUMN POST- SEE STRUCT. DWGS.	1511	SINK, REF. PLUMBING DWGS.
0608	SOLID POLYMER WINDOW SILL	1518	RECESSED HOSE BIB, REF. PLUMB. DWGS.
0614	PLASTIC LAM. UPPER CABINET		
0615	PLASTIC LAM. TALL CABINET		
0618	PLASTIC LAM. COUNTER TOP		
0619	PLASTIC LAM. COUNTER TOP AND SPLASH		
0629	LEARNING WALL		
0737	EXPANSION JOINT, REF DETAIL 1A/A10.12		
0738	EXPANSION JOINT, REF DETAIL 1B/A10.12		
0739	EXPANSION JOINT, REF DETAIL 2C/A10.12		
0740	EXPANSION JOINT, REF DETAIL 2D/A10.12		
1044	FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5		
1125	PHOTOCOPIY MACHINE, N. I. C.		

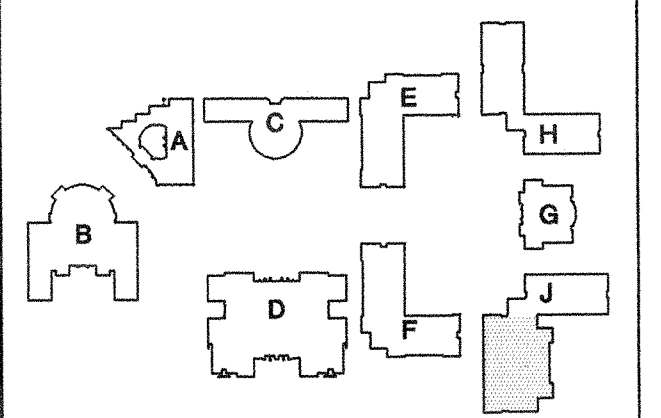
WALL LEGEND

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- ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. 51.3. ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DETAIL NO. 1 THROUGH 8, 17 AND 18/A10.5
- ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
- ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.N.O.
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- NON-RATED NON-COMBUSTIBLE METAL STUD/GYP. BOARD WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
- NON-RATED NON-COMBUSTIBLE METAL STUD WALL CONSTRUCTION WITH 1) SOLID GROUTED C.M.U. VENEER AT EXTERIOR FACE OF STUDS (REFER TO STRUCT. DWGS. FOR ANCHORAGE REQUIREMENTS) AND 2) EXTERIOR CEMENT PLASTER OVER EXTERIOR FACE OF STUDS AND GYP. BOARD AT INTERIOR FACE OF STUDS PER C.B.C. TABLE NO. 18-1.4
- 1-HOUR FIRE-RATED MET. STUD WALL CONSTRUCTION WITH CEMENT PLASTER AT CORRIDOR-SIDE FACE OF STUDS PER C.B.C. TABLE NO. 7-B, ITEM NO. 18-1.4
- NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
- 1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
- 2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3

PACIFICA HIGH SCHOOL

OXNARD UNION HIGH SCHOOL DISTRICT



CONSULTANT

APPROVED

 LARRY WOLFF
 C-9784
 1/31/00
 STATE OF CALIFORNIA

APPROVED

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 DIV. OF THE STATE ARCHITECT
 OFFICE OF REGULATION SERVICES
 APPL. A03-100370
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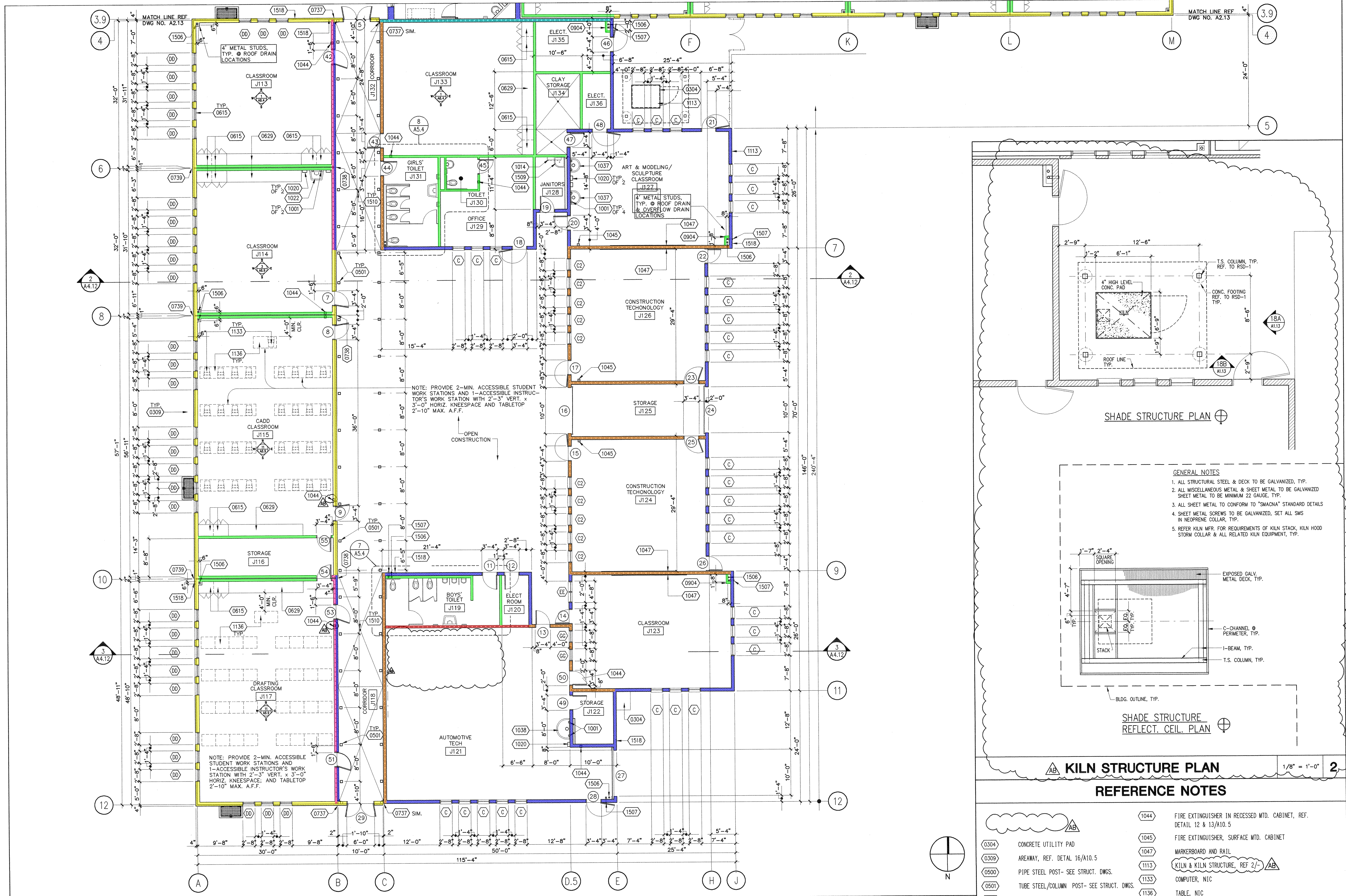
NO.	DATE	BY	REMARKS
1	11/1/02	AS	BUILTS

BUILDING J CLASSROOMS PARTIAL FLOOR PLAN

DRAWN
 CHECKED
 DATE 1/19/98
 SCALE AS NOTED
 JOB NO. 96201

A2.14

" AS BUILTS "



BUILDING J PARTIAL FLOOR PLAN

1/8" = 1'-0" 1

ROOM LEGEND

NO.	DESCRIPTION	NO.	DESCRIPTION
J 113	CLASSROOM	J 125	STORAGE ROOM
J 114	CLASSROOM	J 126	CONSTRUCTION TECHNOLOGY
J 115	CADD CLASSROOM	J 127	ART & MODELING/SCULPTURE CLASSROOM
J 116	STORAGE ROOM	J 128	JANITOR ROOM
J 117	DRAFTING CLASSROOM	J 129	OFFICE
J 118	CORRIDOR	J 130	TOILET ROOM
J 119	BOYS' TOILET	J 131	GIRLS' TOILET
J 120	ELECTRICAL EQUIPMENT ROOM	J 132	CORRIDOR
J 121	AUTOMOTIVE TECHNOLOGY	J 133	CLASSROOM
J 122	STORAGE ROOM	J 134	CLAY STORAGE
J 123	CLASSROOM	J 135	ELECTRICAL EQUIPMENT ROOM
J 124	CONSTRUCTION TECHNOLOGY	J 136	ELECTRICAL EQUIPMENT ROOM

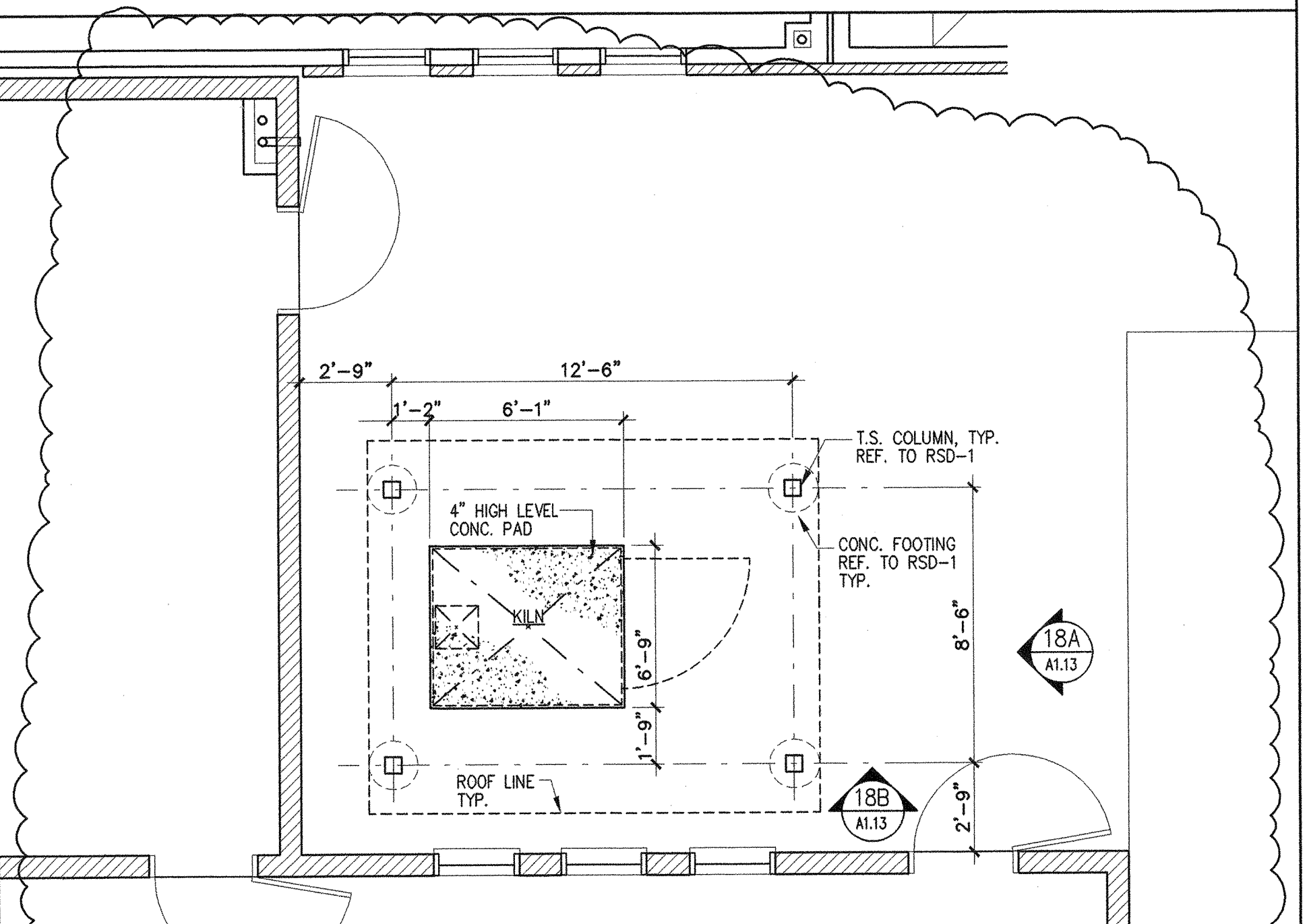
WALL LEGEND

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 - ALL WALL AND PERMANENT PARTITION METAL STUD SIZE AND CONSTRUCTION REQUIREMENTS SHALL BE PER DRAWING NO. S1.3; ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL BE CONSTRUCTED OF 6" METAL STUDS, U.O.N.
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL EXTEND FROM CONCRETE FLOOR TO UNDERSIDE OF FLOOR OR ROOF CONSTRUCTION OVERHEAD; AND ANCHORED PER DET. NO. 1 THRU 8, 17 AND 18/A10.5
 - ALL INTERIOR WALLS AND PERMANENT PARTITIONS SHALL HAVE BATT SOUND INSULATION FULL-HEIGHT OF WALL, U.O.N.; SOUND INSULATION SHALL BE INSTALLED AT ONE-SIDE, ONLY, OF DOUBLE-WALL CONSTRUCTION.
 - ALL DIMENSIONS ARE TO FACE OF STUDS OR FACE OF MASONRY, U.N.O.
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 - REFER TO STRUCTURAL DRAWINGS AND EXTERIOR AND/OR INTERIOR ELEVATIONS FOR CONCRETE MASONRY UNIT SIZE, COLOR AND TEXTURE REQUIREMENTS.
- NON-RATED NON-COMBUSTIBLE METAL STUD/GYP. BD. WALL AND/OR FURRING CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1
 - NON-RATED NON-COMBUSTIBLE MET. STUD WALL CONSTRUCTION WITH 1/2" SOLID GROUTED C.M.U. VENEER AT EXTERIOR FACE OF STUDS (REFER TO STRUCT. DWGS. FOR ANCHORAGE REQUIREMENTS) AND 2" EXTERIOR CEMENT PLASTER OVER EXT. FACE OF STUDS AND GYP. BOARD AT INTERIOR FACE OF STUDS PER C.B.C. TABLE NO. 18-1.4
 - 1-HOUR FIRE-RATED MET. STUD WALL CONSTRUCTION WITH CEMENT PLASTER AT CORRIDOR-SIDE FACE OF STUDS PER C.B.C. TABLE NO. 7-B, ITEM NO. 18-1.4
 - NON-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 1-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 2-HOUR FIRE-RATED CONCRETE MASONRY UNIT (C.M.U.) WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 6-1.3
 - 1-HOUR FIRE-RATED METAL STUD/GYPSUM BOARD WALL CONSTRUCTION PER C.B.C. TABLE NO. 7-B, ITEM NO. 16-1.1

REFERENCE NOTES

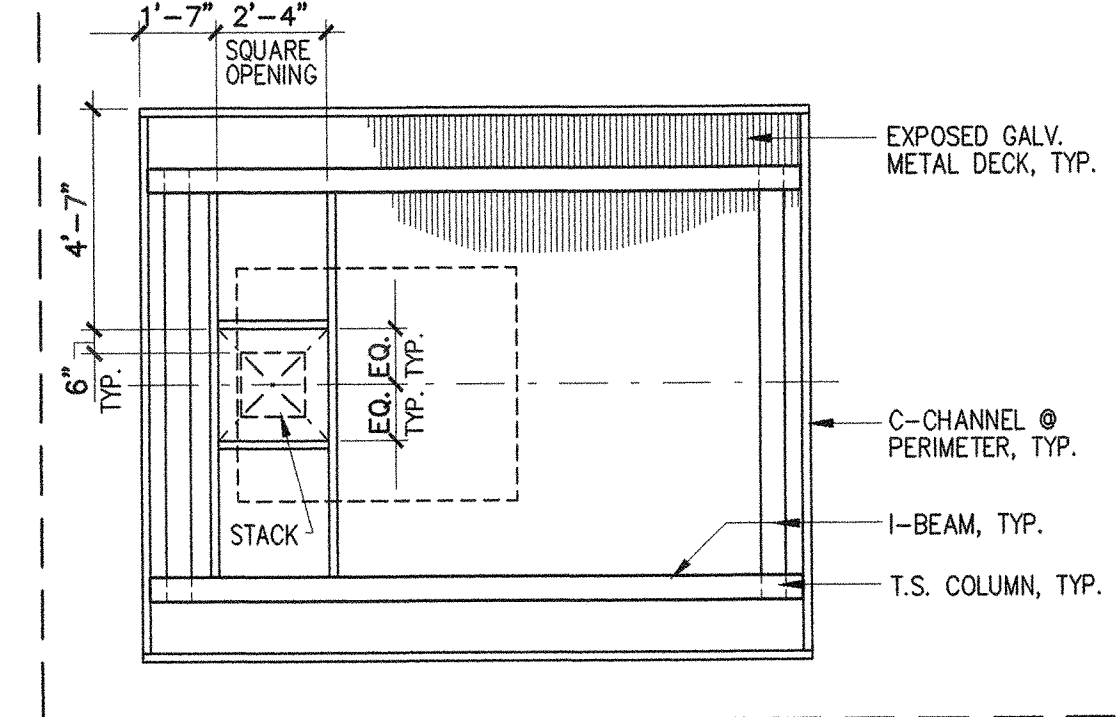
- 0304 CONCRETE UTILITY PAD
- 0309 AREAWAY, REF. DETAIL 16/A10.5
- 0500 PIPE STEEL POST- SEE STRUCT. DWGS.
- 0501 TUBE STEEL/COLUMN POST- SEE STRUCT. DWGS.
- 0615 PLASTIC LAM. TALL CABINET
- 0629 LEARNING WALL
- 0737 EXPANSION JOINT, REF. DETAIL 14/A10.12
- 0738 EXPANSION JOINT, REF. DETAIL 18/A10.12
- 0739 EXPANSION JOINT, REF. DETAIL 20/A10.12
- 0904 5/8" TYPE 'X' GYP. BD. W/ TEXTURE FINISH
- 1001 SURFACE MOUNTED SOAP DISPENSER, N. I. C.
- 1014 3 HOOKS/4 HOLDERS MOP RACK & SHELF
- 1020 SURF. MTD. SINGLE FOLD PAPER TONEL DISP.
- 1022 TRI-FOUNT WASHFOUNTAIN
- 1037 36" SEMI-CIRCULAR WASH FOUNTAINS
- 1038 54" SEMI-CIRCULAR WASH FOUNTAINS
- 1044 FIRE EXTINGUISHER IN RECESSED MTD. CABINET, REF. DETAIL 12 & 13/A10.5
- 1045 FIRE EXTINGUISHER, SURFACE MTD. CABINET
- 1047 MARKERBOARD AND RAIL
- 1133 KILN & KILN STRUCTURE, REF 2/-
- 1136 COMPUTER, NIC
- 1136 TABLE, NIC
- 1506 ROOF DRAIN DOWNSPOUT CONNECT TO S.D., REF. CIVIL/PLUMB. DWGS.
- 1507 OVERFLOW DOWNSPOUT, REF. PLUMBING DWGS.
- 1509 SERVICE SINK, REF. PLUMBING DWGS.
- 1510 FLOOR DRAIN- REF. PLUMBING DWGS.
- 1518 RECESSED HOSE BIB, REF. PLUMB. DWGS.

SHADE STRUCTURE PLAN



GENERAL NOTES

- ALL STRUCTURAL STEEL & DECK TO BE GALVANIZED, TYP.
- ALL MISCELLANEOUS METAL & SHEET METAL TO BE GALVANIZED SHEET METAL TO BE MINIMUM 22 GAUGE, TYP.
- ALL SHEET METAL TO CONFORM TO "SMACNA" STANDARD DETAILS IN NEOPRENE COLLAR, TYP.
- SHEET METAL SCREWS TO BE GALVANIZED, SET ALL SMS IN NEOPRENE COLLAR, TYP.
- REFER KILN MFR. FOR REQUIREMENTS OF KILN STACK, KILN HOOD STORM COLLAR & ALL RELATED KILN EQUIPMENT, TYP.



SHADE STRUCTURE REFLECT. CEIL. PLAN

KILN STRUCTURE PLAN

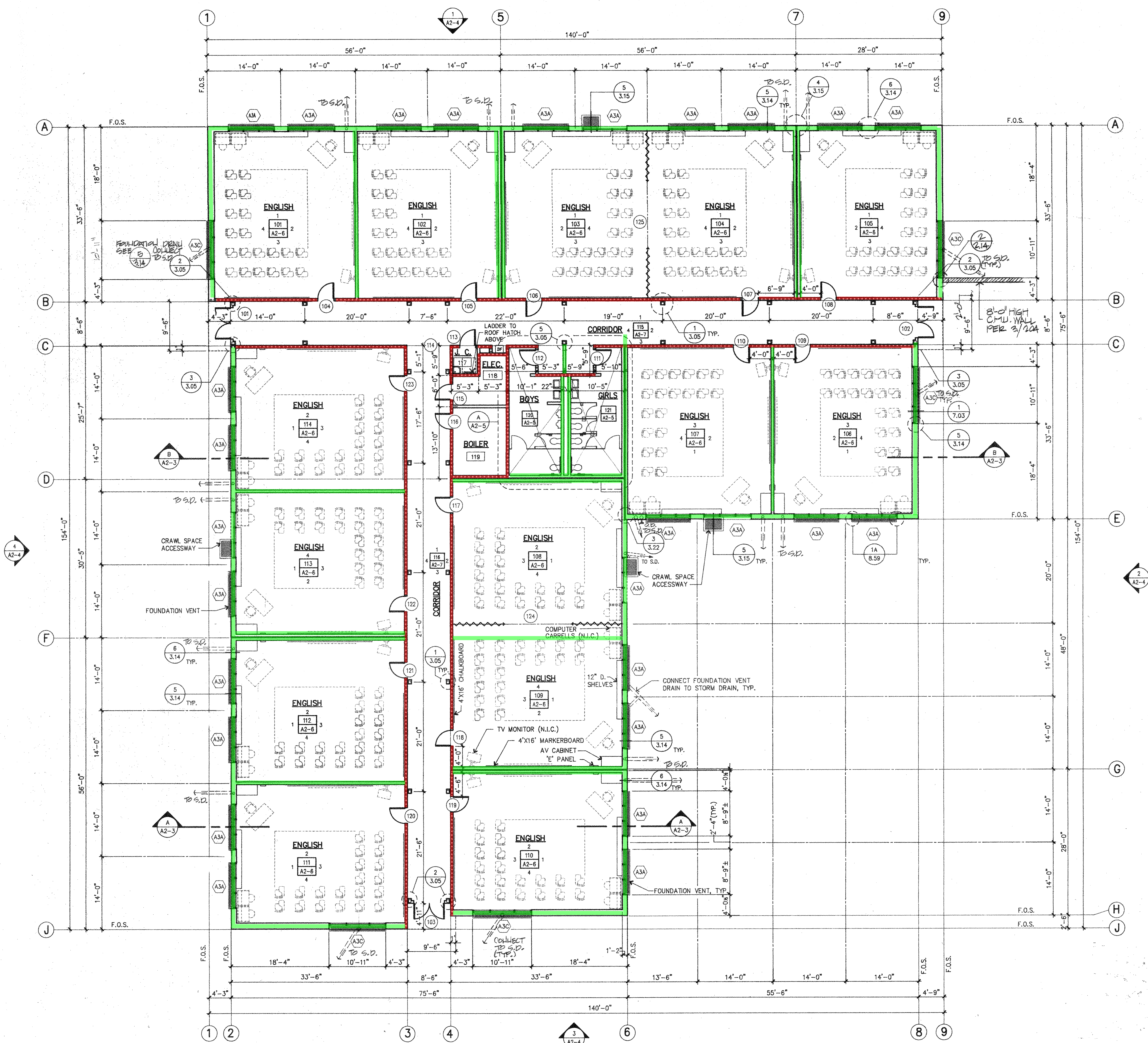
1/8" = 1'-0" 2

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THE TWO
CAMPUSES**

GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR WALLS ARE 2X6 WOOD STUDS AT 16" O.C. U.N.O., WITH EXTERIOR PLASTER 1 OVER PLYWOOD SHEATHING, TYP., EXCEPT WHERE LOCATED ABOVE AND BELOW INSET WINDOWS (REFER TO DETAILS 1/8.56 AND 4/8.56). INTERIOR FACE TO BE GYPSUM BOARD 1 INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
 - INSULATION: PROVIDE INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS : R-19, THERMAL
 - ROOFS : R-30, THERMAL
 - INTERIOR STUD PARTITIONS : 3" MINIMUM THICK (SOUND)
 - INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.18 FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR PARTITION SEE A 4.01
 - INDICATES TWO HOUR PARTITION SEE A 4.01
 - INDICATES SOUND PARTITION SEE C 4.01
 - WOOD STUD WALLS: "PARTITIONS" ALL INTERIOR PARTITIONS ARE TO BE PARTITION TYPE DETAIL A/4.01, UNLESS NOTED OR DETAILED OTHERWISE. REFER TO NOTES D/4.03.
 - ALL PARTITIONS TO BE 2x4 WOOD STUDS @ 16" O.C. UNLESS NOTED OTHERWISE.
 - PROVIDE GYP. BD. (1) TO UNDERSIDE OF STRUCTURE, UNLESS NOTED OTHERWISE.
- DOORS:
 - INDICATED ON PLANS WITH O SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.05 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
 - WINDOWS:
 - INDICATED ON PLANS WITH W SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.71 FOR WINDOW TYPES.
 - CORNER GUARDS:
 - PROVIDE CLEAR VINYL CORNER GUARDS AT ALL OUTER CORNERS.
- FOUNDATION VENT: LOCATE UNDER WINDOWS, SEE 3.03
CONNECT TO UNDERGROUND STORM DRAIN WITH 4" DIAM. DRAIN PIPE, MINIMUM.
- ROOM SIGNAGE: FOR INTERIOR ROOM SIGNAGE, SEE SCHEDULE A/10-B, CENTER ALL SIGNAGE @ 0.0" A.F.F. UNLESS NOTED OTHERWISE.

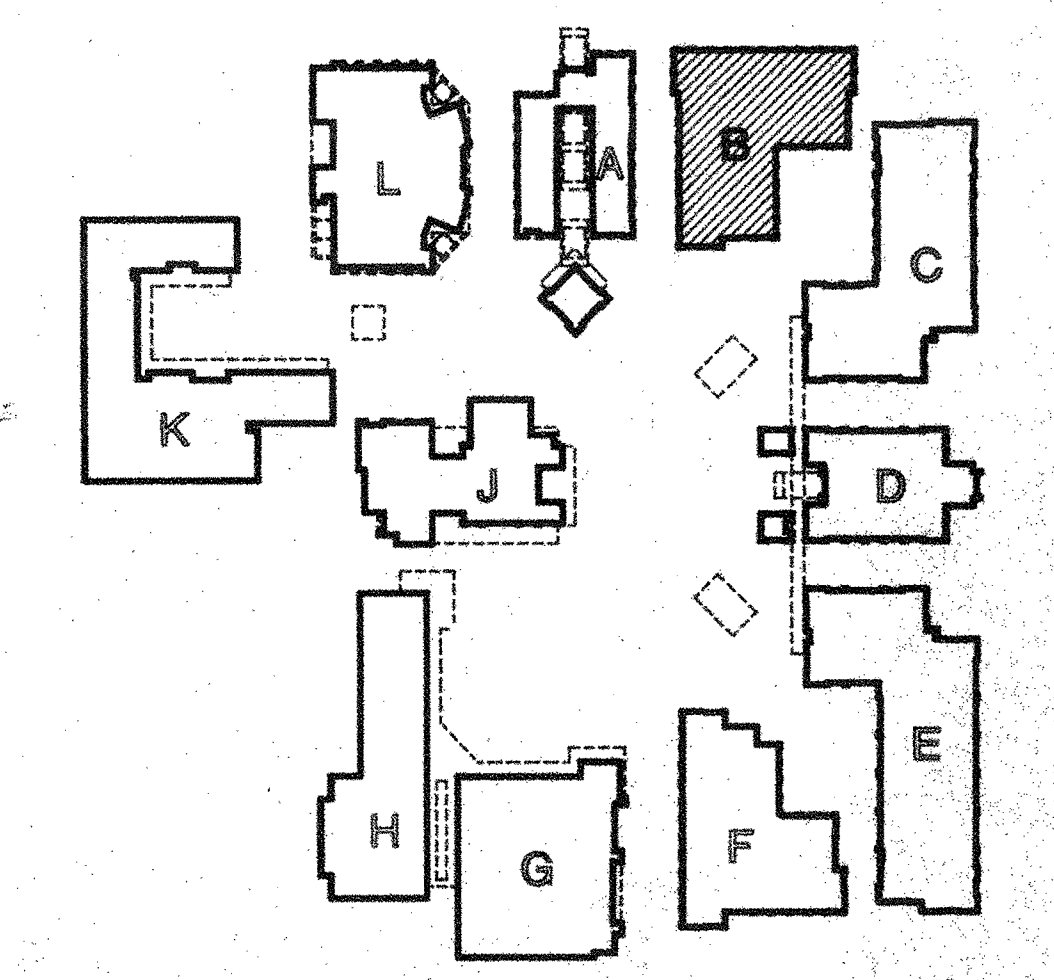
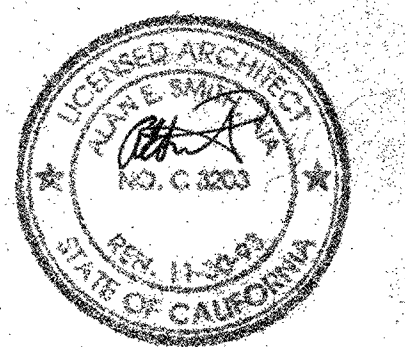
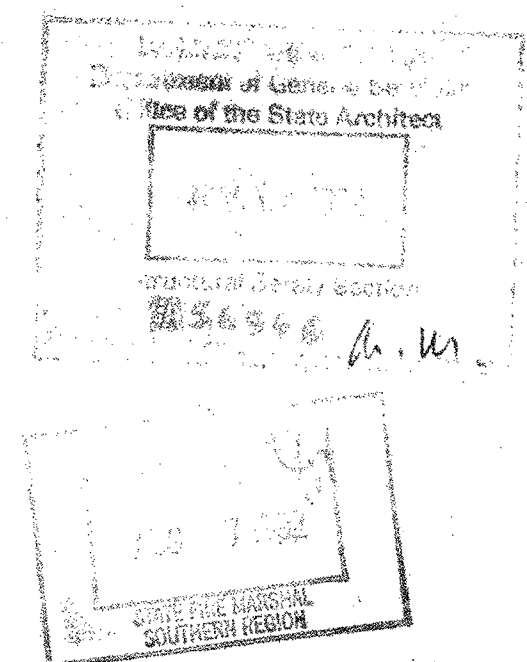
WOOD STUD WALLS, WITH AND WITHOUT INSULATION



FLOOR PLAN

SCALE: 1/8" = 1'-0"

OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
APPROVED FOR ALL ADA ASPECTS
5/6/94
APPROVAL OF THIS PLAN DOES NOT AUTHORIZE OR APPROVE ANY MODIFICATION OR DEVIATION FROM APPLICABLE REGULATIONS.
Reviewed by: [Signature]



KEY PLAN

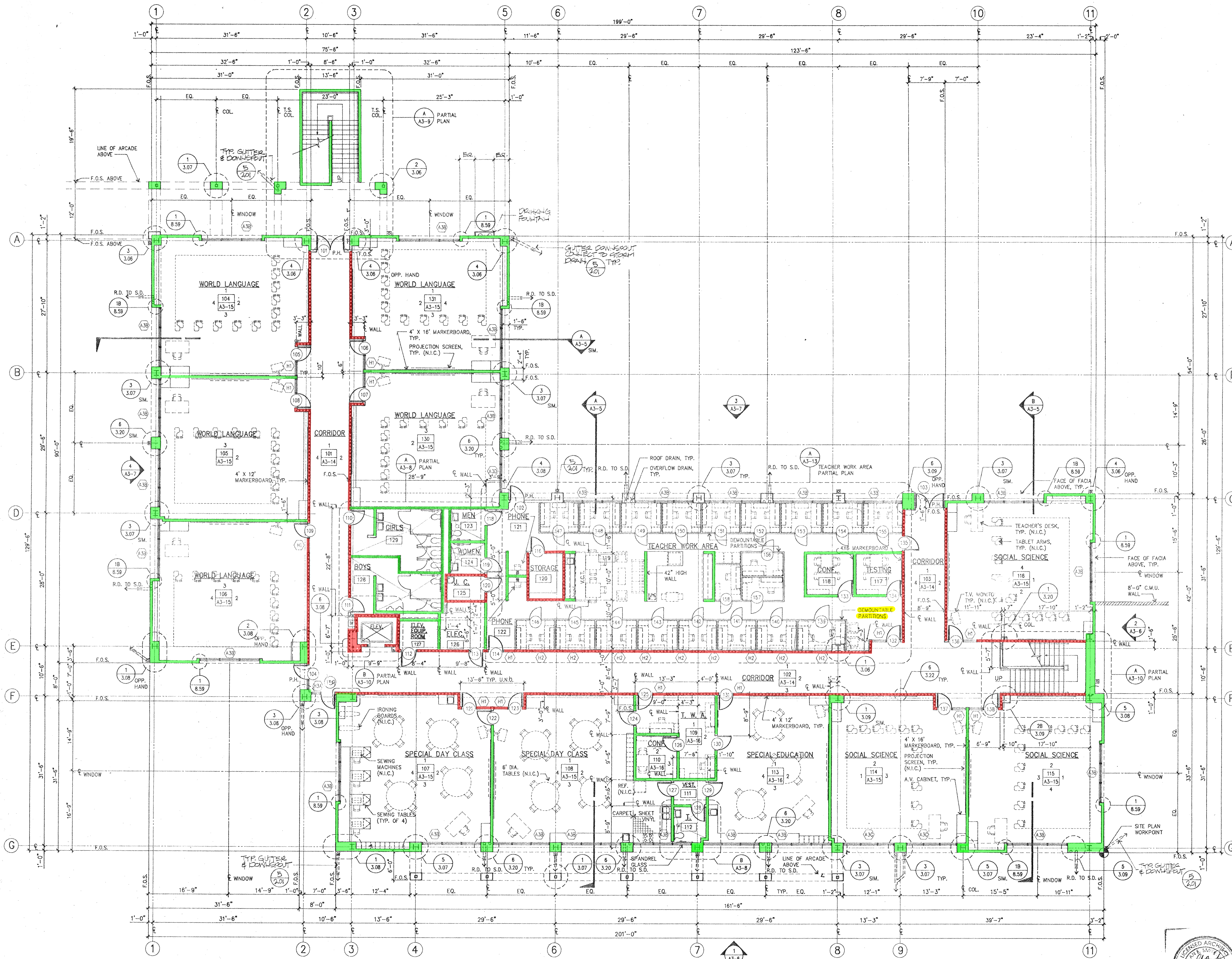
REVISIONS	DATE	DRAWN	JOB NO.

OXNARD HIGH SCHOOL

The Blurock Partnership
Architects and Planners
2000 Newbury Boulevard / Newport Beach, California 92660 / Telephone No. (714) 873-0300

**BLDG. 'B'
FLOOR PLAN**

**SHEET 54
A2-1**
OF 373 SHEETS



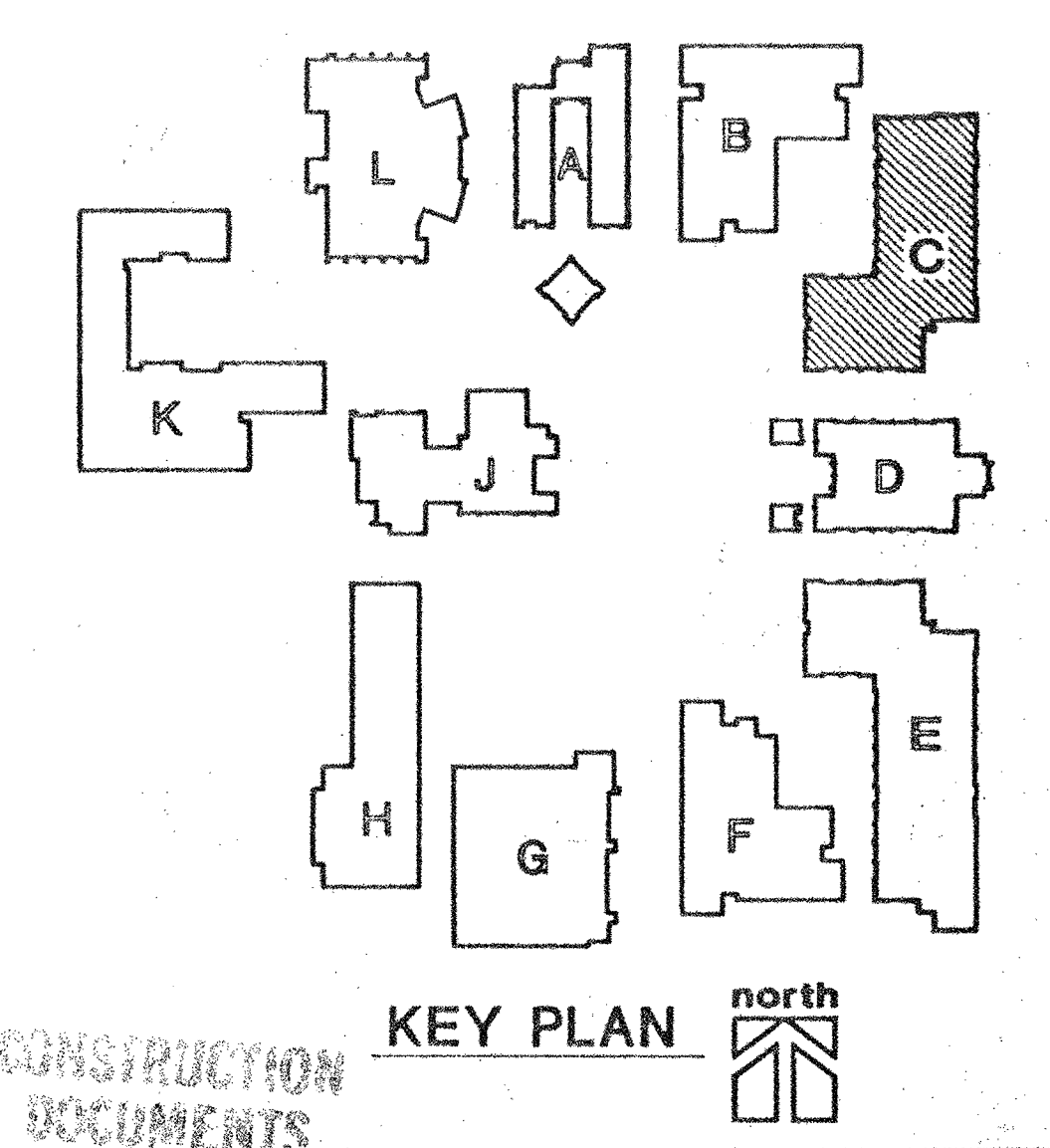
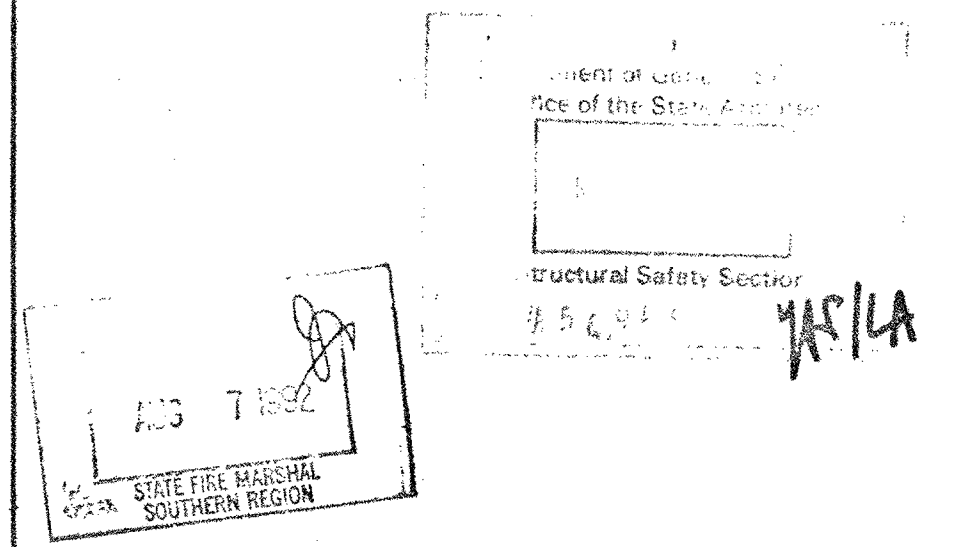
FIRST FLOOR PLAN

GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR PARTITIONS ARE 6" 18 GA. METAL STUDS AT 16" O.C. WITH EXTERIOR CEMENT PLASTER UNLESS NOTED OTHERWISE. INTERIOR FACE TO BE GYPSUM BOARD (1) INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE, U.N.O.
 - INSULATION: INSTALL INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS: R-19, THERMAL
 - ROOFS: R-19, THERMAL
 - INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
 - INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.18 FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR PARTITION
 - INDICATES TWO HOUR PARTITION
 - INDICATES STAGGERED STUD SOUND PARTITION
 - INDICATES LOW FREQUENCY SOUND PARTITION
 - ALL PARTITIONS TO BE 3 5/8" X 20 GA. METAL STUDS @ 16" O.C. UNLESS NOTED OTHERWISE. 8" X 16 GA. METAL STUDS @ 16" O.C. @ CORRIDORS 101, 102 & 103
 - PROVIDE 5/8" TYPE "X" GIP. BO. TO UNDERSIDE OF STRUCTURE UNLESS NOTED OTHERWISE.
 - DOORS:
 - INDICATED ON PLANS WITH (D) SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
 - WINDOWS:
 - INDICATED ON PLANS WITH (W) SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
 - PROVIDE SOLID BACKING AT WALL-HUNG N.I.C. EQUIPMENT.
 - ALL SPECIAL EDUCATION AND CLASSROOMS TO RECEIVE ONE 4' X 16' MARKERBOARD AND ONE 4' X 12' MARKERBOARD. SEE INDIVIDUAL ROOMS FOR LOCATION. INTERIOR ELEV. SHEET A3-15, A3-16.
- ROOM SIGNAGE:**
FOR INTERIOR ROOM SIGNAGE SEE SCHEDULE A/A3-8. CENTER ALL SIGNAGE @ 60" A.F.F. UNLESS NOTED OTHERWISE.

METAL STUD WALLS, WITH AND WITHOUT INSULATION

OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
REPLACES A3-808S
5/9/2016 A3-06/92
APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITION THAT THE CONTRACTOR SHALL APPROVE ANY OMISSION OR DEVIATION FROM APPLICABLE REGULATIONS.
Reviewed by _____

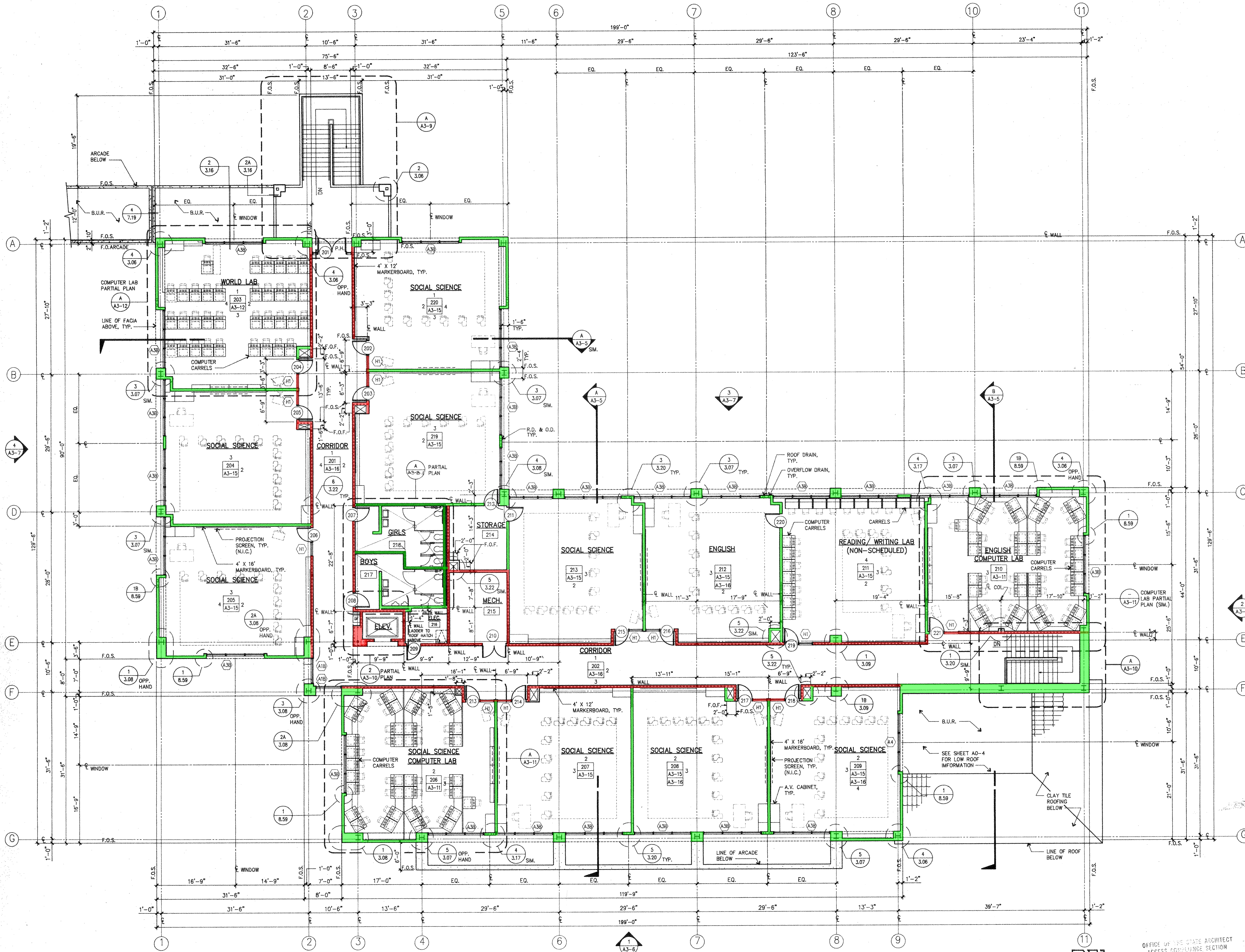


REVISIONS	
DATE	
DRAWN	
JOB NO.	

OXNARD HIGH SCHOOL
OXNARD UNION HIGH SCHOOL DISTRICT • OXNARD, CALIFORNIA

The Blurock Partnership
Architects and Planners
2000 Newcom Boulevard / Newport Beach, California 92643 / Telephone No. (714) 673-0300

BLDG. 'C'
FIRST FLOOR PLAN
SHEET 61
A3-1
OF 375 SHEETS
1-28-13

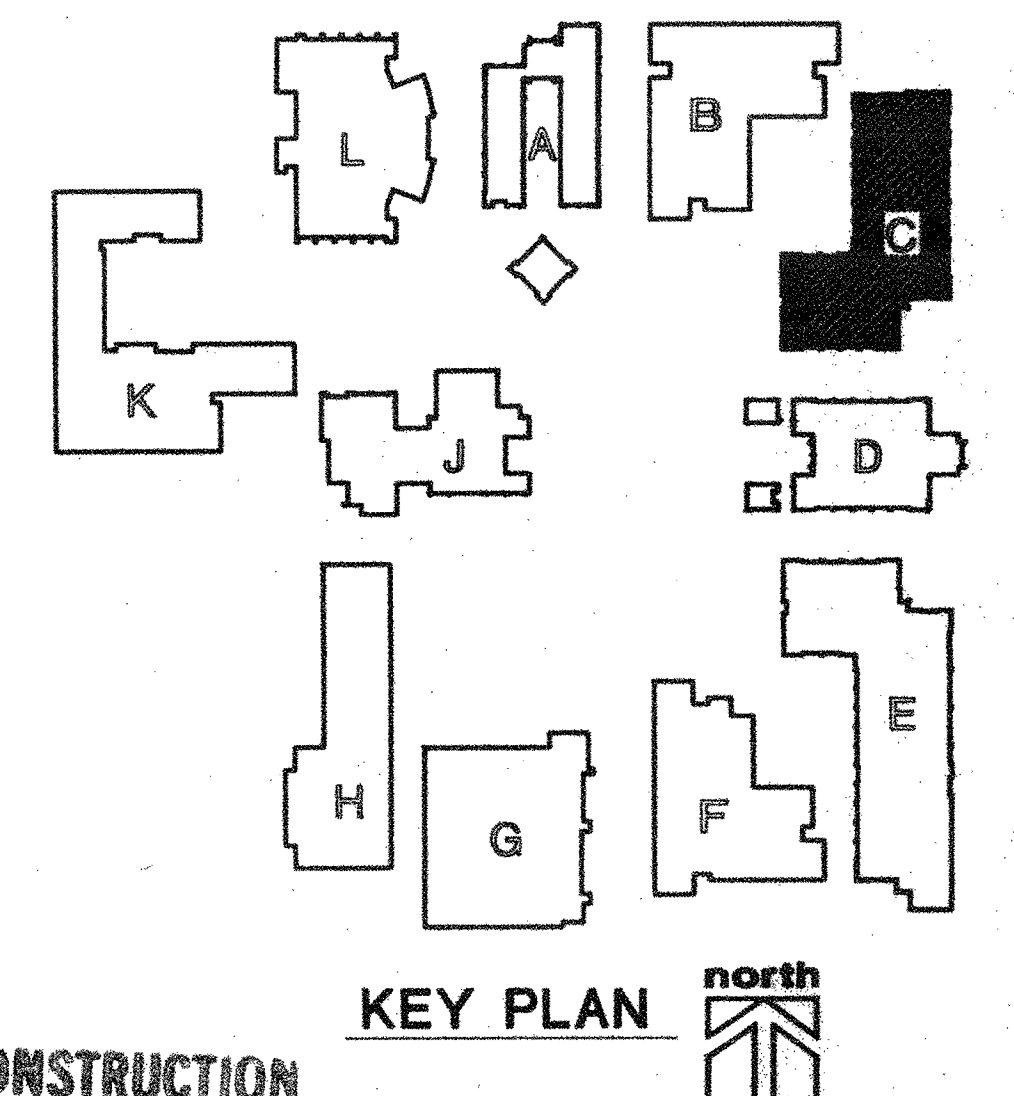
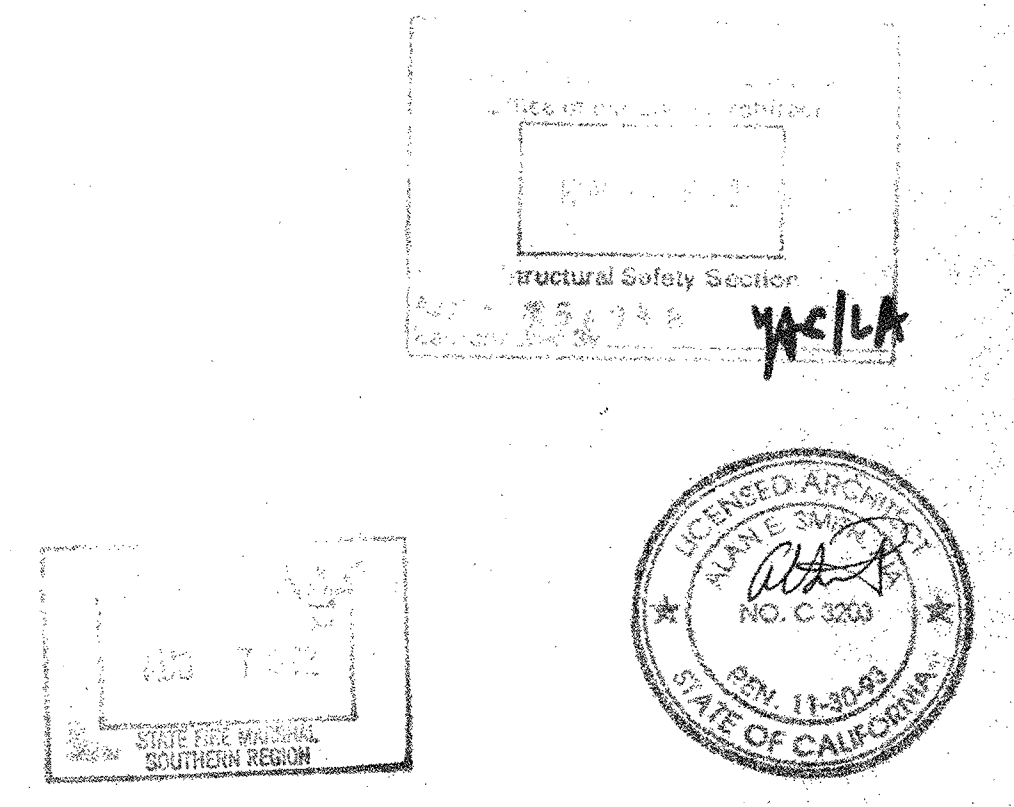


SECOND FLOOR PLAN

GENERAL NOTES

1. EXTERIOR WALLS:
 - A. ALL EXTERIOR PARTITIONS ARE 6" 16 GA. METAL STUDS AT 16" O.C. WITH EXTERIOR CEMENT PLASTER UNLESS NOTED OTHERWISE. INTERIOR FACE TO BE GYPSUM BOARD (3) INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE. U.N.C.
 2. INSULATION: INSTALL INSULATION AS FOLLOWS:
 - A. EXTERIOR STUD WALLS : R-19, THERMAL
 - B. ROOFS : R-19, THERMAL
 - C. INTERIOR STUD PARTITIONS : 3" MINIMUM THICK (SOUND)
 3. INTERIOR PARTITIONS:
 - A. REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.18 FOR INTERIOR FINISH SCHEDULES.
 - B. [Symbol] INDICATES ONE HOUR PARTITION
 - C. [Symbol] INDICATES TWO HOUR PARTITION
 - D. [Symbol] INDICATES STAGGERED STUD SOUND PARTITION
 - E. [Symbol] INDICATES LOW FREQUENCY SOUND PARTITION
 - F. ALL PARTITIONS TO BE 3 5/8" X 20 GA. METAL STUDS @ 16" O.C. UNLESS NOTED OTHERWISE. 6" X 16 GA. METAL STUDS @ 16" O.C. @ CORRIDORS 101, 102 & 103
 - G. PROVIDE 5/8" TYPE "X" GYP. BD. TO UNDERSIDE OF STRUCTURE UNLESS NOTED OTHERWISE.
 4. DOORS:
 - A. INDICATED ON PLANS WITH [Symbol], REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
 5. WINDOWS:
 - A. INDICATED ON PLANS WITH [Symbol], REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
 6. PROVIDE SOLID BACKING AT WALL-HUNG N.I.C. EQUIPMENT.
 7. ALL SPECIAL EDUCATION AND CLASSROOMS TO RECEIVE ONE 4' X 16' MARKERBOARD AND ONE 4' X 12' MARKERBOARD. SEE INDIVIDUAL ROOMS FOR LOCATION. INTERIOR ELEV. SHEET A3-15, A3-16.
- B. ROOM SIGNAGE:**
 FOR INTERIOR ROOM SIGNAGE SEE SCHEDULE A/AO-B. CENTER ALL SIGNAGE @ 60" A.F.F. UNLESS NOTED OTHERWISE.

— METAL STUD WALLS, WITH AND WITHOUT INSULATION



OFFICE OF THE STATE ARCHITECT
 ACCESS COMPLIANCE SECTION
 APPROVED FOR ACCESS
 5/9/98 11/06/92
 Reviewed by _____

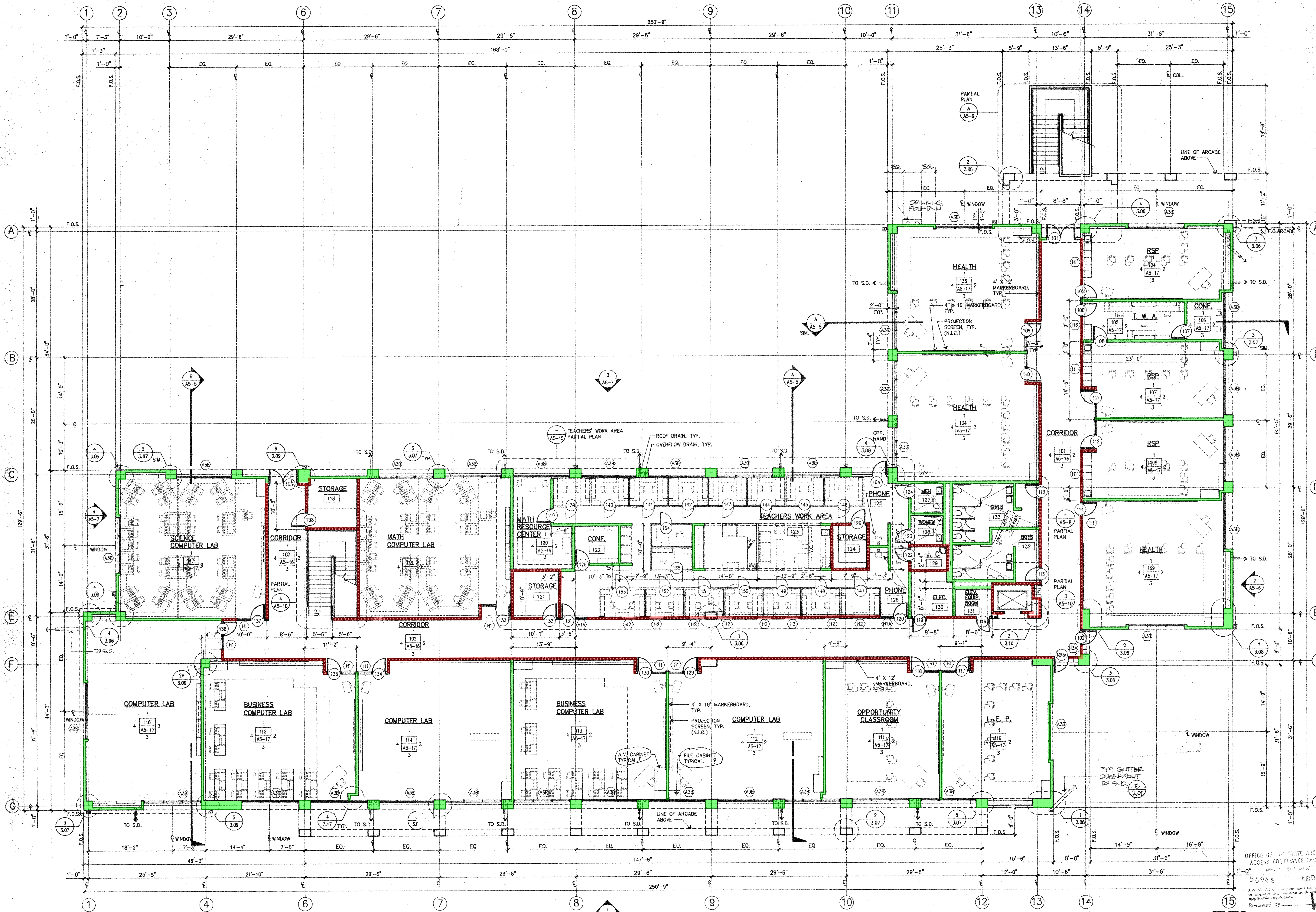
CONSTRUCTION DOCUMENTS

OXNARD HIGH SCHOOL

The Blurock Partnership
 Architects and Planners
 2300 Norwell Boulevard / Newport Beach, California 92660 / Telephone No. (714) 873-3300

BLDG. 'C'
 SECOND FLOOR PLAN
 SHEET A3-2
 OF 373 SHEETS

REVISIONS	DATE	DRAWN	JOB NO.

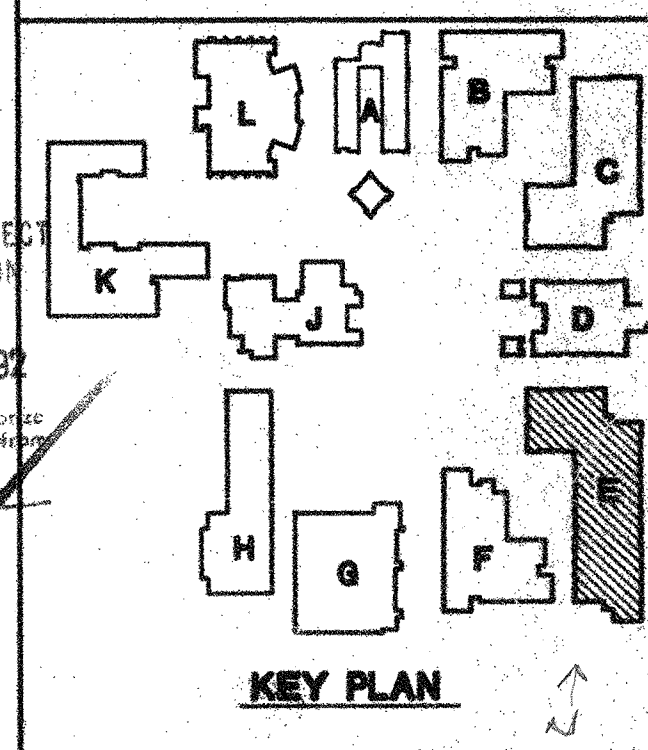


GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR PARTITIONS ARE 6" X 16 GA. METAL STUDS @ 16" O.C. WITH EXTERIOR CEMENT PLASTER UNLESS NOTED OTHERWISE. INTERIOR FACE TO BE GYPSUM BOARD 1" INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: INSTALL INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS: R-19, THERMAL.
 - ROOFS: R-19, THERMAL.
 - INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 8.01 THROUGH 8. FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR PARTITION
 - INDICATES TWO HOUR PARTITION
 - INDICATES STAGGERED STUD SOUND PARTITION
 - ALL PARTITIONS TO BE 3 5/8" X 20 GA. METAL STUDS @ 16" O.C. UNLESS NOTED OTHERWISE.
 - PROVIDE 5/8" TYPE "X" GYP. BD. TO UNDERSIDE OF STRUCTURE UNLESS NOTED OTHERWISE.
- DOORS:
 - INDICATED ON PLANS WITH \odot SYMBOL. REFER TO DETAIL SHEETS 8.02 THROUGH 8. FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - INDICATED ON PLANS WITH \circ SYMBOL. REFER TO DETAIL SHEETS 8. THROUGH 8. FOR WINDOW TYPES.
- PROVIDE SOLID BACKING AT WALL-HUNG N.L.P. EQUIPMENT.
- HEALTH, OPP. CL., L.E.P., & BUS. COMP. LAB. TO RECEIVE ONE 4' X 16" MARKERBOARD AND ONE 4' X 12" MARKERBOARD. RSP AND COMP. LABS TO RECEIVE ONE 4' X 16" MARKERBOARD.
- INTERIOR SIGNAGE: SEE SCHEDULE A1A-B FOR MORE INFORMATION. CENTER ALL SIGNAGE @ 40" AFF. UNLESS NOTED OTHERWISE.

METAL STUD WALLS WITH AND WITHOUT INSULATION

Seal of the State Architect, Office of the State Architect, Structural Safety Section, License No. 45494, State of California.



OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
5604 G AUG 06 09

APPROVED ON THIS PLAN DATE AND QUALITY OF APPROVAL CITY, COUNTY OR DISTRICT REPRESENTATIVE SIGNATURE

Reviewed by

1/8" = 1'-0" CONSTRUCTION DOCUMENTS

FIRST FLOOR PLAN

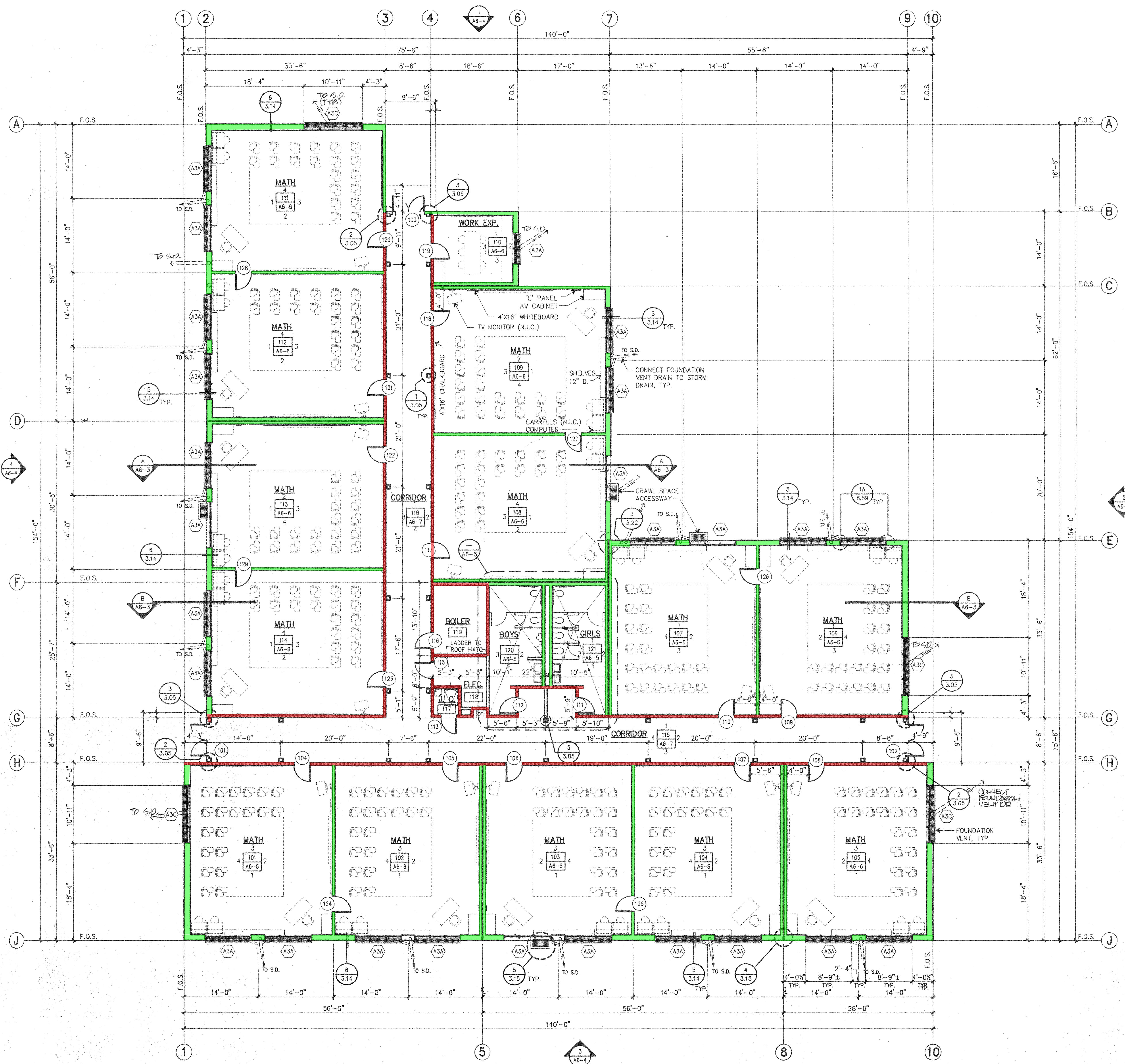
REVISIONS	DATE	DRAWN	JOB NO.

OXNARD HIGH SCHOOL

The Blurock Partnership
Architects and Planners
2000 Newport Boulevard, Newport Beach, California 92663 | Telephone No. 714.973.0000

BLDG. 'E'
FIRST FLOOR

SHEET 86
A5-1
OF 378 SHEETS
1-28-93



WOOD STUD WALLS, WITH AND WITHOUT INSULATION

GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR WALLS ARE 2X6 WOOD STUDS AT 16" O.C. U.N.O., WITH EXTERIOR PLASTER (1) OVER PLYWOOD SHEATHING, TYP., EXCEPT WHERE LOCATED ABOVE AND BELOW INSET WINDOWS (REFER TO DETAILS 1/8.56 AND 4/9.56). INTERIOR FACE TO BE GYPSUM BOARD (2) INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
 - INSULATION: INSTALL INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS: R-19, THERMAL.
 - ROOFS: R-30, THERMAL.
 - INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
 - FLOOR: R-11 THERMAL.
 - INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 8.01 THROUGH 8.18 FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR PARTITION SEE (A) (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) 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 - WOOD STUD WALLS: "PARTITIONS" ALL INTERIOR PARTITIONS ARE TO BE PARTITION TYPE (1) DETAIL A/4.01, UNLESS NOTED OR DETAILED OTHERWISE. REFER TO NOTES D/4.03.
 - PROVIDE GYP. BD. (2) TO UNDERSIDE OF STRUCTURE, UNLESS NOTED OTHERWISE.
- DOORS:
 - INDICATED ON PLANS WITH (3) SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - INDICATED ON PLANS WITH (4) SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
- CORNER GUARDS:
 - PROVIDE CLEAR VINYL CORNER GUARDS AT ALL OUTER CORNERS.

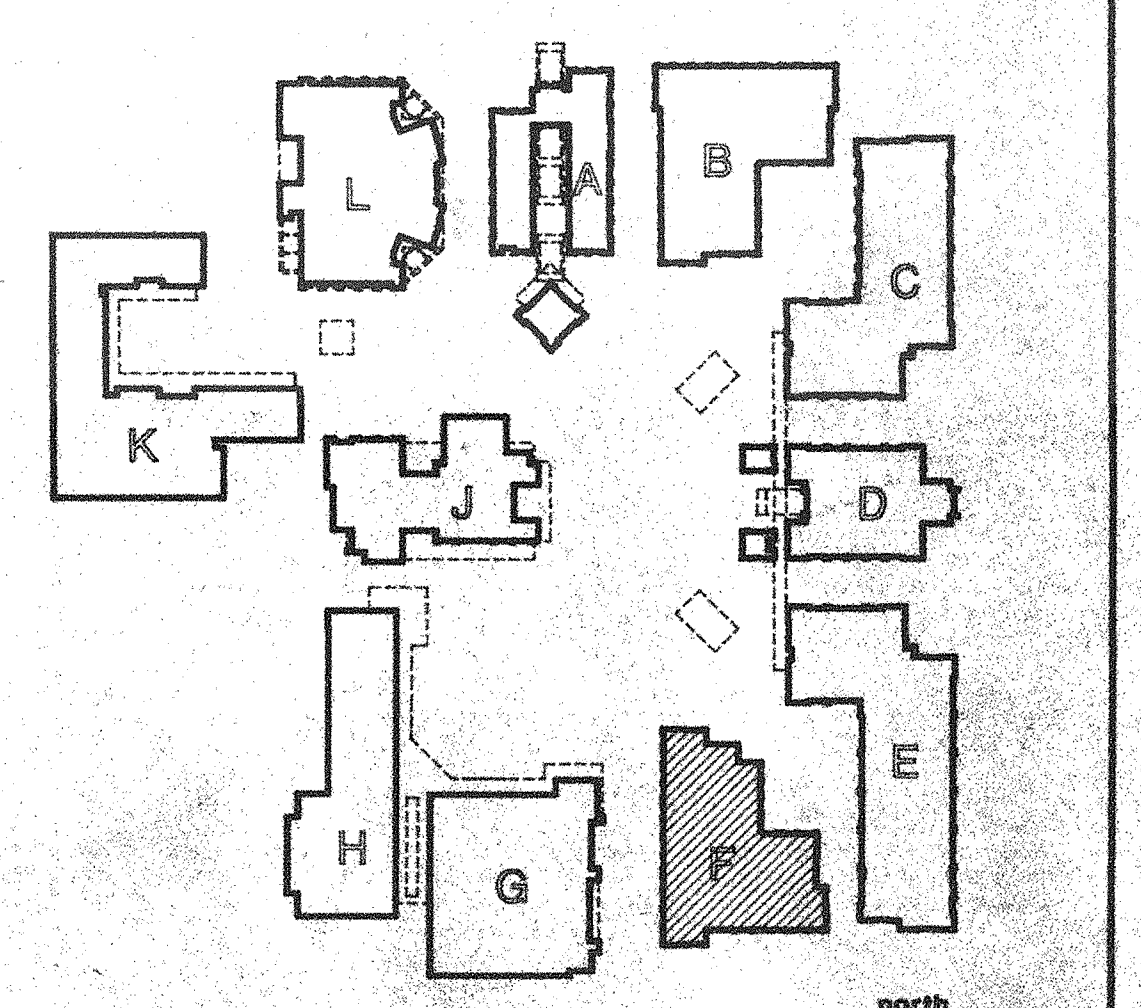
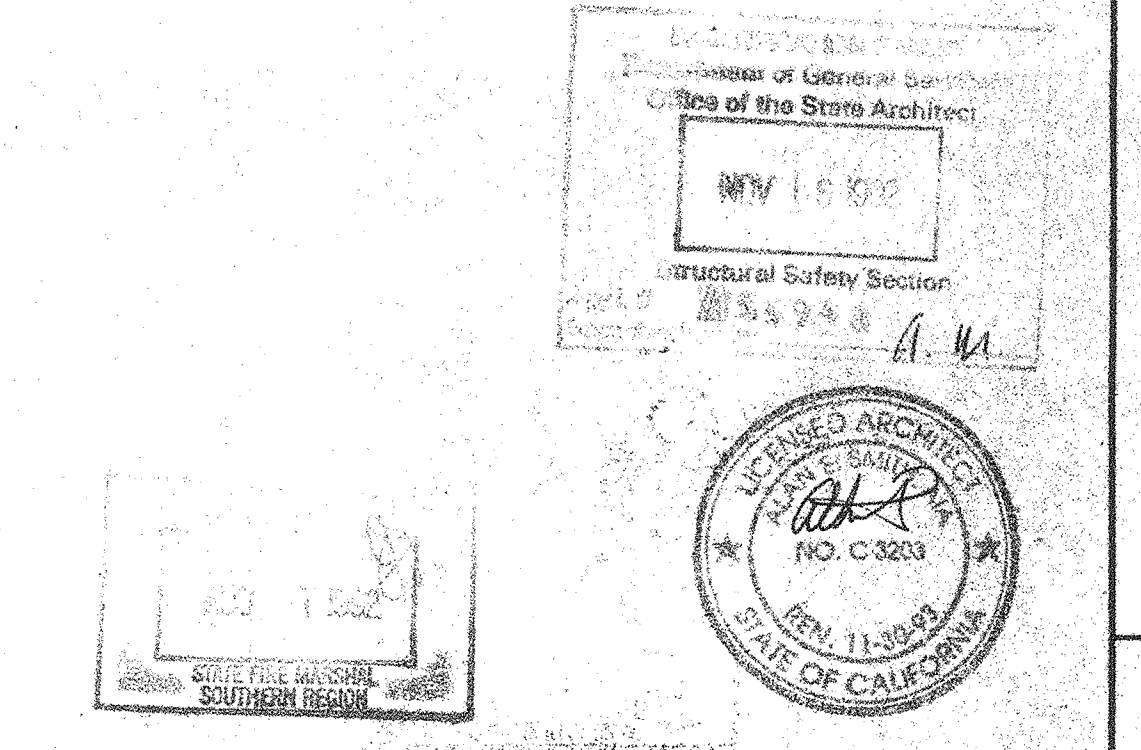
FOUNDATION VENT: LOCATE UNDER WINDOWS, SEE (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) (179) (180) 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7. ROOM SIGNAGE FOR INTERIOR ROOM SIGNAGE, SEE SCHEDULE A/A0-B CENTER ALL SIGNAGE @ 60" A.F.F. UNLESS NOTED OTHERWISE.

FLOOR PLAN

SCALE: 1/8" = 1'-0"

OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
APPROVED FOR BLDG. 005
5/6/98 8/06/98
Reviewed by: _____

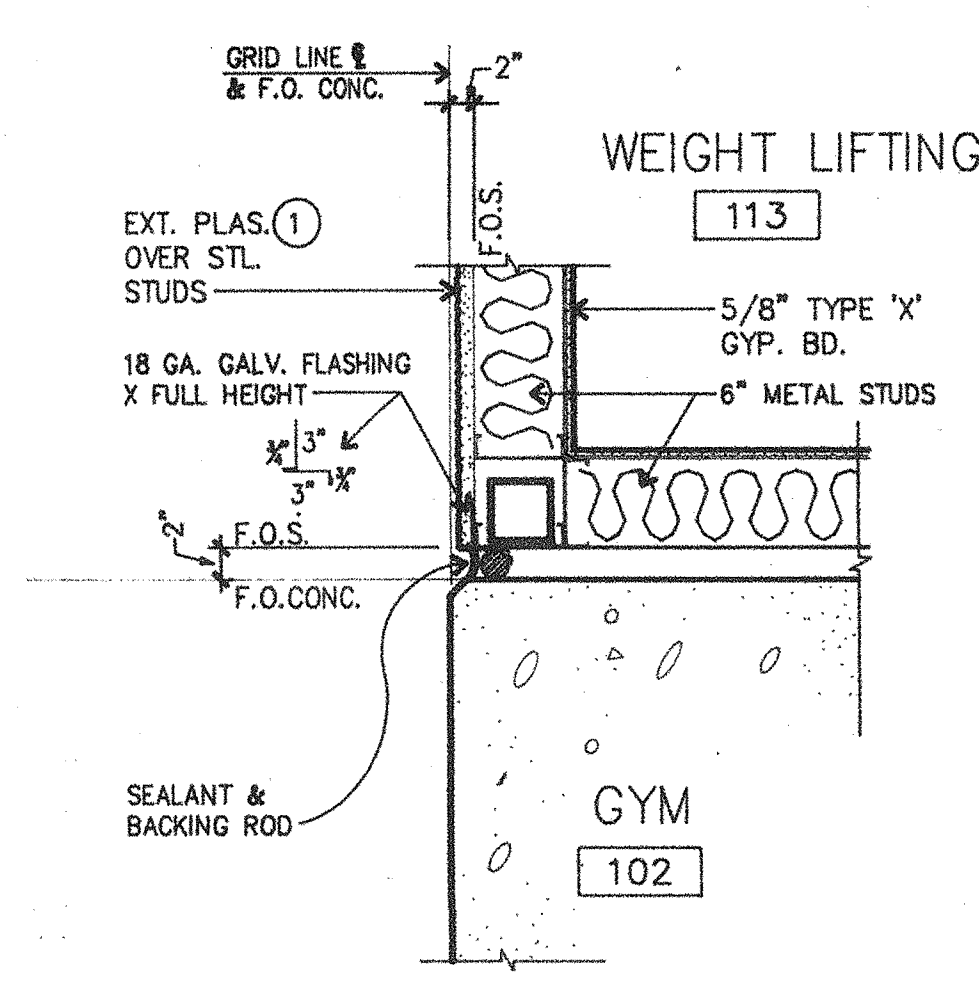


CONSTRUCTION KEY PLAN DOCUMENTS

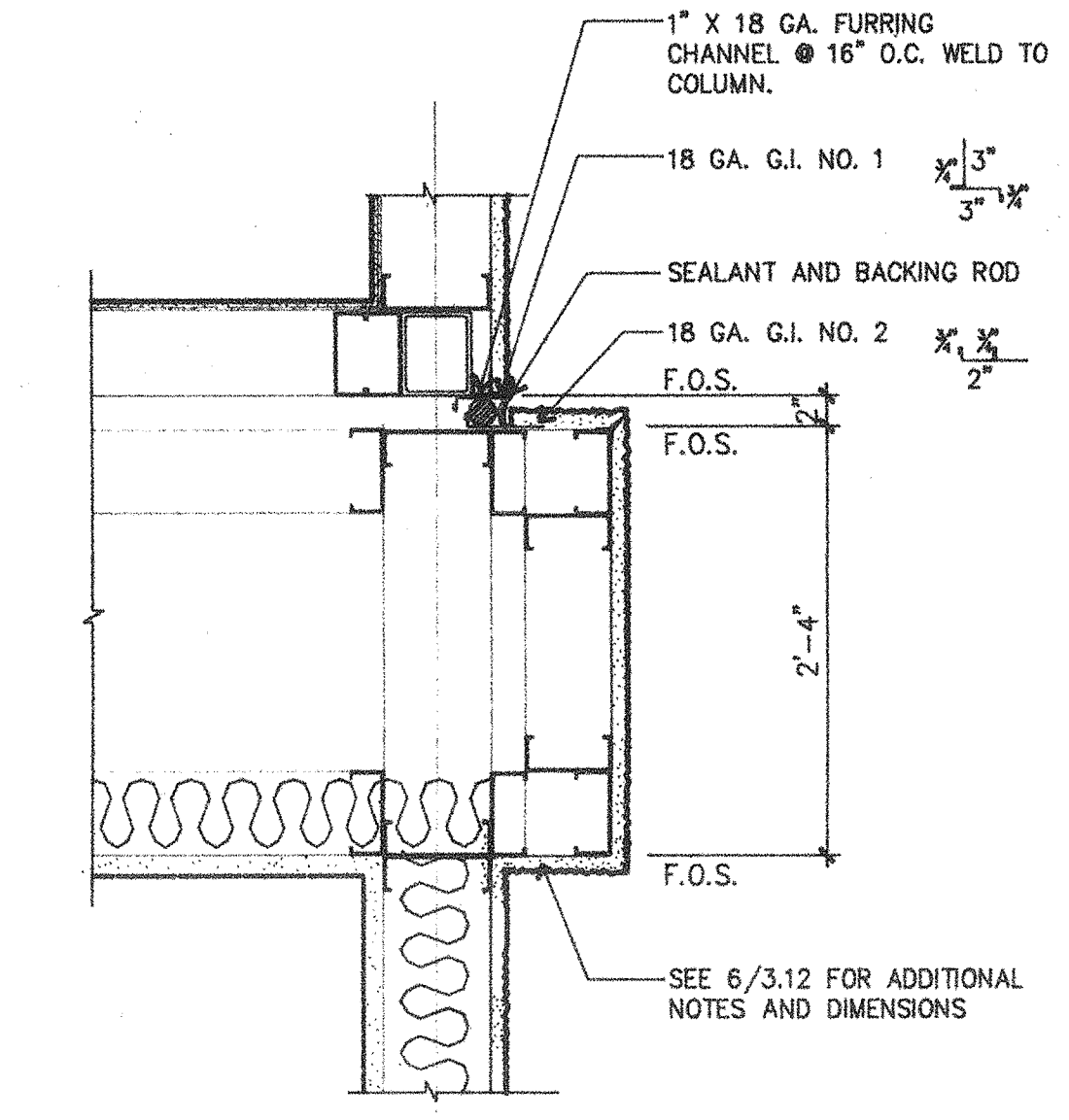
OXNARD HIGH SCHOOL
OXNARD UNION HIGH SCHOOL DISTRICT • OXNARD, CALIFORNIA

The Blurock Partnership
Architects and Planners
230 Newport Boulevard, Newport Beach, California 92660 • Telephone No. (714) 875-0300

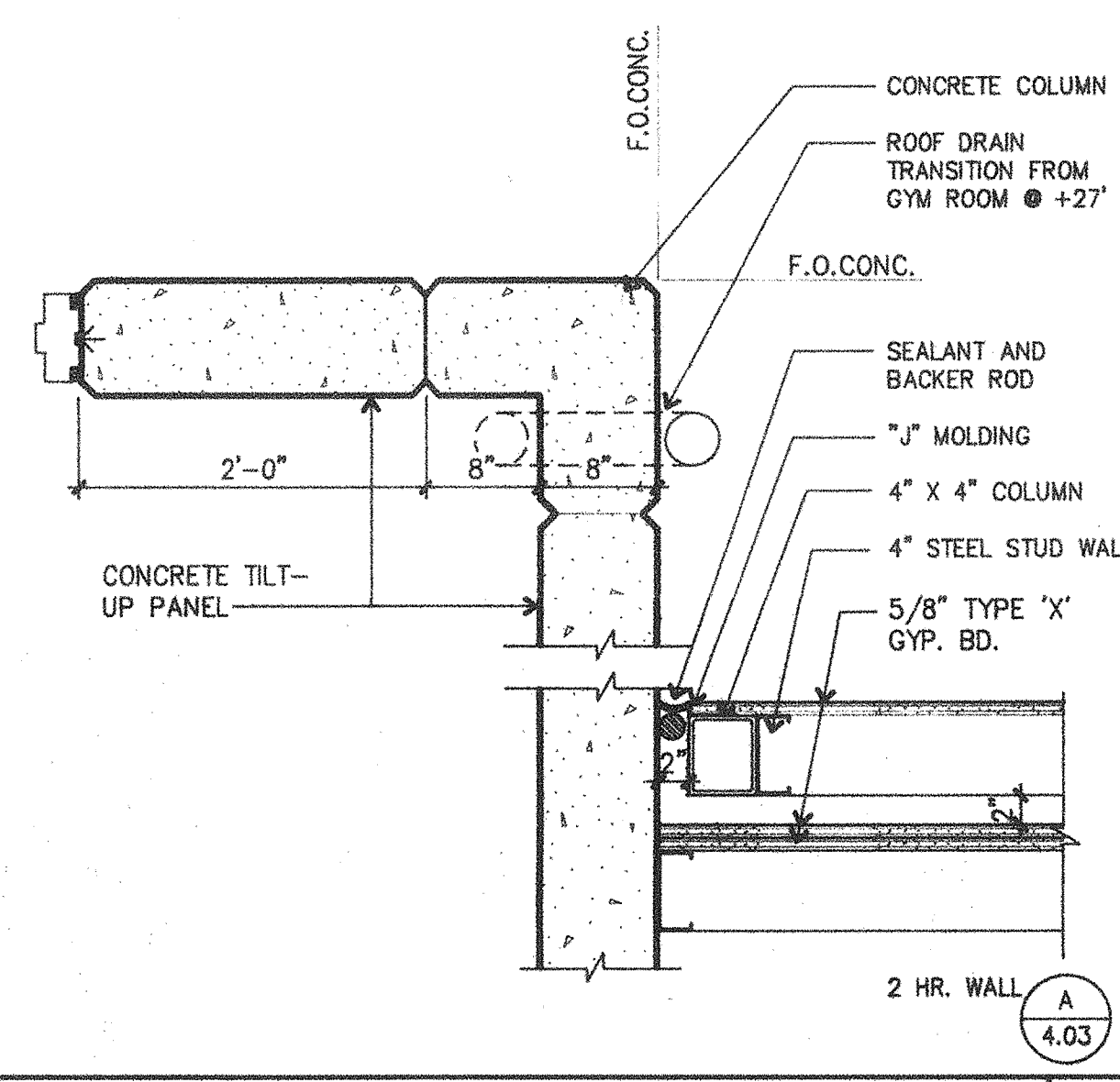
BLDG. 104
FLOOR PLAN
1/8" = 1'-0"
SHEET 104
A6-1
OF 373 SHEETS
1-18-98



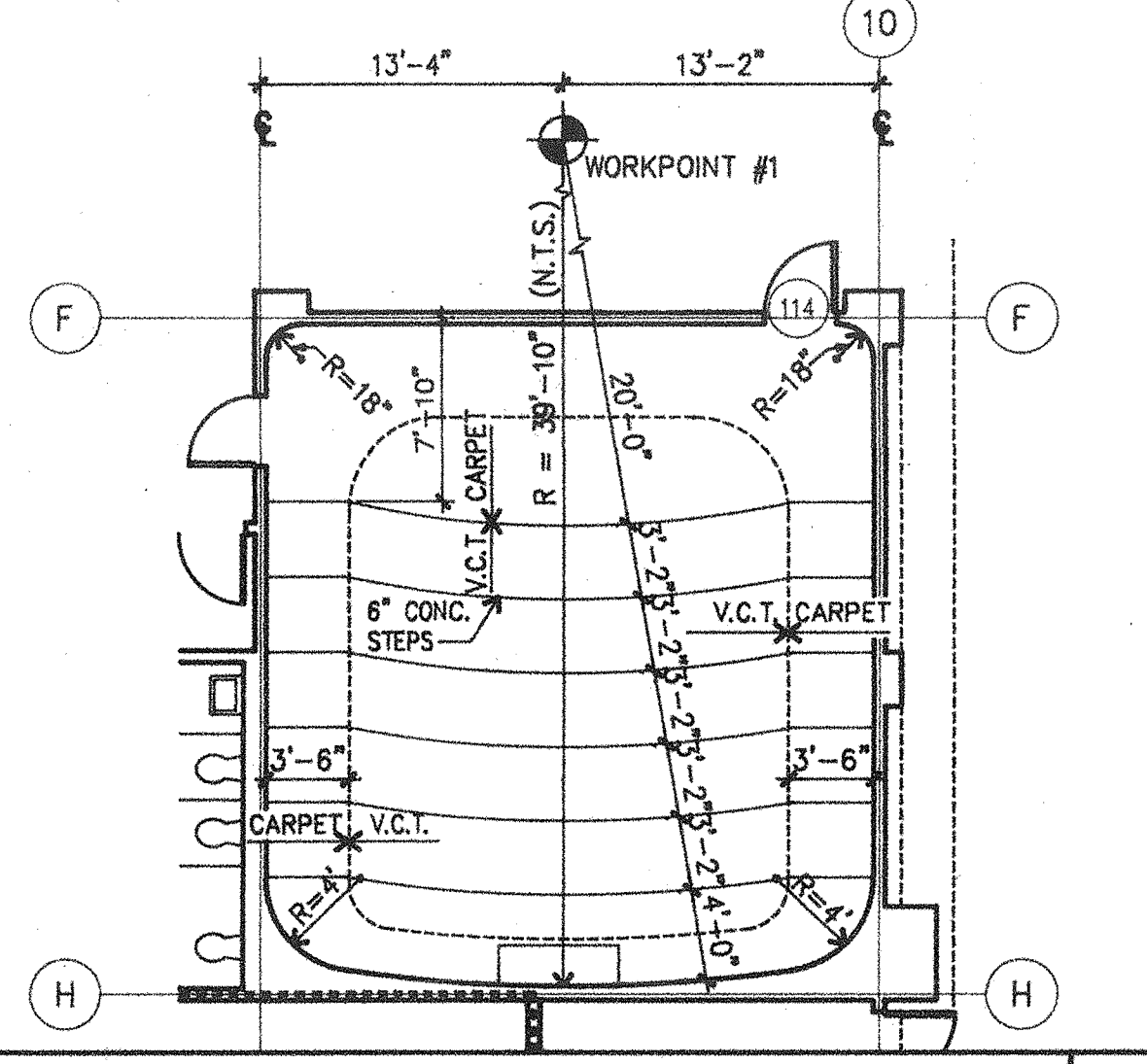
JOINT DETAIL SCALE: 1/4" = 1'-0" **1**



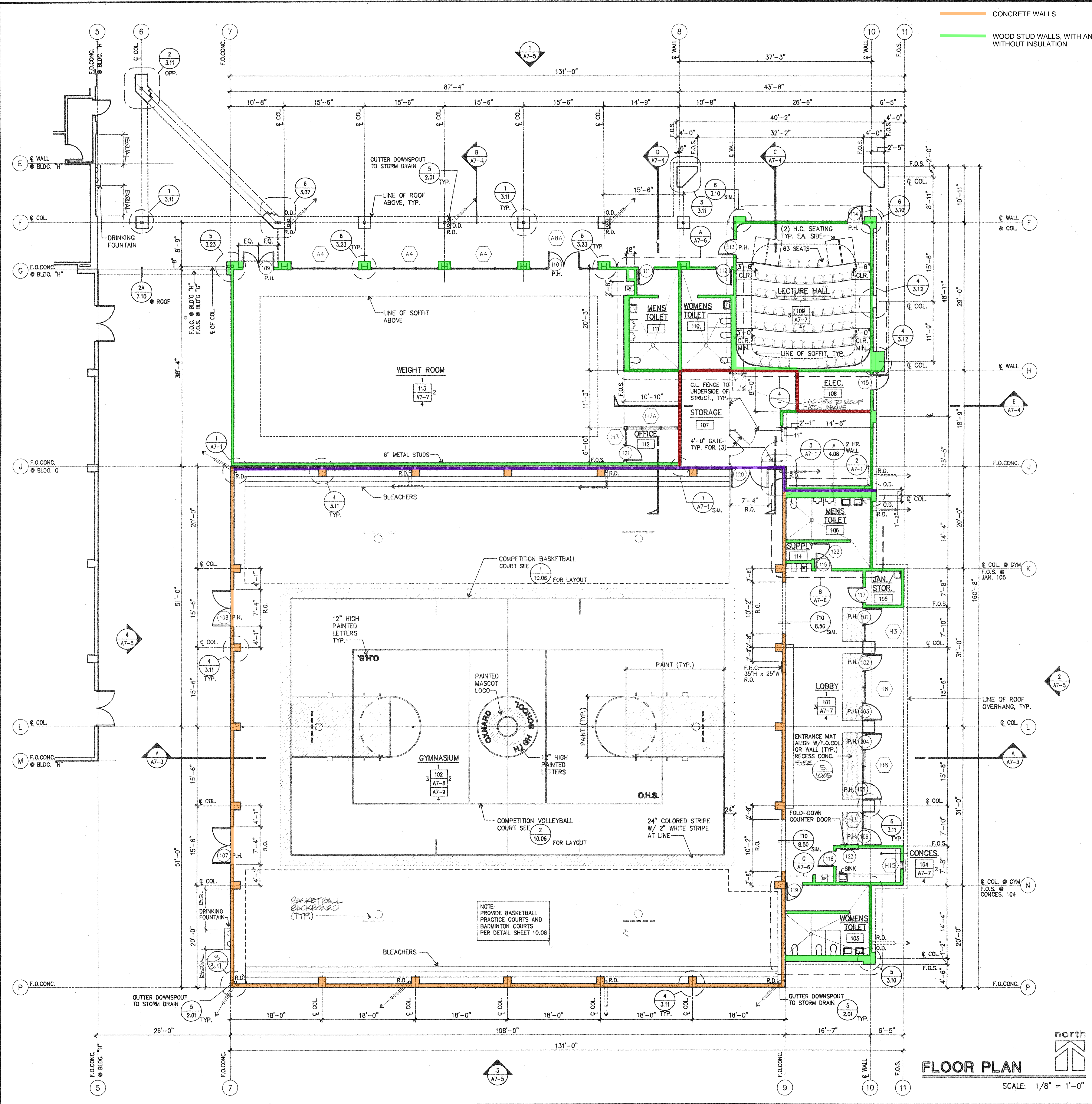
JOINT DETAIL SCALE: 1" = 1'-0" **2**



JOINT DETAIL SCALE: 1" = 1'-0" **3**



PARTIAL PLAN - LECTURE HALL 109 **4**



CONCRETE WALLS
WOOD STUD WALLS, WITH AND WITHOUT INSULATION

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

GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR PARTITIONS ARE 6" 18 GA. METAL STUDS @ 16" O.C. WITH EXTERIOR GEMENT PLASTER, UNLESS NOTED OTHERWISE. INTERIOR FACE TO BE GYPSUM BOARD (1) INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: INSTALL INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS : R-19, THERMAL
 - ROOFS : R-19, THERMAL, RIGID INSUL. UNDER CLAY TILE & B.U.R. ROOFS
 - INTERIOR STUD PARTITIONS : 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR PARTITION
 - INDICATES TWO HOUR PARTITION
 - INDICATES STAGGERED STUD SOUND PARTITION
 - ALL PARTITIONS TO BE 3 5/8" x 20 GA. METAL STUDS @ 16" O.C. UNLESS NOTED OTHERWISE.
 - PROVIDE GYP. BD. (1) UP TO UNDERSIDE OF STRUCTURE.
- DOORS:
 - INDICATED ON PLANS WITH (1) SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - INDICATED ON PLANS WITH (2) SYMBOL, REFER TO DETAIL SHEET 8.56 THROUGH FOR WINDOW TYPES.
- ROOM SIGNAGE:

FOR INTERIOR ROOM SIGNAGE, SEE SCHEDULE A AND B. CENTER ALL SIGNAGE @ 00" A.F.F. UNLESS NOTED OTHERWISE.

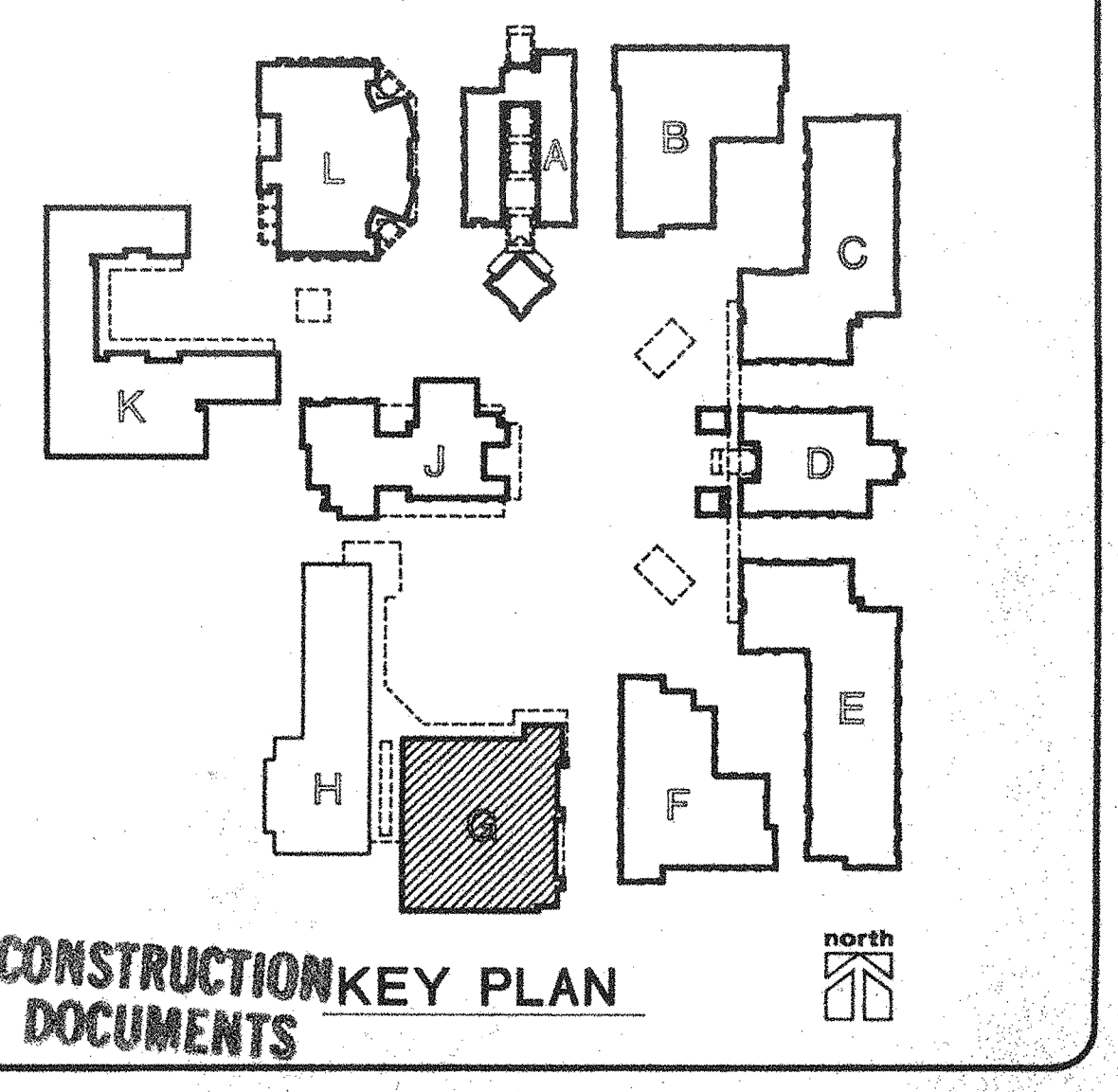
(1) = 8" Concrete wall

100% COMPLETE

NOV 16 1992

Architect's Seal

REGISTERED ARCHITECT

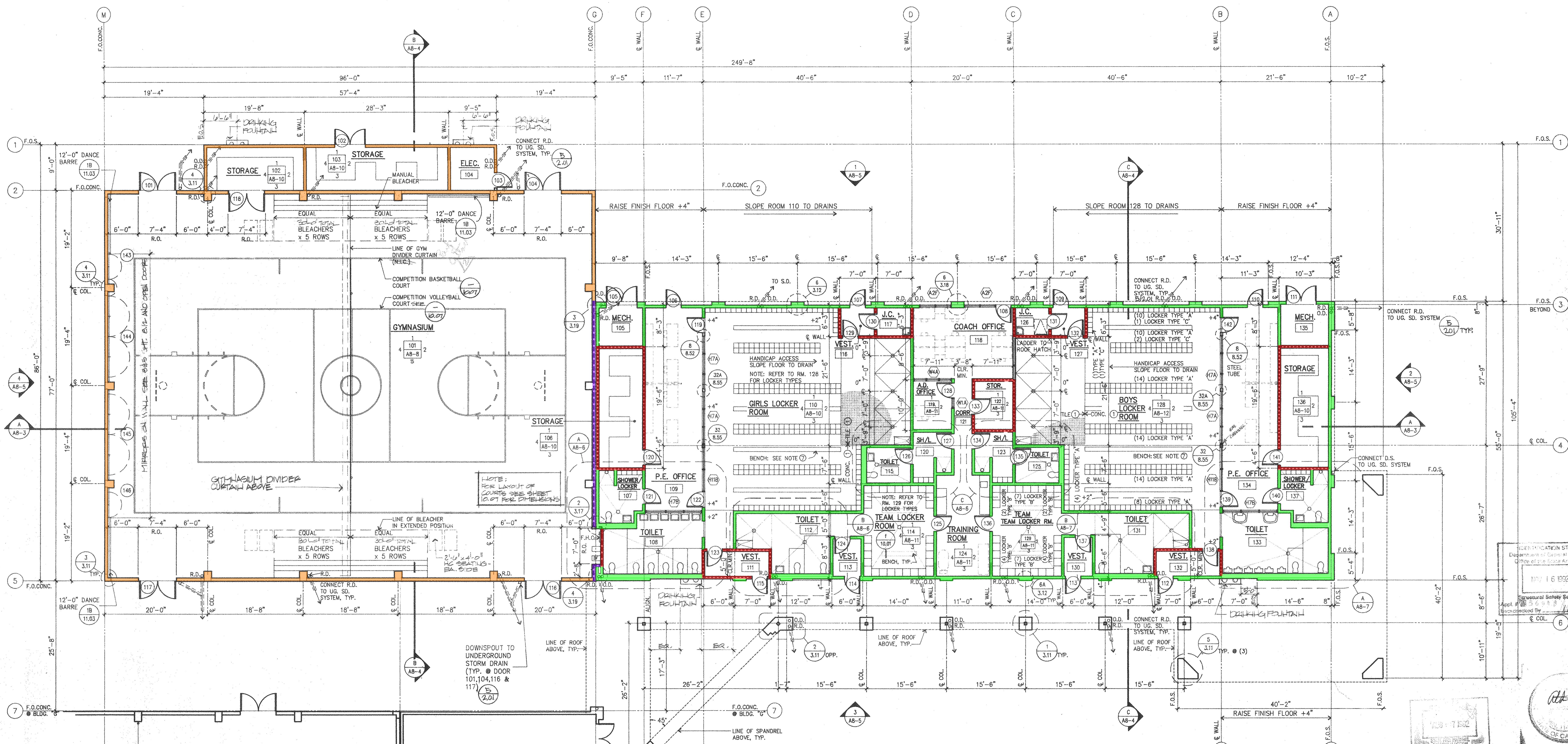


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BLDG. 'G' FLOOR PLAN

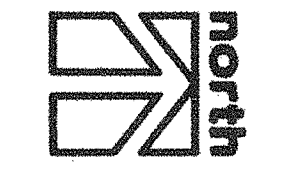
SHEET 111
A7-1
OF 313 SHEETS
1-28-93



BLDG. 'G'

FLOOR PLAN

CONCRETE WALLS
WOOD STUD WALLS, WITH AND WITHOUT INSULATION

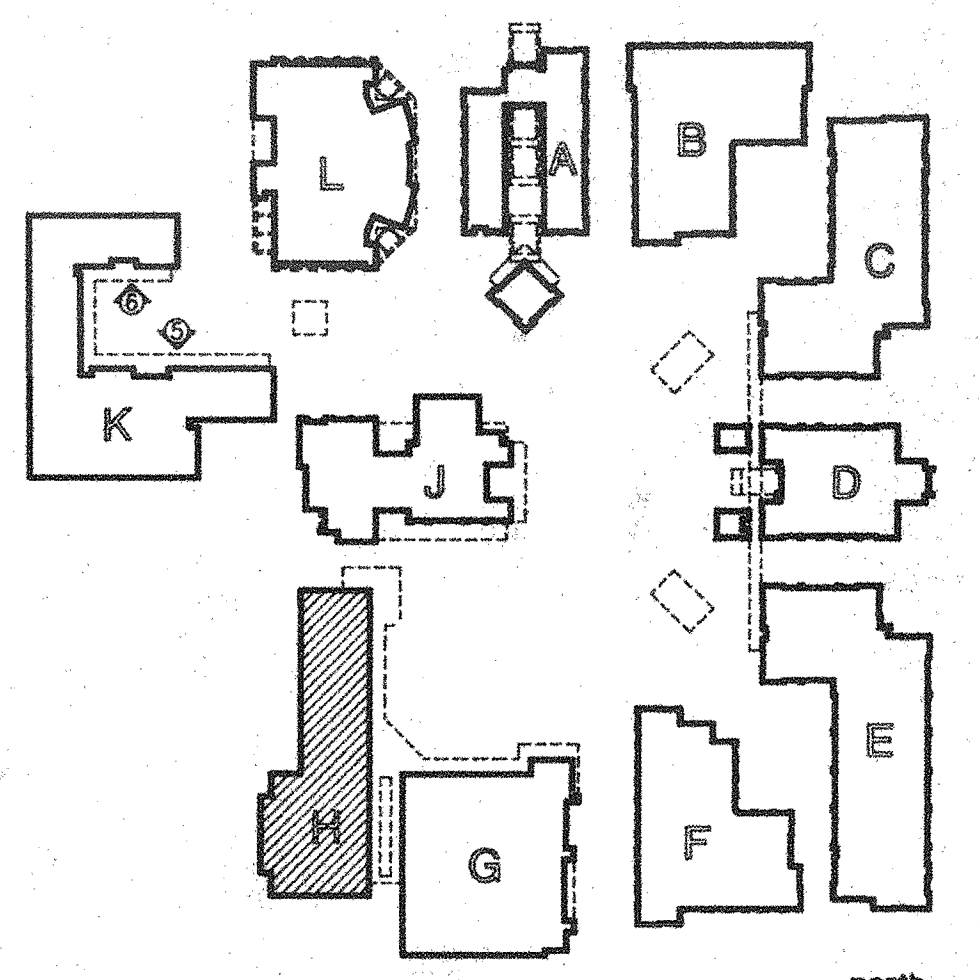


SCALE: 1/8" = 1'-0"

GENERAL NOTES

- EXTERIOR WALLS:
 - A. ALL EXTERIOR PARTITIONS ARE 6" 18 GA. METAL STUDS @ 16" O.C. WITH EXTERIOR CEMENT PLASTER, UNLESS NOTED OTHERWISE. INTERIOR FACE TO BE GYPSUM BOARD (1) INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: INSTALL INSULATION AS FOLLOWS:
 - A. EXTERIOR STUD WALLS: R-19, THERMAL
 - B. ROOFS: R-19, THERMAL
 - C. INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - A. REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 8.01 THROUGH 8.11 FOR INTERIOR FINISH SCHEDULES.
 - B. INDICATES ONE HOUR PARTITION
 - C. INDICATES TWO HOUR PARTITION CONCRETE WALLS
 - D. INDICATES STAGGERED STUD SOUND PARTITION
 - E. ALL PARTITIONS TO BE 3 5/8" x 20 GA. METAL STUDS @ 16" O.C. UNLESS NOTED OTHERWISE.
 - F. PROVIDE GYP. BD. 1 UP TO UNDERSIDE OF STRUCTURE, U.N.O.
- DOORS:
 - A. INDICATED ON PLANS WITH SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - A. INDICATED ON PLANS WITH SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW SCHEDULE.
- LOCKERS:
 - REFER TO DETAIL PROVIDE BACK TO BACK UNITS WHERE INDICATED ON PLAN.
- LOCKER BENCHES:
 - REFER TO DETAIL
 - A. PROVIDE BENCHES AS INDICATED ON PLAN AND AS FOLLOWS:
 - ROOM 114: (2) @ 6'-0" LONG
 - ROOM 128: (2) @ 6'-0" LONG
 - ROOM 110: (3) @ 21'-0" LONG & (1) 17'-0" LONG
 - ROOM 128: (3) @ 21'-0" LONG & (1) 17'-0" LONG
 - B. ROOM SIGNAGE: FOR INTERIOR ROOM SIGNAGE, SEE SCHEDULE A/AO-B. CENTER ALL SIGNAGE @ 6" A.F.F., U.N.O.

OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
DATE: 06/16/92
APPROVED BY: [Signature]
REVIEWED BY: [Signature]



CONSTRUCTION KEY PLAN

OXNARD HIGH SCHOOL

The Blurock Partnership
Architects and Planners
2200 Newport Boulevard / Newport Beach, California 92660 / Telephone No. 714/873-0200

BLDG. 'H' FLOOR PLAN

SHEET 120
A8-1
OF 313 SHEETS
1-28-92

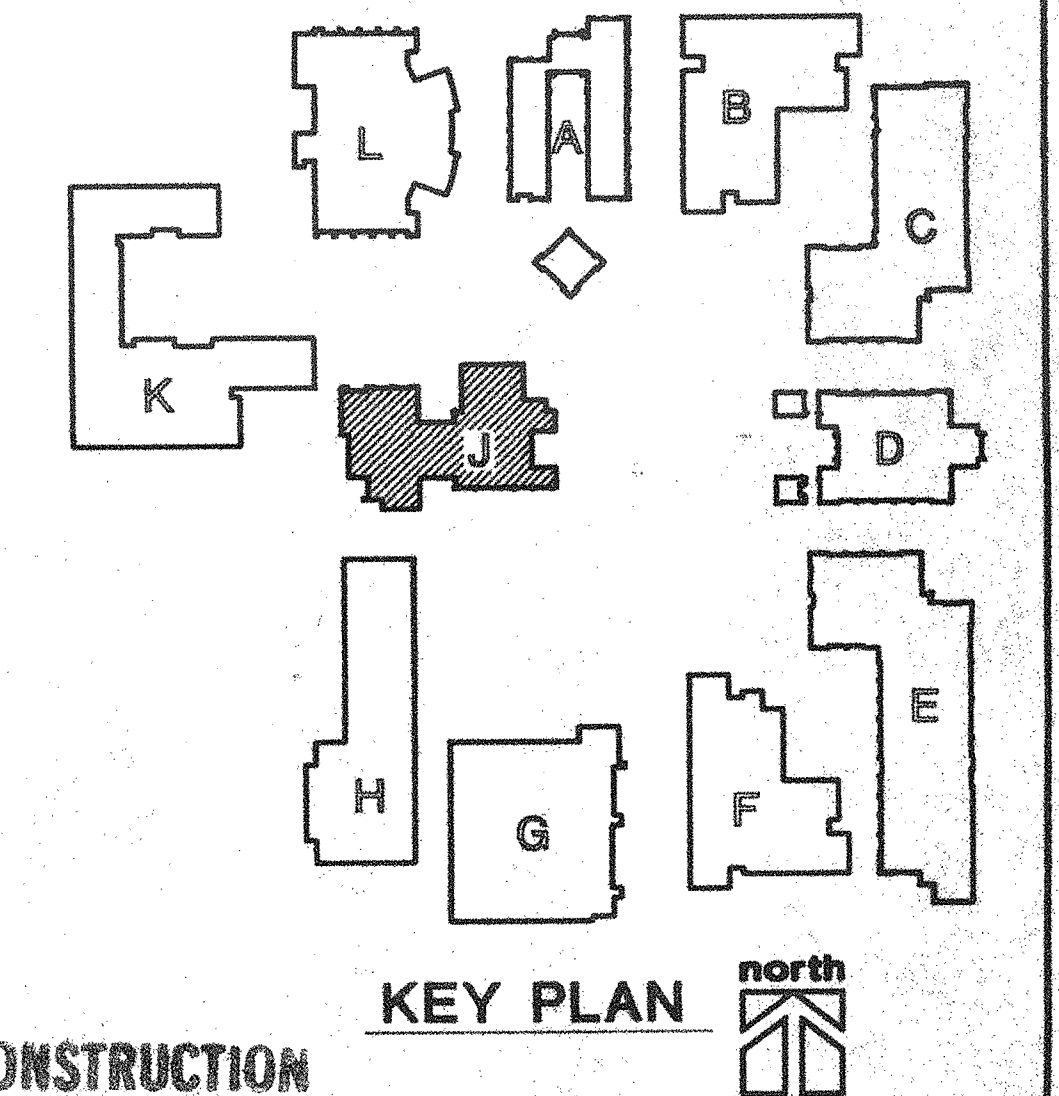
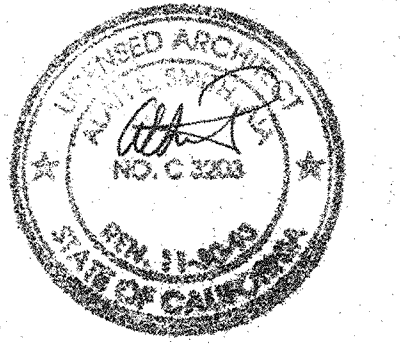
WOOD STUD WALLS, WITH AND WITHOUT INSULATION

GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR WALLS ARE 2X6 WOOD STUDS AT 16" O.C. U.N.O. WITH EXTERIOR PLASTER 1 OVER PLYWOOD SHEATHING, TYP. EXCEPT WHERE LOCATED ABOVE AND BELOW INSET WINDOWS (REFER TO DETAILS 1/8.56 AND 4/8.56). INTERIOR FACE TO BE GYPSUM BOARD 1 INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: INSTALL INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS: R-19, THERMAL
 - ROOFS: R-30, THERMAL
 - INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.18 FOR INTERIOR FINISH SCHEDULES.
 - INDICATES ONE HOUR RATED PARTITION SEE (A) (A9-6)
 - INDICATES ONE HOUR OCCUPANCY SEPARATION SEE (C) (A9-6)
 - INDICATES STAGGERED STUD SOUND PARTITION SEE (E) (A9-6)
 - INDICATES LOW FREQUENCY SOUND PARTITION SEE (G) (A9-6)
- PARTITIONS: ALL PARTITIONS ARE TO BE PARTITION TYPE (A) DETAIL A/4.01, UNLESS NOTED OR DETAILED OTHERWISE. REFER TO NOTES D/4.03.
- DOORS:
 - INDICATED ON PLANS WITH (A) SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - INDICATED ON PLANS WITH (W) SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
 - LOUVER BLINDS - PROVIDE LOUVER BLINDS AT TYPE (A3) WINDOWS AT A.S.B. ROOM NO. 105 & FACULTY DINING ROOM NO. 104.
- KITCHEN NOTES:
 - SEE SHEETS K-1 TO K-7 FOR FOOD SERVICE PLANS.
 - SLOPE FLOOR TO DRAINS 1/4" PER FOOT MIN.
 - STEEL STUD PARTITIONS - 6"x16" GA. GALVANIZED STEEL STUDS @ 16" O.C. W/ GYP. BD. (1) & STAINLESS STEEL FLASHING, ALL SIDES, AND CAP AT 42" HIGH WALL.
- SPEEDLINE NOTES:
 - PROVIDE 12" X 12" HANDICAPPED SYMBOL ON FLOOR. SPEEDLINE AISLE IS TO REMAIN 36" CLEAR.
 - ALL SPEEDLINE COUNTERS ARE TO BE 34" HIGH MAX.
 - INDICATES HANDICAPPED SEATING AREA AT END OF STUDENT DINING TABLES, 14 TOTAL.

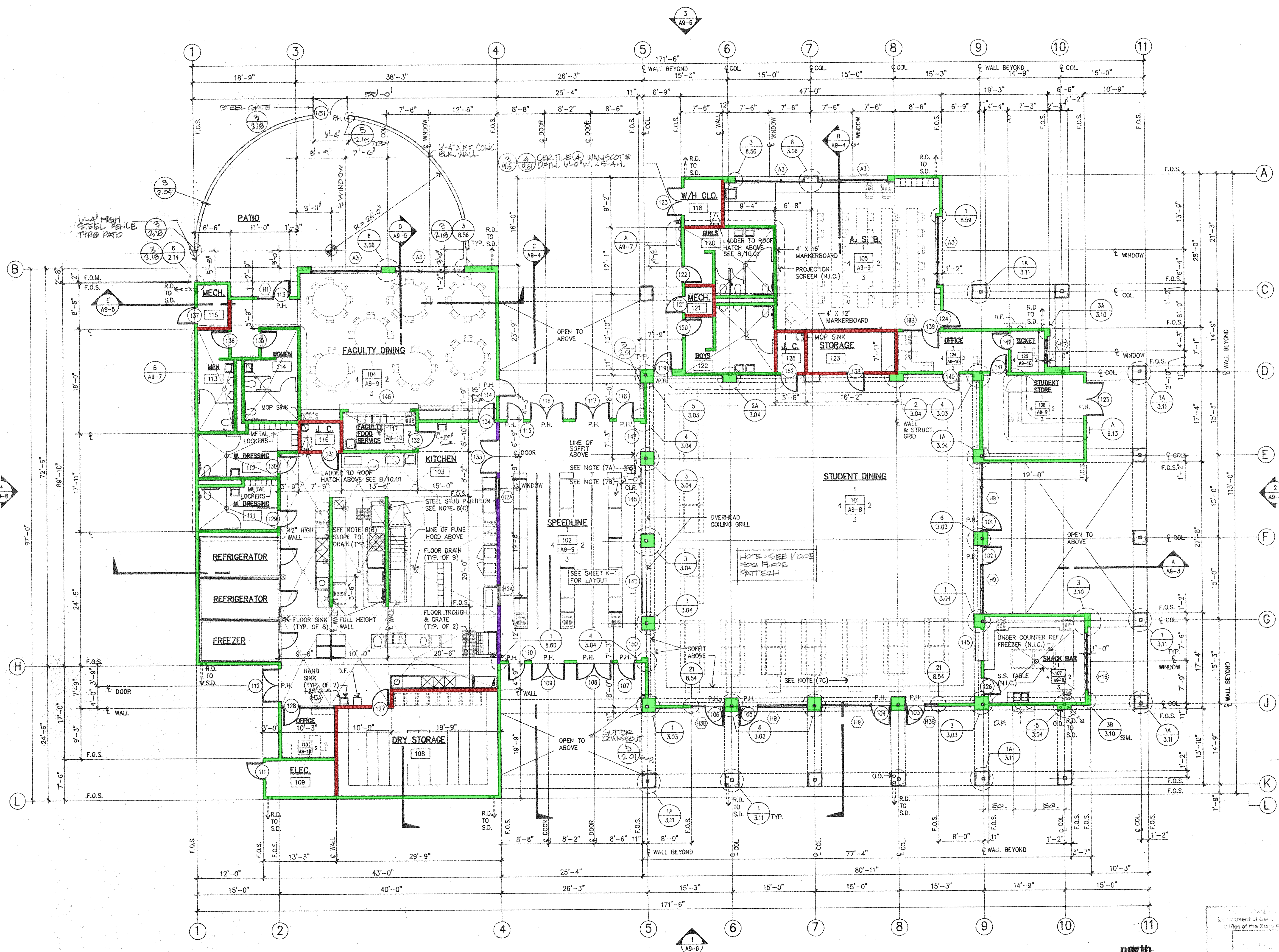
SPECIAL NOTES

- FOOD HANDLING FACILITIES SHALL COMPLY WITH ALL LOCAL REQUIREMENTS AND CALIFORNIA UNIFORM RETAIL FOOD FACILITIES LAW.
- ALL "HARDWARE AND GAS" KITCHEN EQUIPMENT SHALL BE INSTALLED WITH SEISMIC RESTRAINTS PER GUIDELINES FOR SEISMIC RESTRAINTS OF KITCHEN EQUIPMENT AS PUBLISHED BY SMACNA AND APPROVED BY OSA.
- WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND THE OSA FIELD ENGINEER.
- A COPY OF THE "GUIDELINES" SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB SITE AT ALL TIMES.
- ROOM SIGNAGE: FOR INTERIOR ROOM SIGNAGE, SEE SCHEDULE A/10.2. CENTER ALL SIGNAGE @ 60" AFF. U.N.O.



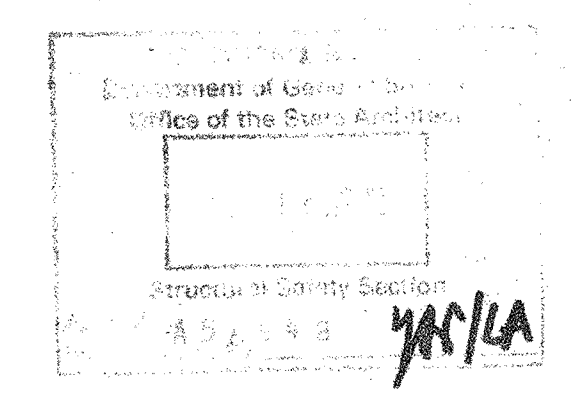
CONSTRUCTION DOCUMENTS

BLDG. 'J'
FLOOR PLAN



FLOOR PLAN

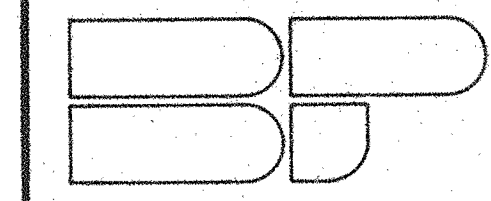
1/8" = 1'-0"



OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE SECTION
5/9/98
APPROVED FOR CONSTRUCTION DOCUMENTS
Reviewed by

REVISIONS	DATE	DRAWN	JOB NO.

OXNARD HIGH SCHOOL



The Blurock Partnership
Architects and Planners
200 Newbury Boulevard / Newport Beach, California 92663 / Telephone No 714/473-0200

WOOD STUD WALLS, WITH AND WITHOUT INSULATION
 CMU WALLS

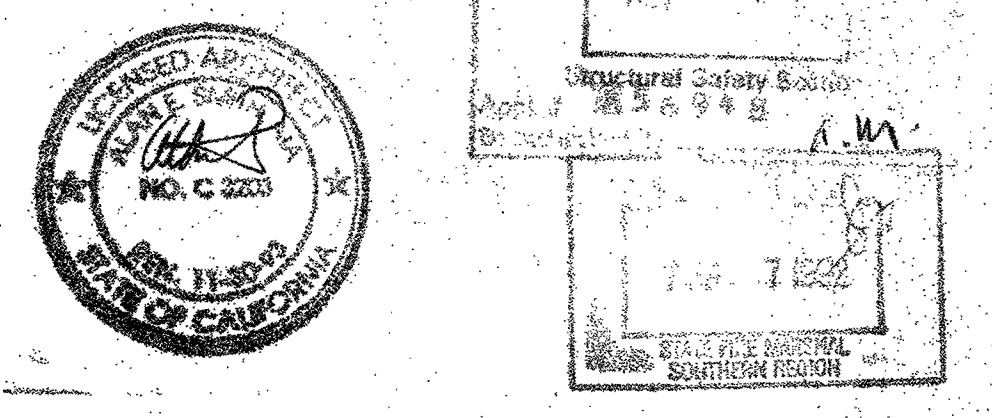
GENERAL NOTES

- EXTERIOR WALLS:
 - A. ALL EXTERIOR WALLS ARE 2x6 WOOD STUDS AT 16" O.C. U.N.O., WITH EXTERIOR PLASTER 1" OVER PLYWOOD SHEATHING, TYP., EXCEPT WHERE LOCATED ABOVE AND BELOW INSET WINDOWS (REFER TO DETAILS 1/8.56 AND 4/8.56). INTERIOR FACE TO BE GYPSUM BOARD 1" INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: PROVIDE INSULATION AS FOLLOWS:
 - A. EXTERIOR STUD WALLS: R-19, THERMAL
 - B. ROOFS: R-30, THERMAL
 - C. INTERIOR STUD PARTITIONS: 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - A. REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.08 FOR INTERIOR FINISH SCHEDULES.
 - B. ----- ONE HOUR PARTITION SEE A/4.01
 - C. ----- ONE HOUR OCCUPANCY SEPARATION
 - D. ----- SOUND PARTITION SEE A/4.01
 - E. WOOD STUD WALLS: "PARTITIONS" ALL INTERIOR PARTITIONS ARE TO BE PARTITION TYPE D/4.01, UNLESS NOTED OR DETAILED OTHERWISE. REFER TO NOTES D/4.03.
- DOORS:
 - A. INDICATED ON PLANS WITH ○ SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - A. INDICATED ON PLANS WITH ○ SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
- LOUVER BLINDS:
 - A. PROVIDE LOUVER BLINDS AT ALL TYPE "A" WINDOWS.

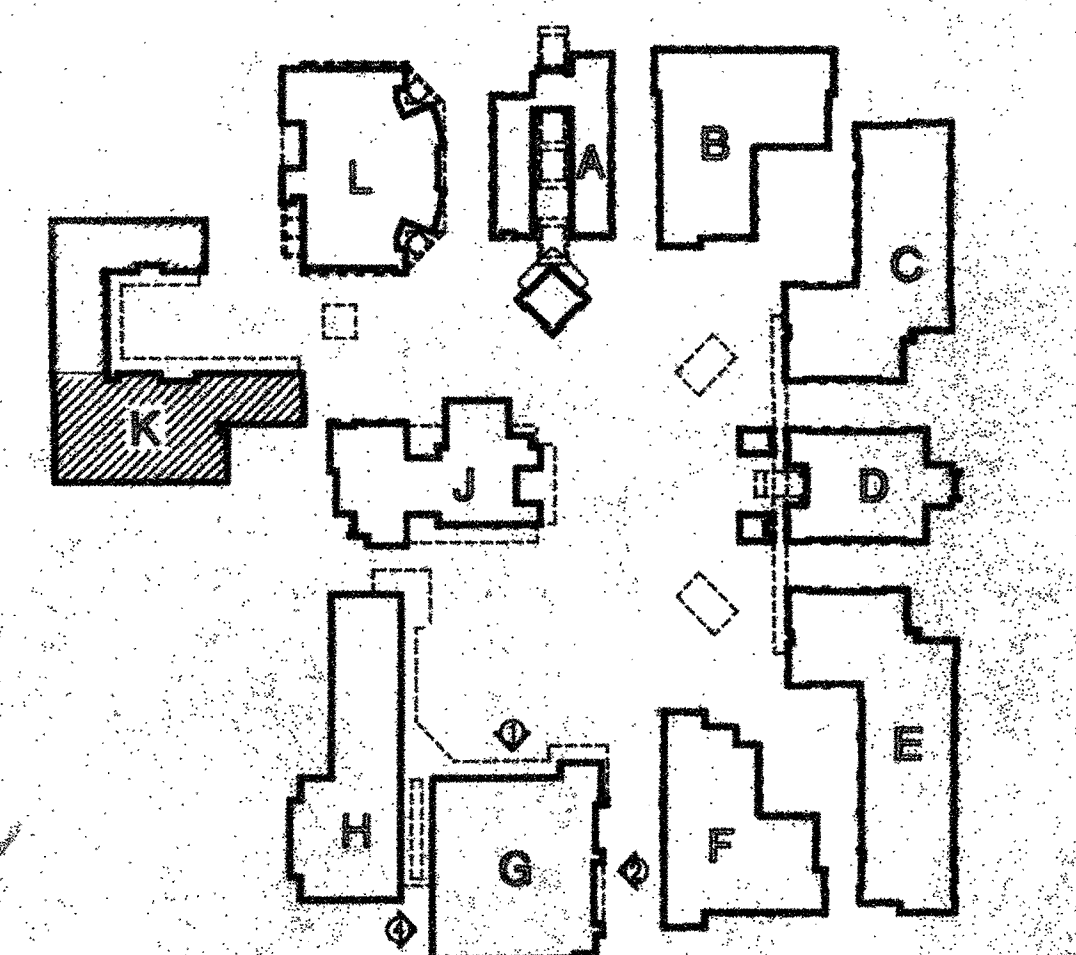
PRODUCTION LAB - 105 EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	SIZE	QTY.	N.I.C./I.C.
1	STUDENT DESKS			
2	RADIAL ARM SAW	50"x56"	1	N.I.C.
3	BAND SAW	66"x36"	1	N.I.C.
4	BAND SAW	46"x34"	1	N.I.C.
5	BAND SAW	21"x32"	1	N.I.C.
6	MORTICER	36"x29"	1	N.I.C.
7	JOINTER	40"x90"	1	N.I.C.
8	TABLE SAW	28"x27"	1	N.I.C.
9	SHAPER	27"x36"	1	N.I.C.
10	RADIAL ARM SAW	50"x40"	1	N.I.C.
11	PLANNER	64"x65"	1	N.I.C.
12	SCROLL SAW	18"x22"	2	N.I.C.
13	LATHE	28"x20"	1	N.I.C.
14	LATHE	28"x20"	1	N.I.C.
15	NOT USED			
16	BELT SANDER	19"x22"	1	N.I.C.
17	SCROLL SAW	20"x26"	2	N.I.C.
18	DRILL PRESS	13"x24"	1	N.I.C.
19	DRILL PRESS	16"x30"	1	N.I.C.
20	GRINDER	30"x24"	1	N.I.C.
21	DISK SANDER	16"x24"	2	N.I.C.
22	DRUM SANDER	20"x24"	1	N.I.C.
23	BORING MACHINE	20"x32"	1	N.I.C.
24	GRINDER	16"x16"	1	N.I.C.
25	GRINDER	16"x16"	1	N.I.C.
26	AIR CLAMP	24"x24"	1	N.I.C.
27	COMPRESSOR	20"x40"	1	N.I.C.
28	PIN ROUTER	22"x30"	1	N.I.C.
29	10" MITER SAW	36"x36"	1	N.I.C.
30	STUDENT WORK TABLES		6	N.I.C.
31	INDUSTRIAL HAND SINK		1	I.C.
32	HOSE BIB		1	I.C.
33	WORK BENCH		1	I.C.

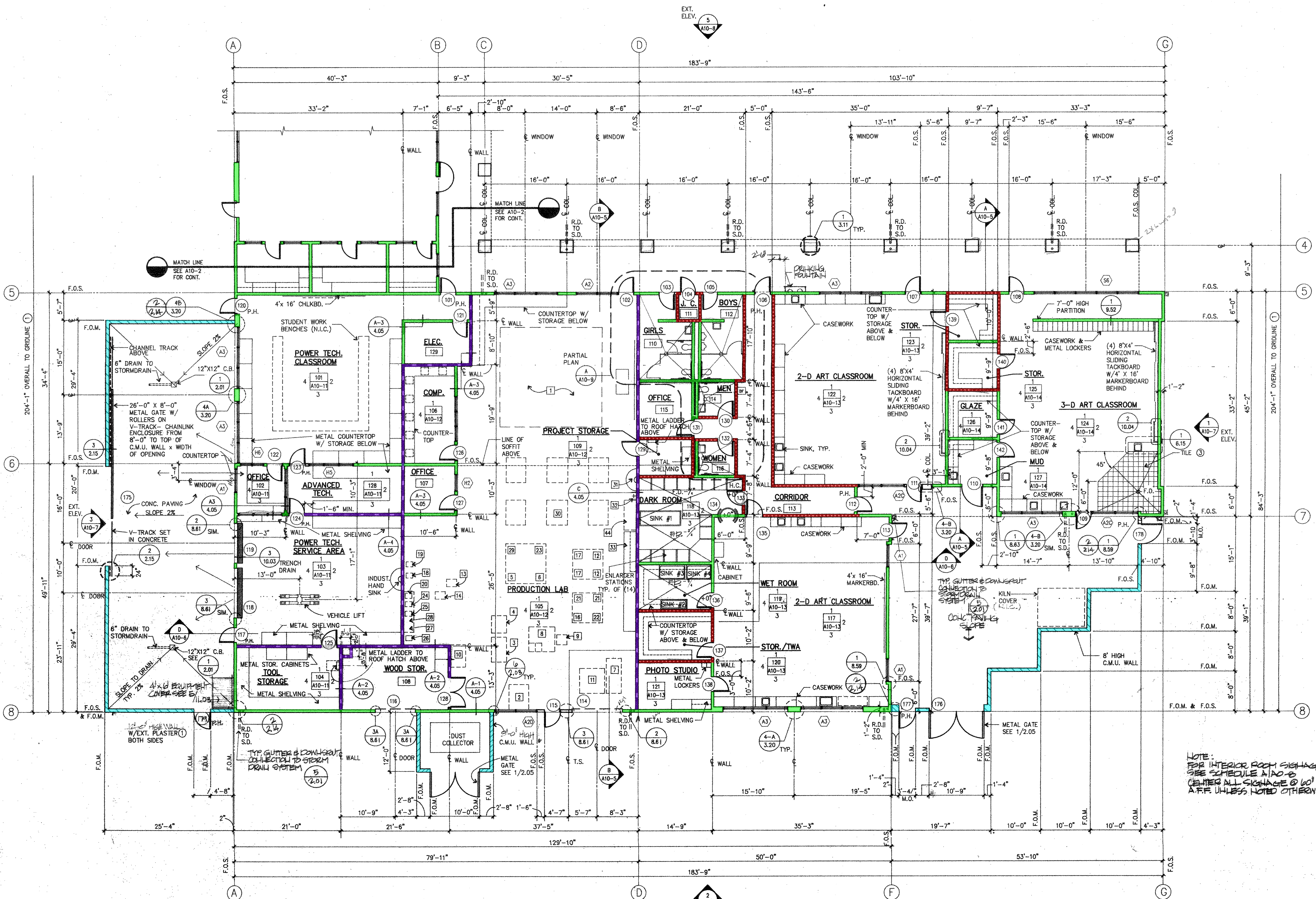
NOTE: VERIFY EXACT LOCATION OF PRODUCTION LAB EQUIPMENT WITH OWNER PRIOR TO INSTALLATION OF DUST COLLECTION SYSTEM.



NOTE: FOR INTERIOR ROOM SIGNAGE SEE SCHEDULE A/10.8 CENTER ALL SIGNAGE @ 60" A.F.F. UNLESS NOTED OTHERWISE.



CONSTRUCTION KEY PLAN



FLOOR PLAN

OFFICE OF THE STATE ARCHITECT
 ACCESS COMPLIANCE SECTION
 56956 030592
 APPROVAL OF THIS PLAN DOES NOT constitute any approval or endorsement from the State Architect.

REVISIONS	DATE	DRAWN	JOB NO.

OXNARD HIGH SCHOOL

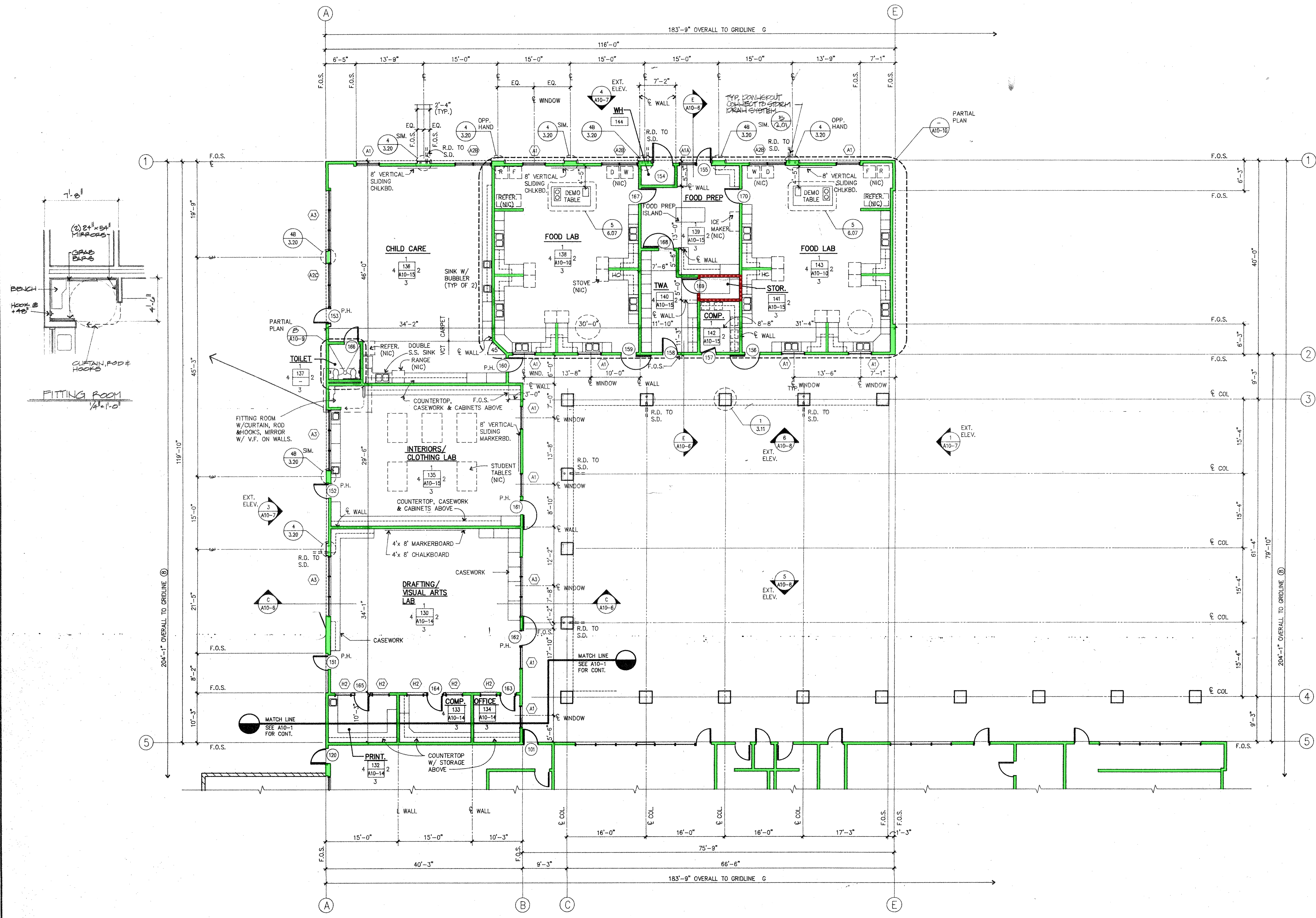
The Blurock Partnership
 Architects and Planners
 2300 Newport Boulevard / Newport Beach, California 92659 / Telephone No. (714) 845-2000

BUILDING K FLOOR PLAN
 SHEET 102
A10-1
 OF 372 SHEETS
 1-28-13

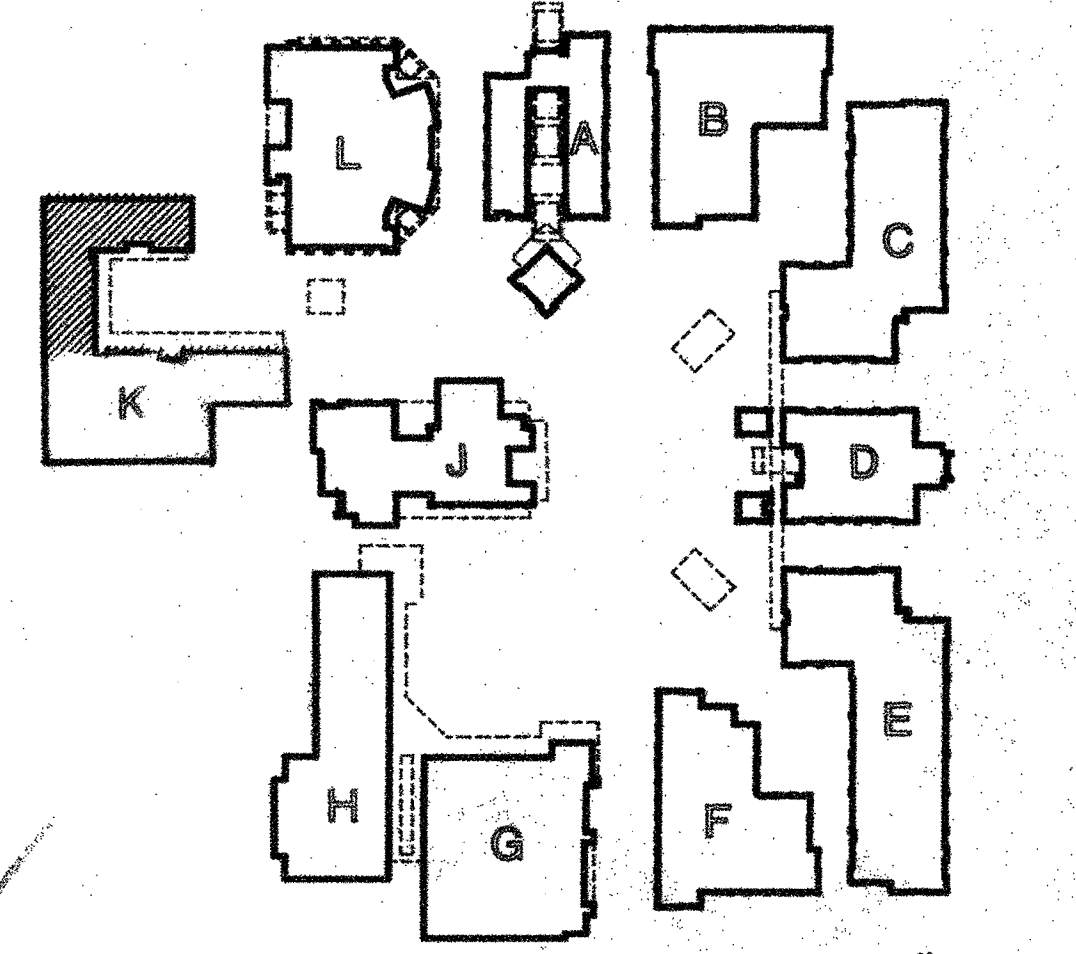
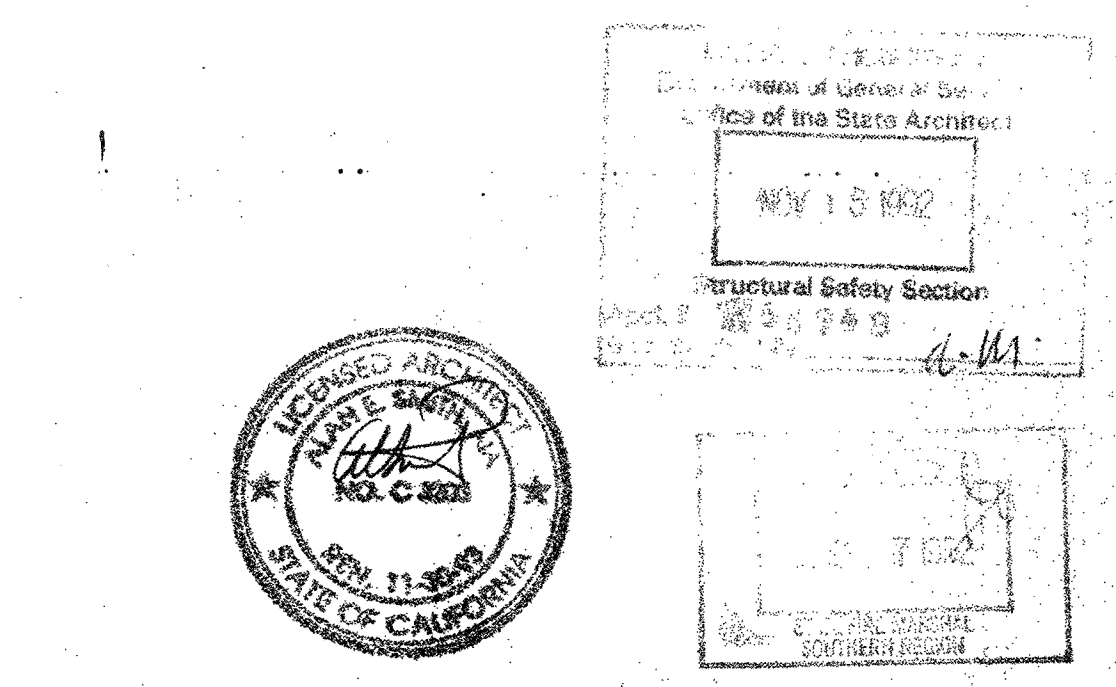
GENERAL NOTES

- EXTERIOR WALLS:
 - ALL EXTERIOR WALLS ARE 2x6 WOOD STUDS AT 16" O.C. U.M.O. WITH EXTERIOR PLASTER 1 OVER PLYWOOD SHEATHING, TYP. EXCEPT WHERE LOCATED ABOVE AND BELOW INSET WINDOWS (REFER TO DETAILS 1/8.55 AND 4/8.56). INTERIOR FACE TO BE GYPSUM BOARD 1/2" INSTALLED FULL HEIGHT TO ROOF STRUCTURE ABOVE.
- INSULATION: PROVIDE INSULATION AS FOLLOWS:
 - EXTERIOR STUD WALLS : R-19, THERMAL
 - ROOFS : R-30, THERMAL
 - INTERIOR STUD PARTITIONS : 3" MINIMUM THICK (SOUND)
- INTERIOR PARTITIONS:
 - REFER TO DETAIL SHEET 1.01 FOR PARTITION LEGEND AND SHEETS 9.01 THROUGH 9.06 FOR INTERIOR FINISH SCHEDULES.
 - ONE HOUR PARTITION SEE A/4.01
 - SOUND PARTITION SEE A/4.01
- WOOD STUD WALLS: "PARTITIONS" ALL INTERIOR PARTITIONS ARE TO BE 2X6 WOOD STUDS, PARTITION TYPE (REFER TO DETAILS A/4.01 UNLESS NOTED OTHERWISE REFER TO NOTES D/4.03
- DOORS:
 - INDICATED ON PLANS WITH (C) SYMBOL, REFER TO DETAIL SHEETS 8.02 THROUGH 8.11 FOR SCHEDULES AND DETAIL SHEET 8.01 FOR DOOR TYPES.
- WINDOWS:
 - INDICATED ON PLANS WITH (W) SYMBOL, REFER TO DETAIL SHEET 8.70 THROUGH 8.75 FOR WINDOW TYPES.
- LOUVER BLINDS
 - PROVIDE LOUVER BLINDS AT ALL TYPE "A" WINDOWS.

WOOD STUD WALLS, WITH AND WITHOUT INSULATION



FLOOR PLAN



CONSTRUCTION KEY PLAN DOCUMENTS

OFFICE OF THE STATE ARCHITECT
ACCESS COMPLIANCE DIVISION
11/15/92
11/15/92
APPROVED AS SHOWN SUBJECT TO THE
APPLICABLE ACCESS STANDARDS AND
REGULATIONS.
Reviewed by

12/3/01
REVISIONS
DATE
DRAWN
JOB NO.

OXNARD HIGH SCHOOL

The Blurock Partnership
Architects and Planners
2300 Hancock Boulevard / Torrance, California 90503 / Telephone 310 774-6720

BLDG. 'K' FLOOR PLAN
SHEET 143
A10-2
OF 373 SHEETS
1-20-93

Bid Clarification Addendum #1

Attachment F
Viola RFI # 4



RFI BID CLARIFICATION REQUEST

RFI # 004

REQUESTED BY: Tim Viola

DATE: 8/27/2020

PROJECT NAME: Bid 627 Oxnard & Pacifica High Schools HVAC
Modernization (Both)

Spec #: 23 00 00

SUBMITTED TO: Oxnard Union High School District

PGS: 1

ATTENTION: Arvind Balaji & Karl
Aldridge

EMAIL: abalaji@bernards.com,
kaldridge@bernards.com

FAX: _____

YOUR RESPONSE TO THE FOLLOWING BID CLARIFICATION REQUEST IS REQUIRED BY ASAP

REF: Mechanical Equipment Connection Schedule Bldg E on PHS-EE2.2

Addendum #3 Attachment C does not appear to be updated to reflect the changes made in PHS-MP0.3 Attachment C and PHS-MPE2.0 dated 06/08/2020. Please confirm if updated Electrical drawings will be issued to match changes made in addendum #3 Mechanical?

Check here if additional pages attached

PROPOSED SOLUTION

Provide updated Electrical to match Mechanical changes.

Check here if additional pages attached

The following information is provided in response to your bid clarification request above. This is not a change order or an approval for extra work

Sheet 202 reference Mechanical Schedules, Electrical Addendum 1 capture revisions.
Sheet 207 reference Mechanical Demo plans, Electrical Addendum 1 Capture revisions, refer to Attachment C pg 217-218, E sheets: ED2.2, ED2.3 ED3.2 & EE2.2.

Tony Melara, IMEG Corp.

By: _____

Check here if additional pages attached

Name: _____ **Title:** _____ **Date:** _____

Bid Clarification Addendum #1

Attachment G
Viola RFI # 5

RFI BID CLARIFICATION REQUEST

RFI # 005-R1

REQUESTED BY: Tim Viola

DATE: 9/4/2020

PROJECT NAME: Bid 627 Oxnard & Pacifica High Schools HVAC
 Modernization (Both)

Spec #: 26 00 00

SUBMITTED TO: Oxnard Union High School District

PGS: 1

ATTENTION: Arvind Balaji & Karl
 Aldridge

EMAIL: abalaji@bernards.com,
kaldridge@bernards.com

FAX: _____

YOUR RESPONSE TO THE FOLLOWING BID CLARIFICATION REQUEST IS REQUIRED BY ASAP

REV #1: See attached email from the Schneider Square D distributor on following page stating that factories do not offer the marine coating listed below. Electrical equipment is offered in NEMA 4X (Stainless or fiberglass) for these conditions. No electricians bidding to us are 'certified applicators' of this coating, thus they cannot apply it. This will likely result in electrical proposals excluding this coating or adding a significantly higher price to outsource it.

REF Addendum 3/Arch Addm 1 Electrical drawings now contains a new general note #3 that reads:

Coatings: Apply marine coating by certified licensed applicator. The coating product manufacturer shall be able to document a class 5B result on a cross hatch adhesion test (ASTM D5339) and the testing for a minimum of 4000 hours in both salt spray (ASTM B117) and acid salt spray (ASTM G85) test. The total dry film thickness of the coating shall be 1Mil. The coating shall provide inherent protection against ultraviolet radiation and have a dry temperature resistance from -4* F to 302*F. The following components shall be coated: Electrical disconnect switch, J-Box's and panelboards mounted in roof.

Note: This same requirement is listed in both OHS & PHS spec section 23 74 11 part 2.14 for condenser coils, evaporator coils, and cabinets for package and split system HVAC units. These requirements are not listed in the painting section 09 90 00.

1. Electrical suppliers are not familiar with this coating being offered as a factory finish, will NEMA 4X satisfy the requirements?
2. If this marine coating is not offered as a factory finish, yet requires a certified licensed applicator, shouldn't this be part of the painting specifications?

Check here if additional pages attached

PROPOSED SOLUTION

Either specify NEMA 4X on rooftop electrical equip. or insert marine coating and approved manufactures in painting specifications.

Check here if additional pages attached

The following information is provided in response to your bid clarification request above. This is not a change order or an approval for extra work

After reviewing pictures of 20+ year old, existing, roof mounted disconnects, they appear to be in fair condition. Therefore, NEMA 3R is acceptable in lieu of Marine Grade coating.

By: IMEG Corp

Check here if additional pages attached

Name: Tony Melara

Title: Sr Electrical Designer

Date: 9/8/2020

Tim Viola

From: Mark Dilley <MarkD@oilfld.com>
Sent: Friday, September 4, 2020 8:26 AM
To: Tim Viola
Cc: GroupEstimators
Subject: FW: Viola RFI #005 Bid 627 Oxnard & Pacifica High Schools HVAC (Both)

Hello again Tim. The email explanation below comes from my local Schneider Square D distributor. If you cannot get a firm response back from the architect on this issue, it would be my belief that due to the certified licensed applicator requirement, this process would have to be performed after installation.

Regards,

Mark E. Dilley

Project Manager/Senior Estimator
p. 805-648-3131 ext 124
c. 805-218-6902
markd@oilfld.com

Oilfield Electric & Motor
1801 N Ventura Ave, Ventura, CA 93001
p: 805.648.3131 | f: 805.648.4806

From: Sunny Campbell [mailto:scampbell@apeoxnard.com]
Sent: Friday, September 04, 2020 8:19 AM
To: Mark Dilley
Cc: GroupEstimators
Subject: RE: Viola RFI #005 Bid 627 Oxnard & Pacifica High Schools HVAC (Both)

The factorys do not offer this type of coating as a factory finish. It would to be applied after by a **CERTIFIED LICENSED APPLICATOR**.

Sunny Campbell
All-Phase Electric
221 Lombard St
Oxnard, Ca 93030
805-485-2153
scampbell@apeoxnard.com

From: Mark Dilley <MarkD@oilfld.com>
Sent: Friday, September 4, 2020 7:42 AM
To: Sunny Campbell <scampbell@apeoxnard.com>
Cc: GroupEstimators <GroupEstimators@oilfld.com>
Subject: FW: Viola RFI #005 Bid 627 Oxnard & Pacifica High Schools HVAC (Both)

Good morning; on the subject of the marine coating requirement for rooftop electrical equipment, I am having trouble getting any clarification through RFI process. You can see below that Tim Viola is trying to advocate, and in turn can you please comment as a rep in writing for me. I have attached the RFI that I sent in for you, and let me know if you need anything else.

Bid Clarification Addendum #1

Attachment H

Architect's Addendum #1

Pacifica HS



CLIENT FOCUSED. PASSION DRIVEN.

August 25, 2020

TO : All Bidders
FROM : Mark Graham, Principal
PROJECT : Pacifica High School HVAC Improvements
1917100.41
SUBJECT : Addendum 1
DSA : 03-120527 / 56-H4

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

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

In case of conflict between Drawings, Project Manual, and this Addendum, this Addendum shall govern.

1. PROJECT MANUAL

1.1 SECTION 01 11 00 - SUMMARY OF WORK

- A. Replace DSA approved Specification Section 01 11 00 in its entirety with the attached revised Specification Section 01 11 00.

1.2 SECTION 02 41 19 - SELECTIVE DEMOLITION

- A. Delete Section 3.8, Schedules in its entirety.

1.3 SECTION 08 31 00 - ACCESS DOORS AND FRAMES

- A. Item 3.3 Installation Schedule Item B:
 - 1. Delete Items 1, 2, 3, 4, 5, 6, and 7.
 - 2. Add Item 1. to read "PROVIDE QUANTITIES AS REQUIRED TO REACH ALL NEEDED LEVERS, SWITCHES, AND KNOBS FOR A COMPLETE OPERATIONAL SYSTEM."

1.4 SECTION 23 72 00 - ENERGY RECOVERY DEVICES

- A. Replace DSA approved Specification Section 23 72 00 in its entirety with the attached revised Specification Section 23 72 00.

1.5 SECTION 23 74 11 - PACKAGED ROOFTOP AIR CONDITIONING UNITS

- A. Replace DSA approved Specification Section 23 74 11 in its entirety with the attached revised Specification Section 23 74 11.

1.6 SECTION 23 81 26 - SPLIT SYSTEM AIR CONDITIONING UNITS

- A. Replace DSA approved Specification Section 23 81 26 in its entirety with the attached revised Specification Section 23 81 26.

1.7 SECTION 23 81 45 - VARIABLE REFRIGERANT FLOW HEAT PUMPS

- A. Replace DSA approved Specification Section 23 81 45 in its entirety with the attached revised Specification Section 23 81 45.

DRAWINGS

General Notes

- 1.8 Where ceiling tiles are called out to be removed and reinstalled, the Contractor will remove existing electrical devices from the ceiling tiles, but still keep them operational, and then reattach them to the new or old tiles when they reinstall the ceiling tiles. Provide temporary support as needed for these devices.
- 1.9 For condensate lines that drain to exterior drywells, use Detail 8/7.1, 9/M4.4 and 6/MP4.4 typical.
- 1.10 For all roof infill conditions, the Contractor shall at a minimum bid 6" rigid foam patch back of all roofs for Pacifica High School. Existing conditions of each roof will probably vary depending on location of material on roof. See Specification 07 51 13 for insulation requirements and attachments.
- 1.11 For T-bar type ceilings that get completely replaced, see Details on 9.2, 9.3, and 9.4 typical.
- 1.12 For bidding purposes, Contractor shall supply (5%), five percent, of new ceiling tiles for existing rooms where the tile has been removed and will be reinstalled. Use these tiles to replace damaged tiles, chipped tiles, missing tiles, or stained tiles. The five percent shall be based on the entire room, not the area being removed. If tiles are not used, turn over tiles to the District at the end of the project. Have inspector verify the tiles have been provided prior to use.
- 1.13 For rooms that have hard lid ceilings and where work is being performed, the Contractor shall remove and reinstall access panels at new locations to reach new mechanical and electrical devices in the attic space. Locations to be determined in field.

- 1.14 No equipment of any kind, including: conduits, wires, plumbing pipes, duct work, electrical boxes shall be placed within or pass through the elevator shaft or the Elevator Machine Rooms typical. The only exception is if the Machine Room is receiving new work for that room.

Architectural

1.15 DRAWING A0.2 - DRAWING INDEX

A. DRAWING INDEX

1. Revise AJ3.3 from AREA A to AREA B.
2. Revise AJ4.0 from AREA B to AREA A.

1.16 DRAWING AA4.1- NEW ROOF PLAN - BLDG A

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.17 DRAWING AB4.1- NEW ROOF PLAN - BLDG B

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.18 DRAWING AC4.1- NEW ROOF PLAN - BLDG C

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.19 DRAWING AD3.0- DEMO CEILING PLAN - BLDG D - AREA A

A. LEGEND

1. Delete "DEMO TYPE 4" in its entirety. (Not applicable in Area A.)

1.20 DRAWING AD3.1- DEMO CEILING PLAN - BLDG D - AREA A

A. LEGEND

1. Delete "DEMO TYPE 2A" in its entirety. (Not applicable in Area B.)

1.21 DRAWING AD3.2- NEW CEILING PLAN - BLDG D - AREA A

A. LEGEND

1. Delete "CEILING TYPE 4" in its entirety. (Not applicable in Area A.)

1.22 DRAWING AD3.3- NEW CEILING PLAN - BLDG D - AREA A

A. LEGEND

1. Delete "CEILING TYPE 2A" in its entirety. (Not applicable in Area B.)

1.23 DRAWING AD4.2- NEW ROOF PLAN - BLDG D - AREA A

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.24 DRAWING AD4.3- NEW ROOF PLAN - BLDG D - AREA B

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.25 DRAWING AE3.0 - DEMO FIRST FLOOR CEILING PLAN - BLDG E

- A. Replace DSA approved Drawing AE3.0 with the attached revised Drawing AE3.0 in its entirety. (Additional ceiling tiles required removal)

1.26 DRAWING AE3.1 - DEMO SECOND FLOOR CEILING PLAN - BLDG E

- A. Replace DSA approved Drawing AE3.1 with the attached revised Drawing AE3.1 in its entirety. (Additional ceiling tiles required removal)

1.27 DRAWING AE3.2 - NEW FIRST FLOOR CEILING PLAN - BLDG E

- A. Replace DSA approved Drawing AE3.2 with the attached revised Drawing AE3.2 in its entirety. (Additional ceiling tiles required replacement)

1.28 DRAWING AE3.3 - NEW SECOND FLOOR CEILING PLAN - BLDG E

- A. Replace DSA approved Drawing AE3.3 in its entirety with the attached revised Drawing AE3.3. (Additional ceiling tiles required replacement)

1.29 DRAWING AE4.0- DEMO ROOF PLAN - BLDG E

- A. Replace DSA approved Drawing AE4.0 in its entirety with the attached revised Drawing AE4.0. (New equipment was relocated on the roof thus additional demolition of roofing material was required. Revised Legend to reflect partial demolition of roofing material.)

1.30 DRAWING AE4.1- NEW ROOF PLAN - BLDG E

- A. Replace DSA approved Drawing AE4.1 in its entirety with the attached revised Drawing AE4.1. (New equipment was relocated on the roof and added new text to legend note)

1.31 DRAWING AF3.0 DEMO CEILING PLAN - BLDG F

- A. Replace DSA approved Drawing AF3.0 in its entirety with the attached revised Drawing AF3.0. (VRF plumbing has been relocated, so we had to adjust the removal of ceiling tile locations.)

1.32 DRAWING AF3.1 DEMO CEILING PLAN - BLDG F - 2F

- A. Replace DSA approved Drawing AF3.1 in its entirety with the attached revised Drawing AF3.1. (Drawing appeared to have the first-floor drawing shown, not the second floor, so we replaced the entire drawing.)

1.33 DRAWING AF3.2 NEW CEILING PLAN BLDG F

- A. Replace DSA approved Drawing AF3.2 in its entirety with the attached revised Drawing AF3.2. (VRF plumbing has been relocated, so we had to adjust the removal of ceiling tile locations.)

1.34 DRAWING AF3.3 - NEW CEILING PLAN - BLDG F - 2F

- A. Replace DSA approved Drawing AF3.3 in its entirety with the attached revised Drawing AF3.3. (New Ceiling Plan was not showing the correct reflected ceiling plan. VRF plumbing has been relocated, so we had to adjust the installation of the ceiling tiles to match the demolition plan. Added two infill conditions at abandoned fire dampers at Grid Line 5 between F and F.9.)

1.35 DRAWING AF4.0 DEMO ROOF PLAN - BLDG F

- A. Replace DSA approved Drawing AF4.0 in its entirety with attached revised Drawing AF4.0. (New equipment was relocated on the roof thus additional demolition of roofing material was required.) (Update Legend to reflect new hatch pattern.)

1.36 DRAWING AF4.1- NEW ROOF PLAN - BLDG F

- A. Replace DSA approved Drawing AF4.1 with attached revised Drawing AF4.1 in its entirety. (New equipment was relocated on the roof thus additional roofing material was required.) (Update Legend to reflect new hatch pattern and added new note.)

1.37 DRAWING AH4.1- NEW ROOF PLAN - BLDG H

- A. LEGEND
 - 1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.38 DRAWING AJ3.3 - NEW CEILING PLAN - BLDG J - AREA A

- A. Replace drawing label with "NEW CEILING PLAN - BLDG J - AREA B".

1.39 DRAWING AJ4.0 - DEMO ROOF PLAN - BLDG J - AREA B

- A. Replace DSA approved Drawing AJ4.0 - DEMO ROOF PLAN - BLDG J - AREA B in its entirety with the attached revised Drawing AJ4.0 - DEMO ROOF PLAN - BLDG J - AREA A. (Drawing was mislabeled and showed Area B, not Area A. See item below, the two drawings were transposed)

1.40 DRAWING AJ4.1 - DEMO ROOF PLAN - BLDG J - AREA B

- A. Replace DSA approved Drawing AJ4.1 - DEMO ROOF PLAN - BLDG J - AREA B in its entirety with the attached revised Drawing AJ4.1 - DEMO ROOF PLAN - BLDG J - AREA B. (Drawing was showing Area A, not Area B)

1.41 DRAWING AJ4.2- NEW ROOF PLAN - BLDG J - AREA A

- A. LEGEND
 - 1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.42 DRAWING AJ4.3- NEW ROOF PLAN - BLDG J - AREA B

A. LEGEND

1. Add text "INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/S0.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF." AFTER EXISTING TEXT "...PER 3/7.1."

1.43 DRAWING 7.1- THERMAL AND MOISTURE PROTECTION

A. Replace DSA approved Drawing 7.1 in its entirety with the attached revised Drawing 7.1.

1. Added new Detail 1 (to show all potential condensation line connections required.)
2. Replaced Detail 3 in its entirety (we added graphically the roof deck and fixed some typos.)
3. Added new Detail 8.
4. Added new Detail 9.

Structural

1.44 DRAWING S0.1 - GENERAL NOTES

A. Replace DSA approved Drawing S0.1 in its entirety with the attached revised Drawing S0.1.

B. STRUCTURAL STEEL

1. Added note "CONTRACTOR SHALL VERIFY NEW BEAM LOCATIONS HAVE SUFFICIENT DISTANCE TO EXISTING CMU WALL OPENINGS PER 11/S0.2 PRIOR TO GENERATING SHOP DRAWINGS."

C. ADHESIVE ANCHORS IN CONCRETE

1. Added note "CONTRACTOR TO USE NON-DESTRUCTIVE TESTING TO VERIFY LOCATION OF EXISTING REINFORCING STEEL."

D. EXPANSION ANCHORS

1. Added note "CONTRACTOR TO USE NON-DESTRUCTIVE TESTING TO VERIFY LOCATION OF EXISTING REINFORCING STEEL."

1.45 DRAWING S0.2 - DETAILS

- A. Replace DSA approved Drawing S0.2 in its entirety with the attached revised Drawing S0.2.
- B. DETAIL 3
 - 1. Added additional detail reference for top of brace support.
- C. DETAIL 12
 - 1. Add text "SEE DETAIL 1/S0.3 FOR ALTERNATE HANGING MECH UNIT SUPPORT."
 - 2. Added dimension to center of beam.
 - 3. Added additional detail reference for top of brace support.
 - 4. Revised masonry connection detail.
- D. DETAIL 13
 - 1. Detail removed. It was a duplicate of 2/S0.3.
 - 2. Added new detail "TYPICAL ROOF INFILL FOR LIGHT GAUGE FRAMING".
- E. DETAIL 16
 - 1. Revised title to say "TYPICAL (N) BEAM TO (N) BEAM CONNECTION DETAIL".
- F. DETAIL 18
 - 1. Revised weld size to match existing.
 - 2. Revised detail reference to correct detail.
- G. DETAIL 19
 - 1. Revised title to say "TYPICAL LARGE ROOF OPENING DETAIL."
- H. DETAIL 20
 - 1. Added note "INSTALL ROOF DECKING UNDER ALL MECHANICAL UNITS."
 - 2. Added additional detail reference.
- I. DETAIL 27
 - 1. Added note "INSTALL ROOF DECKING UNDER ALL MECHANICAL UNITS."

2. Added additional weld.
3. Added additional detail reference.

J. DETAIL 28

1. Revised max weight.
2. Added dimension.
3. Revised angle connection to Wx beam.

1.46 DRAWING S0.3 - DETAILS

- A. Replace DSA approved Drawing S0.3 in its entirety with the attached revised Drawing S0.3.

B. DETAIL 1

1. Revised detail to be more complete.

C. DETAIL 5

1. Added note "(N) PENETRATIONS 1" SQ. OR SMALLER NO CLOSER THAN 12" APART THAT ARE NOT THROUGH THE DECK WEB DO NOT NEED TO BE REINFORCED."
2. Revised title "TYPICAL ROOF DECK OPENING DETAIL."

D. DETAIL 9

1. Revised detail to include (N) joist connection to sistered joist.

E. DETAIL 13

1. Added a max deck span.
2. Revised weld symbol.
3. Added note "REATTACH (E) DECK IF THE (E) PUDDLE WELDS ARE DAMAGED OR NON-EXISTENT."

1.47 DRAWING S2.1 - BUILDING A ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.1 in its entirety with the attached revised Drawing S2.1.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."
2. Revised "(E) ELEMENT TO BE REMOVED" TO "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

C. ROOF FRAMING PLAN

1. Revised area of demo at each mechanical unit to be removed.

1.48 DRAWING S2.2 - BUILDING A ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.2 in its entirety with the attached revised Drawing S2.2.

B. ROOF FRAMING REMODEL NOTES

1. Added notes "(N) BEAM TO (E) BEAM CONNECTION PER 21/S0.2. (N) BEAM TO (N) BEAM CONNECTION PER 16/S0.2."
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."

C. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.

1.49 DRAWING S2.3 - BUILDING B ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.3 in its entirety with the attached revised Drawing S2.3.

B. Roof Framing Notes

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."
2. Revised "(E) ELEMENT TO BE REMOVED" TO "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.50 DRAWING S2.4 - BUILDING B ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.4 in its entirety with the attached revised Drawing S2.4.
- B. ROOF FRAMING REMODEL NOTES
 - 1. Added notes "(N) BEAM TO (E) BEAM CONNECTION PER 21/S0.2. (N) BEAM TO (N) BEAM CONNECTION PER 16/S0.2."
 - 2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
 - 3. Added detail reference to Note 5.
 - 4. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
 - 5. In Note 8 the detail reference has been updated.
- C. ROOF FRAMING REMODEL PLAN
 - 1. Revised area of new deck to correspond with the demo plan.
 - 2. Added detail references.

1.51 DRAWING S2.5 - BUILDING C ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.5 in its entirety with the attached revised Drawing S2.5.
- B. ROOF FRAMING NOTES
 - 1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."
 - 2. Revised "(E) ELEMENT TO BE REMOVED" to "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."
- C. DEMO HATCH LEGEND
 - 1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

D. ROOF FRAMING PLAN

1. Showed locations of additional mechanical equipment.
2. Called out members supporting new openings.
3. Revised mechanical weight to indicate the "combined" weight of all the units in a row.
4. Revised detail references to match the correct detail.

1.52 DRAWING S2.6 - BUILDING C ROOF FRAMING REMODEL PLAN

A. Replace DSA approved Drawing S2.6 in its entirety with the attached revised Drawing S2.6.

B. ROOF FRAMING REMODEL NOTES

1. Added notes "(N) BEAM TO (E) BEAM CONNECTION PER 21/S0.2. (N) BEAM TO (N) BEAM CONNECTION PER 16/S0.2."
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
3. Added detail reference to Note 5.
4. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
5. In Note 8 the detail reference has been updated.

C. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.
2. Revised beam layout at (N) mechanical unit.

1.53 DRAWING S2.7 - BUILDING D AREA 1 ROOF FRAMING DEMO PLAN

A. Replace DSA approved Drawing S2.7 in its entirety with the attached revised Drawing S2.7.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."
2. Revised "(E) ELEMENT TO BE REMOVED" to "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

D. ROOF FRAMING DEMO PLAN

1. Revised location of exhaust fan.

1.54 DRAWING S2.8 - BUILDING D AREA 2 ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.8 in its entirety with the attached revised Drawing S2.8.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."
2. Revised "(E) ELEMENT TO BE REMOVED" to "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.55 DRAWING S2.9 - BUILDING D AREA 1 ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.9 in its entirety with the attached revised Drawing S2.9.

B. ROOF FRAMING REMODEL NOTES

1. Added notes "(N) BEAM TO (E) BEAM CONNECTION PER 21/S0.2. (N) BEAM TO (N) BEAM CONNECTION PER 16/S0.2."
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
3. Added detail reference to Note 5.
4. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
5. In Note 8 the detail reference has been updated.

C. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.
2. Revised beam layout at (N) mechanical units.

1.56 DRAWING S2.10 - BUILDING D AREA 2 ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.10 in its entirety with the attached revised Drawing S2.10.

B. ROOF FRAMING REMODEL NOTES

1. Added notes "(N) BEAM TO (E) BEAM CONNECTION PER 21/S0.2. (N) BEAM TO (N) BEAM CONNECTION PER 16/S0.2."
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
3. Added detail reference to Note 5.
4. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
5. In Note 8 the detail reference has been updated.

C. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.
2. Revised beam layout at (N) mechanical unit.
3. Added notes for duct penetrations

1.57 DRAWING S2.11 - BUILDING E SECOND FLOOR FRAMING PLAN

A. Replace DSA approved Drawing S2.11 in its entirety with the attached revised Drawing S2.11.

B. SECOND FLOOR FRAMING NOTES

1. Revised detail callouts for hung units.
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
3. Added note "(N) PIPE PENETRATIONS MUST FOLLOW 10/S0.2."

C. SECOND FLOOR FRAMING PLAN

1. Showed locations of additional mechanical equipment.
2. Called out members supporting new openings.
3. Showed locations of (N) pipe and (N) duct penetrations.

1.58 DRAWING S2.12 - BUILDING E ROOF FRAMING DEMO PLAN

A. Replace DSA approved Drawing S2.12 in its entirety with the attached revised Drawing S2.12.

B. ROOF FRAMING NOTES

1. Added notes "EXISTING DECKING TO BE REMOVED AS REQUIRED TO REMOVE DEMO'D FRAMING AND INSTALL NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."

1.59 DRAWING S2.13 - BUILDING E ROOF FRAMING REMODEL PLAN

A. Replace DSA approved Drawing S2.13 in its entirety with the attached revised Drawing S2.13.

B. ROOF FRAMING REMODEL NOTES

1. Revised detail reference for roof penetrations.
2. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
3. Revised detail reference for Note 8.
4. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
5. Added note "(N) BEAMS ARE NOT TO BE INSTALLED OVER (E) OPENINGS AS INDICATED IN DETAIL 11/S0.2."
6. Added note "(N) WALL PENETRATIONS ARE TO BE PER DETAIL 10/S0.2 AND ARE NOT TO BE UNDER (N) OR (E) BEAMS PER 11/S0.2."

C. ROOF FRAMING PLAN

1. Showed locations of additional mechanical equipment.
2. Called out members supporting new openings.
3. Showed locations of (N) pipe and (N) duct penetrations.
4. Revised mech unit locations.
5. Added new detail callouts.
6. Revised area of new deck to correspond with the demo plan.

1.60 DRAWING S2.14 - BUILDING F SECOND FLOOR FRAMING PLAN

- A. Replace DSA approved Drawing S2.14 in its entirety with the attached revised Drawing S2.14.

B. SECOND FLOOR FRAMING NOTES

1. Revised detail callouts for hung units.
2. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
3. Added note "(N) PIPE PENETRATIONS MUST FOLLOW 10/S0.2."

C. SECOND FLOOR FRAMING PLAN

1. Showed locations of additional mechanical equipment.
2. Called out members supporting new openings.
3. Showed locations of (N) pipe and (N) duct penetrations.

1.61 DRAWING S2.15 - BUILDING F ROOF FRAMING DEMO PLAN

A. Replace DSA approved Drawing S2.15 in its entirety with the attached revised Drawing S2.15.

B. ROOF FRAMING NOTES

1. Added notes "EXISTING DECKING TO BE REMOVED AS REQUIRED TO REMOVE DEMO'D FRAMING AND INSTALL NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.62 DRAWING S2.16 - BUILDING F ROOF FRAMING REMODEL PLAN

A. Replace DSA approved Drawing S2.16 in its entirety with the attached revised Drawing S2.16.

B. ROOF FRAMING REMODEL NOTES

1. Revised detail reference for roof penetrations.
2. Added "(N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING." to Note 7.
3. Revised detail reference for Note 8.
4. Added note "THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS."
5. Added note "(N) BEAMS ARE NOT TO BE INSTALLED OVER (E) OPENINGS AS INDICATED IN DETAIL 11/S0.2."
6. Added note "(N) WALL PENETRATIONS ARE TO BE PER DETAIL 10/S0.2 AND ARE NOT TO BE UNDER (N) OR (E) BEAMS PER 11/S0.2."

C. ROOF FRAMING PLAN

1. Showed locations of additional mechanical equipment.
2. Called out members supporting new openings.
3. Showed locations of (N) pipe and (N) duct penetrations.
4. Revised mech unit locations.
5. Added new detail callouts.
6. Revised area of new deck to correspond with the demo plan.

1.63 DRAWING S2.17 - BUILDING H ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.17 in its entirety with the attached revised Drawing S2.17.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.64 DRAWING S2.18 - BUILDING H ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.18 in its entirety with the attached revised Drawing S2.18.

B. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.

1.65 DRAWING S2.19 - BUILDING J AREA A ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.19 in its entirety with the attached revised Drawing S2.19.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.66 DRAWING S2.20 - BUILDING J AREA B ROOF FRAMING DEMO PLAN

- A. Replace DSA approved Drawing S2.20 in its entirety with the attached revised Drawing S2.20.

B. ROOF FRAMING NOTES

1. Added notes "REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE."

C. DEMO HATCH LEGEND

1. Revised note "APPROX. AREA OF (E) DECK TO BE REMOVED TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING."

1.67 DRAWING S2.21 - BUILDING J AREA A ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.21 in its entirety with the attached revised Drawing S2.21.

B. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.

1.68 DRAWING S2.22 - BUILDING J AREA B ROOF FRAMING REMODEL PLAN

- A. Replace DSA approved Drawing S2.22 in its entirety with the attached revised Drawing S2.22.

B. ROOF FRAMING REMODEL PLAN

1. Revised area of new deck to correspond with the demo plan.
2. Called out beam size.

3. Added detail references.

Mechanical

1.69 DRAWING MP0.2 - SCHEDULES

A. PACKAGED ROOFTOP UNIT SCHEDULE - GAS/DX.

1. Added Note 10: "PROVIDE MARINE COATING PER SPECIFICATION 23 74 11, SECTION 2.14."
2. Added text "NOTES 4, 9, AND 10" to all equipment notes.

B. SPLIT SYSTEM UNIT SCHEDULE

1. Added Note 3: "PROVIDE MARINE COATING PER SPECIFICATION 23 81 26, SECTION 2.1K."
2. Added Note 4: "COMPLETE WITH EXTERNAL CONDENSATE PUMP. PUMP POWERED BY INDOOR UNIT."
3. Added Note 5: "COMPLETE WITH INTEGRATED CONDENSATE PUMP. PUMP POWERED BY INDOOR UNIT."
4. Added Note 6: "COMPLETE WITH CONDENSATE OVERFLOW FLOAT SWITCH AND PROVIDE INDOOR UNIT SHUTDOWN UPON OVERFLOW DETECTION".
5. Added text "NOTES 2, 3, 4 AND 6" to equipment notes of FC-B1, FC-B2, FC-B4, FC-B5, and FC-B6.
6. Added text "NOTES 2, 3, 5 AND 6" to equipment notes of FC-B3.

C. ENERGY RECOVERY VENTILATOR SCHEDULE

1. Added Note 4: "PROVIDE MARINE COATING PER SPECIFICATION 23 72 00, SECTION 2.8."
2. Added text "NOTES 1, 2, 3, AND 4" to all equipment notes.

1.70 DRAWING MP0.3 - SCHEDULES

A. Replace Drawing MP0.3 in its entirety with the attached Drawing MP0.3.

B. VRF MODULAR OUTDOOR UNIT SCHEDULE

1. Added Note 7: "PROVIDE MARINE COATING PER SPECIFICATION 23 81 45 SECTION 2.4."
2. Added text "NOTES 6 AND 7" to all equipment notes.

C. VRF INDOOR UNIT SCHEDULE

1. Change Note 3 in its entirety to: "COMPLETE WITH CONDENSATE PUMP, DIVERSITECH CP-22."
2. Added Note 7: "COMPLETE WITH CONDENSATE OVERFLOW FLOAT SWITCH AND PROVIDE INDOOR UNIT SHUTDOWN UPON OVERFLOW DETECTION".
3. Change titles of "WEIGHT" column and "OPERATING" sub-column to "OPERATING WEIGHT LBS".
4. Added Notes 3 and 7 to all equipment notes.

D. VRF PORT/FLOW SELECTOR BOX

1. Added "ELECTRICAL" column and corresponding values in the equipment schedule with following sub-columns:
 - a. VOLTAGE
 - b. PHASES
 - c. MCA
 - d. MOCP
2. Added "OPERATING WEIGHT, LBS" column. Added corresponding values to all equipment.
3. Added "WIRING /PIPING DETAIL" column. Added Detail "5/MP4.4" to all equipment.
4. Added "POWERED BY INDOOR UNIT" to all equipment notes.

1.71 DRAWING MPA2.0 - BUILDING A DEMOLITION FLOOR PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.72 DRAWING MPA2.1 - BUILDING A REMODEL FLOOR PLAN

- A. Replace Drawing MPA2.1 in its entirety with the attached Drawing MPA2.1.
- B. REMODEL GENERAL NOTES
 - 1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
 - 2. Added Note 10: "FOR CONDENSATE PIPE DOWN EXTERIOR WALL, SEE DETAIL 9/MP4.4."
 - 3. Added Note 11: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."
- C. BUILDING A REMODEL FLOOR PLAN
 - 1. Reroute the main supply duct of AC-A10.

1.73 DRAWING MPA3.0 - BUILDING A DEMOLITION ROOF PLAN

- A. DEMOLITION GENERAL NOTES
 - 1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.74 DRAWING MPB2.0 - BUILDING B DEMOLITION FLOOR PLAN

- A. DEMOLITION GENERAL NOTES
 - 1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
 - 2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
 - 3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.75 DRAWING MPB2.1 - BUILDING B REMODEL FLOOR PLAN

- A. REMODEL GENERAL NOTES
 - 1. Added Note 13: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
 - 2. Added Note 14: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

1.76 DRAWING MPB3.0 - BUILDING B DEMOLITION ROOF PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.77 DRAWING MPC2.0 - BUILDING C DEMOLITION FLOOR PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.78 DRAWING MPC2.1 - BUILDING C REMODEL FLOOR PLAN

- A. Replace Drawing MPC2.1 in its entirety with the attached Drawing MPC2.1.

B. REMODEL GENERAL NOTES

1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 10: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

C. BUILDING C REMODEL FIRST FLOOR PLAN

1. Revised AC-C6 return duct size.

1.79 DRAWING MPC3.0 - BUILDING C DEMOLITION ROOF PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.80 DRAWING MPD2.0 - BUILDING D DEMOLITION FLOOR PLAN - AREA 1

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.81 DRAWING MPD2.1 - BUILDING D DEMOLITION FLOOR PLAN - AREA 2

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.82 DRAWING MPD2.2 - BUILDING D REMODEL FLOOR PLAN - AREA 1

A. REMODEL GENERAL NOTES

1. Added Note 1: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 2: "PAINT EXPOSED DUCT AND PIPING TO MATCH EXISTING TRUSSES AND SURROUNDING AREA."
3. Added Note 3: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

B. BUILDING D REMODEL FLOOR PLAN - AREA 1

1. Delete "(N) DRY WELL" and "OFFSET CONDENSATE TO WALL, INDIRECT TO DRY WELL PER DETAIL 6/MP4.4" by the Northern gym entrance.
2. Revised cross-section "1/MP6.1" to the middle of gymnasium.

1.83 DRAWING MPD2.3 - BUILDING D REMODEL FLOOR PLAN - AREA 2

- A. Replace Drawing MPD2.3 in its entirety with the attached MPD2.3.
- B. REMODEL GENERAL NOTES
 - 1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
- C. BUILDING D REMODEL FLOOR PLAN - AREA 2
 - 1. Relocate the supply duct of AC-D9.
 - 2. Revised return duct size of AC-D11.

1.84 DRAWING MPD3.0 - BUILDING D DEMOLITION ROOF PLAN - AREA 1

- A. DEMOLITION GENERAL NOTES
 - 1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."
 - 2. Added Note 2: "DEMOLISH EXISTING EXHAUST FANS, DUCTWORK, SUPPORTS, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.85 DRAWING MPD3.1 - BUILDING D DEMOLITION ROOF PLAN - AREA 2

- A. DEMOLITION GENERAL NOTES
 - 1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."
 - 2. Added Note 2: "DEMOLISH EXISTING EXHAUST FANS, DUCTWORK, SUPPORTS, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.86 DRAWING MPE2.0 - BUILDING E DEMOLITION FIRST FLOOR PLAN

- A. DEMOLITION GENERAL NOTES
 - 1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
 - 2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."

3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.87 DRAWING MPE2.1 - BUILDING E DEMOLITION SECOND FLOOR PLAN

- A. Replace Drawing MPE2.1 in its entirety with the attached Drawing MPE2.1.
- B. DEMOLITION GENERAL NOTES
 1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
 2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
 3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."
- C. BUILDING E DEMOLITION SECOND FLOOR PLAN
 1. EXTEND DEMOLITION OF OA DUCT SERVING LIFE SCIENCE CLASSROOM E220.

1.88 DRAWING MPE2.2 - BUILDING E REMODEL FIRST FLOOR PLAN

- A. REMODEL GENERAL NOTES
 1. Added Note 13: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
 2. Added Note 14: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

1.89 DRAWING MPE2.3 - BUILDING E REMODEL PIPING FIRST FLOOR PLAN

- A. Replace Drawing MPE2.3 in its entirety with the attached Drawing MPE2.3.
- B. BUILDING E REMODEL PIPING FIRST FLOOR PLAN
 1. Reroute refrigerant piping that is going to FC-E8 from FS-E8.
 2. Relocate refrigerant pipe drops and reroute refrigerant piping for FC-E1 and FC-E2.
 3. Reroute refrigerant and condensate piping for FC-E3. Relocate FS-E3.
 4. Reroute refrigerant and condensate piping for FC-E6. Relocate FS-E6.
 5. Reroute refrigerant and condensate piping for FC-E7. Relocate FS-E7.

6. Reroute refrigerant and condensate piping for FC-E9 and FC-E10. Relocated FS-E9 and FS-E10.
7. Reroute refrigerant and condensate piping for FC-E12 through FC-E15. Relocated FS-E12 thru FS-E15.

1.90 DRAWING MPE2.4 - BUILDING E REMODEL SECOND FLOOR PLAN

- A. Replace Drawing MPE2.4 in its entirety with the attached MPE2.4
- B. REMODEL GENERAL NOTES
 1. Added Note 13: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
- C. BUILDING E REMODEL PIPING SECOND FLOOR PLAN
 1. Modified the return ductwork of FC-F23.
 2. Modified the return ductwork of FC-F29.

1.91 DRAWING MPE2.5 - BUILDING E REMODEL PIPING SECOND FLOOR PLAN

- A. Replace Drawing MPE2.5 in its entirety with the attached MPE2.5.
- B. BUILDING E REMODEL PIPING SECOND FLOOR PLAN
 1. Rerouted refrigerant and condensate piping for FC-E17 thru FC-E23. Relocated FS-E17 thru FS-E23.
 2. Rerouted refrigerant and condensate piping for FC-E25. Relocate FS-E25.
 3. Rerouted refrigerant and condensate piping for FC-E26 and FC-E27. Relocated FS-E26 through FS-E27.
 4. Rerouted refrigerant and condensate piping for FC-E28 thru FC-E30. Relocated FS-E28 through FS-E30.

1.92 DRAWING MPE3.0 - BUILDING E DEMOLITION ROOF PLAN

- A. DEMOLITION GENERAL NOTES
 1. Added Note 1: "DEMOLISH EXISTING AIR HANDLING UNITS, CURBS, DUCTWORK, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

2. Added Note 2: "DEMOLISH EXISTING BOILER, TANKS, PUMPS, PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING ROOF."

1.93 DRAWING MPE3.1 - BUILDING E REMODEL ROOF PLAN

- A. Replace Drawing MPE3.1 in its entirety with the attached MPE3.1
- B. BUILDING E REMODEL ROOF PLAN
 1. Revised location of OU-E2, OU-E3, and OU-E4 and associated refrigerant piping.

1.94 DRAWING MPF2.0 - BUILDING F DEMOLITION FIRST FLOOR PLAN

- A. DEMOLITION GENERAL NOTES
 1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
 2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
 3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.95 DRAWING MPF2.1 - BUILDING F DEMOLITION SECOND FLOOR PLAN

- A. Replace Drawing MPF2.1 in its entirety with the attached MPF2.1.
- B. DEMOLITION GENERAL NOTES
 1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
 2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
 3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."
- C. BUILDING F DEMOLITION SECOND FLOOR PLAN
 1. Modified existing exhaust fan ductworks in Restrooms F221 and F222 to match existing conditions.

1.96 DRAWING MPF2.2 - BUILDING F REMODEL FIRST FLOOR PLAN

A. REMODEL GENERAL NOTES

1. Added Note 13: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 14: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

1.97 DRAWING MPF2.3 - BUILDING F REMODEL PIPING FIRST FLOOR PLAN

A. Replace Drawing MPF2.3 in its entirety with the attached MPF2.3.

B. BUILDING F REMODEL PIPING FIRST FLOOR PLAN

1. Reroute refrigerant and condensate piping for FC-F1 thru FC-F8. Relocate FS-F1 through FS-F8.
2. Reroute refrigerant and condensate piping for FC-F10 thru FC-F16B. Relocate FS-F10 thru FS-F16B.
3. Relocate refrigerant piping drops.

1.98 DRAWING MPF2.4 - BUILDING F REMODEL SECOND FLOOR PLAN

A. Replace Drawing MPF2.4 in its entirety with the attached MPF2.4.

B. REMODEL GENERAL NOTES

1. Added Note 13: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."

C. BUILDING F REMODEL SECOND FLOOR PLAN

1. Relocate FC-F26 and associated ductwork.
2. Modified existing exhaust fan ductworks in Restrooms F221 and F222 to match existing conditions.
3. Modified return ductwork of FC-F28.

1.99 DRAWING MPF2.5 - BUILDING F REMODEL PIPING SECOND FLOOR PLAN

A. Replace Drawing MPF2.5 in its entirety with the attached MPF2.5.

B. BUILDING F REMODEL PIPING SECOND FLOOR PLAN

1. Rerouted refrigerant and condensate piping for FC-F17 and FC-F18. Relocate FS-F17 and FS-F18.
2. Rerouted refrigerant and condensate piping for FC-F20. Relocated FS-F20.
3. Rerouted refrigerant and condensate piping for FC-F23. Relocated FS-F23.
4. Rerouted refrigerant and condensate piping for FC-F24.
5. Rerouted refrigerant and condensate piping for FC-F26 and FC-F33. Relocated FS-F26 and FS-F33.
6. Relocated refrigerant piping drop.

1.100 DRAWING MPF3.0 - BUILDING F DEMOLITION ROOF PLAN

A. Replace Drawing MPF3.0 in its entirety with the attached Drawing MPF3.0.

B. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING AIR HANDLING UNITS, CURBS, DUCTWORK, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."
2. Added Note 2: "DEMOLISH EXISTING BOILER, TANKS, PUMPS, PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING ROOF."

C. BUILDING F DEMOLITION ROOF PLAN

1. Relocate existing exhaust air vent to match existing construction.

1.101 DRAWING MPF3.1 - BUILDING F REMODEL ROOF PLAN

A. Replace Drawing MPF3.1 in its entirety with the attached Drawing MPF3.1.

B. BUILDING F DEMOLITION ROOF PLAN

1. Relocate OU-F3 and OU-F4, associated refrigerant piping and refrigerant piping drops.
2. Relocate existing exhaust air vent to match existing construction.

1.102 DRAWING MPH2.0 - BUILDING H DEMOLITION FLOOR PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.103 DRAWING MPH2.1 - BUILDING H REMODEL FLOOR PLAN

A. REMODEL GENERAL NOTES

1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 10: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

1.104 DRAWING MPH3.0 - BUILDING H DEMOLITION ROOF PLAN

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.105 DRAWING MPJ2.0 - BUILDING J DEMOLITION FLOOR PLAN - AREA A

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."
2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.106 DRAWING MPJ2.1 - BUILDING J DEMOLITION FLOOR PLAN - AREA B

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING TEMPERATURE CONTROL DEVICES AND WIRING. REFER TO ARCHITECTURAL FOR PATCHING WALL/CEILING."

2. Added Note 2: "DEMOLISH EXISTING DUCTWORK AS SHOWN, SUPPORTS, AND RELATED APPURTENANCES."
3. Added Note 3: "DEMOLISH EXISTING PIPING AS SHOWN, VALVES, SUPPORTS, AND RELATED APPURTENANCES."

1.107 DRAWING MPJ2.2 - BUILDING J REMODEL FLOOR PLAN - AREA A

A. REMODEL GENERAL NOTES

1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 10: "FOR CONDENSATE PIPE DOWN EXTERIOR WALL, SEE DETAIL 9/MP4.4."

1.108 DRAWING MPJ2.3 - BUILDING J REMODEL FLOOR PLAN - AREA B

A. REMODEL GENERAL NOTES

1. Added Note 9: "INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING, REUSE EXISTING CONDUIT DN WALL. PROVIDE NEW CONDUIT AS REQUIRED."
2. Added Note 10: "PAINT NEW EXPOSED DUCTWORK AND PIPING TO MATCH EXISTING DUCTWORK, PIPING, AND SURROUNDING AREA."
3. Added Note 11: "FOR CONDENSATE PIPE DOWN EXTERIOR WALL, SEE DETAIL 9/MP4.4."
4. Added Note 12: "PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED."

1.109 DRAWING MPJ3.0 - BUILDING J DEMOLITION ROOF PLAN - AREA A

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.110 DRAWING MPJ3.1 - BUILDING J DEMOLITION ROOF PLAN - AREA B

A. DEMOLITION GENERAL NOTES

1. Added Note 1: "DEMOLISH EXISTING MAKE-UP AIR UNITS, CURBS, DUCTWORK, GAS PIPING, AND RELATED APPURTENANCES. REFER TO ARCHITECTURAL AND STRUCTURAL FOR PATCHING OF ROOF/WALL STRUCTURE."

1.111 DRAWING MP4.1 - DETAILS

A. DETAIL 7

1. Revised "SINGLE PLY ROOF (SEE ARCH'L)" TO "BUILT-UP ROOFING (SEE ARCH'L)".

1.112 DRAWING MP4.4 - DETAILS

A. Replace Drawing MP4.4 in its entirety with the attached MP4.4.

B. DETAIL 3

1. Revised split system control wiring diagram.

C. DETAIL 4

1. Added condensate pump and condensate pump power requirement to the diagram of "VRF WIRING DIAGRAM".

D. DETAIL 5

1. Revised title to "FLOW SELECTOR CONTROLLER REF. PIPING AND WIRING DIAGRAM".
2. Revised control diagram of "FLOW SELECTOR CONTROLLER REF. PIPING AND WIRING DIAGRAM".

E. DETAIL 9

1. Added "CONDENSATE PIPE DOWN WALL" detail in entirety.

F. DETAIL 10

1. Added "PIPE WALL SUPPORT" detail in entirety.

1.113 DRAWING MP6.1 - SECTIONS

A. Replace Drawing MP6.1 in its entirety with the attached MP6.1.

B. BLDG SECTION D

1. Revised cross-sectional view. (Previous view was incorrect)

Electrical

1.114 DRAWING E0.2 - SINGLE LINE DIAGRAM

A. Replace Drawing E0.2 in its entirety with the attached E0.2.

B. SINGLE LINE DIAGRAM

1. Showing existing Transformer TR-7, existing DPF and New FPM panelboard.
2. Showing existing Transformer TR-6, existing DPE and New EPM panelboard.

1.115 DRAWING E0.3 - PANEL SCHEDULES

A. Replace Drawing E0.3 in its entirety with the attached E0.3.

B. PANEL SCHEDULE

1. Added Panel Schedules ELM and EPM.

1.116 DRAWING E0.4 - PANEL SCHEDULES

A. Replace Drawing E0.4 in its entirety with the attached E0.4.

B. PANEL SCHEDULE

1. Added Panel Schedules FLM and FPM.

1.117 DRAWING EA2.1 - BLDG A REMODEL FLOOR PLAN

A. Replace Drawing EA2.1 in its entirety with the attached EA2.1.

B. KEYED NOTES

1. Added Keyed Notes 1 and 2 pertaining to removal and re-installation of acoustical ceiling tiles.

1.118 DRAWING EA3.1 - BLDG A REMODEL ROOF PLAN

A. Replace Drawing EA3.1 in its entirety with the attached EA3.1.

B. KEYED NOTES

1. Added Keyed Notes 2 and 3.

C. GENERAL NOTES

1. Added General Notes 1, 2 and 3.

D. CONDUIT ROOF PENETRATION DETAIL.

1. Added conduit roof penetration detail.

1.119 DRAWING EB2.1 - BLDG B REMODEL FLOOR PLAN

- A. Replace Drawing EB2.1 in its entirety with the attached EB2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2, 3, 4, 5, 6, 7 and 9 pertaining to removal and re-installation of acoustical ceiling tiles.

1.120 DRAWING EB3.1 - BLDG B REMODEL ROOF PLAN

- A. Replace Drawing EB3.1 in its entirety with the attached EB3.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2, and 3.
- C. GENERAL NOTES
 - 1. Added General Notes 1, 2, 3 and 4.
- D. ELECTRICAL PANEL MOUNTING DETAIL.
 - 1. Added electrical panel mounting detail.

1.121 DRAWING EC2.1 - BLDG C REMODEL FLOOR PLAN

- A. Replace Drawing EC2.1 in its entirety with the attached EC2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2, 3, and 4 pertaining to removal and re-installation of acoustical ceiling tiles.

1.122 DRAWING EC3.1 - BLDG C REMODEL ROOF PLAN

- A. Replace Drawing EC3.1 in its entirety with the attached EC3.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2 and 3.
- C. GENERAL NOTES
 - 1. Added General Notes 1, 2, 3 and 4.

1.123 DRAWING ED2.2 - BLDG D REMODEL FLOOR PLAN AREA 1

- A. Replace Drawing ED2.2 in its entirety with the attached ED2.2

B. KEYED NOTES

1. Added Keyed Notes 1, 2, and 3 pertaining to removal and re-installation of acoustical ceiling tiles.
2. Re-located conduits to make way for new duct work on west side of Gym.

1.124 DRAWING ED2.3 - BLDG D REMODEL FLOOR PLAN AREA 2

A. Replace Drawing ED2.3 in its entirety with the attached ED2.3.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, and 3 pertaining to removal and re-installation of acoustical ceiling tiles.

1.125 DRAWING ED3.2 - BLDG D REMODEL ROOF PLAN - AREA 1

A. Replace Drawing ED3.2 in its entirety with the attached ED3.2.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, 3, and 4.

C. GENERAL NOTES

1. Added General Notes 1, 2, 3, and 4.

1.126 DRAWING EE2.2 - BLDG E REMODEL 1ST FLOOR PLAN

A. Replace Drawing EE2.2 in its entirety with the attached EE2.2.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, 3, 4, 5, 6, 7, and 8 pertaining to removal and re-installation of acoustical ceiling tiles.

1.127 DRAWING EE2.3 - BLDG E REMODEL 2ND FLOOR PLAN

A. Replace Drawing EE2.3 in its entirety with the attached EE2.3.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, 3, 4, 5, 6, 7, and 8 pertaining to removal and re-installation of acoustical ceiling tiles.

1.128 DRAWING EE3.1 - BLDG D REMODEL ROOF PLAN

- A. Replace Drawing EE3.1 in its entirety with the attached EE3.1.
- B. KEYED NOTE
 - 1. Added Keyed Note 1.
- C. GENERAL NOTES
 - 1. Added General Notes 1, 2, and 3.

1.129 DRAWING EF2.2 - BLDG F REMODEL 1ST FLOOR PLAN

- A. Replace Drawing EF2.2 in its entirety with the attached EF2.2.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2, 3, 4, 5, 6, and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.130 DRAWING EF2.3 - BLDG F REMODEL 2ND FLOOR PLAN

- A. Replace Drawing EF2.3 in its entirety with the attached EF2.3.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1, 2, 3, 4, 5, 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.131 DRAWING EF3.1 - BLDG F REMODEL ROOF PLAN

- A. Replace Drawing EF3.1 in its entirety with the attached EF3.1.
- B. KEYED NOTE
 - 1. Added Keyed Note 1.
- C. GENERAL NOTES
 - 1. Added General Notes 1, 2, and 3.
- D. BLDG F REMODEL ROOF PLAN.
 - 1. Added wire size to Module 3.

1.132 DRAWING EH2.2 - BLDG F REMODEL 2ND FLOOR PLAN

- A. Replace Drawing EH2.2 in its entirety with the attached EH2.2.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, 3, 4, and 5 pertaining to removal and re-installation of acoustical ceiling tiles.

1.133 DRAWING EH3.1 - BLDG F REMODEL ROOF PLAN

- A. Replace Drawing EH3.1 in its entirety with the attached EH3.1.

B. KEYED NOTE

1. Added Keyed Note 2.

C. GENERAL NOTES

1. Added General Notes 1, 2, and 3.

1.134 DRAWING EJ2.2 - BLDG J REMODEL FLOOR PLAN AREA A

- A. Replace Drawing EJ2.2 in its entirety with the attached EJ2.2.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, and 3 pertaining to removal and re-installation of acoustical ceiling tiles.

1.135 DRAWING EJ2.3 - BLDG J REMODEL FLOOR PLAN AREA B

- A. Replace Drawing EJ2.3 in its entirety with the attached EJ2.3.

B. KEYED NOTES

1. Added Keyed Notes 1, 2, 3, and 4 pertaining to removal and re-installation of acoustical ceiling tiles.

1.136 DRAWING EJ3.2 - BLDG J REMODEL ROOF PLAN - AREA A

- A. Replace Drawing EJ3.2 in its entirety with the attached EJ3.2.

B. KEYED NOTE

1. Added Keyed Note 2.

C. GENERAL NOTES

1. Added General Notes 1, 2, and 3.

1.137 DRAWING EJ3.3 - BLDG J REMODEL ROOF PLAN - AREA A

- A. Replace Drawing EJ3.3 in its entirety with the attached EJ3.3.
- B. KEYED NOTES
 - 1. Added Keyed Notes 1 and 2.
- C. GENERAL NOTES
 - 1. Added General Notes 1, 2, and 3.

Fire

1.138 DRAWING FA0.1 - COVER SHEET

- A. Replace Drawing FA0.1 in its entirety with the attached FA0.1.
- B. FIRE ALARM SYMBOL LIST
 - 1. Revised CO detector manufacturer, part number and CSFM listing.

1.139 DRAWING FA0.2 - CALCUALTIONS AND RISER DIAGRAMS

- A. Replace Drawing FA0.2 in its entirety with the attached FA0.2.
- B. FA CALCULATIONS
 - 1. Revised and expanded FA Calculations

1.140 DRAWING FA1.1 - SITE PLAN

- A. Replace Drawing FA1.1 in its entirety with the attached FA1.1.
- B. KEYED NOTES
 - 1. Added Keyed Note 3.
- C. SITE PLAN
 - 1. Added site plan conduit routing.

1.141 DRAWING FAA2.1 - BLDG A REMODEL FLOOR PLAN

- A. Replace Drawing FAA2.1 in its entirety with the attached FAA2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.142 DRAWING FAB2.1 - BLDG B REMODEL FLOOR PLAN

- A. Replace Drawing FAB2.1 in its entirety with the attached FAB2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 7 and 8 pertaining to removal and re-installation of acoustical ceiling tiles.

1.143 DRAWING FAC2.1 - BLDG C REMODEL FLOOR PLAN

- A. Replace Drawing FAC2.1 in its entirety with the attached FAC2.1.
- B. KEYED NOTE
 - 1. Added Keyed Note 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.144 DRAWING FAD2.1 - BLDG D REMODEL FLOOR PLAN AREA 1

- A. Replace Drawing FAD2.1 in its entirety with the attached FAD2.1.
- B. KEYED NOTE
 - 1. Added Keyed Note 6 pertaining to removal and re-installation of acoustical ceiling tiles.

1.145 DRAWING FAD2.2 - BLDG D REMODEL FLOOR PLAN AREA 2

- A. Replace Drawing FAD2.2 in its entirety with the attached FAD2.2.
- B. KEYED NOTE
 - 1. Added Keyed Note 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.146 DRAWING FAE2.1 - BLDG E REMODEL 1ST FLOOR PLAN

- A. Replace Drawing FAE2.1 in its entirety with the attached FAE2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.147 DRAWING FAE2.2 - BLDG E REMODEL 2ND FLOOR PLAN

- A. Replace Drawing FAE2.2 in its entirety with the attached FAE2.2.
- B. KEYED NOTES
 - 1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.148 DRAWING FAF2.1 - BLDG F REMODEL 1ST FLOOR PLAN

- A. Replace Drawing FAF2.1 in its entirety with the attached FAF2.1.
- B. KEYED NOTES
 - 1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.149 DRAWING FAF2.2 - BLDG F REMODEL 2ND FLOOR PLAN

- A. Replace Drawing FAF2.2 in its entirety with the attached FAF2.2.
- B. KEYED NOTES
 - 1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.150 DRAWING FAH2.1 - BLDG H REMODEL AREA 1 FLOOR PLAN

- A. Replace Drawing FAH2.1 in its entirety with the attached FAH2.1
- B. KEYED NOTES
 - 1. Added Keyed Notes 5 and 6 pertaining to removal and re-installation of acoustical ceiling tiles.

1.151 DRAWING FAH2.2 - BLDG H REMODEL AREA 2 FLOOR PLAN

- A. Replace Drawing FAH2.2 in its entirety with the attached FAH2.2.
- B. KEYED NOTES
 - 1. Added Keyed Notes 2 and 3 pertaining to removal and re-installation of acoustical ceiling tiles.

1.152 DRAWING FAJ2.1 - BLDG J REMODEL FLOOR PLAN AREA A

- A. Replace Drawing FAJ2.1 in its entirety with the attached FAJ2.1.

B. KEYED NOTES

1. Added Keyed Notes 3, 4 and 5 pertaining to removal and re-installation of acoustical ceiling tiles.

1.153 DRAWING FAJ2.2 - BLDG J REMODEL FLOOR PLAN AREA B

- A. Replace Drawing FAJ2.2 in its entirety with the attached FAJ2.2.

B. KEYED NOTES

1. Added Keyed Notes 6 and 7 pertaining to removal and re-installation of acoustical ceiling tiles.

1.154 DRAWING FA3.1 - DETAILS

- A. Replace Drawing FA3.1 in its entirety with the attached FA3.1.

- B. Added Detail 5.

END OF ADDENDUM 1

Submitted by,



MARK GRAHAM
Architect, AIA
LEED™ GA
NOMA
Principal



MG:SJ:br/P41917100x1-add

Attachments: Section 01 11 00 - Summary of Work
Section 23 72 00 - Energy Recovery Devices
Section 23 74 11 - Packaged Rooftop Air Conditioning Units
Section 23 81 26 - Split System Air Conditioning Units
Section 23 81 45 - Variable Refrigerant Flow Heat Pumps
Drawings Full Sheets: AE3.0, AE3.1, AE3.2, AE3.3, AE4.0, AE4.1, AF3.0, AF3.1, AF3.2, AF3.3, AF4.0, AF4.1, AJ4.0, AJ4.1, 7.1, S0.1, S0.2, S0.3, S2.1, S2.2, S2.3, S2.4, S2.5, S2.6, S2.7, S2.8, S2.9, S2.10, S2.11, S2.12, S2.13, S2.14, S2.15, S2.16, S2.17, S2.18, S2.19, S2.20, S2.21, S2.22, MP0.3, MPA2.1, MPC2.1, MPD2.3, MPE2.1, MPE2.3, MPE2.4, MPE2.5, MPE3.1, MPF2.1, MPF2.3, MPF2.4, MPF2.5, MPF3.0, MPF3.1, MP4.4, MP6.1, E0.2, E0.3, E0.4, EA2.1, EA3.1, EB2.1, EB3.1, EC2.1, EC3.1, ED2.2, ED2.3, ED3.2, EE2.2, EE2.3, EE3.1, EF2.2, EF2.3, EF3.1, EH2.2, EH3.1, EJ2.2, EJ2.3, EJ3.2, EJ3.3, FA0.1, FA0.2, FA1.1, FAA2.1, FAB2.1, FAC2.1, FAD2.1, FAD2.2, FAE2.1, FAE2.2, FAF2.1, FAF2.2, FAH2.1, FAH2.2, FAJ2.1, FAJ2.2, FA3.1

SECTION 01 11 00

SUMMARY OF WORK

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Work Included.
- B. Work under separate contracts.
- C. Work by Owner.
- D. Owner furnished products.
- E. Contractor use of site and premises.
- F. Work Sequence.
- G. Owner occupancy.
- H. Work restrictions.

1.2 WORK INCLUDED

- A. Work of this Contract comprises general construction including remodeling and demolition.
- B. The project is an addition of HVAC units to an existing campus. Old heating and ventilation units will be removed. Demolition of existing mechanical items including boilers, piping, Reznor units, roofing, roof curbs, ceilings, walls, floors, and all items as shown in the contract documents shall be part of this project. The below list is not all inclusive but it provides an overview of this project.
- C. Building A: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Remove two existing skylight/clerestory assemblies and modify for two package units. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown.
- D. Building B: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing.
- E. Building C: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Remove portion of existing metal screen wall. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing.
- F. Building D: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Rework existing electrical conduits and panels as shown. Relocate light fixtures in gym as needed to miss new ducts. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing.

- G. Buildings E and F: Remove existing heating and ventilation units on roof and replace with new curbs and Variable Refrigerant Flow condensing units. Remove boiler from roof. Remove all existing supports on parapet walls, and patch back walls with similar material. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Remove existing boiler piping system throughout. Add new VRF piping and fan coils to all spaces shown. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing at floor and roof locations.
- H. Building G: No scope.
- I. Building H: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Remove partial metal screen walls. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing.
- J. Building J: Remove existing heating and ventilation units on roof and replace with new curbs and HVAC package units. Rework existing electrical conduits and panels as shown. Add new condensate lines down walls and drain into existing sinks. Modify ductwork and opening ceilings as needed. Add new structural members to support new units. Patch back all roofs. Add new thermostats and devices to fire alarm as shown. Patch back fire proofing.
- K. General notes: All roofs shall receive new convenience outlets, hose bibs as shown on plans. Buildings B-J will require spray-on fire proofing of existing primary members, roof decking, and floor beams only at locations where patching touch up is required. Painting will be required of all new exposed duct work, exposed electrical conduits, modified drywall openings, access panels, and all other areas that get affected by modernization work. Reworking of gypsum board, cementitious backer board, ceramic and porcelain tile, FRP, and any other material will be required when running condensate lines down the walls. Similar for new thermostats. All pipe and conduit penetrations through floors, walls, roofs shall be fire protected with minimum 2 hour rated fire safing/caulking products. The project is located at 600 East Gonzales Road, Oxnard, CA 93030 for Oxnard Union High School District, Owner.
- L. Construct the work under a single lump sum contract.

1.3 WORK UNDER SEPARATE CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.4 OWNER FURNISHED PRODUCTS

- A. Items noted "OFCl" (Owner-Furnished Contractor Installed) will be furnished by Owner and installed by Contractor.
- B. Items noted "OFOl" (Owner-Furnished Owner Installed) will be furnished by Owner and installed by Owner.
- C. Owner's Responsibilities:
 1. Arrange for and deliver Owner reviewed Shop Drawings, Product Data, and Samples to Contractor.
 2. Arrange and pay for Product delivery to site.
 3. On delivery, inspect Products jointly with Contractor.
 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.

5. Arrange for manufacturer's warranties, inspections, and service.

D. Contractor's Responsibilities:

1. Review Owner reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload Products at site; inspect for completeness or damage, jointly with Owner.
3. Handle, store, install and finish Products.
4. Repair or replace items damaged after receipt.

1.5 CONTRACTOR USE OF SITE AND PREMISES

A. Limit use of site and premises to allow:

1. Owner occupancy.
2. Use of site and premises by students and teachers.

1.6 WORK SEQUENCE

A. See the attached sheet "work sequence" on Page 5 of this section for phasing of this project.

1.7 OWNER OCCUPANCY

- A. Full Owner Occupancy: Owner will occupy entire site and premises during entire construction period for conduct of his normal operation.
- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total Work.
- C. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy.
- D. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
- E. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building.
- F. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage.
- G. Perform the Work so as not to interfere with Owner's day-to-day operations.
- H. Maintain existing exits, unless otherwise indicated.
- I. Provide not less than 72 hours notice to Owner of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours, Monday through Friday, except as otherwise indicated or required to conform to construction schedule and labor codes.
 1. Weekend Hours: 7:00 a.m. - 11 p.m.

2. Early Morning Hours: 5:00 a.m. - 7:30 a.m.
 3. Hours for Utility Shutdowns: Verify with Owner.
 4. Hours for Noisy Operations: Verify with Owner.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted to do so and then only after arranging to provide temporary utility services according to requirements indicated.
1. Notify Architect not less than 5 days in advance of proposed utility interruptions. Do not proceed with utility interruptions without Architect's permission.
- 1.9 See attached photos of existing roofs and interiors photos for areas that were not accessible during the job walk. See Pages 6-28 of this section.

2. PART 2 PRODUCTS

Not Used

3. PART 3 EXECUTION

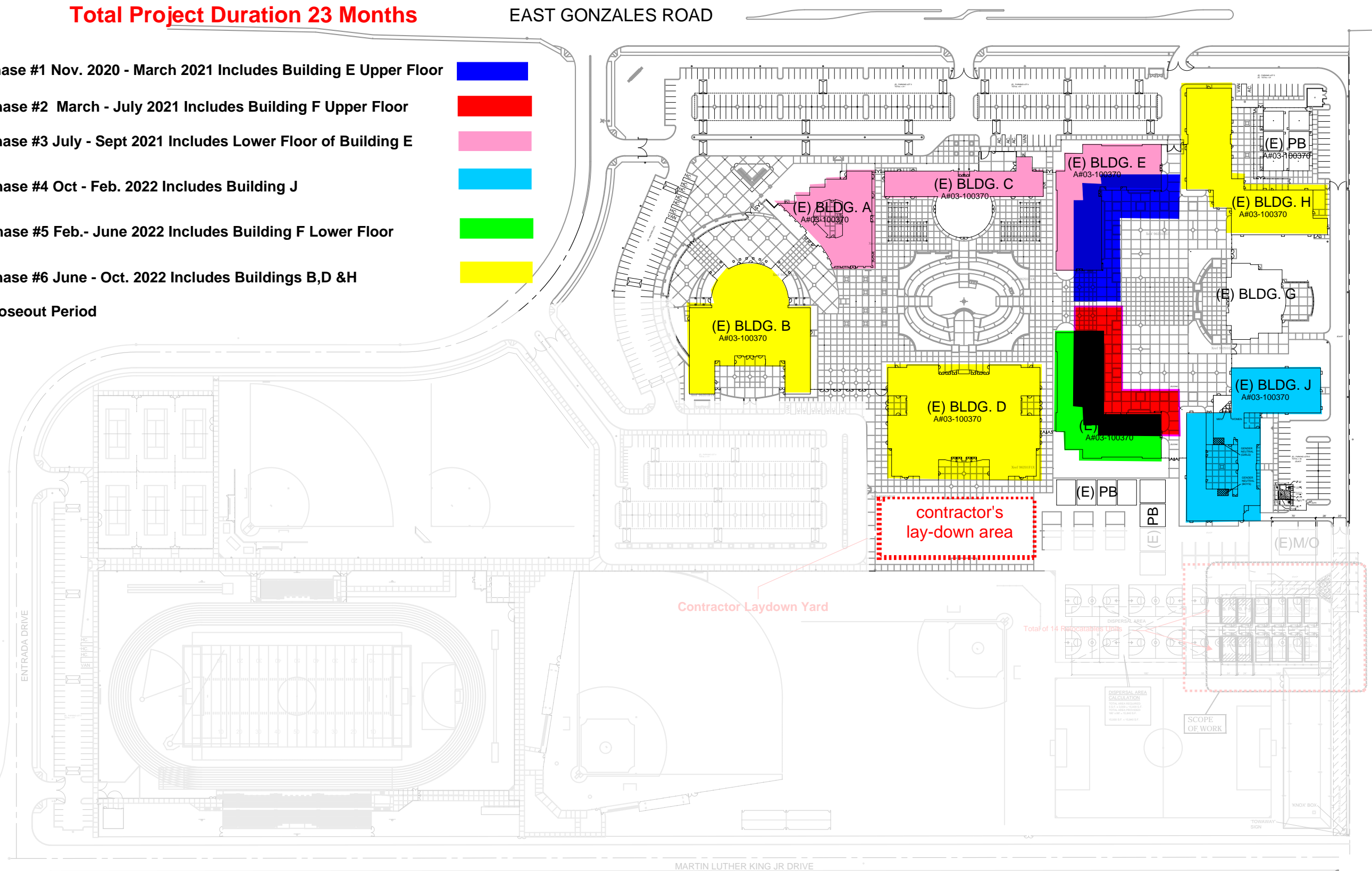
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END OF SECTION

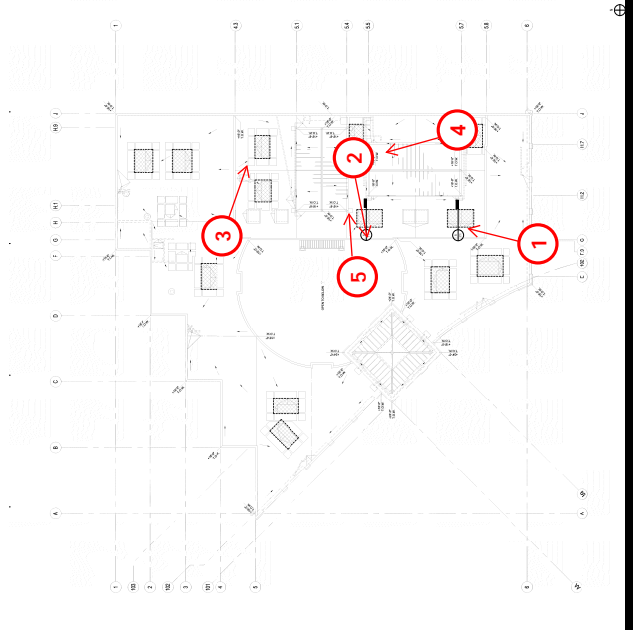
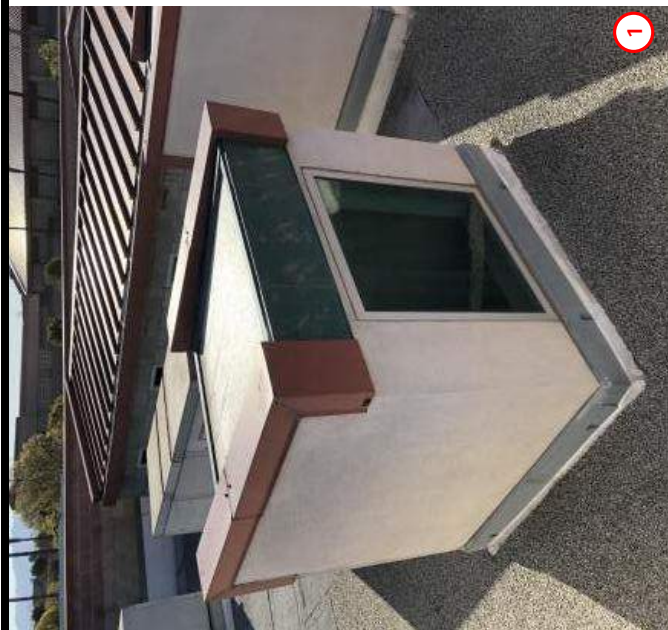
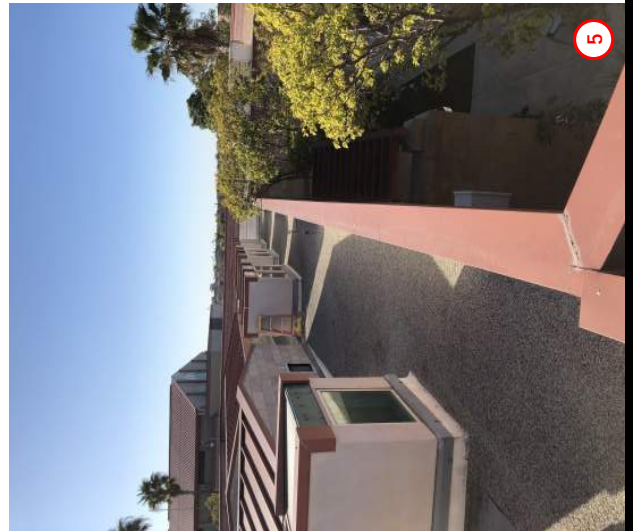
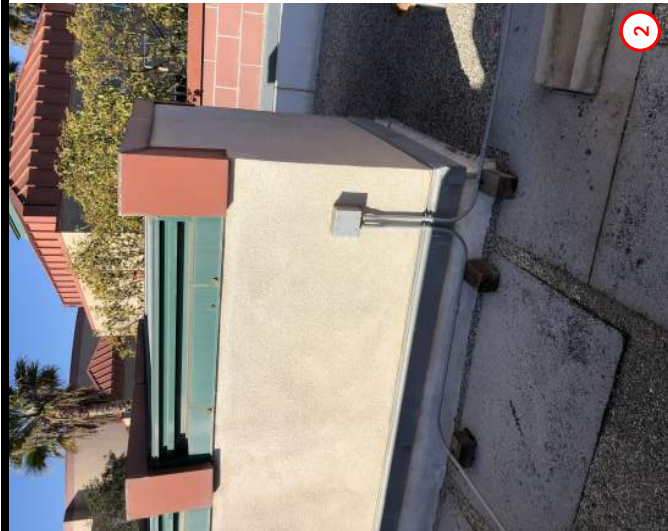
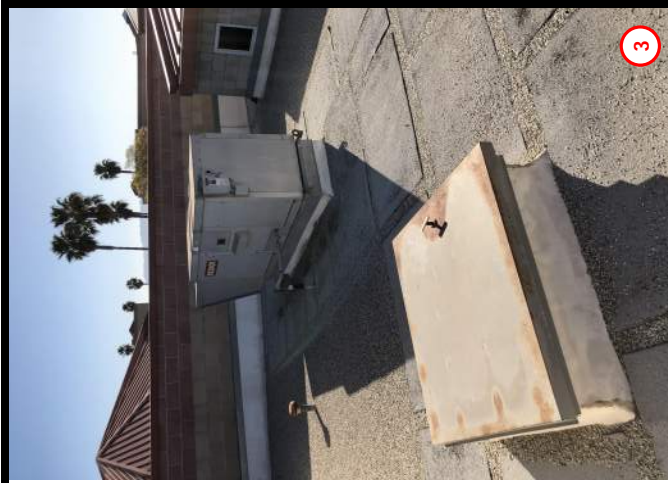
WORK SEQUENCE

Total Project Duration 23 Months

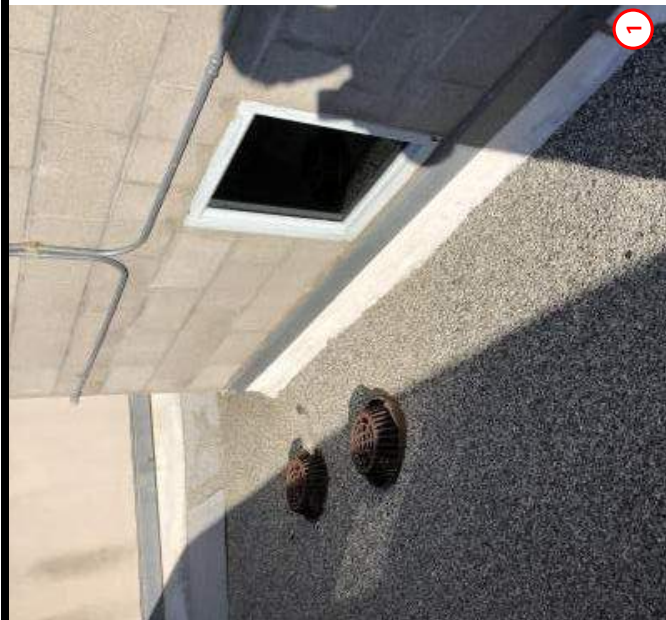
- Phase #1 Nov. 2020 - March 2021 Includes Building E Upper Floor
- Phase #2 March - July 2021 Includes Building F Upper Floor
- Phase #3 July - Sept 2021 Includes Lower Floor of Building E
- Phase #4 Oct - Feb. 2022 Includes Building J
- Phase #5 Feb.- June 2022 Includes Building F Lower Floor
- Phase #6 June - Oct. 2022 Includes Buildings B,D &H
- Closeout Period



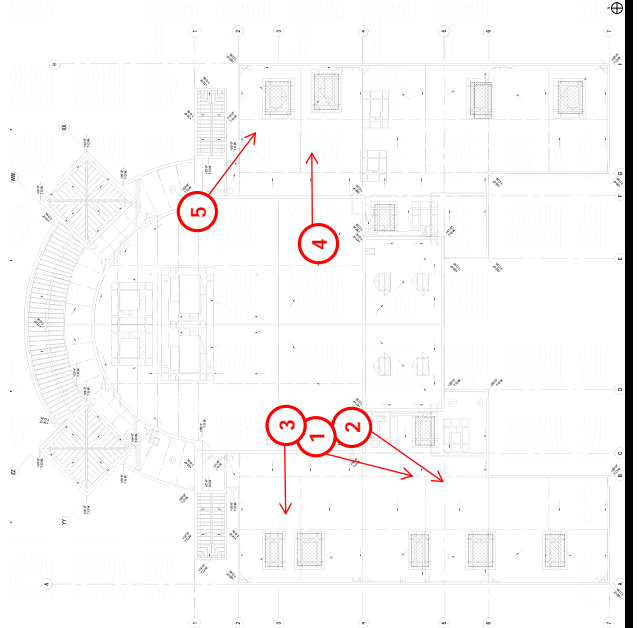
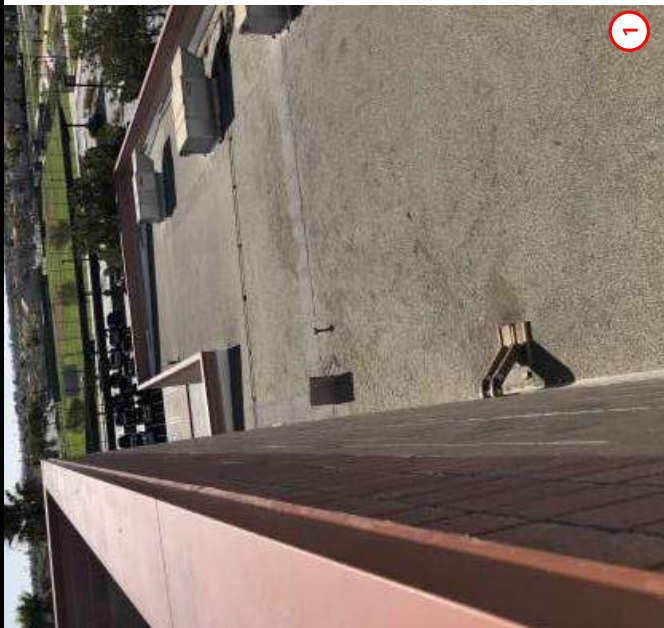
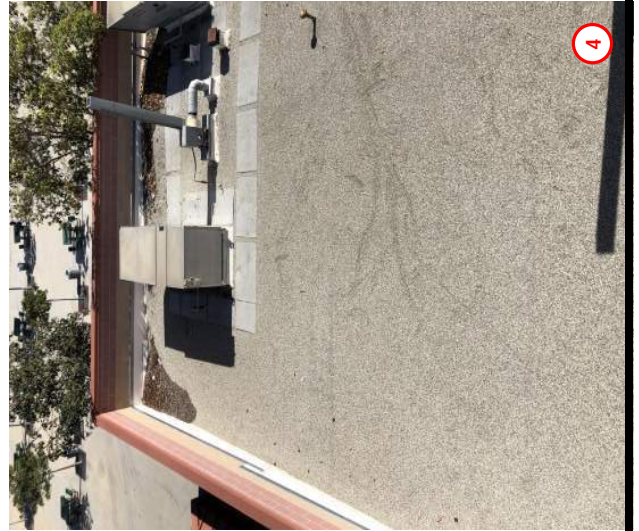
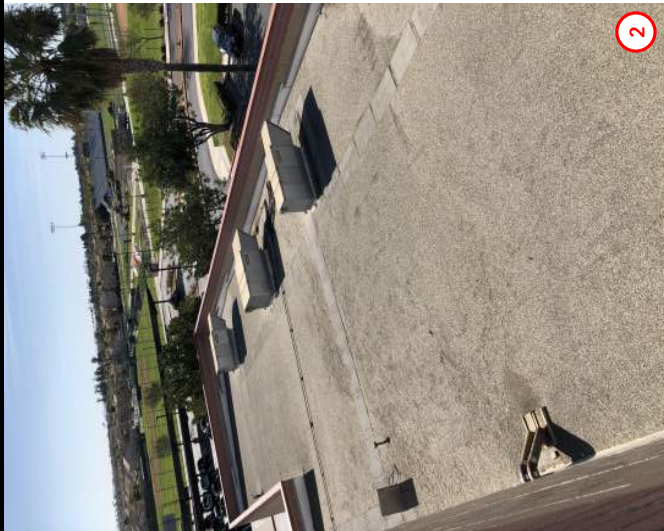
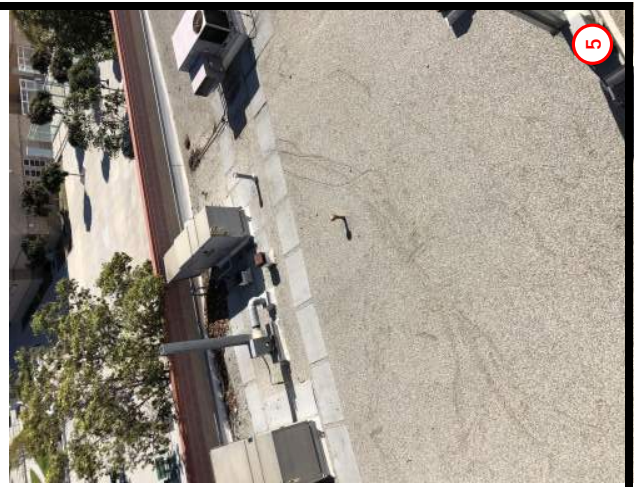
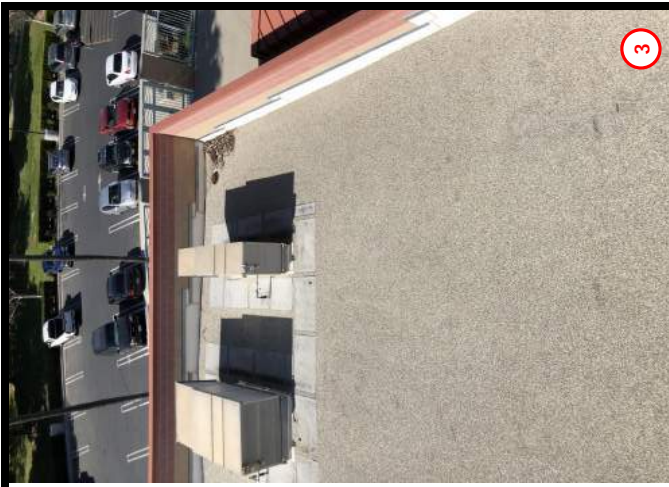
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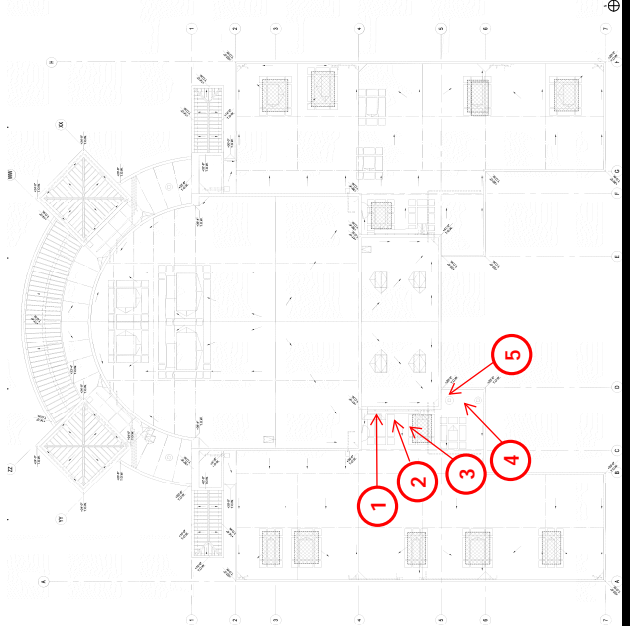
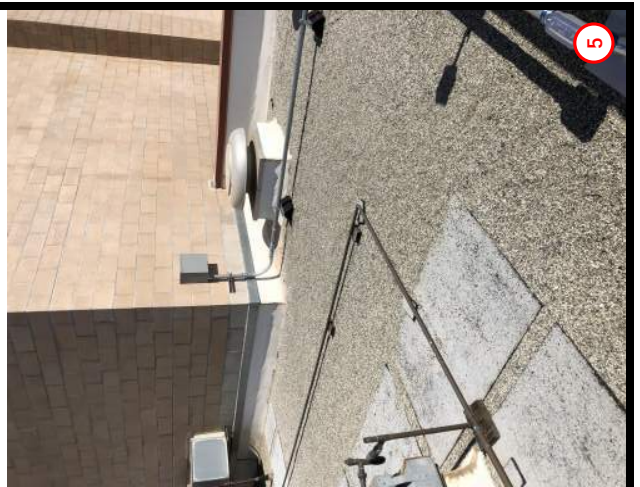
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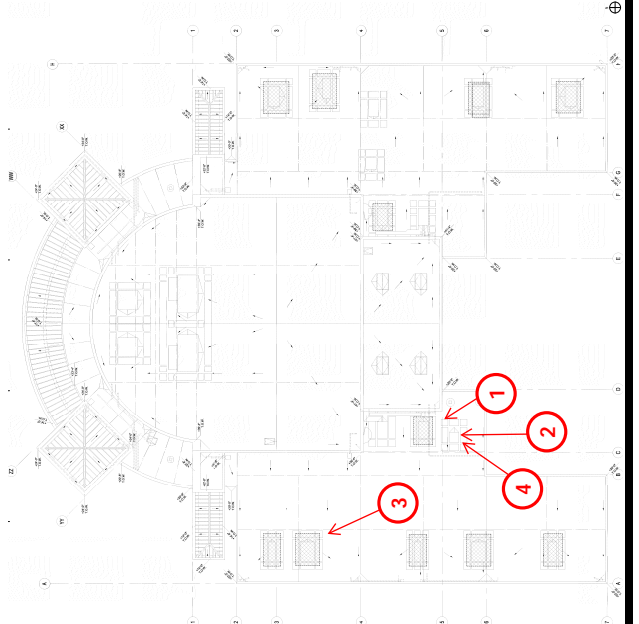
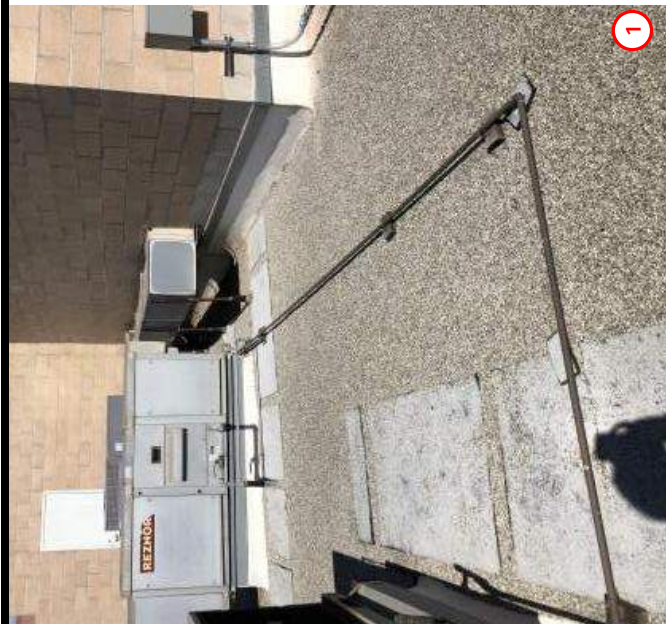
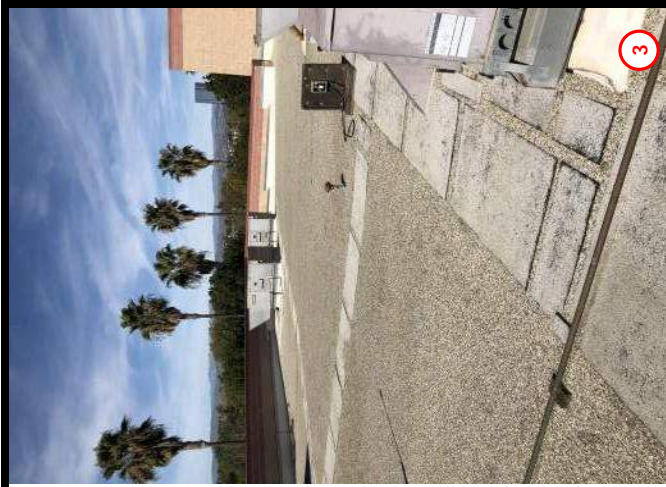
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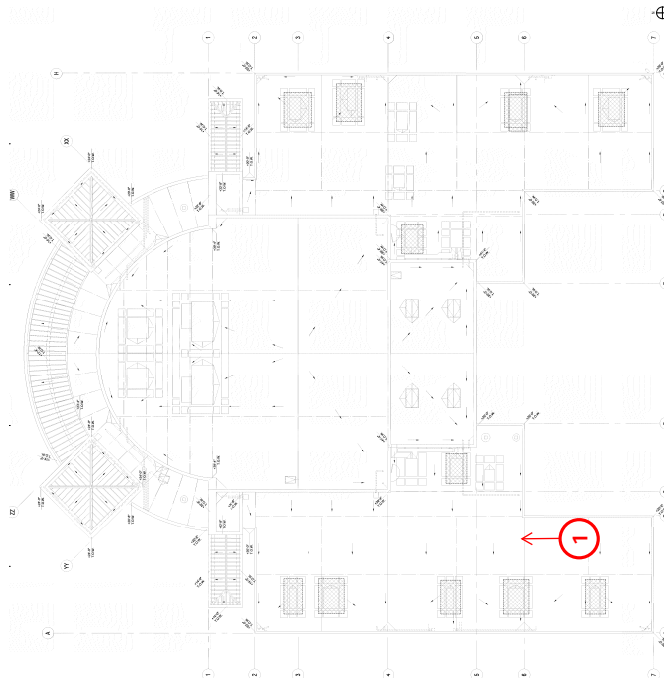
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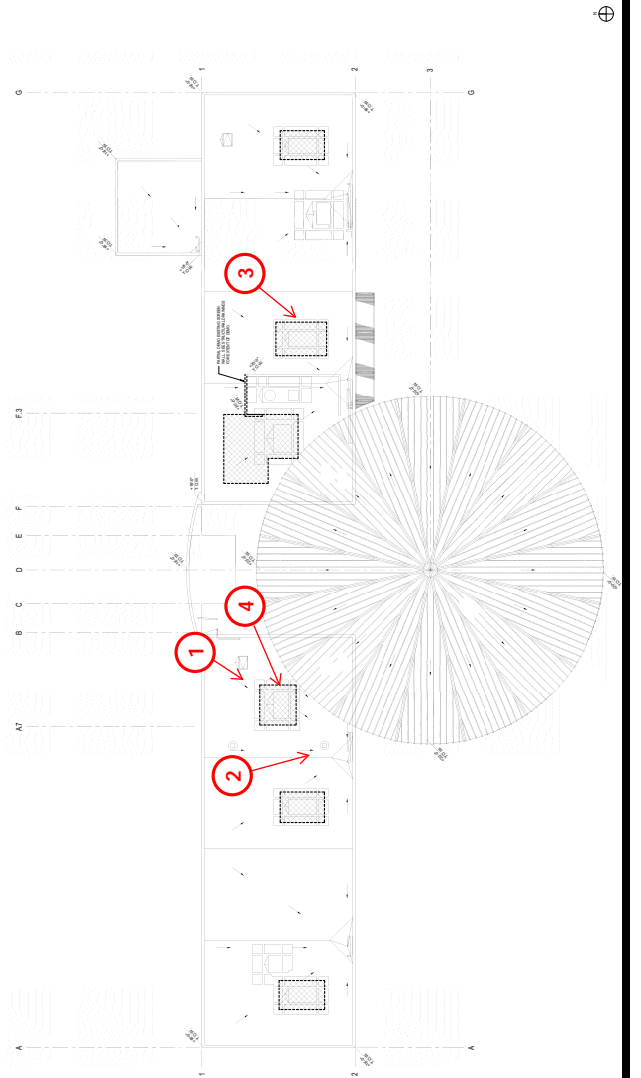
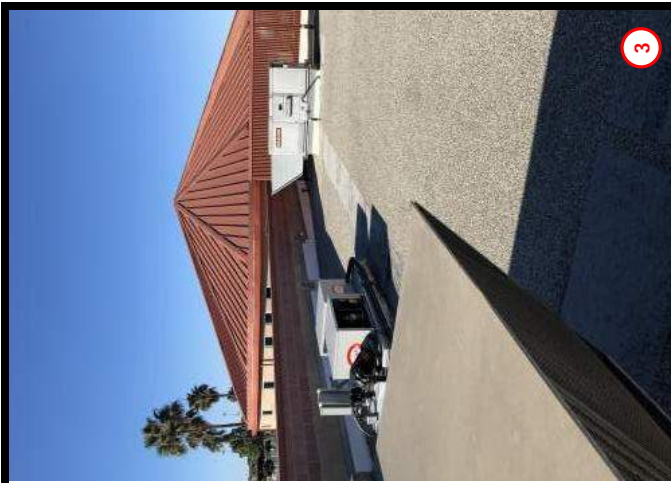
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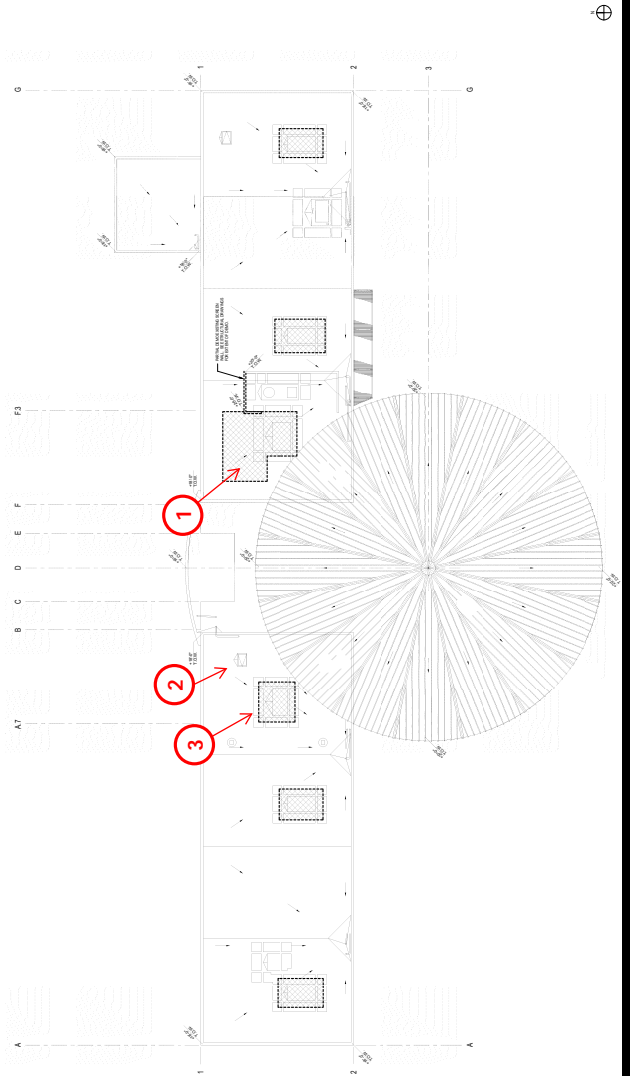
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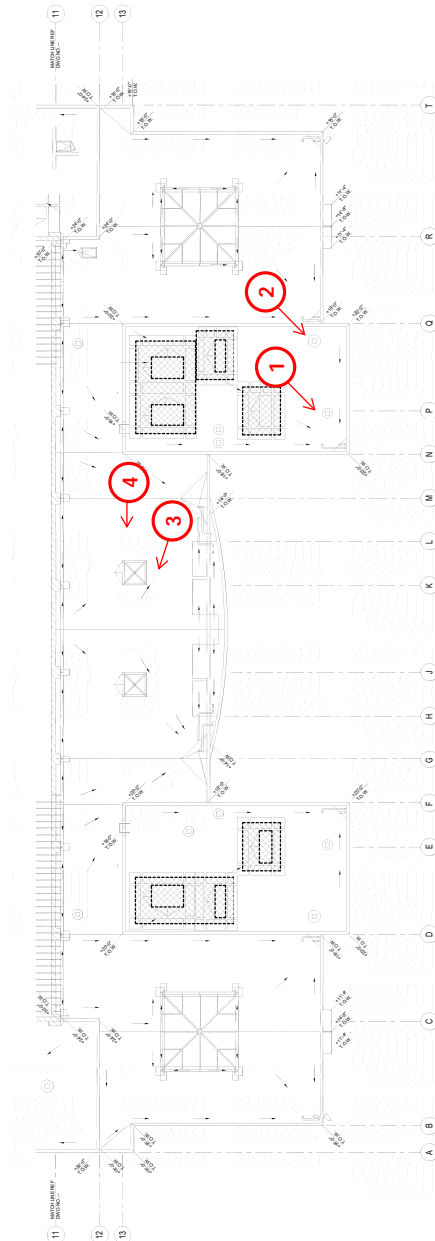
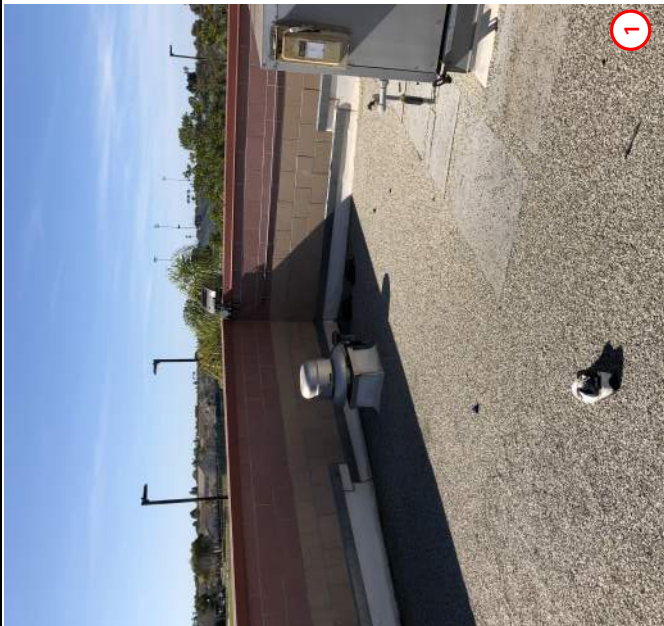
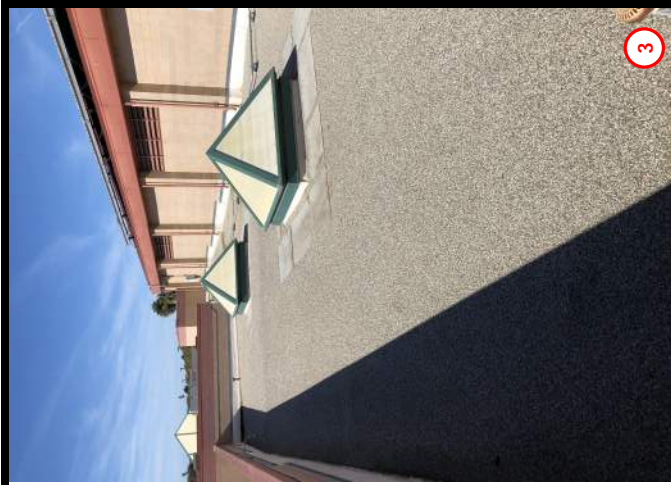
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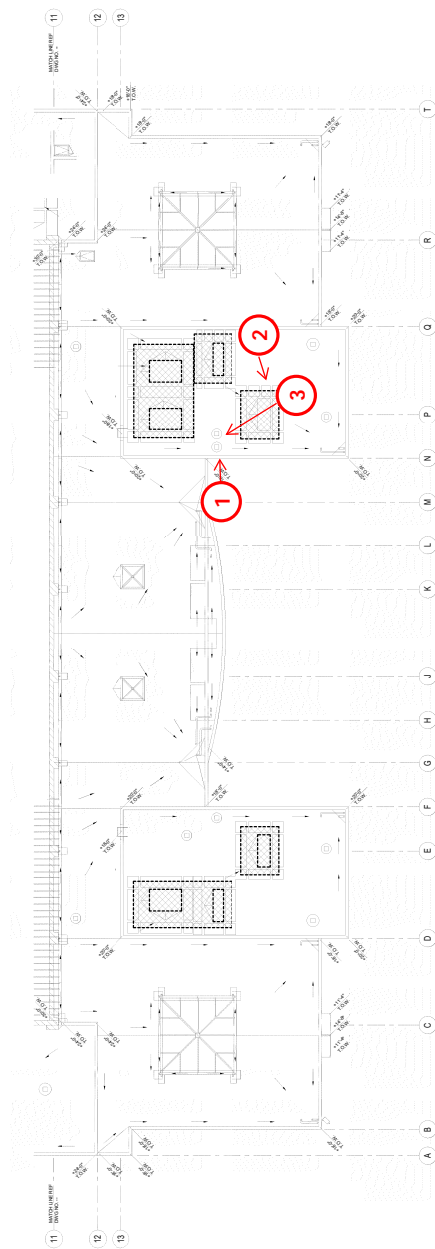
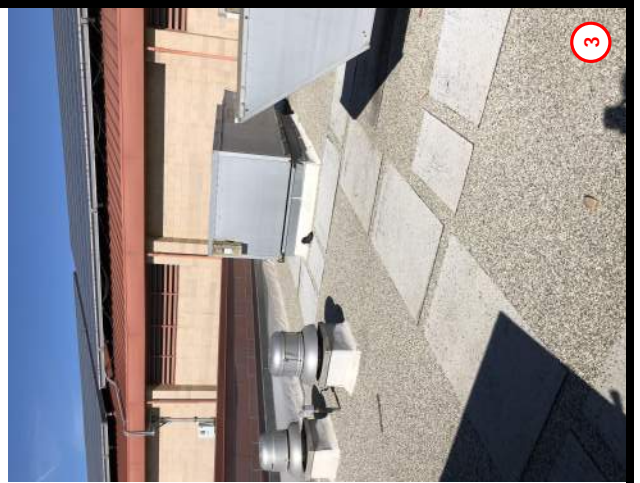
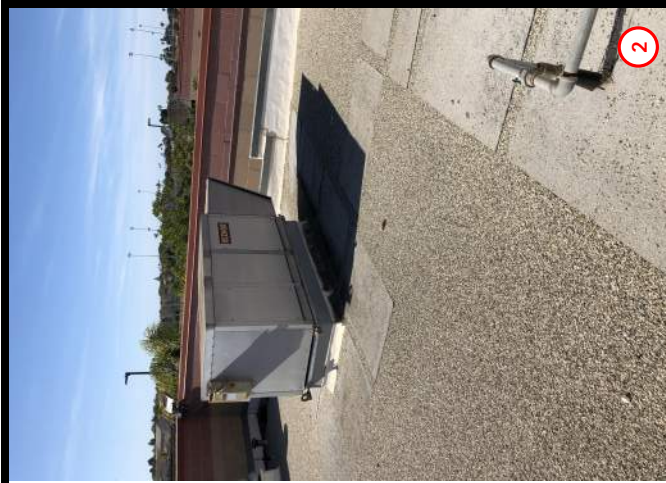
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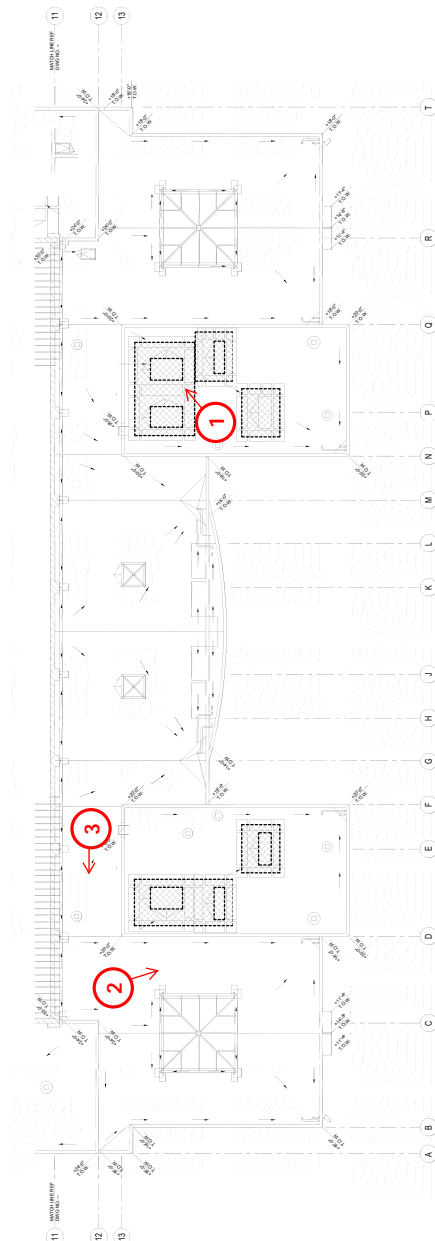
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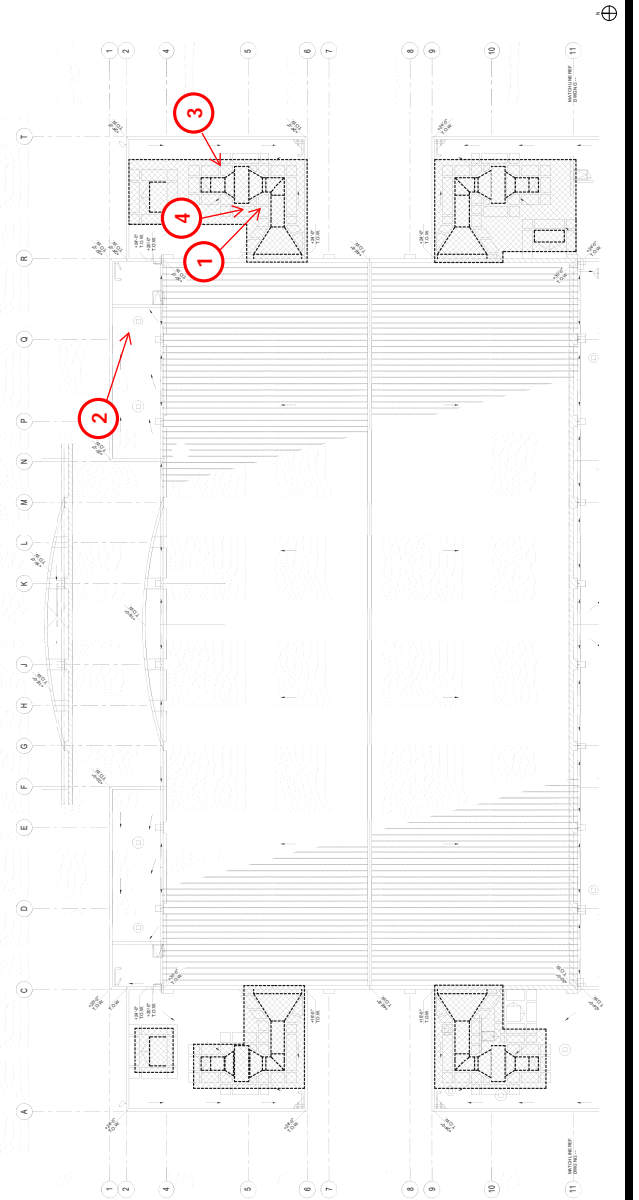
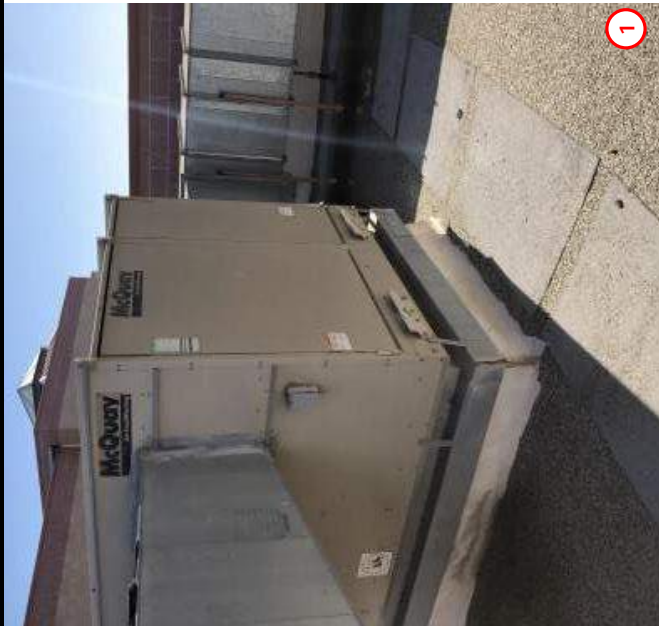
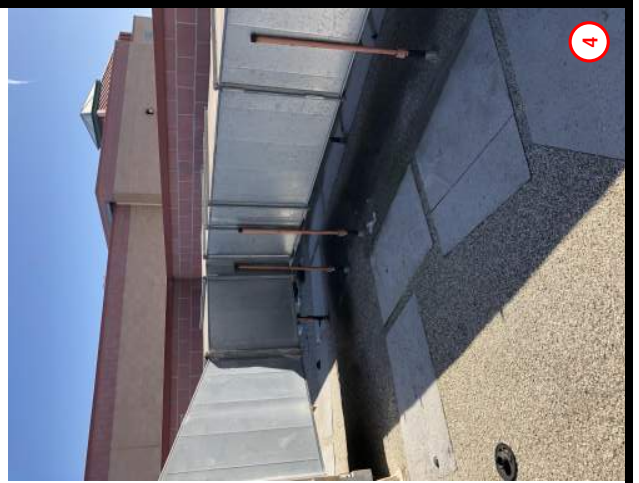
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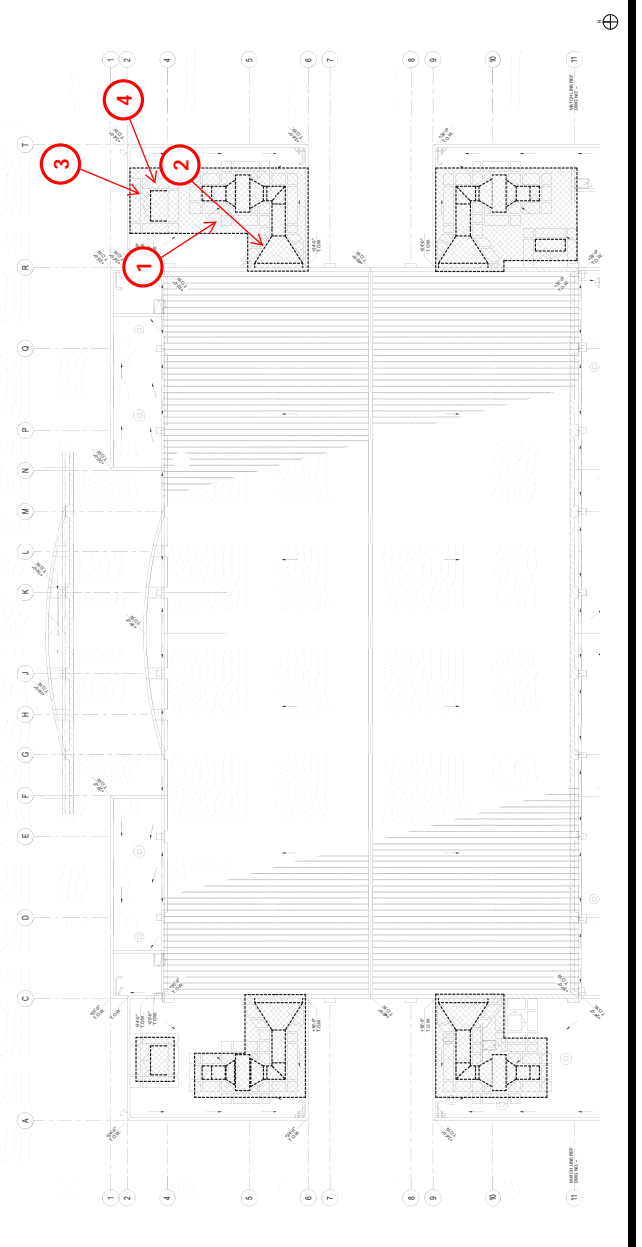
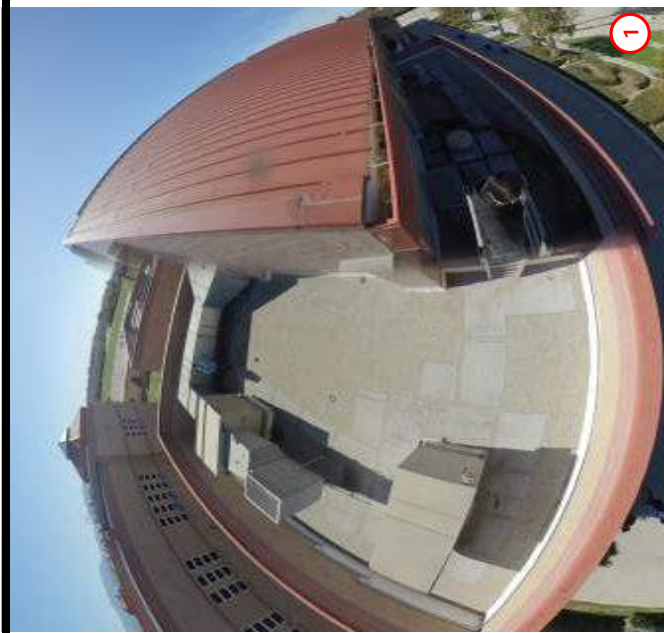
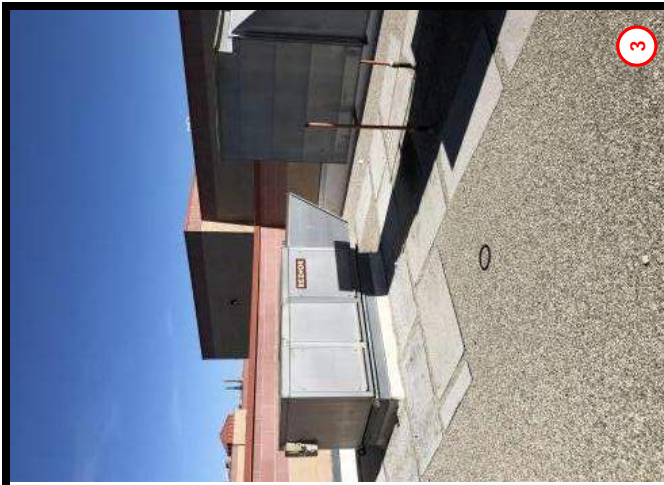
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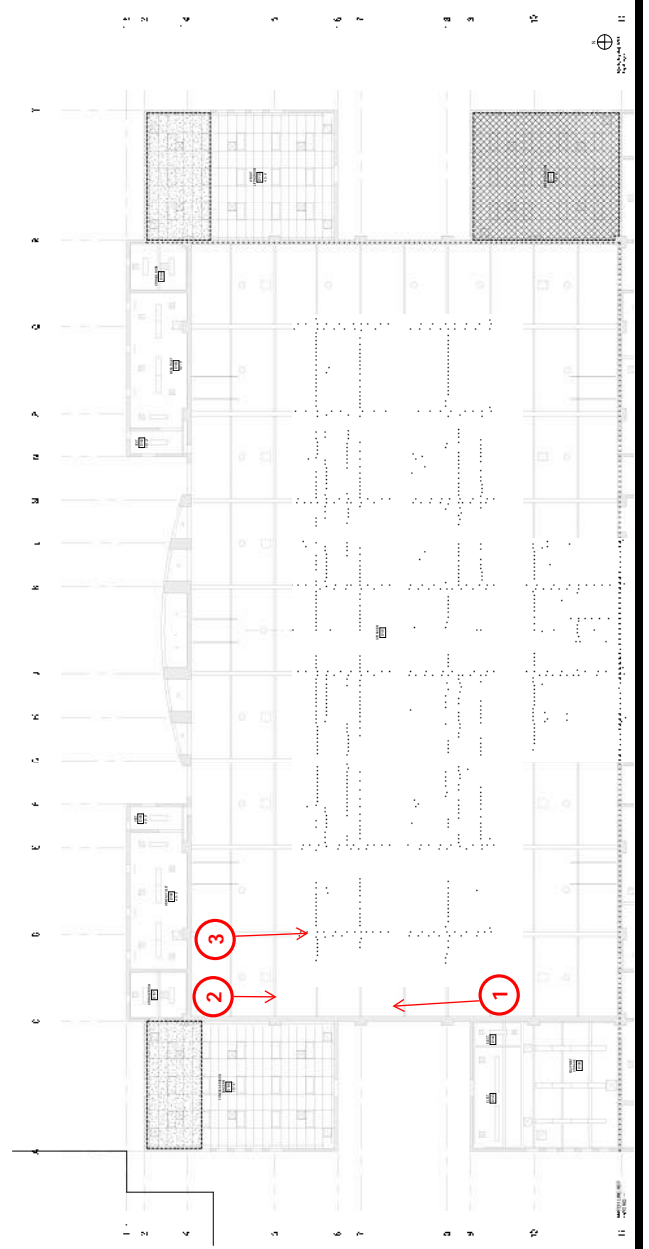
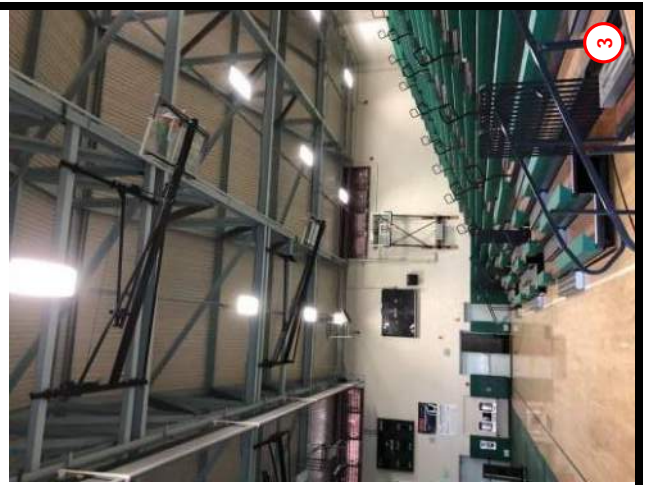
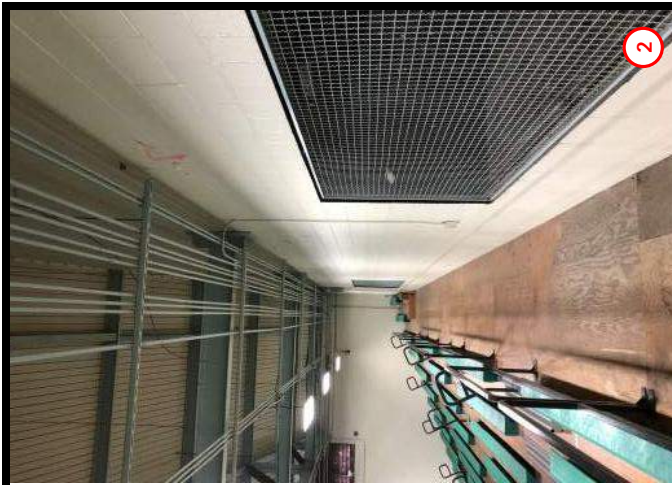
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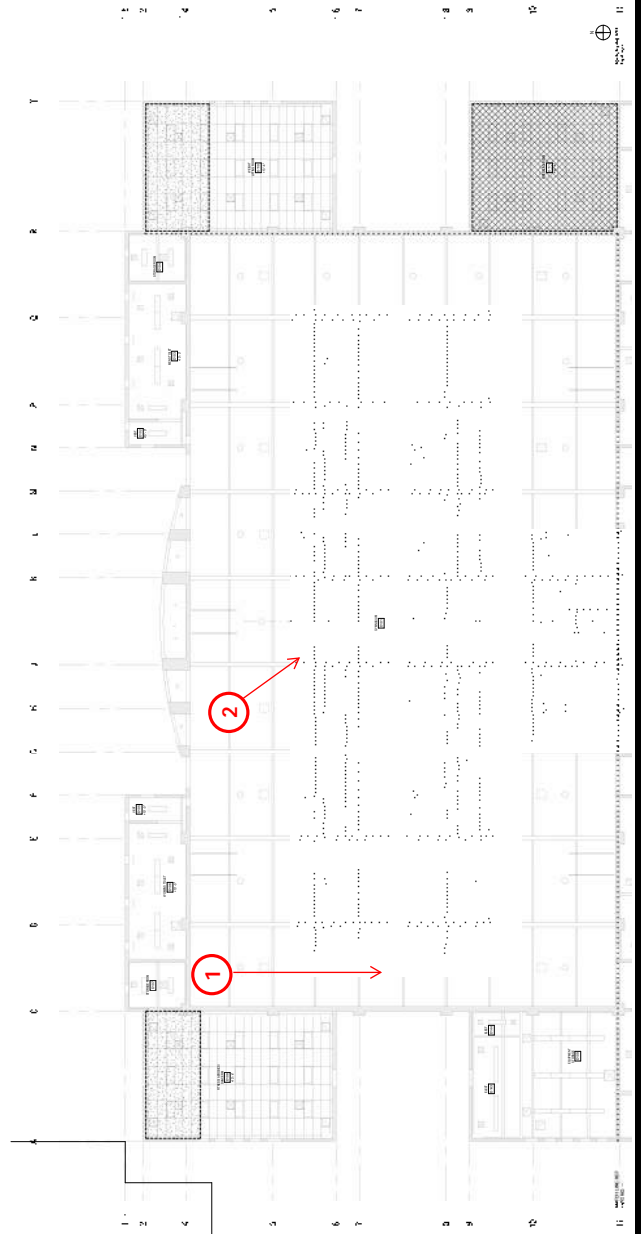
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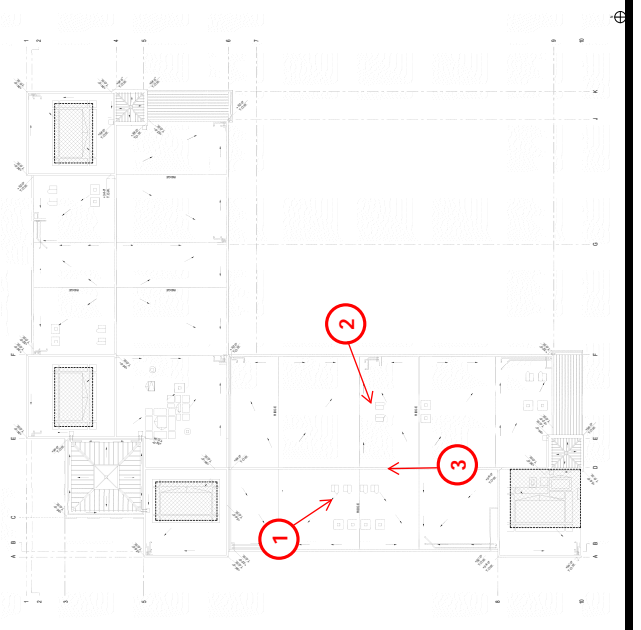
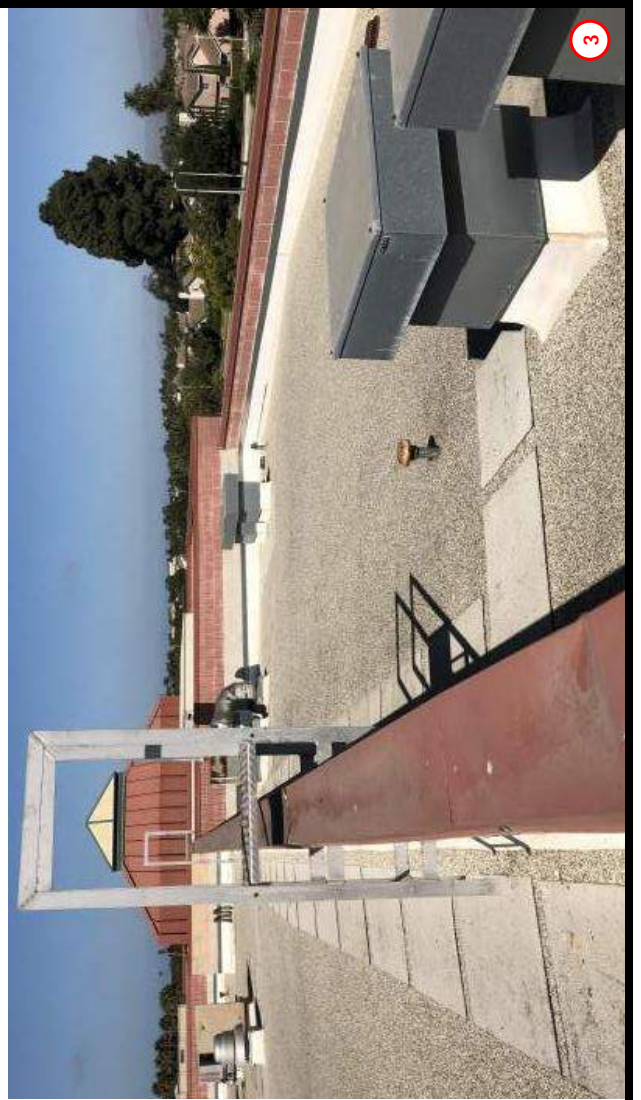
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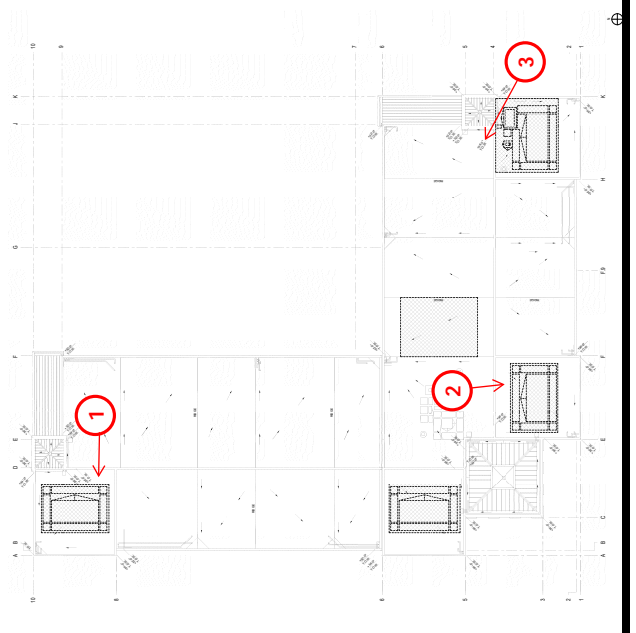
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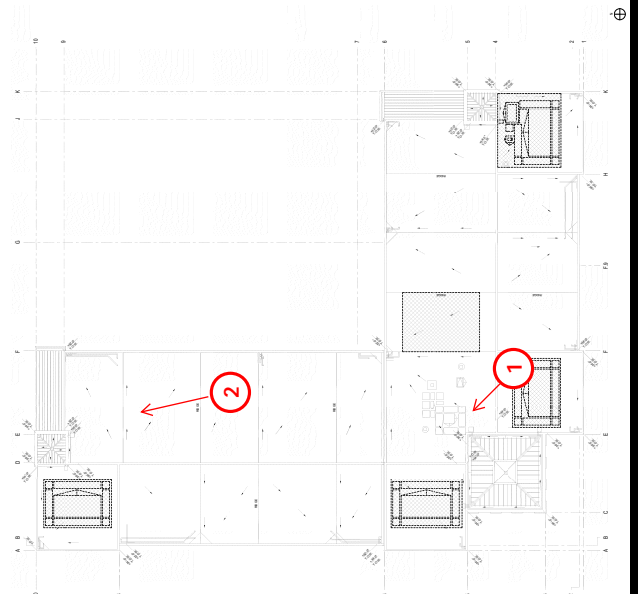
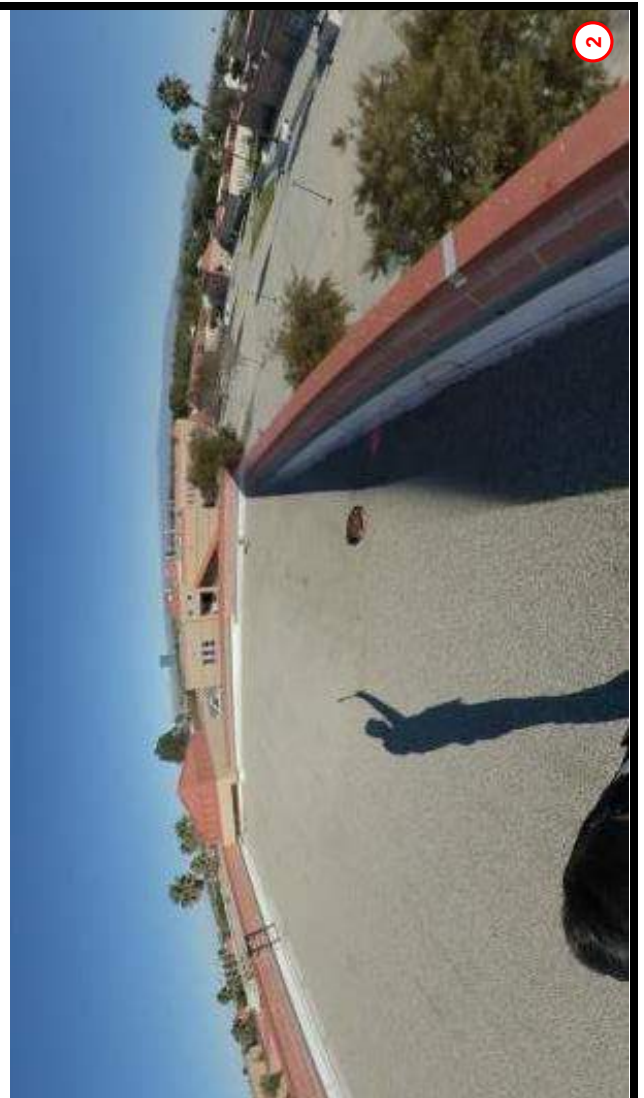
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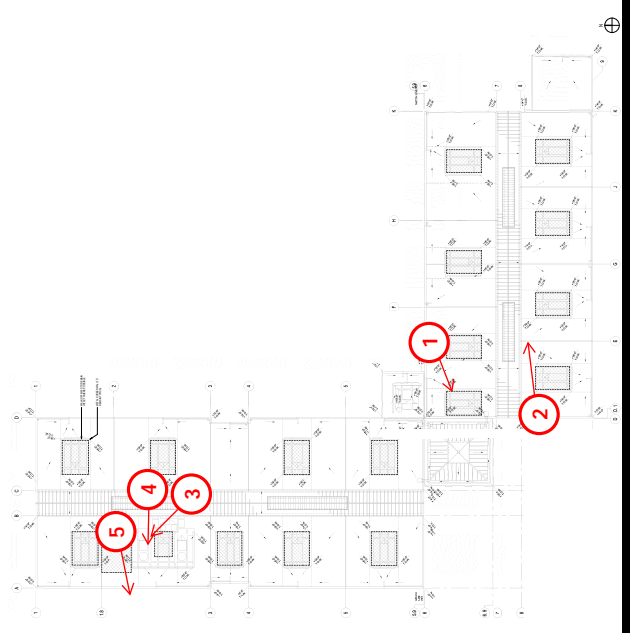
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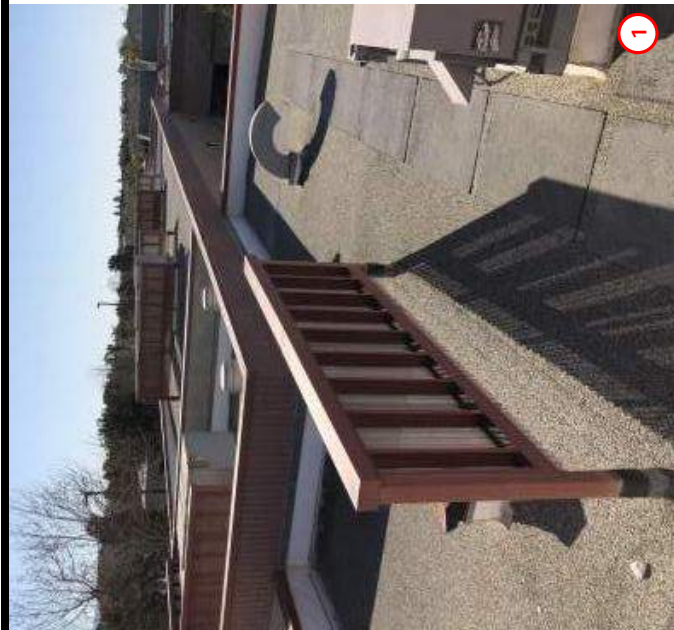
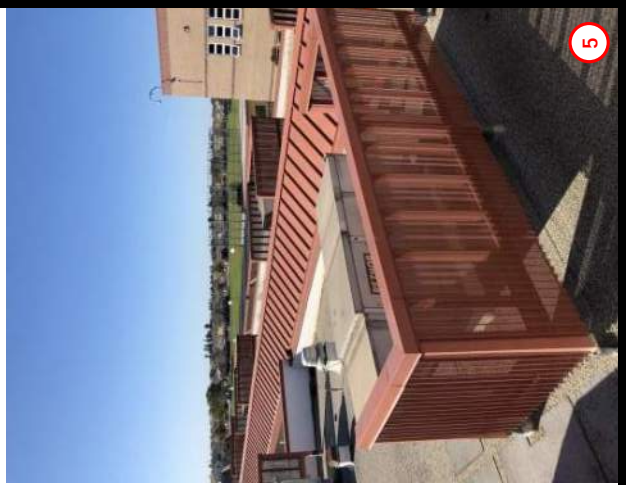
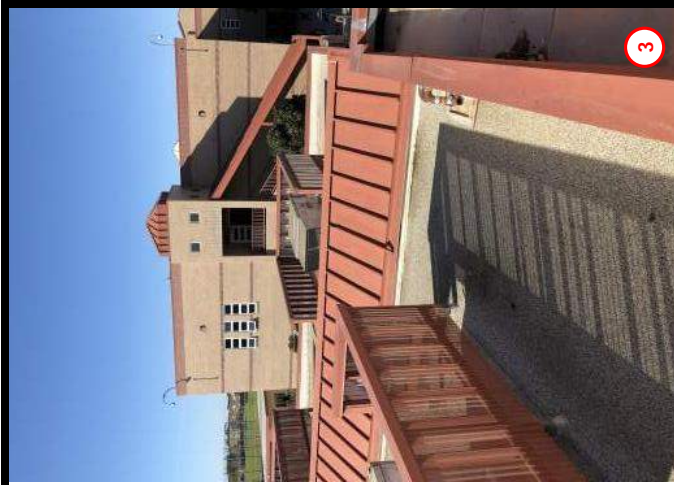
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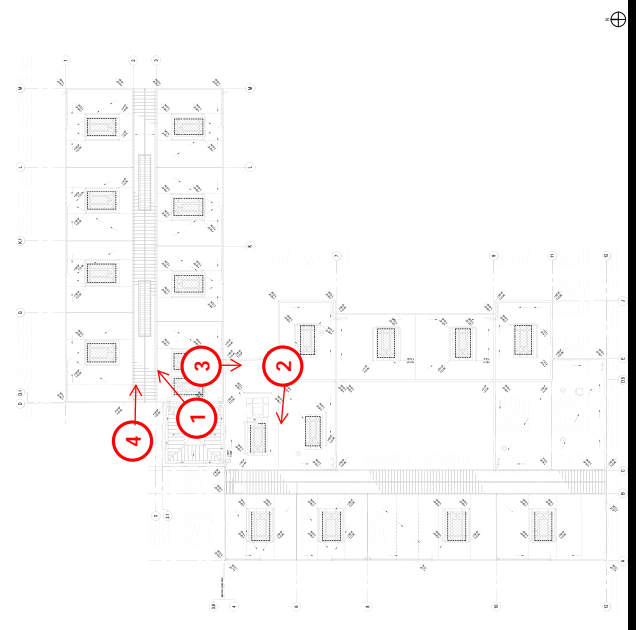
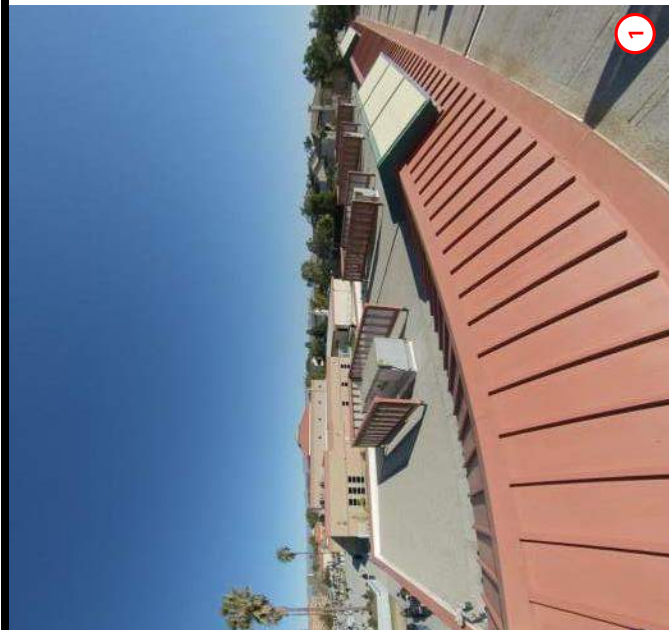
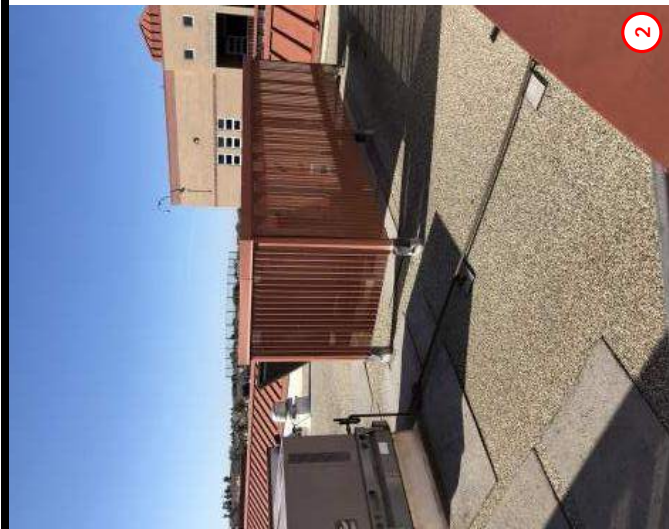
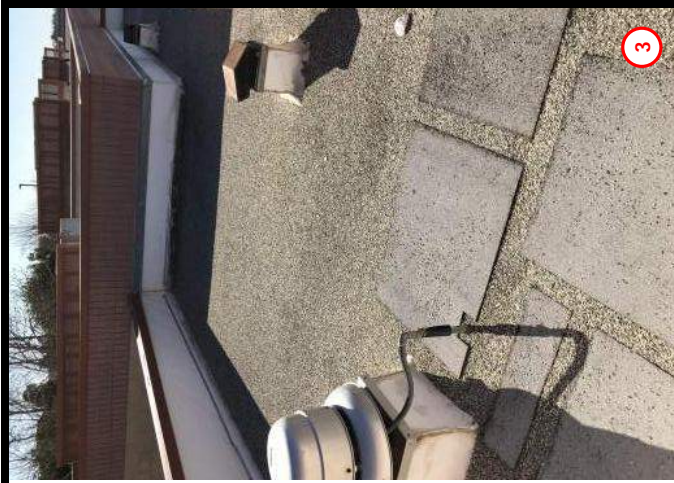
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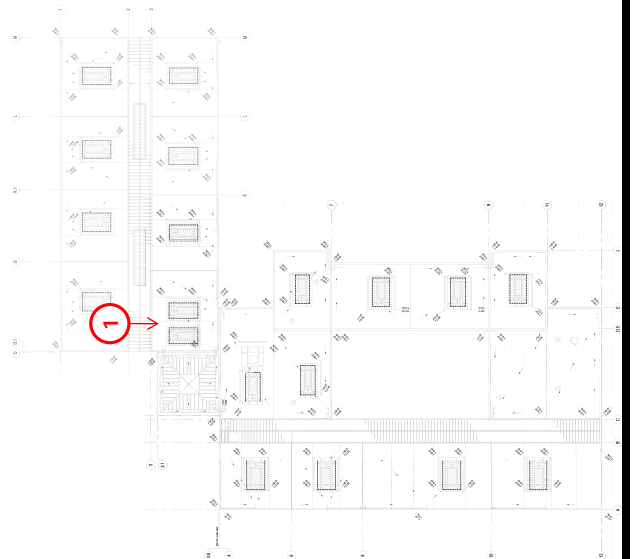
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PACIFICA HIGH SCHOOL BUILDING J



SECTION 23 72 00

ENERGY RECOVERY DEVICES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Air to Air Energy Recovery Ventilator.

1.2 QUALITY ASSURANCE

- A. Sound Ratings: Tested to AMCA 300.
- B. Fabrication: Conform to AMCA 99 and AHRI 430.
- C. Energy Recovery Ventilator (ERV) core element: Effectiveness values shall be tested in accordance with ASHRAE 84, be AHRI certified to Standard 1060, and bear the AHRI Certification symbol for AHRI Air-to-Air Energy Recovery Ventilation Equipment Certification program based on AHRI 1060.
- D. Unit shall bear a UL or ETL label of approval.

1.3 SUBMITTALS

- A. Submit shop drawings per Section 23 05 00.
- B. Energy transfer performance shall be clearly documented through a certification program conducted in accordance with ASHRAE 84 and AHRI 1060 standards. Submit fixed plate AHRI 1060 compliance certification with reference number.
- C. Indicate ratings, energy recovery performance, pressure drop, outdoor air correction factor (OACF), exhaust air transfer rate (EATR), motor electrical characteristics, gauges, material finishes, assembly, unit dimensions, weight, required clearances, construction details, and field connection details.
- D. Indicate unit performance data for both supply air and exhaust air, with system operating condition indicated.
- E. Submit manufacturer's installation instructions.
- F. Any exceptions to the specifications must be clearly noted. Contractor is responsible for any additional expenses that may occur due to any exception made.
- G. Submit operation and maintenance data.
- H. Submit static pressure calculations showing total pressure drops.

- I. Submit certification that energy recovery devices, accessories, and components will withstand seismic forces defined in Section 23 05 50. Include the following:
 1. Basis for Certification: Indicate whether certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified.
 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in factory-fabricated protective containers, with factory-installed shipping skids and lifting lugs.
- B. Store in clean dry place and protect from weather and construction traffic. Handle carefully to avoid damage to components, enclosures, and finish.

1.5 WARRANTY

- A. Provide manufacturer's 10-year parts and labor warranty on energy recovery ventilator core element against defects in material and workmanship.

1.6 MAINTENANCE SERVICE

- A. Include maintenance items as outlined in manufacturer's operating and maintenance data, including minimum of controls checkout, adjustments and recalibrations.
- B. Submit copy of service call work order or report, and include description of work performed.

PART 2 - PRODUCTS

2.1 AIR-TO-AIR ENERGY RECOVERY VENTILATOR

- A. Air-to-Air Energy Recovery Ventilators shall be fully assembled at the factory and consist of a fixed-plate cross-flow heat exchanger with no moving parts, an insulated single wall G90 galvanized 20-gauge steel cabinet, motorized outside air intake damper, filter assemblies for both intake and exhaust air, enthalpy core, supply air blower assembly, motorized return air damper, exhaust air blower assembly and electrical control box with all specified components and internal accessories factory installed and tested and prepared for single-point high voltage connection. Entire unit, with the exception of field-installed components, shall be assembled and test operated at the factory.

2.2 CABINET

- A. Materials: Formed single wall insulated metal cabinet, fabricated to permit access to internal components for maintenance.

- B. Outside casing: 20 gauge, galvanized (G90) steel meeting ASTM A653 for components that do not receive a painted finish. Painted components as supplied by the factory shall have polyester urethane paint on 20 gauge G90 galvanized steel.
- C. Access doors shall be hinged with airtight closed cell foam gaskets. Door pressure taps, with captive plugs, shall be provided for cross-core pressure measurement allowing for accurate airflow measurement.
- D. Unit shall have factory-installed duct flanges on all duct openings.
- E. Cabinet Insulation: Unit walls and doors shall be insulated with 1 inch, 4 pound density, foil/scrim faced, high density fiberglass board insulation, providing a cleanable surface and eliminating the possibility of exposing the fresh air to glass fibers, and with a minimum R-value of 4.3 (hr-ft²-°F/BTU).
- F. Enthalpy core: Energy recovery core shall be of the total enthalpy type, capable of transferring both sensible and latent energy between airstreams. Latent energy transfer shall be accomplished by direct water vapor transfer from one airstream to the other, without exposing transfer media in succeeding cycles directly to the exhaust air and then to the fresh air. No condensate drains shall be allowed. The energy recovery core shall be designed and constructed to permit cleaning and removal for servicing. The energy recovery core shall have a ten year warranty. Performance criteria are to be as specified in AHRI Standard 1060.
- G. Control center / connections: Energy Recovery Ventilator shall have an electrical control center where all high and low voltage connections are made. Control center shall be constructed to permit single-point high voltage power supply connections to the fused disconnect.
- H. Passive Frost Control: The ERV core shall perform without condensing or frosting under normal operating conditions (defined as outside temperatures above -10°F and inside relative humidity below 40%). Occasional more extreme conditions shall not affect the usual function, performance or durability of the core. No condensate drains will be allowed.
- I. Motorized Isolation Damper(s): Return Air and Outside Air motorized damper(s) of an AMCA Class I low leakage type shall be factory installed.

2.3 BLOWER SECTION

- A. Blower section construction, Supply Air and Exhaust Air: Blower assemblies consist of a TEFC motor, and a belt driven forward-curved blower.
- B. Blower assemblies: Shall be statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and horsepower.

2.4 MOTORS

- A. Blower motors shall be Premium Efficiency, EISA compliant for energy efficiency. The blower motors shall be totally enclosed (TEFC) and be supplied with factory installed motor starters.
- B. Belt drive motors shall be provided with adjustable pulleys and motor mounts allowing for blower speed adjustment, proper motor shaft orientation and proper belt tensioning.

2.5 UNIT CONTROLS

- A. Fan control: both airstreams.
- B. Factory-installed microprocessor controller and sensors, Enhanced ERV controls that:
 - 1. Comply with requirements in Division 23 Section "Sequence of Operations for HVAC Controls"
 - 2. Has factory-installed hardware and software to enable the building automation interface via BACnet to monitor, control, and display status and alarms.
 - 3. The microprocessor controller shall be capable of operating at temperatures between -20F to 160F.
 - 4. The microprocessor controller shall be a DIN rail mounting type.
 - 5. Factory-installed microprocessor controller shall come with backlit display that allows menu-driven display for navigation and control of unit.
 - 6. The microprocessor controller shall have the ability to communicate with the BMS via BACnet MSTP/IP.
 - 7. The microprocessor control shall be capable of integral diagnostics.
 - 8. The microprocessor controller shall have a battery powered clock.
 - 9. The sensors that will be required for control are:
 - i. (2) Temperature sensor for fresh air and exhaust air
 - ii. (2) Temperature and humidity sensor for outside air, return air
 - iii. (2) Differential pressure sensors for filter alarms
 - iv. (2) Differential pressure sensors for measuring pressure drop across energy recovery core and for determining airflow in both airstreams
 - v. (2) Adjustable current switches
 - 10. The microprocessor controller shall have the capability to monitor the unit conditions for alarm conditions. Upon detecting an alarm, the microprocessor controller shall have the capability to record the alarm description, time, date, available temperatures, and unit status for user review. A digital output shall be reserved for remote alarm indication. Alarms to be also communicated via BMS as applicable. For required alarms, refer to BMS Control drawings in Construction Drawings.
 - 11. Display the following on the face of microprocessor controller:
 - i. Unit on
 - ii. Outdoor air temperature
 - iii. Outdoor air humidity
 - iv. Return air temperature

- v. Return air humidity
- vi. Supply air temperature
- vii. Unit on/off
- viii. Fan on/off
- ix. Damper status
- x. Alarm digital display

12. The microprocessor controller shall have factory pre-programmed multiple operating sequences for control of the ERV. Factory default settings shall be fully adjustable in the field. Available factory pre-programmed sequences on operations are:

2.6 SEQUENCE OF OPERATIONS

- A. Refer to BMS Control drawings in Construction Documents.

2.7 FILTER SECTION

- A. ERV shall have MERV 13 disposable pleated filters located in the outdoor air and exhaust airstreams. All filters shall be accessible from the exterior of the unit.

2.8 COATINGS:

- A. Apply marine coating by certified licensed applicator.
- B. The coating product manufacturer shall be able to document a class 5B result on a cross hatch adhesion test (ASTM D5339) and the testing for a minimum 4000 hours in both salt spray (ASTM B117) and acid salt spray (ASTM G85) test.
- C. The coating service provider shall also be able to offer a 3-year conditioned warranty for coating applied on finned-tube coils.
- D. The coating shall be applied insuring total penetration and coverage without bridging or significantly affecting the heat transfer ability of the coil.
- E. The total dry film thickness of the coating shall be 1mil.
- F. The coating shall provide inherent protection against ultra-violet radiation and have a dry temperature resistance from -4°F to 302°F.
- G. The following components shall be coated:
 - 1. Base Rails
 - 2. Exterior cabinet
- H. Acceptable Manufacturers:
 - 1. Luvata "Tropicoat" or approved equal.

2.9 ACCEPTABLE MANUFACTURERS:

- A. RenewAire or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to start of installation, examine area and conditions to verify correct location for compliance with installation tolerances and other conditions affecting unit performance. See unit IOM.
- B. Examine roughing-in of plumbing, electrical and HVAC services to verify actual location and compliance with unit requirements. See unit IOM.
- C. Proceed with installation only after all unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Installation shall be accomplished in accordance with these written specifications, project drawings, manufacturer's installation instructions as documented in manufacturer's IOM, Best Practices and all applicable building codes.
- B. Install unit with clearances for service and maintenance.

3.3 CONNECTIONS

- A. In all cases, industry best practices shall be incorporated. Connections are to be made subject to the installation requirements shown above.
- B. Duct installation and connection requirements are specified in Division 23 of this document.
- C. Electrical installation requirements are specified in Division 26 of this document.

3.4 FIELD QUALITY CONTROL

- A. Contractor to inspect field assembled components and equipment installation, to include electrical and piping connections. Report results to Architect/Engineer in writing. Inspection must include a complete startup checklist to include (as a minimum) the following: Completed Start-Up Checklists as found in manufacturer's IOM.

3.5 START-UP SERVICE

- A. Contractor to perform startup service. Clean entire unit, comb coil fins as necessary, and install clean filters. Measure and record electrical values for voltage and amperage. Refer to Division 23 "Testing, Adjusting and Balancing" and comply with provisions therein.

3.6 DEMONSTRATION AND TRAINING

- A. Contractor to train owner's maintenance personnel to adjust, operate and maintain the entire Make-Up Air unit. Refer to Division 01 Section Closeout Procedures and Demonstration and Training.

END OF SECTION

SECTION 23 74 11

PACKAGED ROOFTOP AIR CONDITIONING UNITS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Packaged Rooftop Unit.
- B. Unit Controls.
- C. Roof Mounting Frame and Base.
- D. Economizers.
- E. Power Exhaust.

1.2 QUALITY ASSURANCE

- A. All insulation inside the unit and in the air stream must comply with the requirement of NFPA 90A (maximum flame spread of 25 and maximum smoke developed of 50).
- B. All units must be UL or ETL listed and must contain UL labeled components.
- C. Fans shall be tested and rated in cabinet in accordance with AMCA Standard 210. All fan assemblies shall be dynamically balanced in cabinet at final assembly.
- D. Conform to ASHRAE 90.1.
- E. All air handling and distribution equipment mounted outdoors shall be designed to prevent rain intrusion into the airstream when tested at design airflow and with no airflow, using the rain test apparatus described in Section 58 of UL 1995.

1.3 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 23 05 00.
- B. Indicate electrical service and duct connections on shop drawings or product data.
- C. Submit manufacturer's installation instructions.
- D. Submit electrical power/controls wiring diagrams and product data indicating general assembly, components, safety controls, and service connections.
- E. Submit certification that the packaged rooftop air conditioning units, accessories, and components will withstand seismic forces defined in Section 23 05 50. Include the following:
 - 1. Basis for Certification: Indicate whether certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.

3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from physical damage by storing off site until roof mounting frames are in place, ready for immediate installation of units.

1.5 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data.
- B. Include manufacturer's descriptive literature, installation instructions, maintenance and repair data, and parts listing.

1.6 WARRANTY

- A. Provide five (5) year manufacturer's warranty for compressors.
- B. Provide five (5) year manufacturer's warranty for heat exchanger.
- C. Provide one (1) year manufacturer's warranty for parts.

1.7 MAINTENANCE SERVICE

- A. Furnish complete service and maintenance of packaged roof top units for one year from Date of Substantial Completion.
- B. Provide maintenance service with a two-month interval as maximum time period between calls. Provide 24-hour emergency service on breakdowns and malfunctions.
- C. Include maintenance items as outlined in manufacturer's operating and maintenance data, including minimum of six filter replacements, minimum of one fan belt replacement, and controls check-out, adjustments, and recalibrations.
- D. Submit copy of service call work order or report, and include description of work performed.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Carrier (Basis of Design)
- B. Lennox
- C. Trane

2.2 MANUFACTURED UNITS

- A. Provide roof-mounted units having gas burner, and electric refrigeration.
- B. Unit shall be self-contained, packaged, factory assembled, pre-wired and tested, consisting of cabinet and frame, supply fan, heat exchanger and burner, controls, air filters, refrigerant cooling coil and compressor, condenser coil, condenser fan, and a full refrigerant charge.
- C. Unit shall be furnished with non-fused disconnect switch, short fuse protection of all internal electrical components, and all necessary motor starters, contactors, and over-current protection.

2.3 FABRICATION

- A. Cabinet: Galvanized steel with baked enamel finish, access doors or removable access panels with quick fasteners locking door handle type with piano hinges. Access doors shall be provided at each section (e.g., filter section, supply fan section, etc.). All exterior access panels must be permanently labeled on the outside indicating what is behind the panel. Structural members shall be minimum 18 gauge, with access doors or removable panels of minimum 20 gauge.
- B. Outside Air Intakes: The outside air intakes shall be located a minimum of 15 inches above the roof mounting curb to minimize the effect of heat pickup from the roof during the natural cooling cycle and the effects of snow on the roof during winter operation. Each air intake shall be furnished with rain eliminators.
- C. Insulation: Minimum of 1/2" thick, 1.5 lb./cu.ft. density coated glass fiber insulation on surfaces where conditioned air is handled. Protect edges from erosion.
- D. Heat Exchangers: Aluminized steel, of welded construction.
- E. Air Filters: Two inch thick glass fiber MERV 13 disposable media in metal frames.
- F. Roof Mounting Curb:
 - 1. Rigid Curb (3 to 5 ton units): Minimum 11 inches, minimum 14 gauge galvanized steel, one-piece construction, insulated, all welded, wood nailer. Refer to Plans.
 - 2. Vibration Isolator Curbs (Above 5 ton units): Minimum 11 inches, minimum 14 gauge galvanized steel, 2" Calydyn CQA deflection isolator type (OPM-0401-13), insulated, all welded, Refer to Plans.

2.4 FANS/MOTORS

- A. Supply Fan: Forward curved centrifugal type, resiliently mounted with V-belt drive, adjustable variable pitch motor sheave, and rubber isolated hinge mounted motor. All fan bearings must be capable of being lubricated by easily accessible grease fittings. GC models shall have the following: ECM design, permanently lubricated bearings, inherent automatic-reset thermal overload protection, and slow ramp up to speed capabilities.
- B. Belt drive fans must be within $\pm 10\%$ of scheduled RPM. (This is not applicable to GC models)
- C. All fans must be statically and dynamically balanced.
- D. Belt drive fans shall have slide rails, adjusting screws, anchor bolts, and bedplates.
- E. Motors shall be open drip-proof with grease lubricated bearings.
- F. Drives shall be V-belt type with adjustable pitch sheaves for units 20 HP and below. On units over 20 HP, use fixed sheaves. This Contractor shall provide replacement sheaves and belts as required to allow final air balancing. (This is not applicable to GC models)
- G. Units used with variable speed drives shall have fixed sheaves. This Contractor shall provide replacement sheaves and belts as required to allow final air balancing. (This is not applicable to GC models)
- H. No equipment shall be selected or operate above 90% of its motor nameplate rating.

- I. Motor shall have 1.15 service factor.

2.5 BURNER

- A. Gas Burner: Induced draft type burner with adjustable combustion air supply, pressure regulator, gas valves, manual shutoff, intermittent spark or glow coil ignition, flame sensing device, and automatic 100 percent shutoff pilot. Single stage or Two stage.
- B. Gas Burner Safety Controls: Energize ignition, limit time for establishment of flame, prevent opening of gas valve until pilot flame is proven, stop gas flow on ignition failure, energize blower motor, and after airflow proven and slight delay, allow gas valve to open.
- C. High Limit Control: Temperature sensor with fixed stop at maximum permissible setting, de-energize burner on excessive bonnet temperature and energize burner when temperature drops to lower safe value.
- D. Supply Fan Control: Temperature sensor sensing bonnet temperatures and independent of burner controls, or adjustable time delay relays with switch for continuous fan operation.

2.6 EVAPORATOR COIL

- A. Provide copper tube with aluminum fin coil assembly.
- B. Install a drain pan under each cooling coil meeting requirements as outlined in ASHRAE 62.1. The drain pans shall extend the entire width of each coil, including piping and header if in the air stream. The length shall be as necessary to limit water droplet carryover beyond the drain pan to 0.0044oz per ft² of face area per hour under peak sensible and peak dew point design conditions, considering both latent load and coil face velocity. Pitch drain pans in two directions towards the outlet, with a slope of at least 1/8" per foot.
- C. Provide capillary tubes or thermostatic expansion valves for units of 6 tons capacity and less, and thermostatic expansion valves and alternate row circuiting for units 7.5 tons cooling capacity and larger.
- D. Provide insulation on liquid refrigerant and suction piping between compressor and evaporator coil where not protected by drain pans. Insulation shall be elastomeric cellular foam; ANSI/ASTM C534; flexible plastic; 0.27 maximum 'K' value at 75°F, 25/50 flame spread/smoke developed rating when tested in accordance with ASTM E84 (UL 723). Maximum 1" thick per layer where multiple layers are specified.

2.7 COMPRESSOR

- A. Provide hermetic or semi-hermetic compressors (quantity as scheduled on drawings), 3600 rev/min maximum, resiliently mounted with positive lubrication, high and low pressure safety controls, motor overload protection, suction and discharge service valves and gauge ports, and filter drier.
- B. Five minute timed off circuit shall delay compressor start.
- C. Outdoor thermostat shall energize compressor above 50°F ambient.
- D. The use of chlorofluorocarbon (CFC)-based refrigerants is prohibited.

2.8 CONDENSER

- A. Provide copper tube aluminum fin coil assembly with sub-cooling rows.

- B. Provide direct drive propeller fans, resiliently mounted with fan guard, motor overload protection, wired to operate with compressor.
- C. Provide refrigerant pressure switches to cycle condenser fans.

2.9 MIXING SECTION

- A. Dampers: Provide outside and return, with damper operator and control package to automatically vary outside air quantity. Outside air damper shall fail to closed position.
- B. Gaskets: Provide tight fitting dampers with edge gaskets, maximum leakage 5 percent at 2 inches pressure differential. Gaskets must be mechanically fastened (use of adhesive alone shall not be acceptable).
- C. Damper Operator: 24 volt with gear train sealed in oil, with spring return on units 7.5 tons cooling capacity and larger.

2.10 ECONOMIZERS

- A. Factory installed by approved rooftop unit manufacturer with fully modulating motorized outside air and return air dampers.
- B. To be controlled by differential enthalpy controller with minimum position setting.
- C. Shall be equipped with 100% capable relief barometric damper relieving up to 100% return air and sealed to meet ASHRAE 90.1 requirements.
- D. Shall be capable of introducing up to 100% outside air.
- E. Shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
- F. Dampers shall be capable of completely closing when unit is in unoccupied mode.
- G. Outside air damper normally closed and return air damper normally open.
- H. Provide economizer components and controls in accordance with ICC IECC.

2.11 POWER EXHAUST

- A. Combination power exhaust and economizer: Factory installed by economizer supplier or compatible equivalent.
- B. Modulating type.
- C. Controlled by economizer controls.
- D. Power exhaust shall be factory wired to electrical section complete with conduit, feeders, disconnect, and overcurrent protection. Power exhaust shall be energized when dampers open past the adjustable setpoint of the economizer control.
- E. Must comply with ASHRAE 90.1 Fan Power Limitation formula.

2.12 ELECTRICAL

- A. Provide with single point power connection to service all controls, dampers, outlet, and fans, complete with non-fused disconnect switch, short circuit protection of all internal electrical components, and all necessary motor starters, contactors, and over-current protection, transformer, and convenience outlet. All units must be so constructed that when the electrical section access panel is opened, all electrical power to the unit (with the exception of the 120 volt duplex convenience outlet) is disconnected by means of a single disconnect.
- B. All wiring must be labeled, numbered, and terminate in "spade clips". All terminal strips must be keyed to the wiring numbers. Each control device must be permanently labeled to indicate its function.
- C. Wiring diagrams for all circuits must be permanently affixed to the inside of the electrical section access panel. The markings of terminal strips and wiring must agree with the numbering on the wiring diagrams.
- D. All units shall include a transformer for controls and convenience outlet.
- E. Only one power cable connection to the unit shall be necessary.
- F. Provide separate power connection to power exhaust.

2.13 DDC TEMPERATURE CONTROLS

- A. Install standalone control module providing communication between unit controls and DDC temperature control system. Control module shall be compatible with temperature control system specified in Section 23 09 00.

2.14 COATINGS:

- A. Apply marine coating by certified licensed applicator.
- B. The coating product manufacturer shall be able to document a class 5B result on a cross hatch adhesion test (ASTM D5339) and the testing for a minimum 4000 hours in both salt spray (ASTM B117) and acid salt spray (ASTM G85) test.
- C. The coating service provider shall also be able to offer a 3-year conditioned warranty for coating applied on finned-tube coils.
- D. The coating shall be applied insuring total penetration and coverage without bridging or significantly affecting the heat transfer ability of the coil.
- E. The total dry film thickness of the coating shall be 1mil.
- F. The coating shall provide inherent protection against ultra-violet radiation and have a dry temperature resistance from -4°F to 302°F.
- G. The following components shall be coated:
 - 1. Evaporator coils
 - 2. Condenser coils
 - 3. Base Rails

- 4. Exterior cabinet
- H. Acceptable Manufacturers:
 - 1. Luvata "Tropicoat" or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that roof is ready to receive work and opening dimensions are as indicated on shop drawings and illustrated by the manufacturer.
- B. Verify that proper power supply is available.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Mount units on factory built roof mounting frame providing watertight enclosure to protect ductwork and utility services. Install roof mounting frame level.
- C. All field wiring shall be in accordance with the National Electrical Code.
- D. P-traps must be provided for all drain pans.
- E. Comb all coils to repair bent fins.
- F. Install on vibration isolation as scheduled on drawings.
- G. Contractor shall coordinate unit access stair and walkway placement to ensure compliance with OSHA requirements.

3.3 MANUFACTURER'S FIELD SERVICES

- A. Provide initial start-up and shutdown during first year of operation, including routine servicing and check-out.

END OF SECTION

SECTION 23 81 26

SPLIT SYSTEM AIR CONDITIONING UNITS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Split system air conditioning wall, ceiling-mounted, and/or ceiling-concealed units.

1.2 SUBMITTALS

- A. Submit shop drawings under provisions of Section 23 05 00.
- B. Indicate drain, electrical, and refrigeration rough-in connections on shop drawings or product data.
- C. Submit manufacturer's installation instructions.
- D. Submit certification that split system air conditioning equipment, accessories, and components will withstand seismic forces defined in Section 23 05 50. Include the following:
 - 1. Basis for Certification: Indicate whether certification is based on actual test of assembled components or on calculation.
 - a. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified."
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Accept units and components on site in factory protective containers, with factory shipping skids and lifting lugs. Inspect for damage.
- B. Comply with manufacturer's installation instruction for rigging, unloading, and transporting units.
- C. Protect units from weather and construction traffic by storing in dry, roofed location until units are ready for immediate installation.

1.4 REGULATORY REQUIREMENTS

- A. Conform to ANSI/NFPA 90A for the installation of computer room air conditioning units.
- B. Conform to ASHRAE 90.1 (latest published edition) - Energy Standard for Buildings Except Low-Rise Residential Buildings.

1.5 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data.
- B. Include manufacturer's descriptive literature, operating instructions, installation instructions, and maintenance and repair data.

1.6 WARRANTY

- A. Provide five (5) year manufacturer's warranty on all compressors.

PART 2 - PRODUCTS

2.1 SPLIT SYSTEM WALL AND CEILING-MOUNTED UNITS

A. Acceptable Manufacturers:

- 1. Carrier
- 2. Mitsubishi
- 3. Trane

B. Manufactured Units:

- 1. Provide packaged, air-cooled, factory assembled, pre-wired and pre-piped unit consisting of cabinet, fans, filters, remote condensing unit, and controls. Wall-mounted units shall be furnished with integral wall mounting bracket and mounting hardware.
- 2. Assemble unit for wall-mounted or ceiling installation with service access required.
- 3. Performance shall be as scheduled on the drawings.
- 4. Unit shall be rated per AHRI Standards 210/240 and listed in the AHRI directory as a matched system.
- 5. Provide unit with factory-supplied cleanable air filters.
- 6. The units shall be listed by Electrical Laboratories (ETL) in accordance with UL-1995 certification and bear the ETL label.
- 7. All wiring shall be in accordance with the National Electric Code (NEC).

C. Evaporator Cabinet and Frame:

- 1. Cabinet:
 - a. Refer to schedule on drawings for mounting type (wall-mounted, or ceiling-recessed cassette).
 - b. Exposed units shall have a finished appearance with concealed refrigerant piping, condensate drain piping, and wiring connections.
- 2. Air Distribution Panel (for ceiling-mounted units): Heavy molded plastic 4-way discharge plenum with return air grille and unit filter. Designed for installation into T-bar ceiling system, 24" x 24" size.

D. Evaporator Fans and Motors:

1. Fans:

- a. The evaporator fan shall be direct drive with a single motor having permanently lubricated bearings.
- b. The fan shall be statically and dynamically balanced.
- c. The indoor fan shall have at least three speeds.

2. Motor:

- a. Direct driven, digitally controlled with multiple speeds. Permanently lubricated with internal overload protection.

E. Evaporator Coils (Direct Expansion):

1. Direct expansion cooling coil of seamless copper tubes expanded into aluminum fins.
2. Single refrigeration circuit with externally equalized expansion valve.
3. Coils shall be pressure tested at the factory.
4. A sloped, corrosion-resistant condensate pan with drain shall be provided under the coil.

F. Electrical Panel:

1. Service Connections, Wiring, and Disconnect Requirements: Conform to the National Electrical Code and local electrical codes.

G. Control:

- a. The unit shall have a hard-wired 7-day programmable remote controller to operate the system. Provide wall mounting bracket for controller.
- b. Remote controller shall have "automatic", "dry" (dehumidification), and "fan only" operating modes.
- c. The remote controller shall have the following features:
 - 1) *On/Off* power switch.
 - 2) *Mode Selector* to operate the system in auto, cool, heat, fan, or dehumidification (dry) operation.
 - 3) *Fan Setting* to provide multiple fan speeds.
 - 4) *Swing Louver* for adjusting supply louver discharge.
 - 5) *On/Off Timer* for automatically switching the unit off or on.
 - 6) *Temperature Adjustment* allows for the increase or decrease of the desired temperature.
 - 7) *Powerful Operation* to allow quick cool down or heating up in the desired space to achieve maximum desired temperature in the shortest allowable time.
- d. The remote controller shall perform fault diagnostic functions that may be system related, indoor or outdoor unit related depending on the fault code.

- e. Temperature range on the remote controller shall be 64°F to 90°F in cooling mode and 50°F to 86°F in heating mode.
 - f. The indoor unit microprocessor shall have the capability to receive and process commands via return air temperature and indoor coil temperature sensors enabled by commands from the remote controller.
- H. Outdoor Unit:
- 1. General:
 - a. The outdoor unit shall be specifically matched to the corresponding indoor unit size. The outdoor unit shall be completely factory assembled and pre-wired with all necessary electronic and refrigerant controls.
 - 2. Cabinet:
 - a. The outdoor unit shall be fabricated of galvanized steel, bonderized and coated with a baked enamel finish for corrosion protection.
 - 3. Fan:
 - a. The fan shall be direct drive, propeller type fan with fan guard.
 - b. Fan blades shall be statically and dynamically balanced.
 - c. The fan shall have permanently lubricated type bearings.
 - d. Motor shall be protected by internal thermal overload protection.
 - e. Airflow shall be horizontal discharge.
 - 4. Coil:
 - a. The outdoor coil shall be nonferrous construction with corrugated fin tube.
 - b. The coil shall be protected with an internal guard.
 - c. Refrigerant flow from the condenser shall be controlled via a metering device.
 - 5. Compressor:
 - a. Hermetic or scroll refrigerant compressors with resilient suspension system, oil strainer, sight glass/moisture indicator, internal motor protection, high pressure switch, and crankcase heater.
 - b. The outdoor unit shall have an accumulator and four-way reversing valve.
 - 6. Refrigerant:
 - a. Unit shall use R-410a.
 - b. The use of chlorofluorocarbon (CFC)-based refrigerants is prohibited.
- I. Condensate Pump: Provide condensate pump.
- J. Refrigerant Piping:
- 1. Design Pressure: 450 psig.
 - 2. Maximum Design Temperature: 250 F.

3. Piping - 4" and under.
 - a. Tubing: Type ACR seamless copper tube linesets, ASTM B1003. Sizes indicated are nominal designation.
 - b. Joints: Brazed with silver solder.
 - c. Fittings: Wrought copper solder joint, ANSI B16.22.
 - d. Special Requirements: All tubing shall be cleaned, dehydrated, pressurized with dry nitrogen, plugged, and tagged by manufacturer "for refrigeration service". During brazing operations, continuously purge the interior of the pipe with nitrogen to prevent oxide formation.
4. Insulation:
 - a. EPDM (NBR/PVC Blend is not permitted) elastomeric cellular foam; ANSI/ASTM C534; flexible plastic; 0.25 maximum 'K' value at 75°F, 25/50 flame spread/smoke developed rating when tested in accordance with ASTM E84 (UL 723). Minimum 1/2" thick for pipe sizes < 1-1/4" and 3/4" thick for pipe sizes 1-1/4" and above.

K. COATINGS:

- a. Apply marine coating by certified licensed applicator.
- b. The coating product manufacturer shall be able to document a class 5B result on a cross hatch adhesion test (ASTM D5339) and the testing for a minimum 4000 hours in both salt spray (ASTM B117) and acid salt spray (ASTM G85) test.
- c. The coating service provider shall also be able to offer a 3-year conditioned warranty for coating applied on finned-tube coils.
- d. The coating shall be applied insuring total penetration and coverage without bridging or significantly affecting the heat transfer ability of the coil.
- e. The total dry film thickness of the coating shall be 1mil.
- f. The coating shall provide inherent protection against ultra-violet radiation and have a dry temperature resistance from -4°F to 302°F.
- g. The following components shall be coated:
 1. Condenser coils
 2. Exterior cabinet
 3. Base Rails
1. Acceptable Manufacturers: Luvata "Tropicoat" or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that proper power supply is available.

3.2 INSTALLATION

A. General Installation Requirements:

1. Install units in accordance with manufacturer's instructions. Install all units level and plumb. Indoor units shall be installed using manufacturer's standard mounting hardware securely fastened to building structure.
2. Refer to Section 23 05 29 for roof support rails for outdoor unit.
3. Coordinate the exact mounting location of all indoor and outdoor units with architectural and electrical work. Coordinate installation of ceiling-mounted units with ceiling grid layout. Provide additional ceiling grid reinforcement or modification as required and coordinate the work with the GC. Locate the indoor unit where it is readily accessible for maintenance and filter changes. Where outdoor units are located on the roof, locate at least 10' from the roof edge.
4. Verify locations of wall-mounted remote controllers with drawings and room details before installation. Coordinate mounting heights to be consistent with other wall-mounted devices. Height above finished floor shall not exceed 48".

B. Refrigerant Piping:

1. Install refrigerant piping from the indoor unit(s) to the condensing unit. Refrigerant pipe sizes, lengths, specialties and configurations shall be as recommended by the manufacturer. Evacuate refrigerant piping and fully charge system with refrigerant per manufacturer's requirements.
2. Provide weather-tight insulated roof curb to accommodate refrigerant piping and conduit roof penetrations.
3. Insulate all refrigerant piping. Both liquid and suction lines shall be insulated between the indoor and outdoor units.

C. Condensate Removal:

1. Install condensate piping with trap and route from drain pan to nearest drain. Discharge to nearest code-approved receptor or to a properly vented indirect waste fitting. Flush all piping before making final connections to units.

D. Comb all coils to repair bent fins.

E. Install new filters in the unit at Substantial Completion.

F. A factory-authorized service agent shall assist in commissioning the unit and inspecting the installation prior to startup. Submit startup report with O&M manuals.

END OF SECTION

SECTION 23 81 45

VARIABLE REFRIGERANT FLOW HEAT PUMPS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Variable refrigerant flow split system heat pump (heat/cool).
- B. Variable refrigerant flow split system heat pump with heat recovery (simultaneous heat/cool).

1.2 SUBMITTALS

- A. Submit shop drawings and product data under provisions of Section 23 05 00.
- B. Indicate water, drain, and electrical rough-in connections on shop drawings or product data.
- C. Submit manufacturer's installation instructions.
- D. Submit manufacturer's warranty information.
- E. Submit installing contractor's manufacturer training certification.
- F. Submit refrigerant charge. Charge calculation should be based on installed piping lengths and equipment capacities.
- G. VRF Piping Layout Drawings:
 - 1. Submit detailed VRF piping layout drawings at 1/8" = 1'-0" minimum scale complete with the following information:
 - a. Actual pipe routing, fittings, hanger and support types, accessories, etc. with lengths and refrigerant charge noted.
 - b. Include insulation thickness and type of insulation.
 - c. Room names and numbers, ceiling types, and ceiling heights.
 - d. Indicate location of all beams, bar joists, etc., along with bottom of steel elevations, for each member.
 - 2. Submit VRF piping and equipment layout drawings. Verify clearances and interferences with other trades prior to preparing drawings. IMEG will provide electronic copies of piping drawings for Contractor's use if the Contractor signs and returns an "Electronic File Transfer" waiver provided by IMEG. IMEG will not consider blatant reproductions of original file copies an acceptable alternative for this submittal. Submittals shall be in accordance with Section 23 05 00.
- H. Submit Controls Diagrams:
 - 1. Wiring diagrams and layouts for each control panel showing all termination numbers.

2. Schematic diagrams for all control, communication, and power wiring. Provide a schematic drawing of the central system installation. Show all interface wiring to the control system.
 3. Schematic diagrams for all field sensors and controllers.
 4. A schematic diagram of each controlled system. The schematics shall have all control points labeled. The schematics shall graphically show the location of all control elements in the system.
 5. A schematic wiring diagram for each controlled system. Each schematic shall have all elements labeled. Label all terminals.
 6. All installation details and any other details required to demonstrate that the system will function properly.
 7. All interface requirements with other systems.
- I. Sequences: Submit a complete description of the operation of the control system, including sequences of operation. The description shall include and reference a schematic diagram of the controlled system. **The wording of the control sequences in the submittal shall match verbatim that included in the construction documents to ensure there are no sequence deviations from that intended by the Architect/Engineer. Clearly highlight any deviations from the specified sequences on the submittals.**
 - J. Control System Demonstration and Acceptance: Provide a description of the proposed process, along with all reports and checklists to be used.
 - K. Clearly identify work by others in the submittal.
 - L. Quantities of items submitted may be reviewed but are the responsibility of the Contractor to verify.

1.3 DELIVERY STORAGE AND HANDLING

- A. Protect finished cabinets from physical damage by leaving factory packing cases in place before installation and providing temporary covers after installation.

1.4 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data.
- B. Include manufacturer's descriptive literature, operating instructions, installation instructions, and maintenance and repair data.

1.5 WARRANTY

- A. Installing contractor shall perform tasks required by manufacturer to ensure maximum available warranty is achieved. This will include but is not limited to:
 1. System design performed by manufacturer certified designer.
 2. System installation performed by manufacturer certified installer.
 3. Complete system commissioning paperwork and submit to manufacturer.
- B. Provide minimum five (5) year manufacturer's parts warranty (one-year basic warranty plus four-year extended warranty) on all parts (excluding compressors) and one (1) year labor warranty.

- C. Provide minimum five (5) year manufacturer's compressor parts warranty.
- D. Contractor shall provide one (1) year parts and labor warranty on the associated controls system, including all devices, wiring, and programming.

1.6 DEMONSTRATION

- A. Engage manufacturer or factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain individual units and complete system.

PART 2 - PRODUCTS:

2.1 ACCEPTABLE MANUFACTURERS

- A. Toshiba Carrier
- B. Mitsubishi

2.2 SYSTEM DESCRIPTION

- A. The variable capacity, heat recovery, heat pump air conditioning system shall be a variable refrigerant flow split system. The system shall consist of multiple evaporators using PID control and inverter driven outdoor unit. The unit shall consist of direct expansion (DX), air-cooled heat pump air conditioning system, and variable speed driven compressor multi zone split system.
- B. Outdoor Unit - General: The outdoor unit is designed specifically for use with the manufacturer's components:
 1. Refrigerant: R410A.
 2. The outdoor unit shall be factory assembled and pre-wired with all necessary electronic and refrigerant control. The refrigeration circuit of the outdoor unit shall consist of a compressor, motors, fans, condenser coil, electronic expansion valves, oil separators, service ports, liquid receivers, and accumulators.
 3. All refrigerant lines shall be individually insulated between the outdoor and indoor units.
 4. The connection ratio of the nominal capacity of indoor units to outdoor unit shall be 50-130%.
 5. The sound pressure shall be no greater than 63 dBA at 4 feet from the outdoor unit at full load at fan height.
 6. The system shall automatically restart operation after a power failure and shall not cause any settings to be lost, thus eliminating the need for re-programming.
 7. The following safety devices shall be included on the outdoor unit: high pressure switch, control circuit fuses, crankcase heaters, fusible plug, high pressure switch, overload relay, inverter overload protector, thermal protectors for compressor and fan motors, over current protection for the inverter and anti-recycling timers. To ensure the liquid refrigerant does not flash when supplying to the various indoor units, the circuit shall be provided with a sub-cooling feature. Oil recovery cycle shall be automatic as required to maintain oil levels at the outdoor unit.

8. The outdoor unit shall be able to operate in heating mode to -4°F dry bulb ambient temperature without additional ambient controls.
 - a. Heating capacity at design condition of -5°F shall be no less than 50% of the value scheduled on the drawings
9. The outdoor unit shall have air cooled heat exchange coils constructed from copper tubing with aluminum fins. The coils shall be capable of being divided into sections to enable the outdoor unit to match the capacity required by the indoor units and to allow individual defrosting to take place as required.
10. The outdoor unit shall have at least one inverter controlled compressor and at least one high efficiency constant speed compressor, depending on scheduled capacity. The system shall use a control sequence to ensure that indoor loads are matched to the compressor capacity control.
11. The refrigeration process of the outdoor unit will be maintained by pressure and temperature sensors controlling solenoid valves, check valves, and bypass valves. The heating or cooling mode of the outdoor unit will be controlled using a combination of 2 and 3-way valves that shall reverse the cycle of the refrigerant to change the mode of the outdoor unit.
12. Unit Cabinet: The outdoor unit model shall be completely weatherproof and corrosion resistant. The outdoor unit shall be constructed from steel plate and treated with an anti-corrosive paint.
13. Fan:
 - a. The outdoor unit shall consist of propeller type, direct-drive fan motors that have multiple speed operation via a DC inverter.
 - b. The fans shall be a vertical discharge. The fan motors shall have inherent protection and permanently lubricated bearings.
 - c. The fans shall be provided with fan guards.
14. Condenser Coil: The condenser coil shall be manufactured from copper tubes expanded into aluminum fins to form a mechanical bond.
15. Compressor:
 - a. The variable speed compressor shall be capable of changing the speed to follow the variations in total cooling load as determined by the suction gas pressure as measured in the outdoor unit.
 - b. The inverter driven compressor in each outdoor unit shall be DC, hermetically sealed, scroll type.
 - c. The capacity control range shall be a minimum of 20% to 100% of total capacity.
 - d. Each compressor shall be equipped with a crankcase heater, high pressure safety switch, and internal thermal overload protector.

- e. Oil separators shall be standard with the equipment, together with an oil balancing circuit.
- f. The compressor shall be mounted to avoid the transmission of vibration.

C. Branch Selector:

- 1. The unit shall be constructed from galvanized steel plate and be internally insulated with polyurethane foam. The connection to the system shall be either via brazed connection or flare nuts.
- 2. The unit shall be connected to the indoor units or group of indoor units via its own dedicated connection. This connection shall supply power and control signals to the solenoid valves in the unit.
- 3. The unit shall have integral controls and be factory assembled, wired, and piped.
- 4. The unit shall include an integral drain pan and condensate pump as required.
- 5. The unit electrical power shall be 208-230V/1-phase/60Hz or as noted on the drawings.
- 6. Provide unit with at least two (2) additional unused connections for future expansion and maintenance. Provide isolation valves and caps on unused connections.

D. Oil Recovery System:

- 1. System shall be equipped with an oil recovery system to ensure stable operation with long refrigerant piping.
- 2. System shall be designed for proper oil return to compressor, along with distribution of oil to individual compressor.

E. Indoor Units:

- 1. General – Each indoor unit shall have a heat exchanger that shall be constructed from copper tubing with aluminum fins. The flow of refrigerant through the heat exchanger shall be controlled by an electronic modulating expansion valve. This valve shall be controlled by internal temperature sensors and shall be capable of controlling the variable capacity of the indoor unit between at least 25% and 100%. The units shall be shipped from the factory fully charged with dehydrated air.
- 2. Four-way Ceiling-Recessed Cassette:
 - a. The indoor unit shall be a ceiling cassette for installation into the ceiling cavity, equipped with an air panel grille as scheduled and specified in this section. The indoor unit shall have four-way air distribution and an ivory white, impact resistant, washable decoration panel. The supply air shall be distributed via motorized louvers that can be horizontally and vertically adjusted from 0° to 90° angle.
 - b. Acoustic Performance: The indoor units' sound pressure shall not exceed 33 dBA at low speed measured at 5 feet from the unit.

c. Construction:

- 1) The indoor unit shall be completely factory assembled and tested. The unit shall include factory wiring, piping, electronic modulating expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
- 2) The 4-way supply airflow shall be field modifiable to 3-way and 2-way airflow to accommodate various installation configurations, including corner installations.
- 3) Return air shall be through the concentric panel, which shall include a filter.
- 4) The indoor units shall be equipped with a return air thermistor.
- 5) The indoor unit shall be separately powered.

d. Unit Cabinet:

- 1) The cabinet shall be space saving and shall be recessed into the ceiling.
- 2) Provide fresh air intake kit where used and indicated on the drawings. A branch duct knockout shall exist for branch ducting supply air.
- 3) The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.

e. Fan:

- 1) The fan shall be direct-drive type, with statically and dynamically balanced impeller with high and low fan speeds available.
- 2) The fan motor shall be thermally protected.

f. Filter: The return air shall be filtered by a washable long-life filter with mildew proof resin.

g. Coil:

- 1) Coils shall be of the direct expansion type, constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
- 2) The refrigerant connections shall be flare connections and the condensate shall be coordinated with piping material specified in Section 23 21 00.
- 3) A condensate pump with at least 18 inches lift shall be located below the coil in the condensate pan, with a built-in high-level safety alarm to shut down the unit.
- 4) A thermistor shall be located on the liquid and gas line.

3. Ceiling Concealed Ducted (Low Static Pressure):
- a. The indoor unit shall be a built-in ceiling concealed indoor unit, low static pressure (LSP), for installation into the ceiling cavity. The unit shall be constructed of a galvanized steel casing to be connected to a heat pump outdoor unit. The indoor unit shall be manufactured for ducted horizontal discharge air, with ducted horizontal return air or bottom return air configuration (as scheduled or shown on the drawings). The external static pressure shall be as scheduled on the drawings.
 - b. Acoustic Performance: The indoor units' sound pressure shall not exceed 31 dBA at low speed 5 feet from the unit.
 - c. Construction:
 - 1) The indoor unit shall be completely factory assembled and tested. The unit shall include factory wiring, piping, electronic modulating expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
 - 2) The indoor units shall be equipped with a return air thermistor.
 - 3) The indoor unit shall be separately powered.
 - 4) The switch box shall be reached from the side or bottom for ease of service and maintenance.
 - d. Unit Cabinet:
 - 1) The cabinet shall be in the ceiling and ducted to the supply and return openings.
 - 2) The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
 - e. Fan:
 - 1) The fan shall be direct-drive type, with statically and dynamically balanced impeller with high and low fan speeds.
 - 2) The fan motor shall be thermally protected.
 - f. Filter: The return air shall be filtered by means of a washable long-life filter with mildew proof resin.
 - g. Coils:
 - 1) Coils shall be of the direct expansion type, constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
 - 2) The refrigerant connections shall be flare connections, and the condensate shall be coordinated with piping material.

- 3) A condensate pump with at least 18 inches of lift shall be located below the coil in the condensate pan, with a built-in high-level safety alarm to shut down the unit.
 - 4) A thermistor shall be located on the liquid and gas line.
4. Ceiling Concealed Ducted (High Static Pressure):
- a. The indoor unit shall be a built-in ceiling concealed indoor unit, high static pressure (HSP), for installation into the ceiling cavity. The unit shall be constructed of a galvanized steel casing to be connected to a heat pump outdoor unit. The indoor unit shall be manufactured for ducted horizontal discharge air, with ducted horizontal return air or bottom return air configuration (as scheduled or shown on the drawings). The external static pressure shall be as scheduled on the drawings.
 - b. Acoustic Performance: The indoor units' sound pressure shall not exceed 31 dBA at low speed 5 feet from the unit.
 - c. Construction:
 - 1) The indoor unit shall be completely factory assembled and tested. The unit shall include factory wiring, piping, electronic modulating expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, condensate drain pump, self-diagnostics, auto-restart function, 3-minute fused time delay, and test run switch.
 - 2) The indoor units shall be equipped with a return air thermistor.
 - 3) The indoor unit shall be separately powered.
 - 4) The switch box shall be reached from the side or bottom for ease of service and maintenance.
 - d. Unit Cabinet:
 - 1) The cabinet shall be in the ceiling and ducted to the supply and return openings.
 - 2) The cabinet shall be constructed with sound absorbing foamed polystyrene and polyethylene insulation.
 - 3) The cabinet shall be factory insulated for use in unconditioned indoor spaces.
 - e. Fan:
 - 1) The fan shall be direct-drive type, with statically and dynamically balanced impeller with high and low fan speeds.
 - 2) The fan motor shall be thermally protected.
 - f. Filter: The return air shall be filtered by means of a washable long-life filter with mildew proof resin.

- g. Coils:
 - 1) Coils shall be of the direct expansion type, constructed from copper tubes expanded into aluminum fins to form a mechanical bond.
 - 2) The refrigerant connections shall be flare connections, and the condensate shall be coordinated with piping material specified in Section 23 21 00.
 - 3) A condensate pump with at least 18 inches of lift shall be located below the coil in the condensate pan, with a built-in high-level safety alarm to shut down the unit.
 - 4) A thermistor shall be located on the liquid and gas line.

2.3 PIPING

- A. Design Pressure: 450 psig.
 - 1. Maximum Design Temperature: 250 F.
- B. Piping - 4" and under.
 - 1. Tubing: Type ACR hard drawn seamless copper tube, ASTM B280. Sizes indicated are nominal designation.
 - 2. Joints: Brazed with silver solder.
 - 3. Fittings: Wrought copper solder joint, ANSI B16.22.
 - 4. Special Requirements: All tubing shall be cleaned, dehydrated, pressurized with dry nitrogen, plugged and tagged by manufacturer "for refrigeration service". During brazing operations, continuously purge the interior of the pipe with nitrogen to prevent oxide formation.
- C. Insulation:
 - 1. EPDM (NBR/PVC Blend is not permitted) elastomeric cellular foam; ANSI/ASTM C534; flexible plastic; 0.25 maximum 'K' value at 75°F, 25/50 flame spread/smoke developed rating when tested in accordance with ASTM E84 (UL 723). If thickness required in Part 4 - Execution does not meet 25/50 flame spread/smoke developed rating, use multiple layers of a thickness that does meet 25/50 flame spread/smoke developed.

2.4 COATINGS:

- A. Apply marine coating by certified licensed applicator.
- B. The coating product manufacturer shall be able to document a class 5B result on a cross hatch adhesion test (ASTM D5339) and the testing for a minimum 4000 hours in both salt spray (ASTM B117) and acid salt spray (ASTM G85) test.
- C. The coating service provider shall also be able to offer a 3-year conditioned warranty for coating applied on finned-tube coils.

- D. The coating shall be applied insuring total penetration and coverage without bridging or significantly affecting the heat transfer ability of the coil.
- E. The total dry film thickness of the coating shall be 1mil.
- F. The coating shall provide inherent protection against ultra-violet radiation and have a dry temperature resistance from -4°F to 302°F.
- G. The following components shall be coated:
 - 1. Condenser coils
 - 2. Base Rails
 - 3. Exterior cabinet
- H. Acceptable Manufacturers:
 - 1. Luvata "Tropicoat" or approved equal.

PART 3 - CONTROLS

3.1 GENERAL

- A. The unit shall have controls provided with the unit by the manufacturer to perform input functions necessary to operate the system.
- B. Computerized PID control shall be used to maintain room temperature within 1°F of setpoint.
- C. The unit shall be equipped with a programmable drying cycle that dehumidifies while inhibiting changes in room temperature.
- D. The indoor circuit board shall be wired to enable auxiliary heating when at least one of the following occurs:
 - 1. Coil thermistor temperature drops below a factory setpoint in heating mode.
 - 2. Outdoor temperature drops below setpoint (adj.).
 - 3. Based on a user adjustable schedule.

3.2 SYSTEM CONTROLLER – TYPE C

- A. The controller shall control at least 50 units and shall be able to be used in conjunction with all room controller types. Collective and individual group commands are available with permit/prohibit individual remote controller function. At least five system controllers shall be able to reside on any one communication bus.

3.3 MAINTENANCE ACCESS

- A. Provide all gateways and connection cabling for performing maintenance functions on system.
- B. Provide all software and registration codes as required to allow access into advanced maintenance functions.

3.4 SEQUENCE

- A. Install a remote mounted temperature sensor.
- B. The thermostat shall stage heating or cooling as required to maintain space setpoint at 72°F (adj.).
- C. Thermostat shall automatically change the indoor unit mode based on the space setpoint.
- D. If space setpoint continues to drop once indoor unit has been changed to heating mode, the thermostat shall enable the space electric baseboard heat.
- E. Central controller shall enable dedicated outdoor unit based on an adjustable occupancy schedule. Coordinate enable/disable function with AHU manufacturer.

3.5 SYSTEM INTEGRATION

- A. The manufacturer's control system shall be capable of integrating with the building automation system with built in hardware or separate add-on interfaces. All additional devices shall be provided by the manufacturer.
- B. The system shall be compatible with BACnet. Refer to Section 23 09 00.

PART 4 - EXECUTION

4.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions. Install all piping, fittings, and insulation to meet manufacturer's requirements. Install units level and plumb. Evaporator fan components shall be installed using manufacturer's standard mounting devices securely fastened to building structure. Install and connect refrigerant tubing and fittings.
- B. Installing contractor shall attend manufacturer sponsored training to obtain installation certification.
- C. Installer shall supply isolation ball valves for zoned refrigerant isolation. Installer shall supply isolation ball valves with Schrader connection for isolating refrigerant charge and evacuation at each connected indoor unit and outdoor unit. Isolation ball valves, with Schrader connection, are required for instances of indoor unit isolation for troubleshooting, repair, or replacement without affecting the remainder of the system. Isolation ball valves with Schrader connection are also required at outdoor unit connection to isolate unit for troubleshooting, repair, or replacement and as required to provide partial capacity heating/cooling in the instance of a failure of one of the multiple outdoor unit compressors.

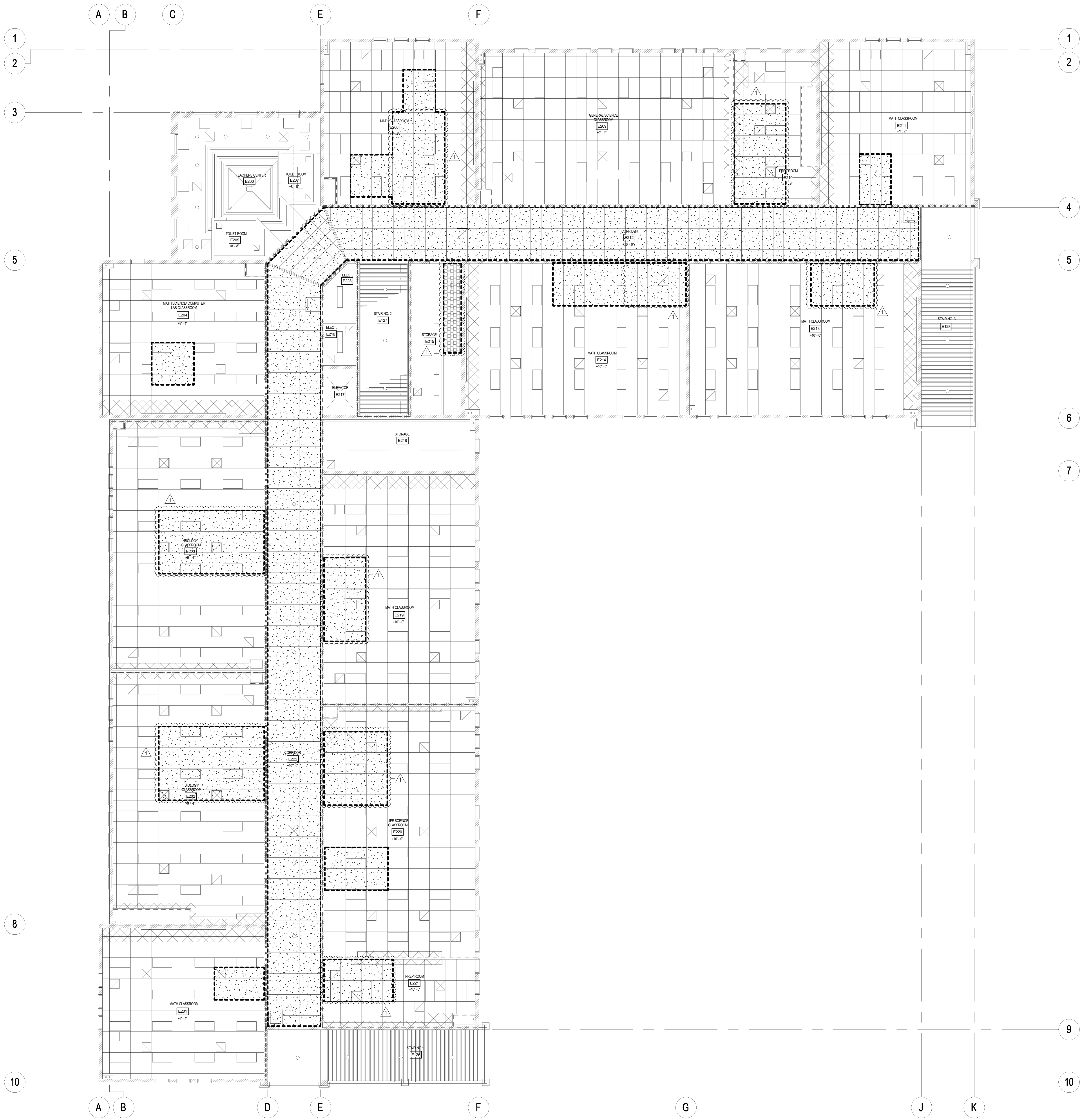
- D. Insulate all refrigerant pipes between the outdoor and indoor units. This includes the liquid pipe, the suction pipe, the hot gas pipe, and the high/low pressure gas pipe. All fittings, valves, and specialty refrigerant components in the piping between the indoor and outdoor units shall also be insulated. The insulation shall have a continuous vapor barrier and shall pass through hangers and supports unbroken. Over size hangers and supports to allow the insulation to pass through unbroken. Following are the minimum insulation thicknesses unless noted otherwise in the manufacturer’s literature or required by local AHJ:

Pipe System	Insulation Thickness
Refrigerant Gas (from branch selector to indoor unit) All sizes	1/2"
Refrigerant Suction (40°F & Above) Up to 1-1/2" 1-1/2" and up	1/2" 1"
Refrigerant High/Low Pressure Gas Up to 1" 1-1/2" and up	1-1/2" 2"
Refrigerant Liquid Up to 1-1/2" 1" and up	1" 1-1/2"

- E. Engage manufacturer or factory-authorized service representative to perform startup service. Manufacturer shall provide on-site startup and commissioning assistance through job completion. Complete installation and startup checks according to manufacturer’s written instructions.
- F. Fully charge system with refrigerant per manufacturer’s requirements.
- G. Field Quality Control:
1. Manufacturer’s Field Service: Engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including connections, and to assist in field testing.
 2. Perform the following field tests and inspections, and prepare test reports:
 - a. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - b. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - c. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- H. Coordinate installation of units with architectural and electrical work. Coordinate installation of ceiling recessed units with ceiling grid layout. Additional ceiling grid reinforcement or modification is the responsibility of the Mechanical Contractor and shall be coordinated with the General Contractor.
- I. Verify locations of wall-mounted devices (such as thermostats, temperature and humidity sensors, and other exposed sensors) with drawings and room details before installation. Coordinate mounting heights to be consistent with other wall-mounted devices. Height above finished floor shall not exceed 48”.

- J. Contractor is responsible for routing all condensate drains from all indoor equipment to a nearby floor drain or standpipe. If ceiling heights or space finish does not accommodate gravity drainage, Contractor is responsible for providing a condensate pump and all electrical work required.
- K. Contractor is responsible for installing VRF heat pump control system. Contractor shall coordinate with the Temperature Controls Contractor to determine extent of integration with building automation system (BAS). Equipment that is required to integrate the VRF heat pump system with the BAS is the responsibility of the VRF heat pump installing contractor. Final connections between VRF heat pump system and BAS shall be by the Temperature Controls Contractor.

END OF SECTION

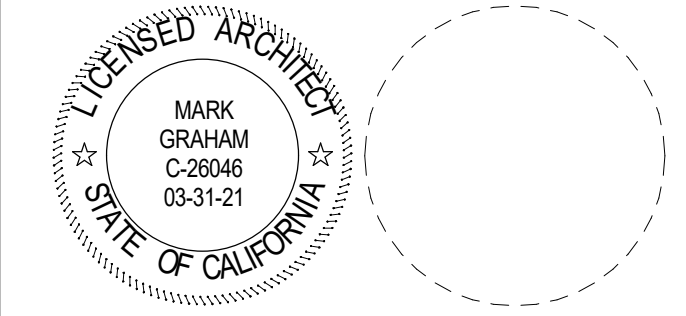


REFERENCE NOTES

KEYNOTE	DESCRIPTION
(E) 1HR RATED WALL - GYP. BRD. / STUD. / GYP. BRD.	
(E) 2HR RATED WALL - GYP. BRD. / STUD. / GYP. BRD.	
CEILING TYPE 1: REPLACE ALL CEILING TILES BACK TO THEIR ORIGINAL LOCATION. REPLACE ALL BROKEN TILES, WATER STAINED, CHIPPED, DENTED, AND SCRATCHED WITH NEW TILES OF SIMILAR PATTERN, TEXTURE, AND COLOR.	
LIGHT FIXTURE TYP.	
CEILING TYPE 4: SPLICE IN NEW METAL RUNNERS AS NEED TO REINSTALL NEW GYPSUM BOARD TO MATCH EXISTING. TAPE, MUD, TEXTURE, PRIME, AND PAINT TO MATCH EXISTING. REPAINT ENTIRE CEILING TYPICAL.	
GYPSUM BOARD TYP.	

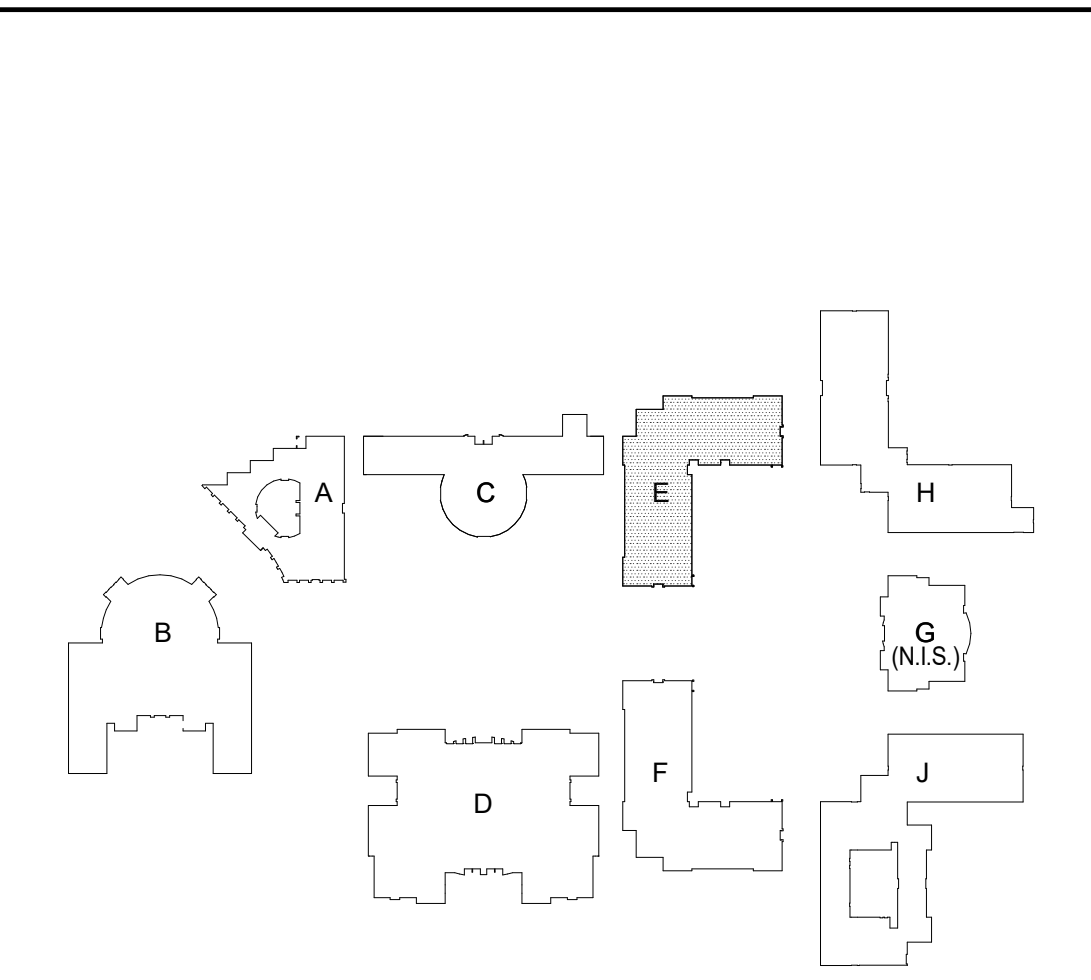
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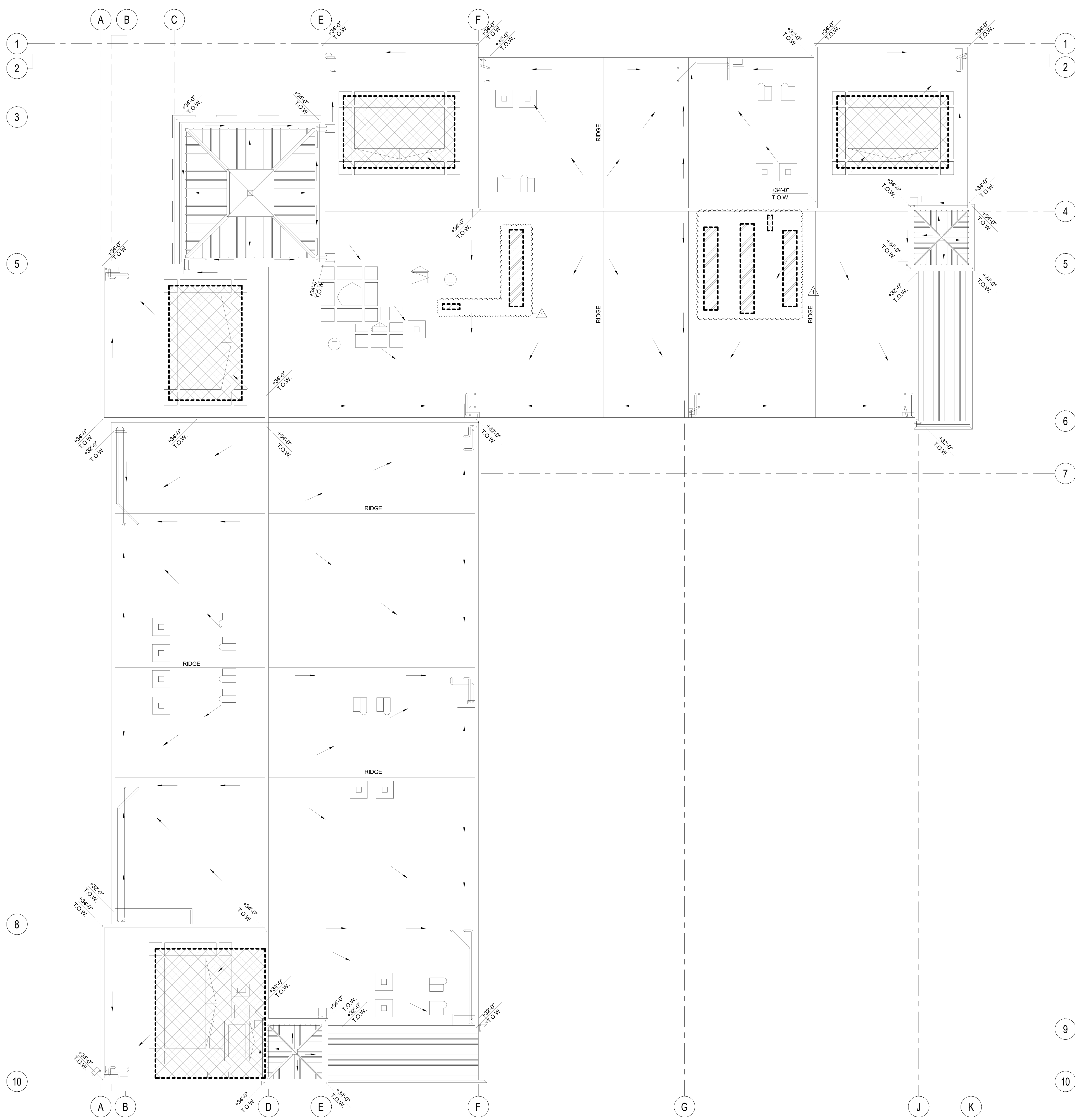
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1	08/25/20		ADDENDUM 1
REVISIONS			

DRAWN: JY CHECKED: SJ
 DATE: 08/25/20 SCALE: As indicated
 PROJECT NUMBER: 1917100

NEW SECOND FLOOR CEILING PLAN - BLDG E

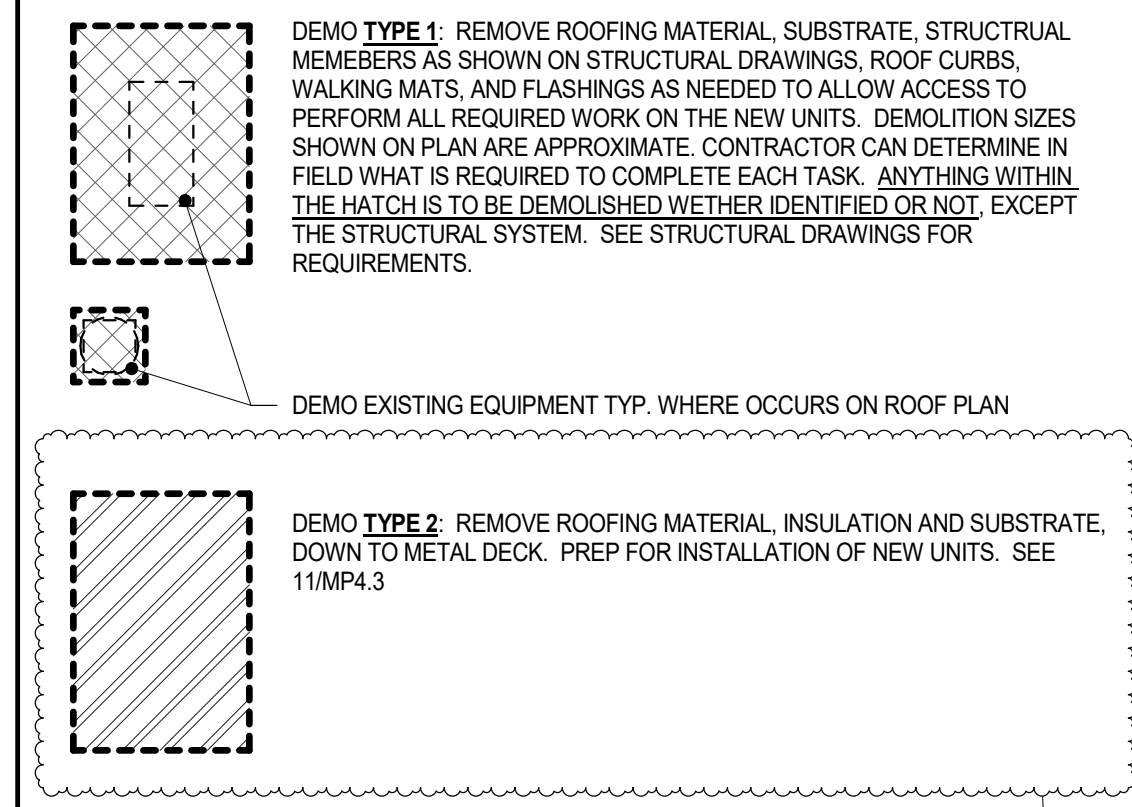
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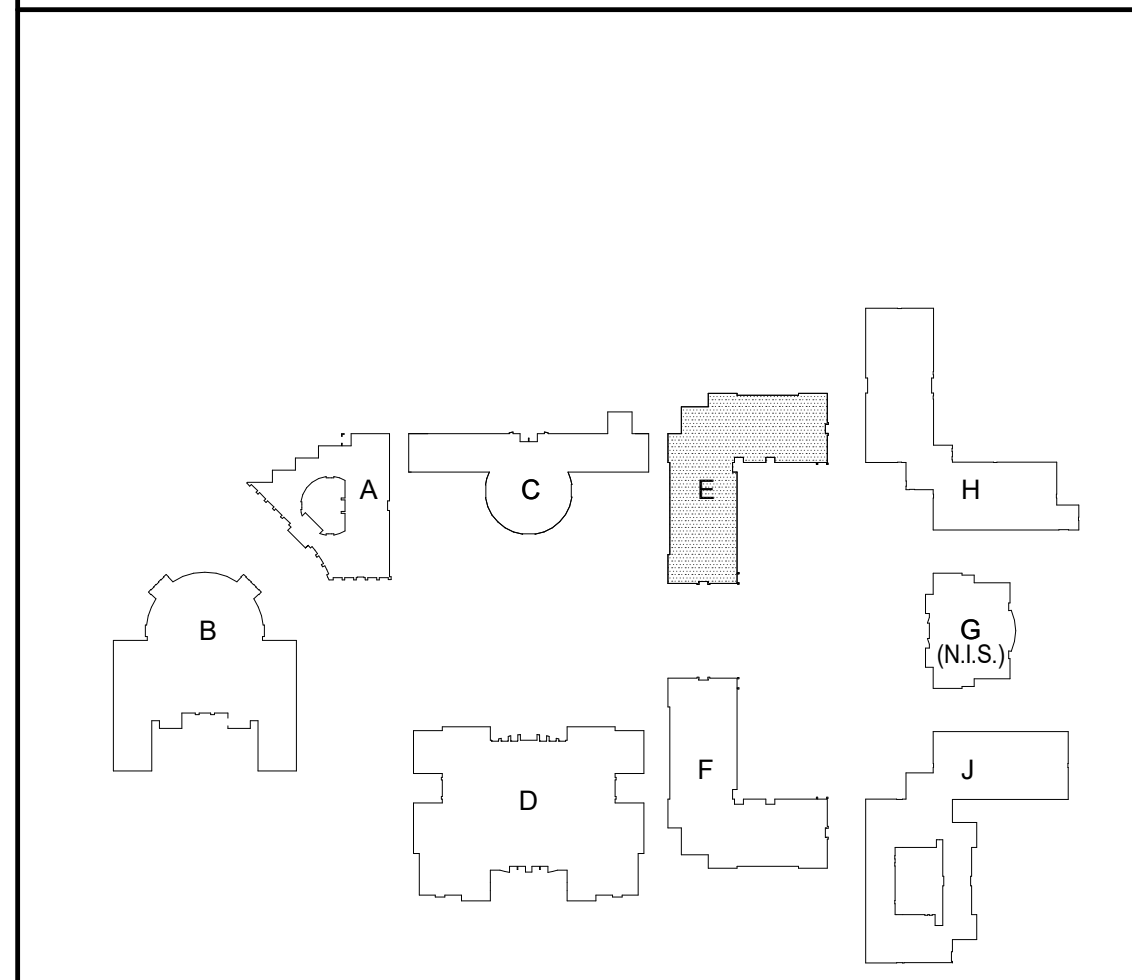


REFERENCE NOTES

KEYNOTE	DESCRIPTION
1	DEMO TYPE 1: REMOVE ROOFING MATERIAL, SUBSTRATE, STRUCTURAL MEMBERS AS SHOWN ON STRUCTURAL DRAWINGS, ROOF CURBS, WALKING MATS, AND FLASHINGS AS NEEDED TO ALLOW ACCESS TO PERFORM ALL REQUIRED WORK ON THE NEW UNITS. DEMOLITION SIZES SHOWN ON PLAN ARE APPROXIMATE. CONTRACTOR CAN DETERMINE IN FIELD WHAT IS REQUIRED TO COMPLETE EACH TASK. ANYTHING WITHIN THE HATCH IS TO BE DEMOLISHED WHETHER IDENTIFIED OR NOT, EXCEPT THE STRUCTURAL SYSTEM. SEE STRUCTURAL DRAWINGS FOR REQUIREMENTS.
2	DEMO TYPE 2: REMOVE ROOFING MATERIAL, INSULATION AND SUBSTRATE, DOWN TO METAL DECK. PREP FOR INSTALLATION OF NEW UNITS. SEE 11MP4.3
3	DEMO EXISTING EQUIPMENT TYP. WHERE OCCURS ON ROOF PLAN

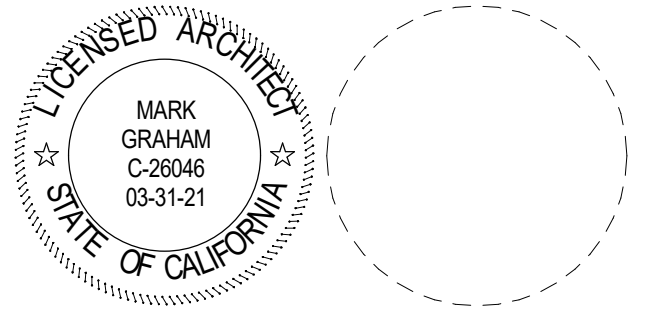


LEGEND



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1	08/25/20	ADDENDUM 1

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DATE: 08/25/20	SCALE: As indicated
PROJECT NUMBER: 1917100	

DEMO ROOF PLAN - BLDG E

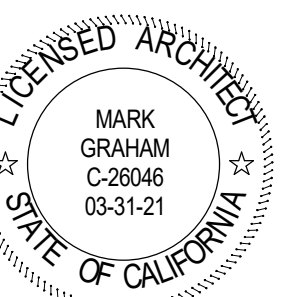
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1	08/25/20	ADDENDUM 1
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DRAWN: JY	CHECKED: SJ
DATE: 08/25/20	SCALE: As indicated
PROJECT NUMBER: 1917100	

**NEW ROOF PLAN
 - BLDG E**

DRAWING NUMBER: **AE4.1**

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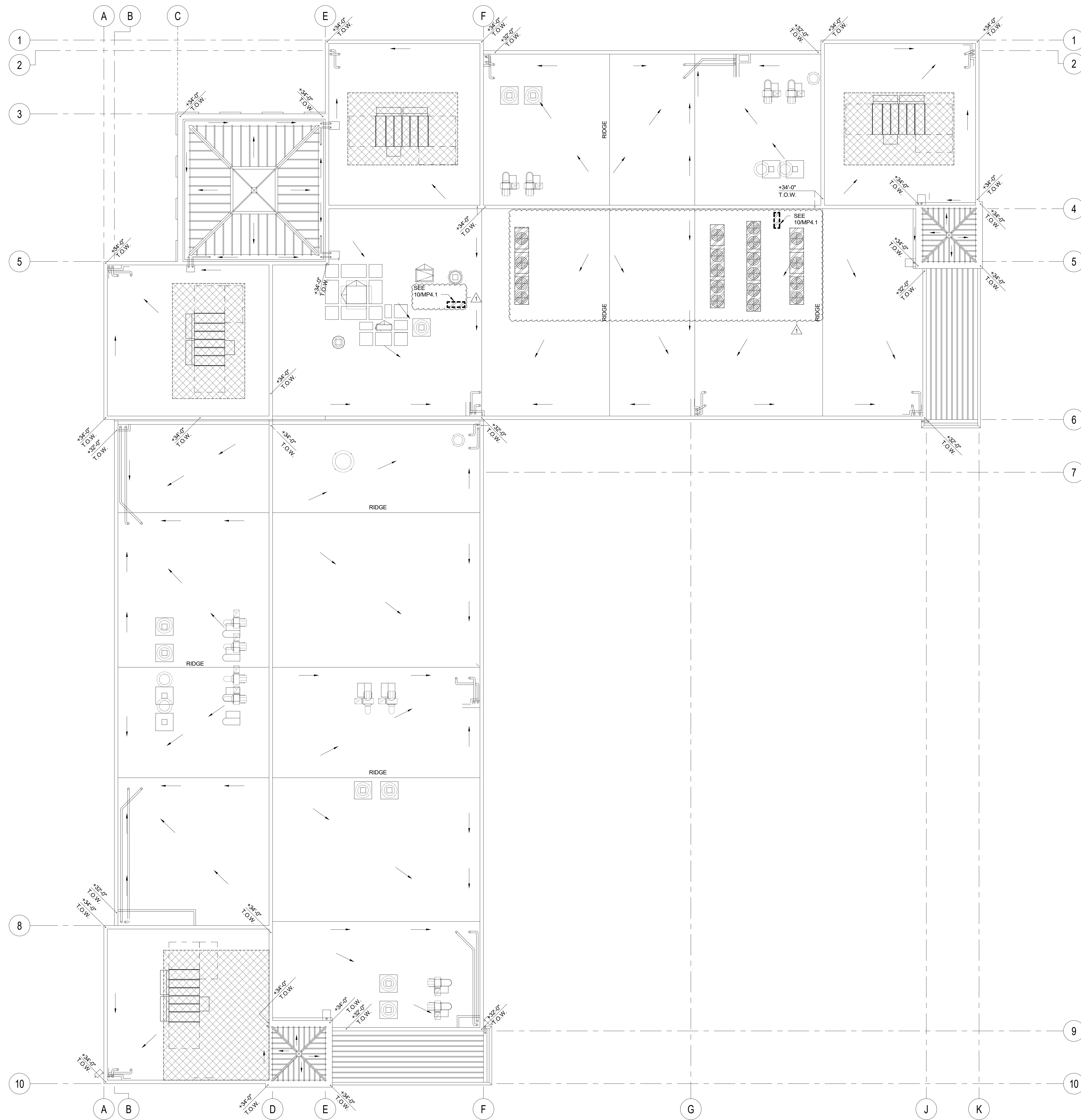
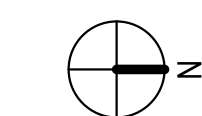
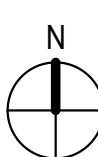
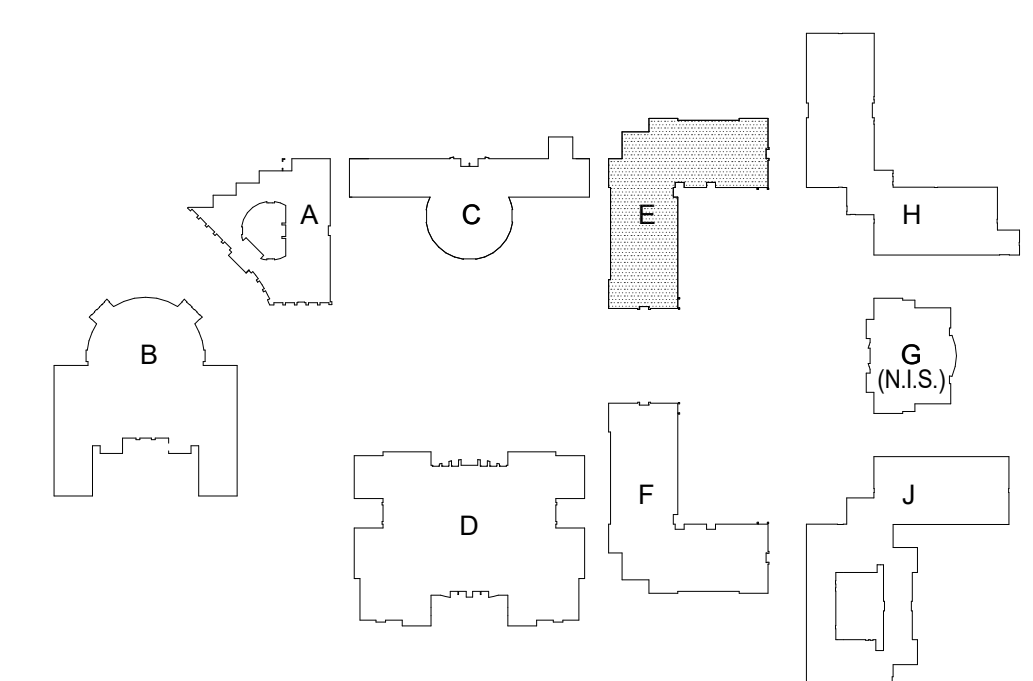
KEYNOTE	DESCRIPTION
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PATCH BACK ROOFING MATERIAL PER 3/7.1. INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 13/5.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF.

NEW AC UNIT. SEE MECHANICAL DRAWINGS FOR SPECIFIC INFORMATION ON EACH UNIT TYPICAL.

PATCH BACK ROOFING MATERIAL PER 3/7.1. SEE 11/MP4.3 FOR ADDITIONAL INFORMATION ON THE INSTALLATION OF THESE UNITS.

LEGEND



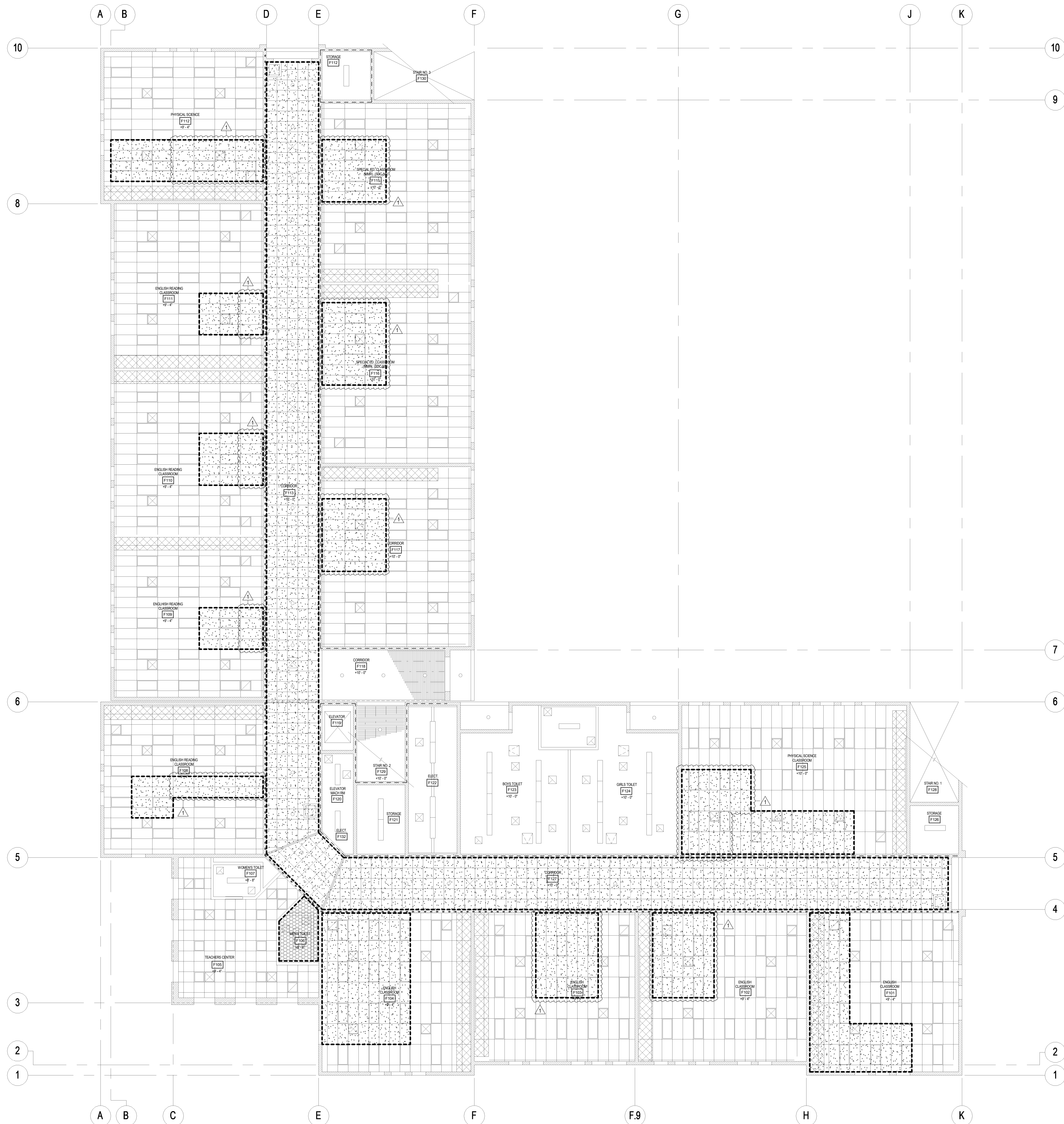
NEW ROOF PLAN - BLDG E

1/8" = 1'-0"

1

SITE KEY PLAN

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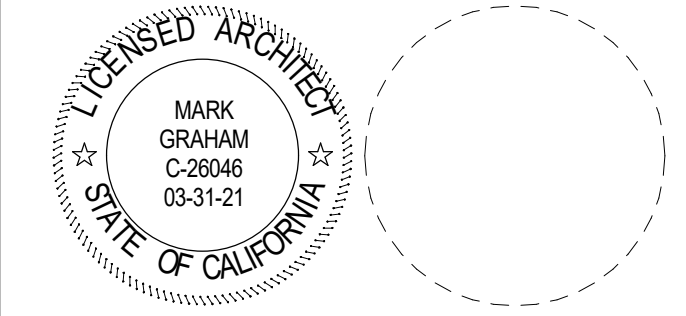
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KEYNOTE	DESCRIPTION
(E)	1HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.
(E)	2HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.
(F)	DEMO TYPE 1: REMOVE AND PROTECT ACCOUSTICAL CEILING TILES. REINSTALL UPON COMPLETION OF HVAC WORK. DO NOT TOUCH CEILING GRID. DO NOT REMOVE LIGHT FIXTURES TYPICAL.
(G)	DEMO TYPE 4: REMOVE EXISTING GYPSUM BOARD FROM SUSPENDED IRON CEILING. SEE DETAIL 10.119.2 FOR EXISTING CONDITION. NEATLY CUT GYPSUM ON HAT CHANNEL TYPICAL.
(H)	GYPSUM BOARD TYP.

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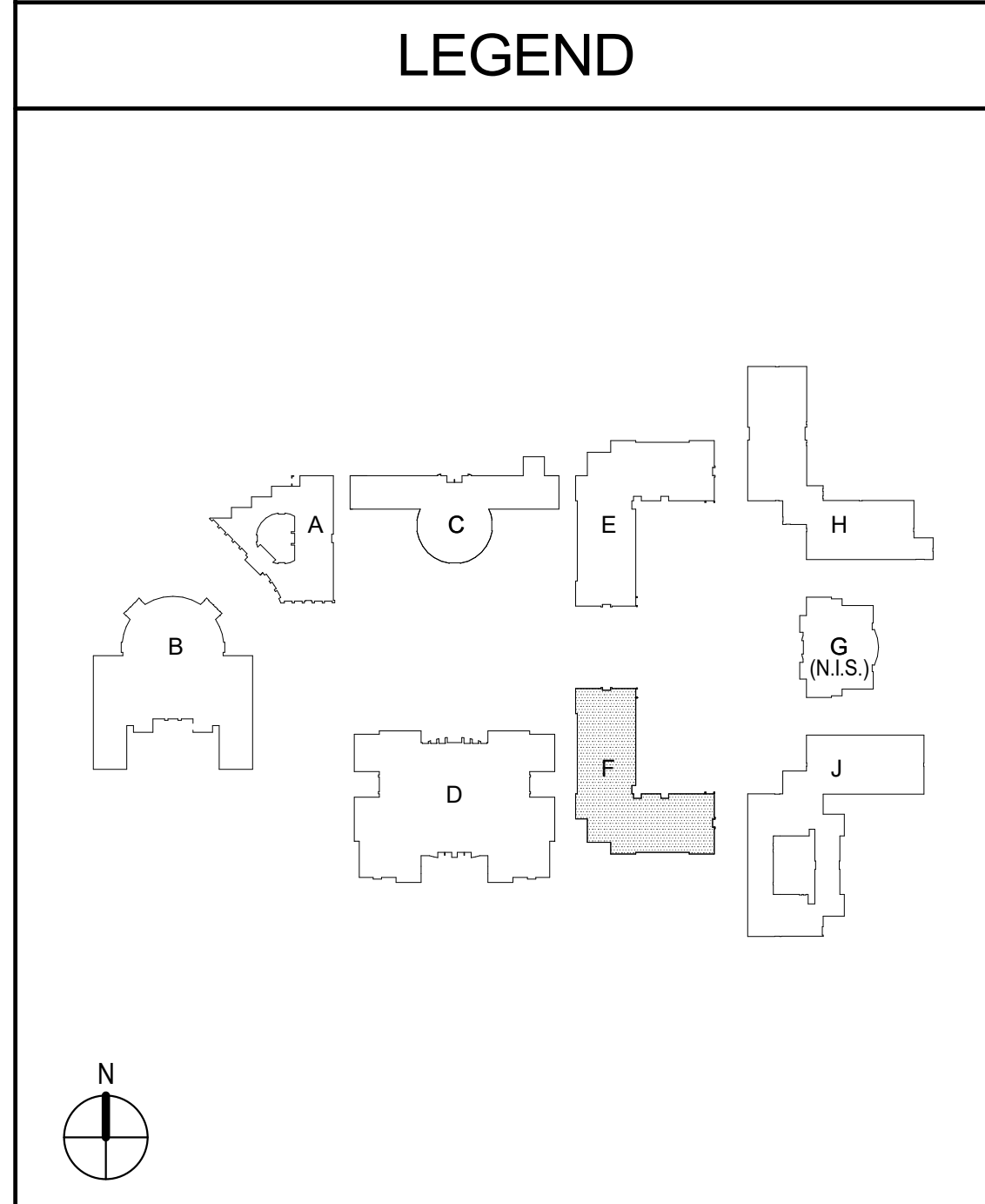
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DATE: 08/25/20		
SCALE: As indicated		
PROJECT NUMBER: 1917100		



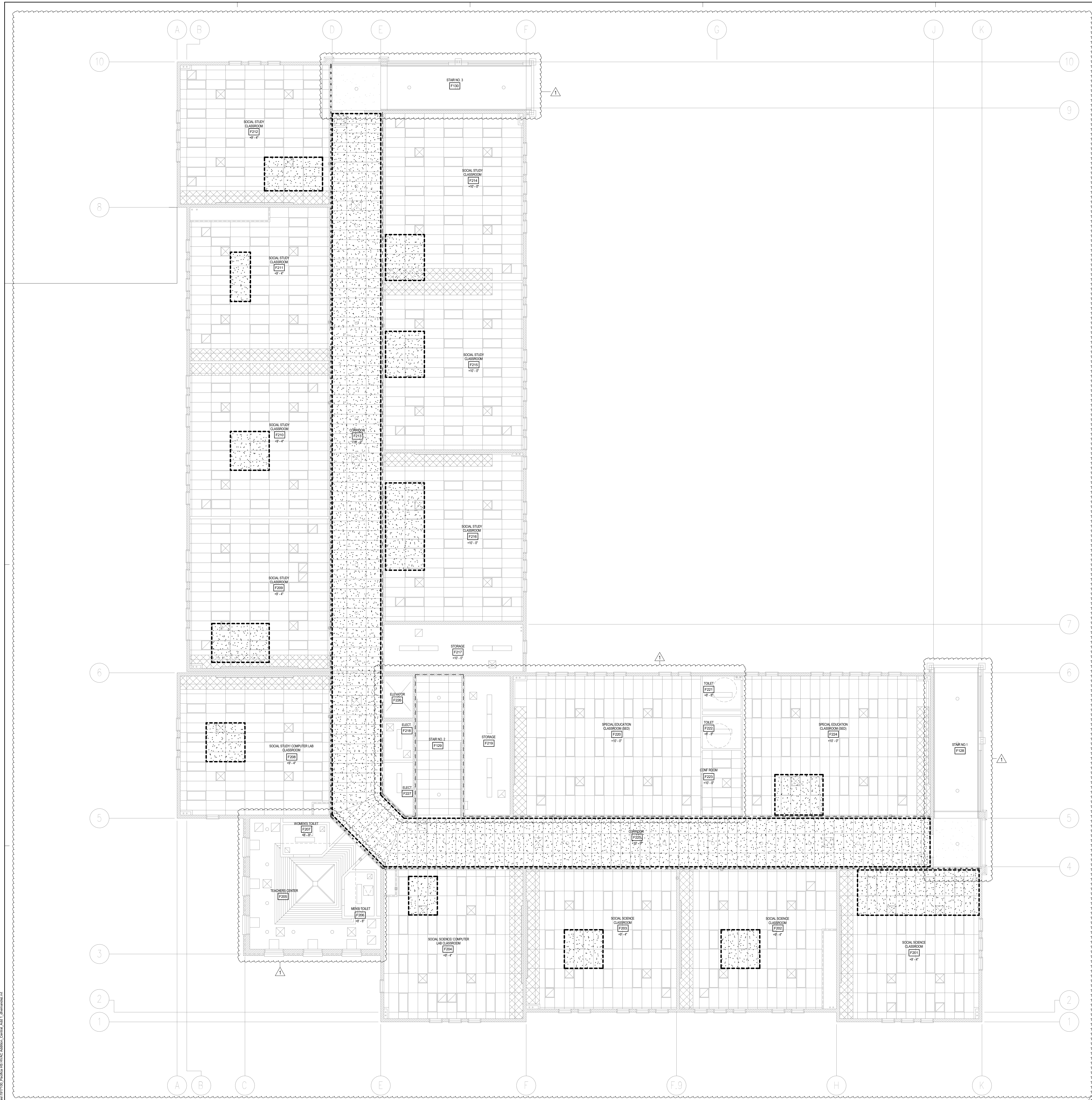
**DEMO CEILING
 PLAN - BLDG F**

DRAWING NUMBER: **AF3.0**

DEMO CEILING PLAN - BLDG F 1/8" = 1'-0" 1

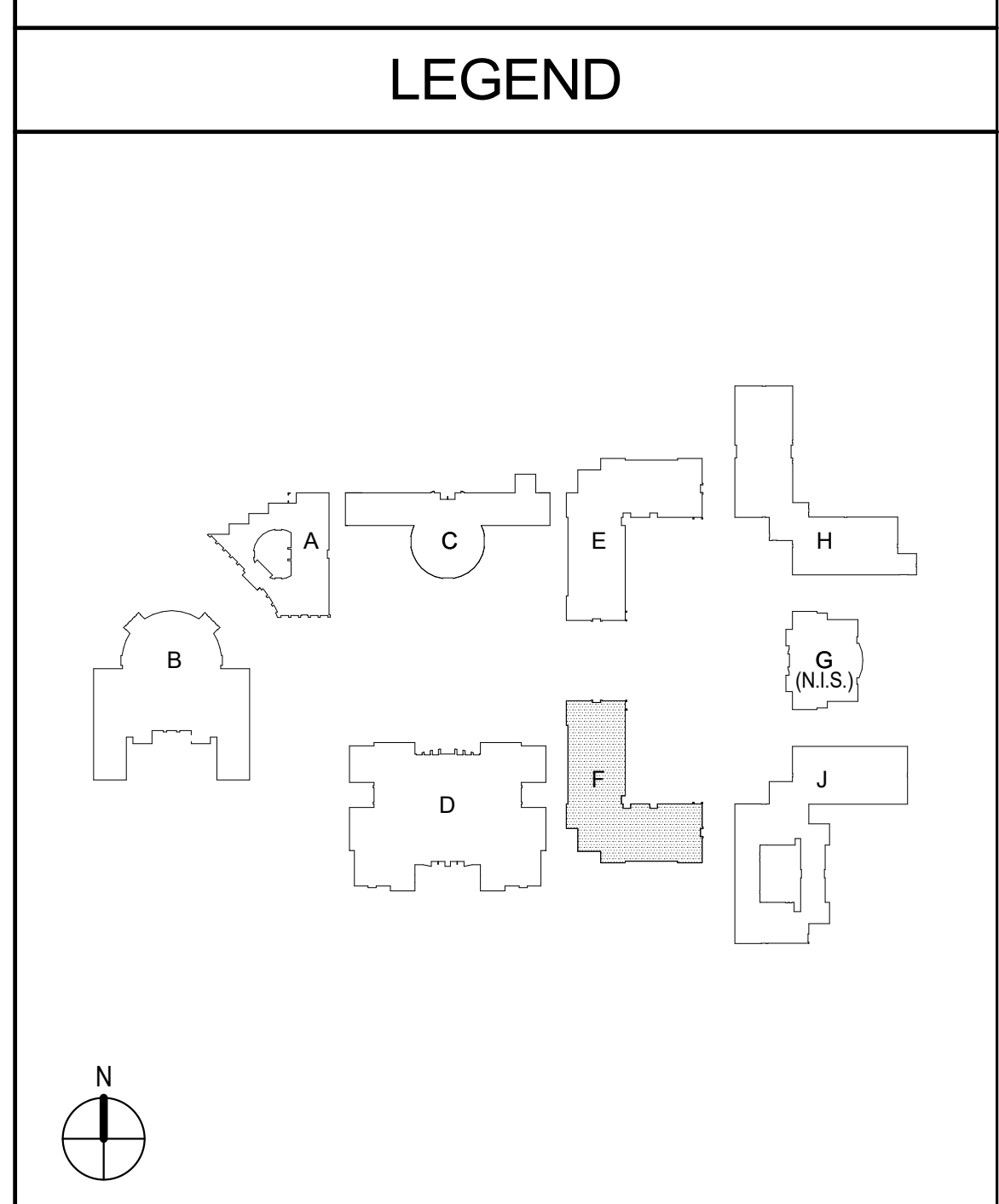
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REFERENCE NOTES	
KEYNOTE	DESCRIPTION
(E)	1HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.
(E)	2HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.
(D)	DEMO TYPE 1: REMOVE AND PROTECT ACCOUSTICAL CEILING TILES. REINSTALL UPON COMPLETION OF HVAC WORK. DO NOT TOUCH CEILING GRID. DO NOT REMOVE LIGHT FIXTURES TYPICAL.
(D)	DEMO TYPE 4: REMOVE EXISTING GYPSUM BOARD FROM SUSPENDED IRON CEILING. SEE DETAIL 10.119.2 FOR EXISTING CONDITION. NEATLY CUT GYPSUM ON HAT CHANNEL TYPICAL.

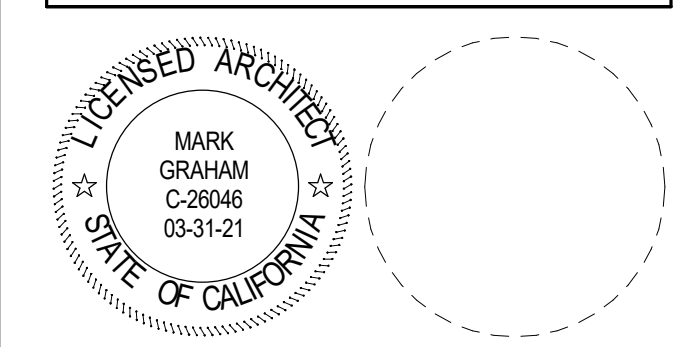
LEGEND	
(Symbol)	GYPSUM BOARD TYP.



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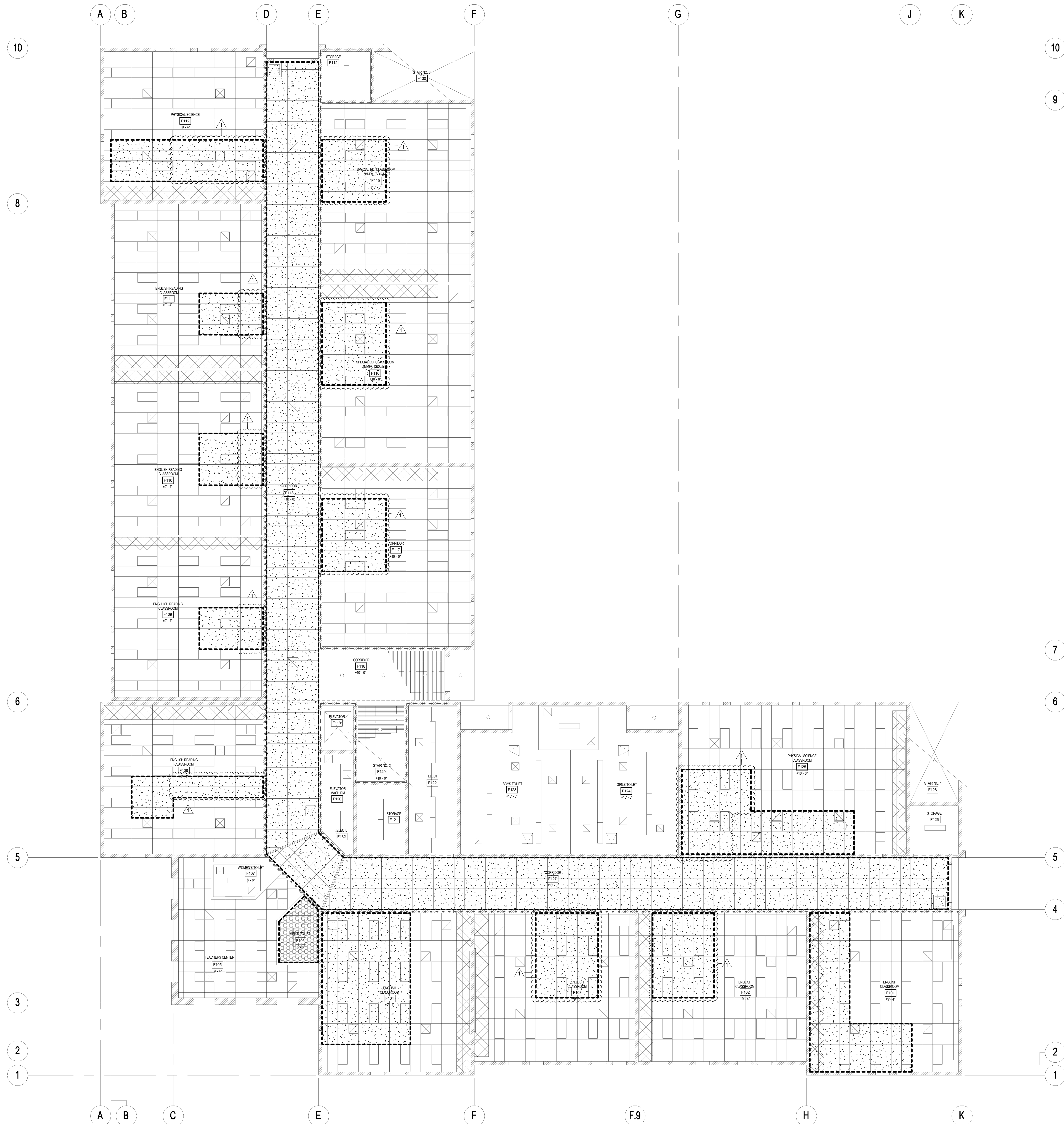
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NO	DATE	DESCRIPTION

NO	DATE	BY	DESCRIPTION
1	08/25/20		ADDENDUM 1

DRAWN: JY	CHECKED: SJ
DATE: 08/25/20	SCALE: As indicated
PROJECT NUMBER: 1917100	

**DEMO CEILING
 PLAN - BLDG F -
 2F**

DRAWING NUMBER: **AF3.1**

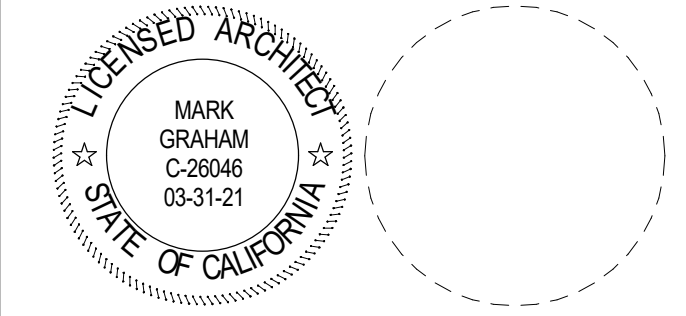


REFERENCE NOTES

KEYNOTE	DESCRIPTION
(E) 1HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.	
(E) 2HR RATED WALL - GYP. BRD. / STUD / GYP. BRD.	
CEILING TYPE 1	REPLACE ALL CEILING TILES BACK TO THEIR ORIGINAL LOCATION. REPLACE ALL BROKEN TILES, WATER STAINED, CHIPPED, DENTED, AND SCRATCHED WITH NEW TILES OF SIMILAR PATTERN, TEXTURE, AND COLOR.
	LIGHT FIXTURE TYP.
CEILING TYPE 4	SPLICE IN NEW METAL RUNNERS AS NEED TO REINSTALL NEW GYPSUM BOARD TO MATCH EXISTING. TAPE, M.U.D., TEXTURE, PRIME, AND PAINT TO MATCH EXISTING. REPAINT ENTIRE CEILING TYPICAL.
	GYPSUM BOARD TYP.

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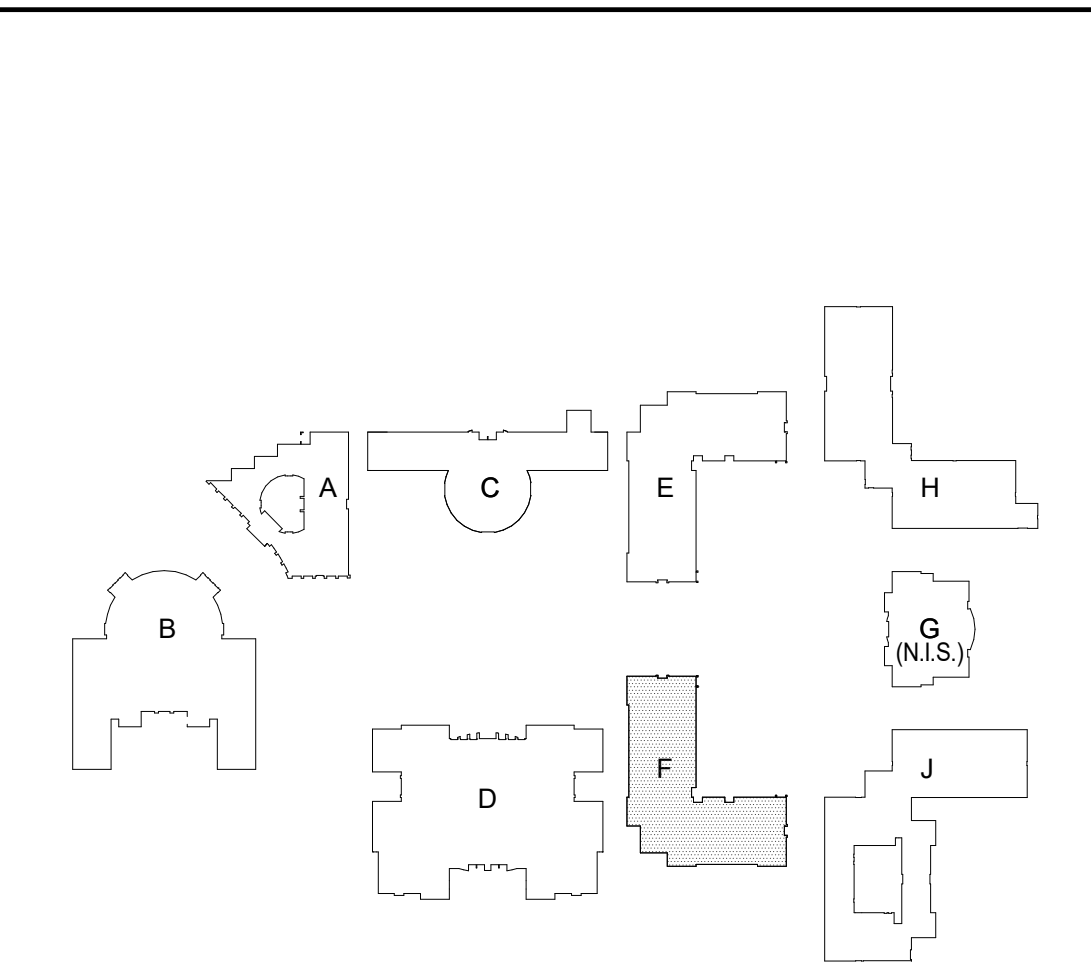
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1	08/25/20		ADDENDUM 1
REVISIONS			

DRAWN: JY CHECKED: SJ
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 PROJECT NUMBER: 1917100

**NEW CEILING
 PLAN - BLDG F**

DRAWING NUMBER: **AF3.2**

LEGEND

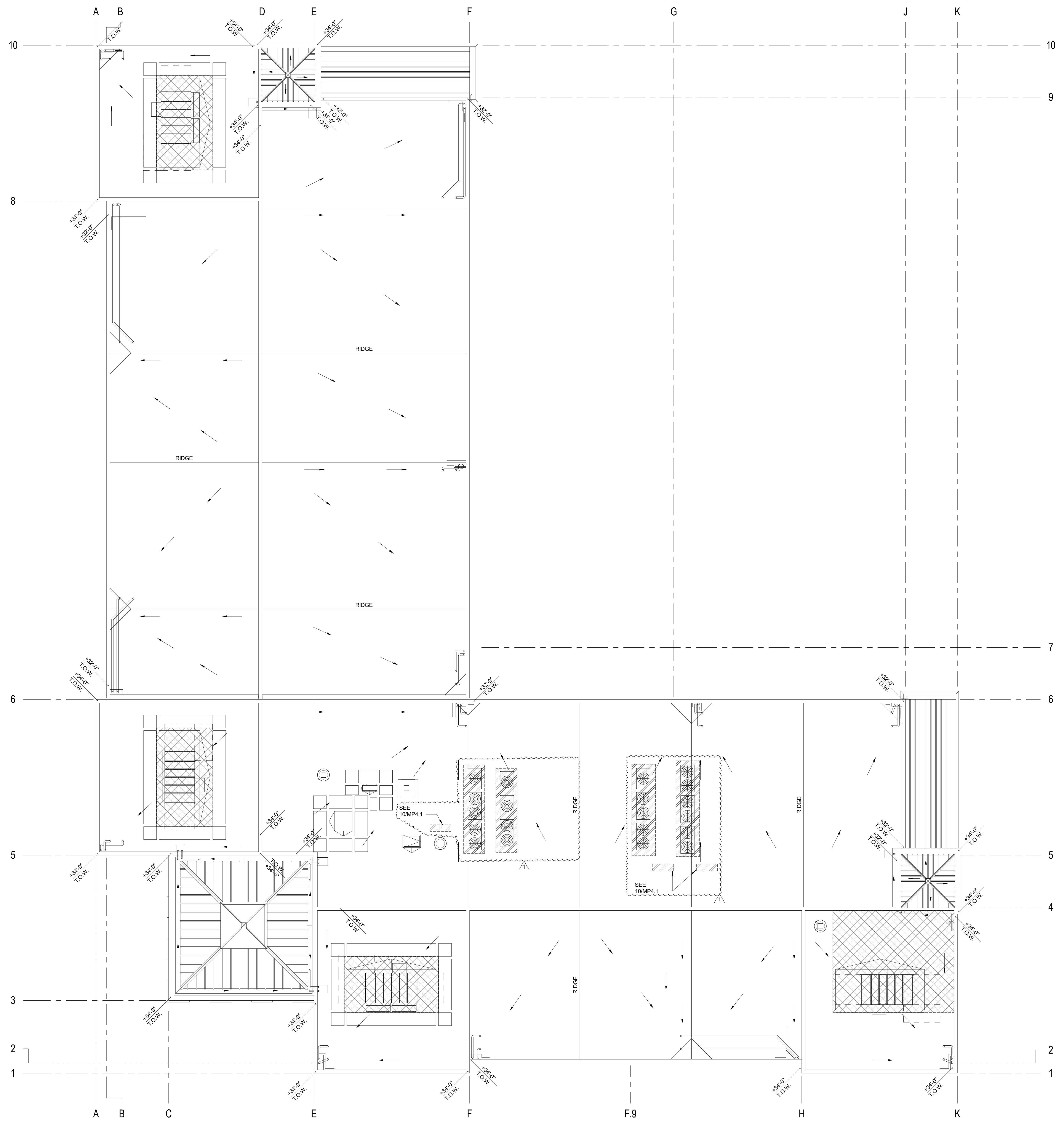


NEW CEILING PLAN - BLDG F

1/8" = 1'-0" 1

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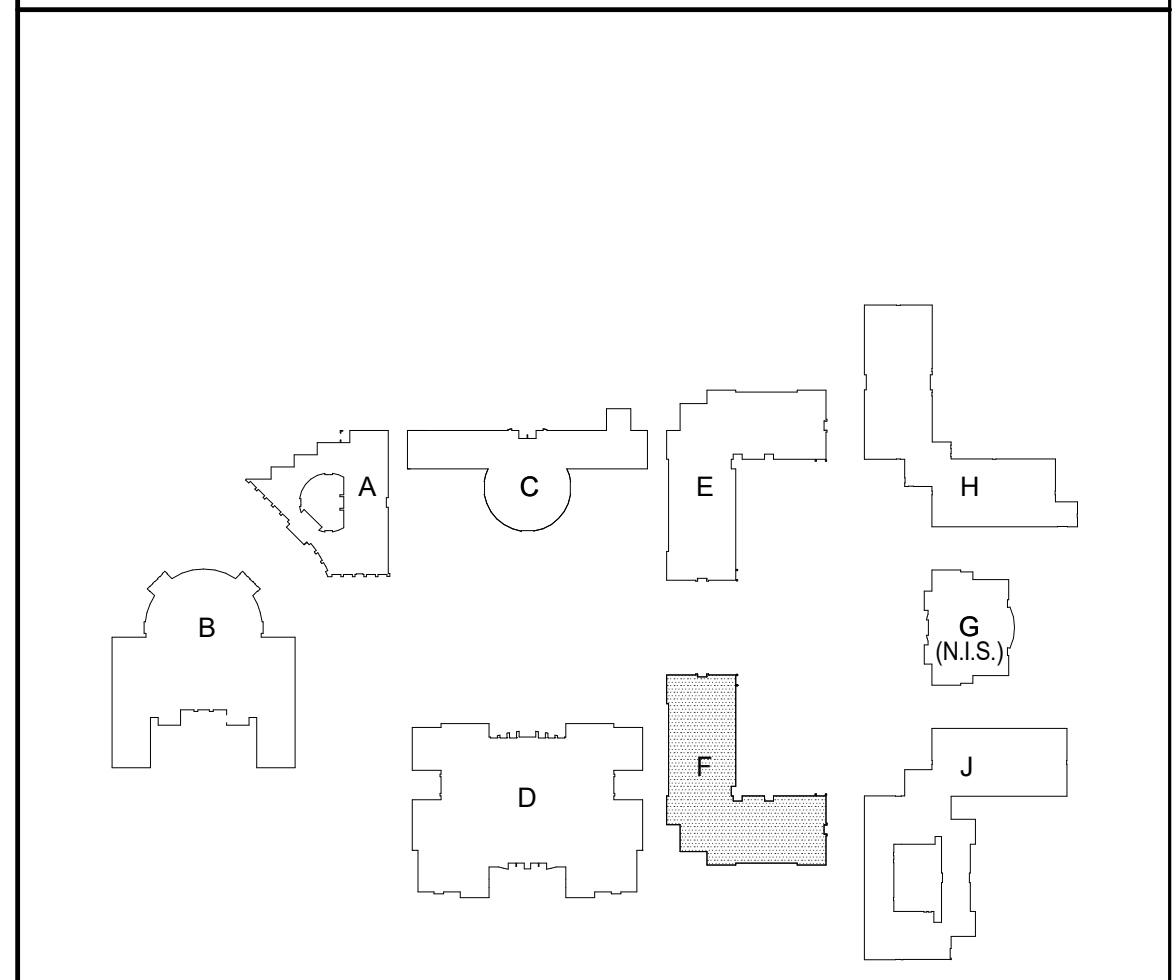


REFERENCE NOTES

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	PATCH BACK ROOFING MATERIAL PER 317.1. INFILL METAL DECKING AND STRUCTURAL SUPPORTS PER 1350.3. PROVIDE RIGID INSULATION TO ALIGN WITH EXISTING FINISHED ROOF.
	NEW AC UNIT. SEE MECHANICAL DRAWINGS FOR SPECIFIC INFORMATION ON EACH UNIT TYPICAL.
	PATCH BACK ROOFING MATERIAL PER 317.1. SEE 11MP4.3 FOR ADDITIONAL INFORMATION ON THE INSTALLATION OF THESE UNITS.



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1	08/25/20	ADDENDUM 1
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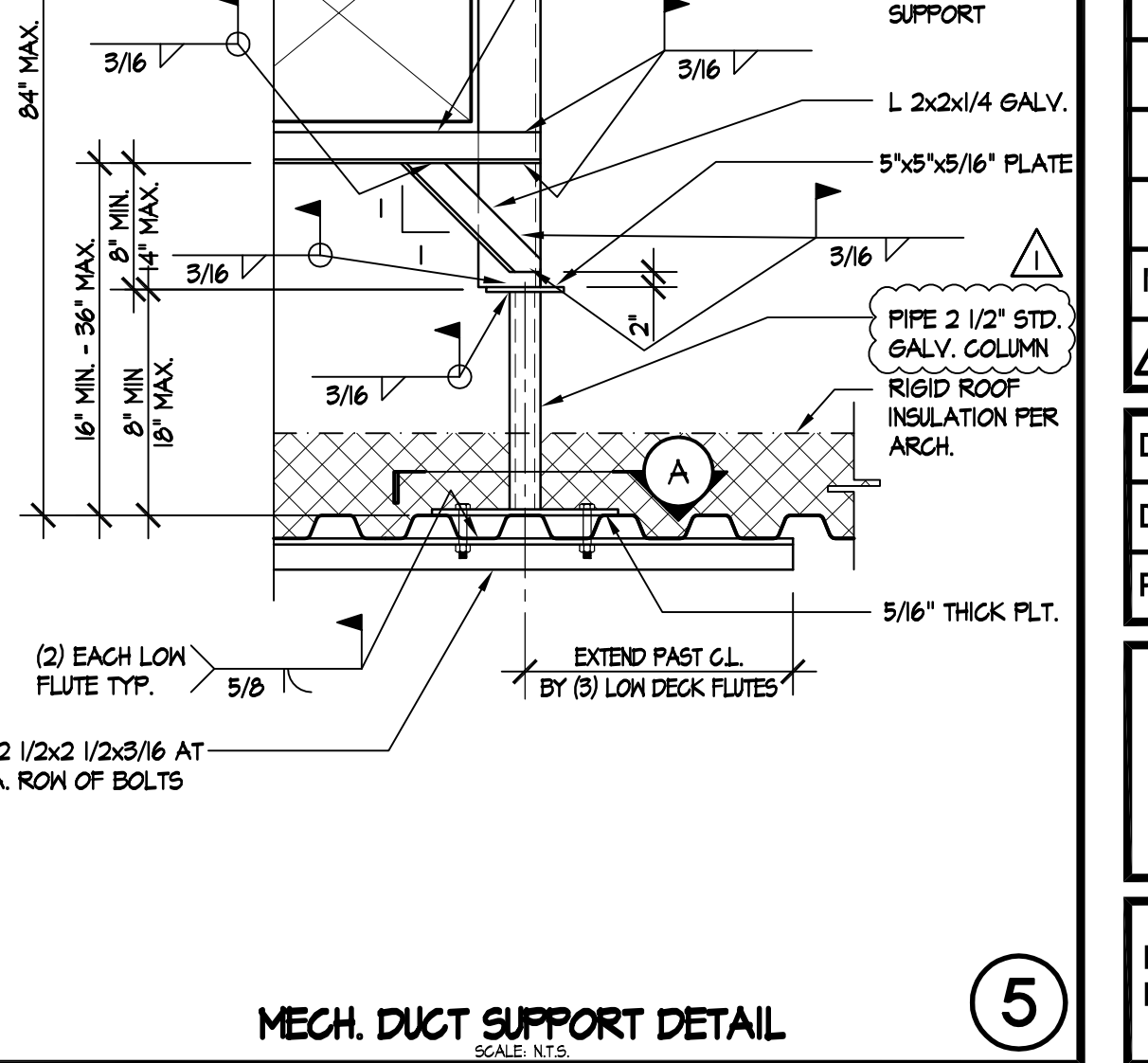
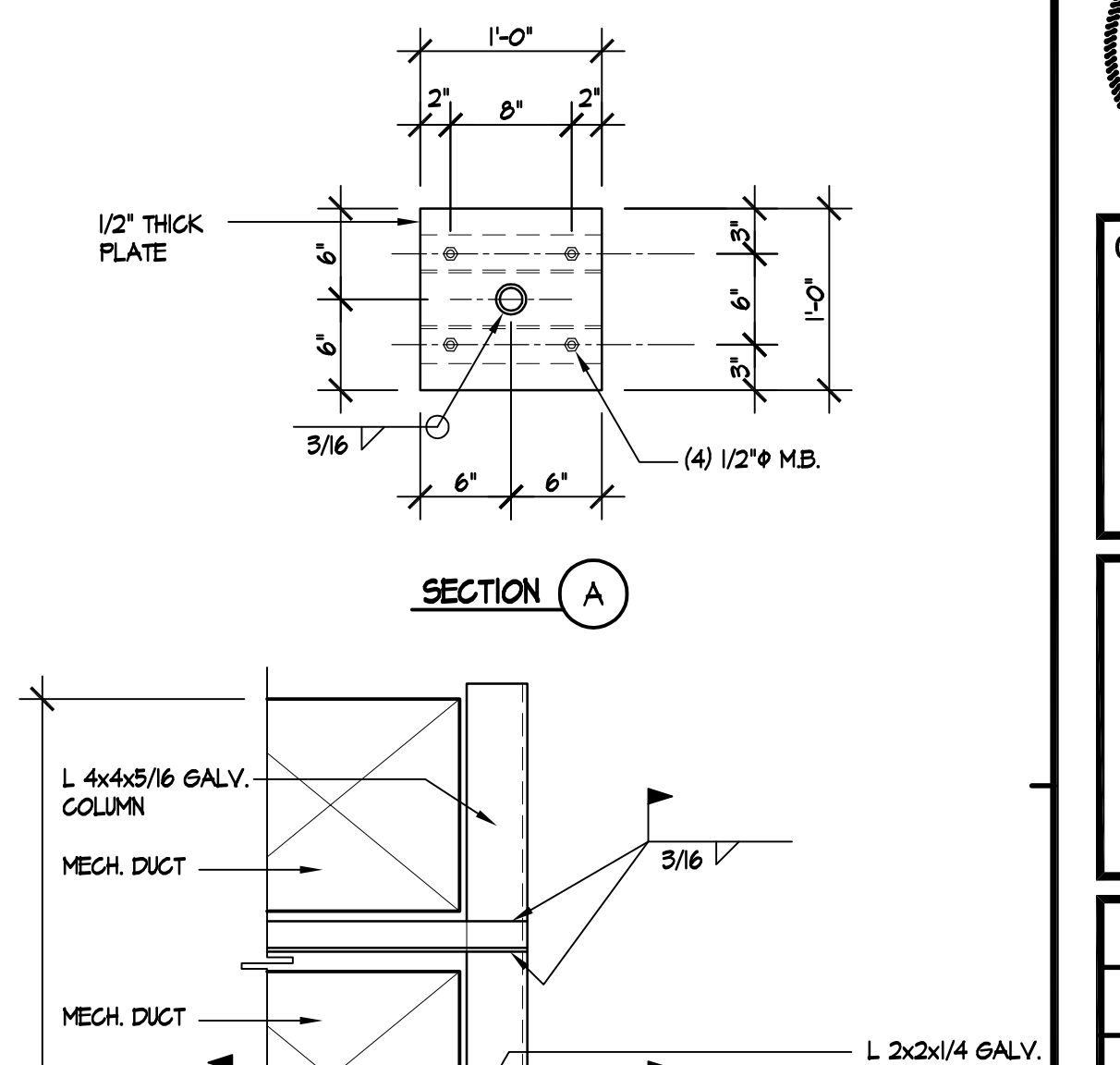
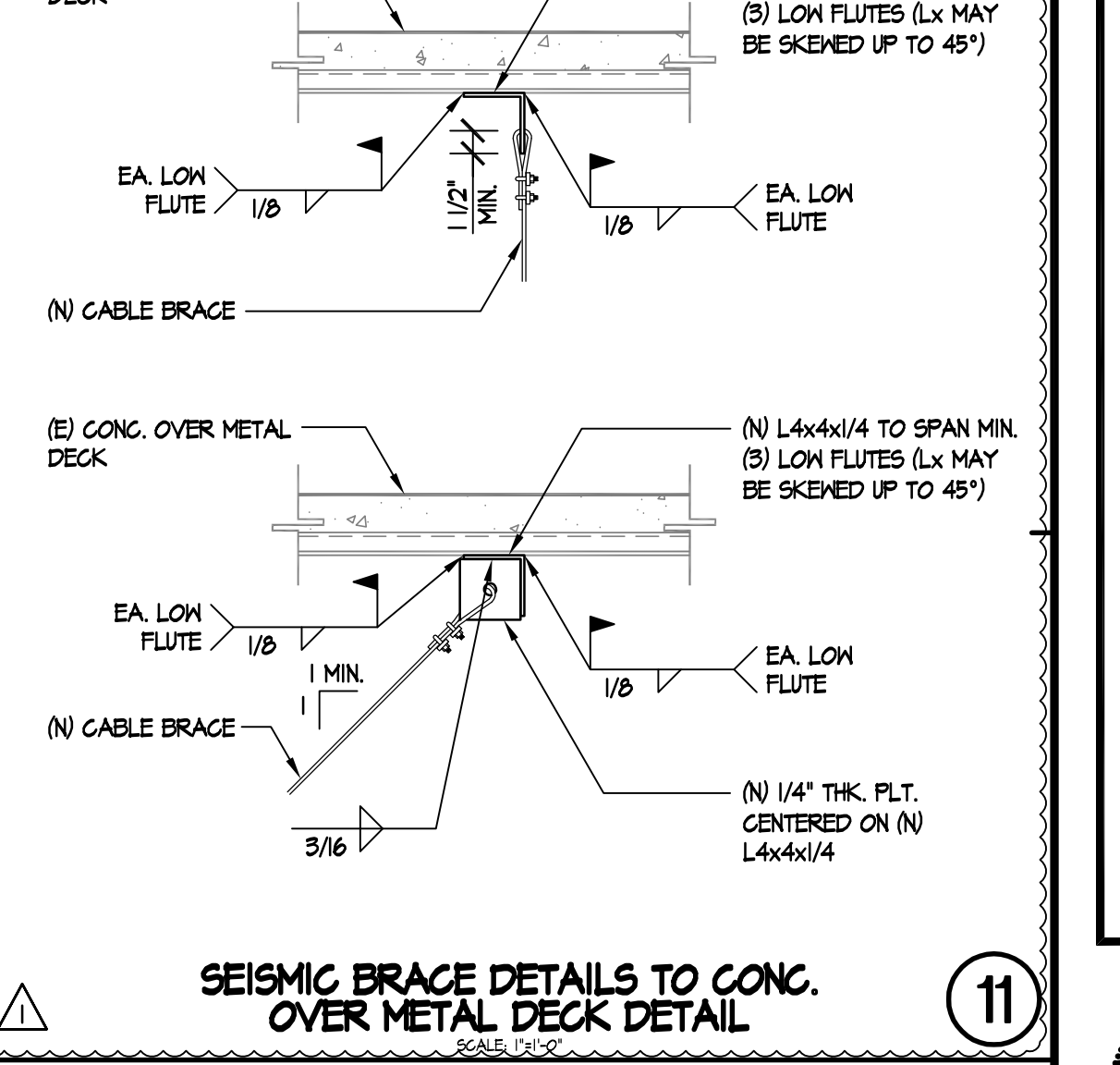
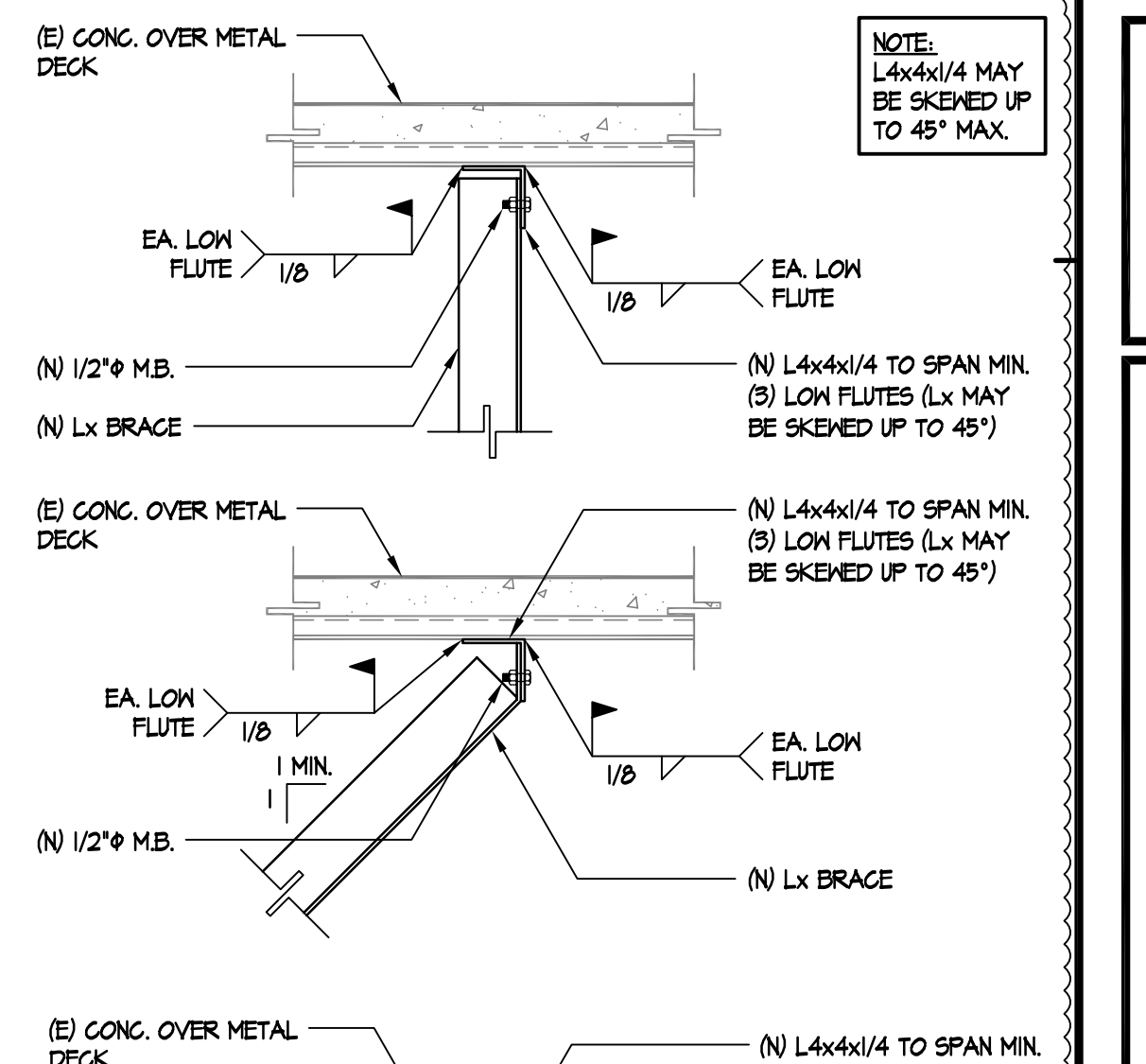
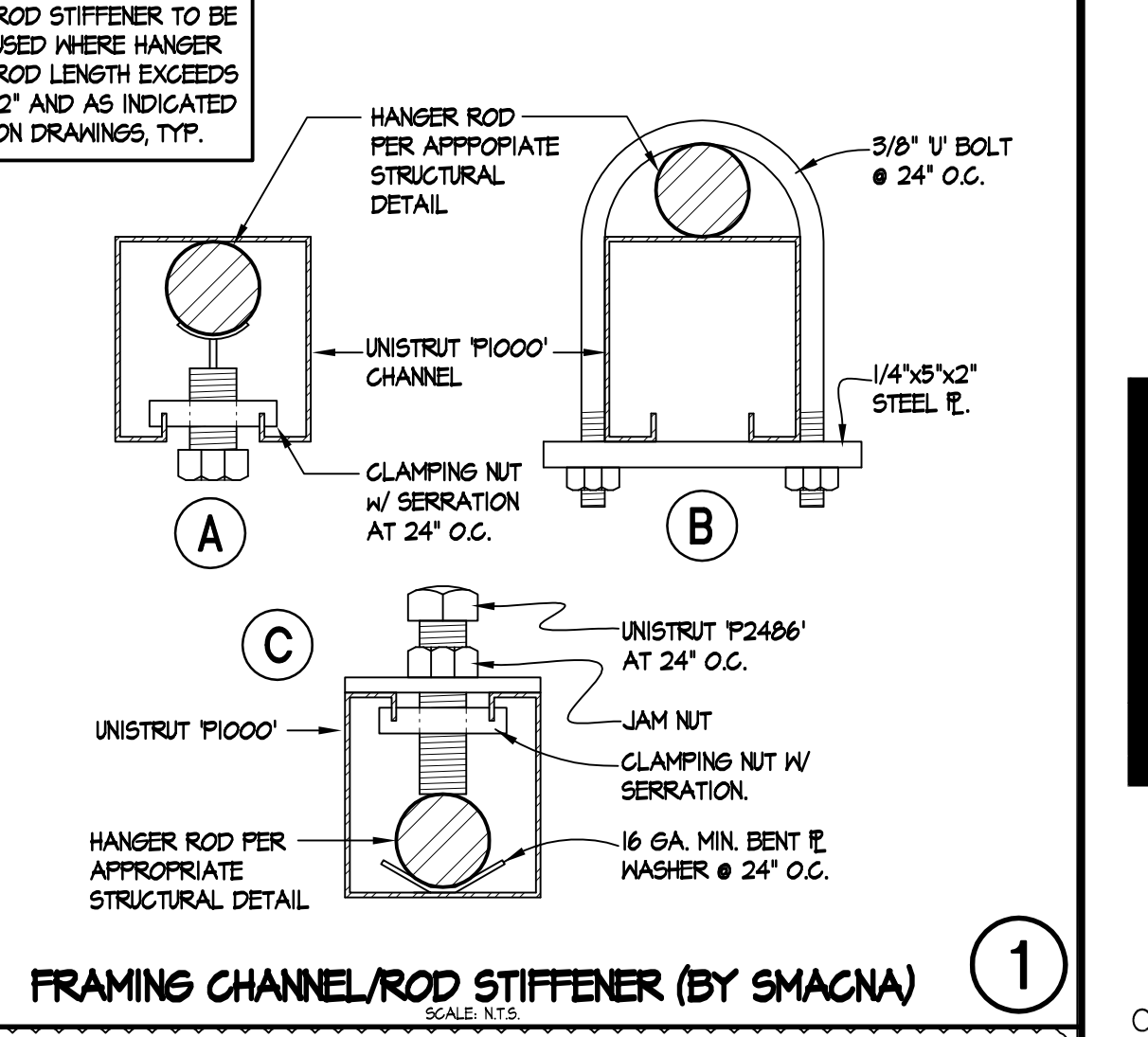
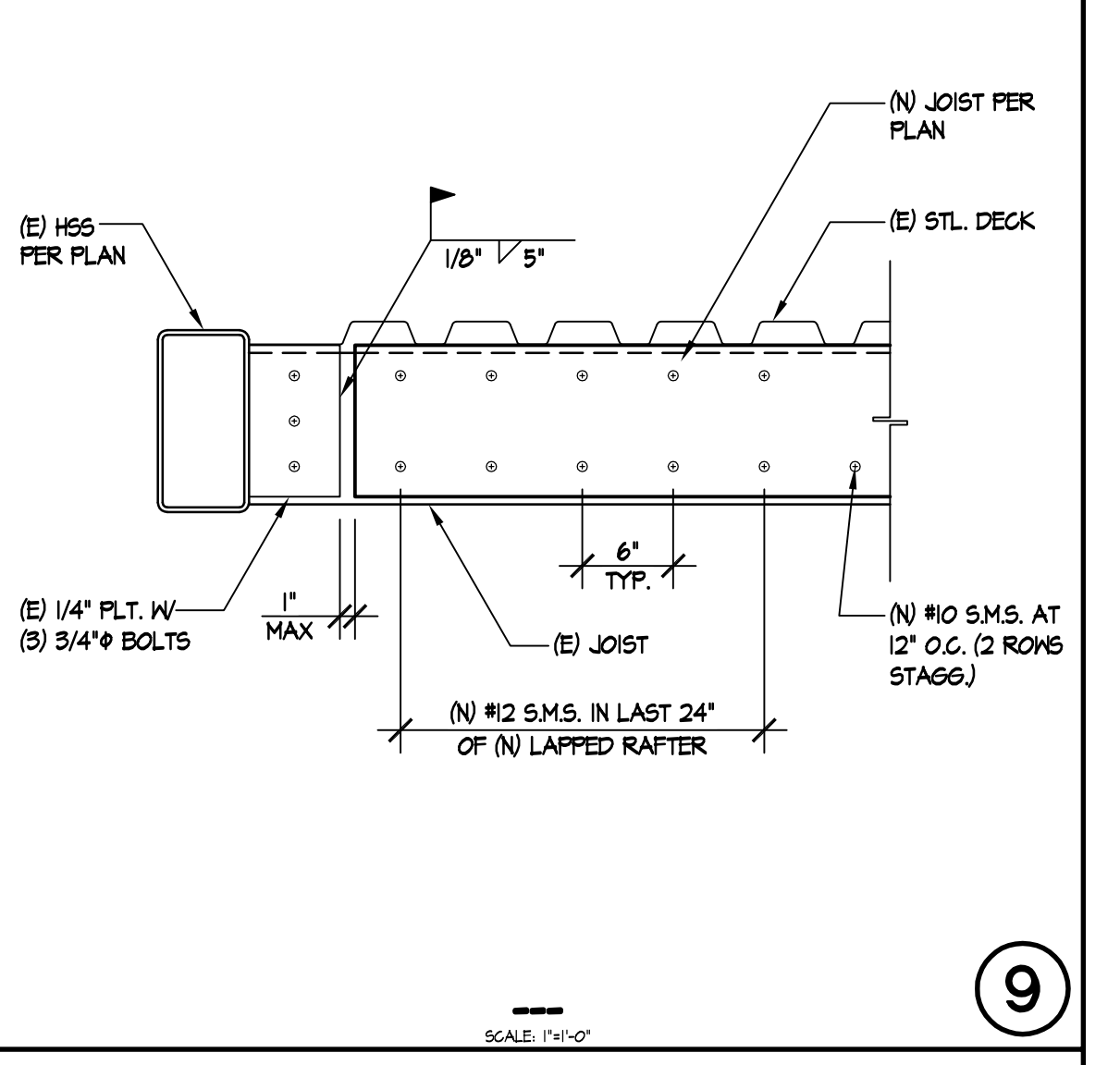
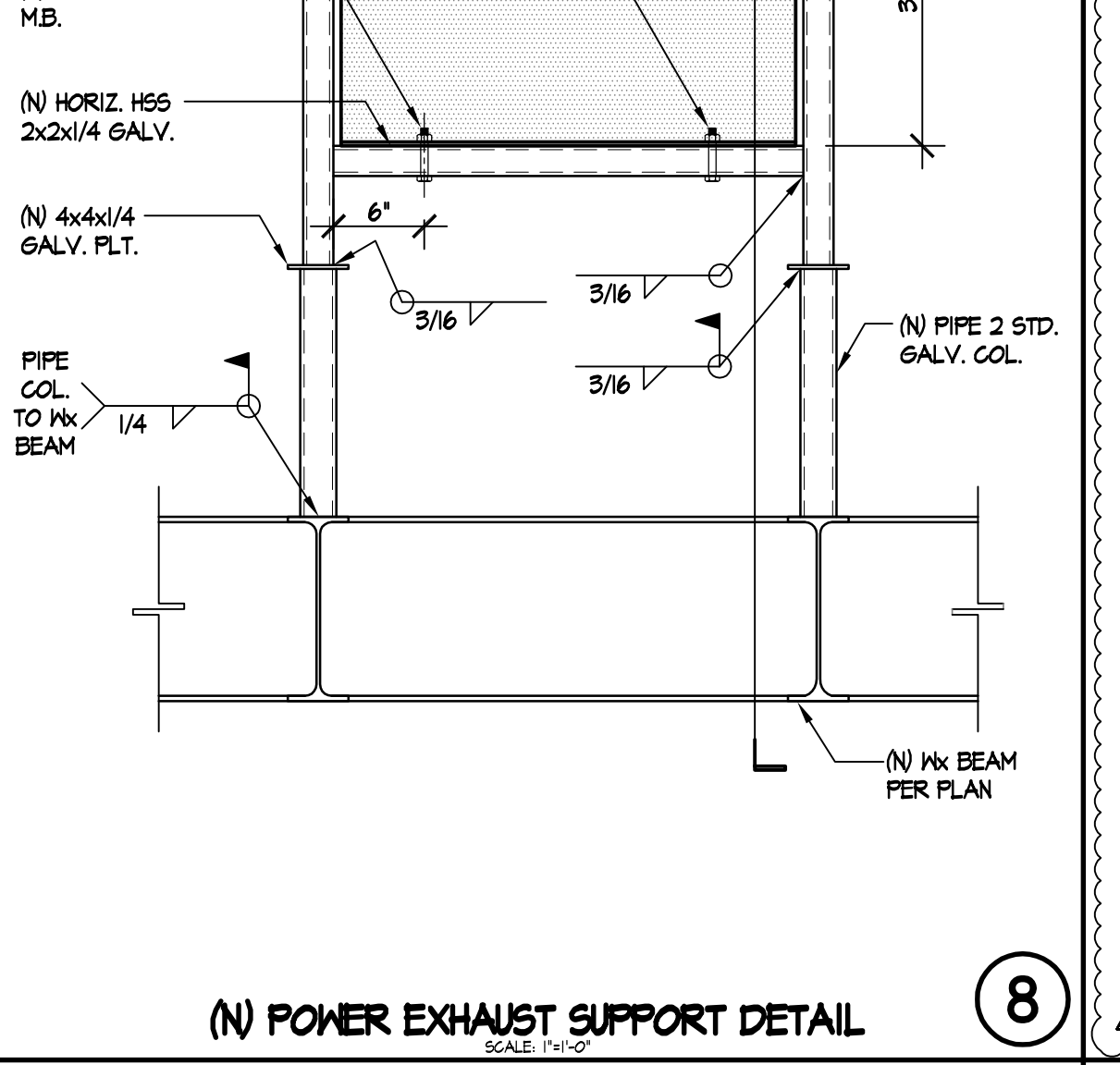
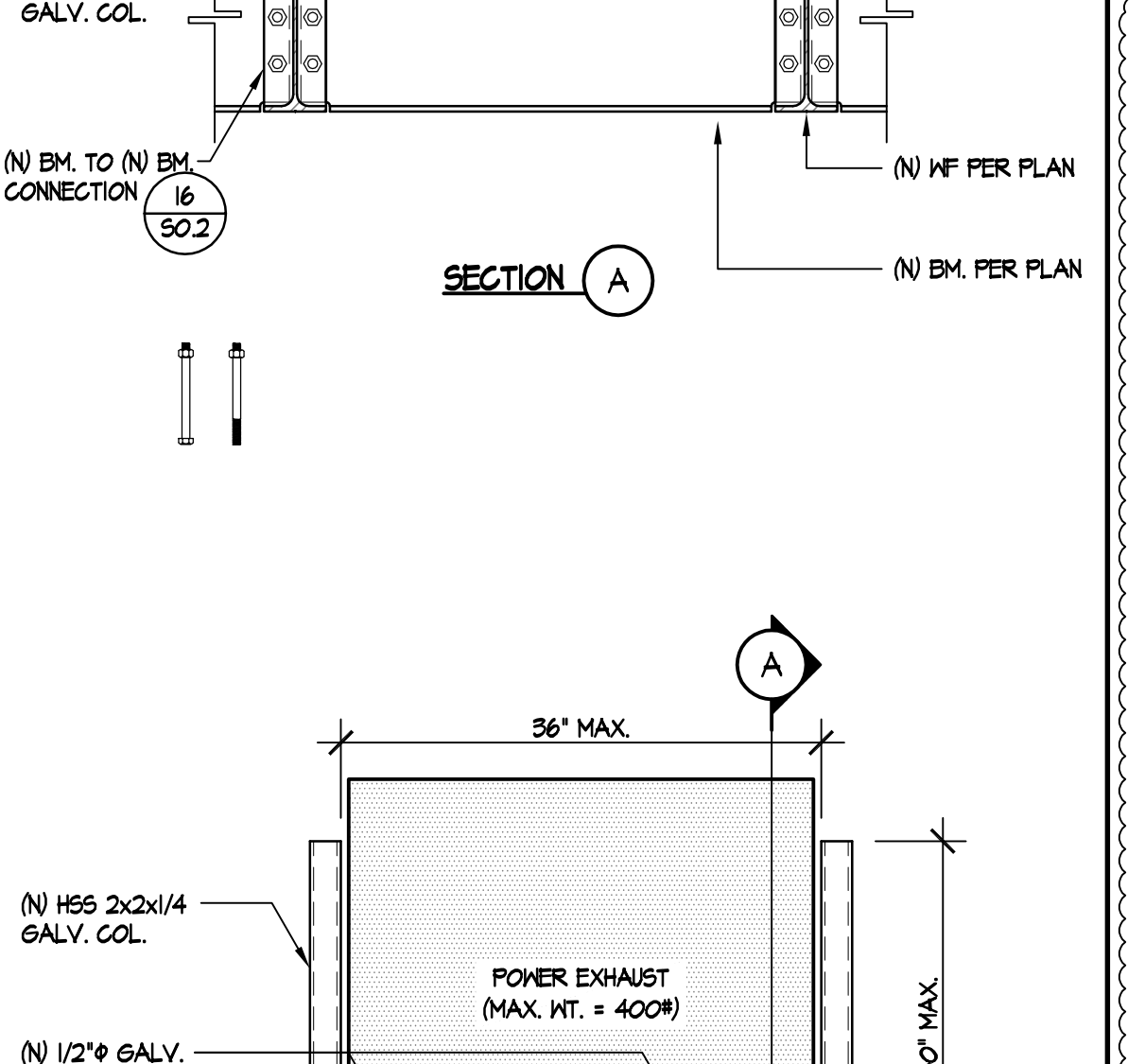
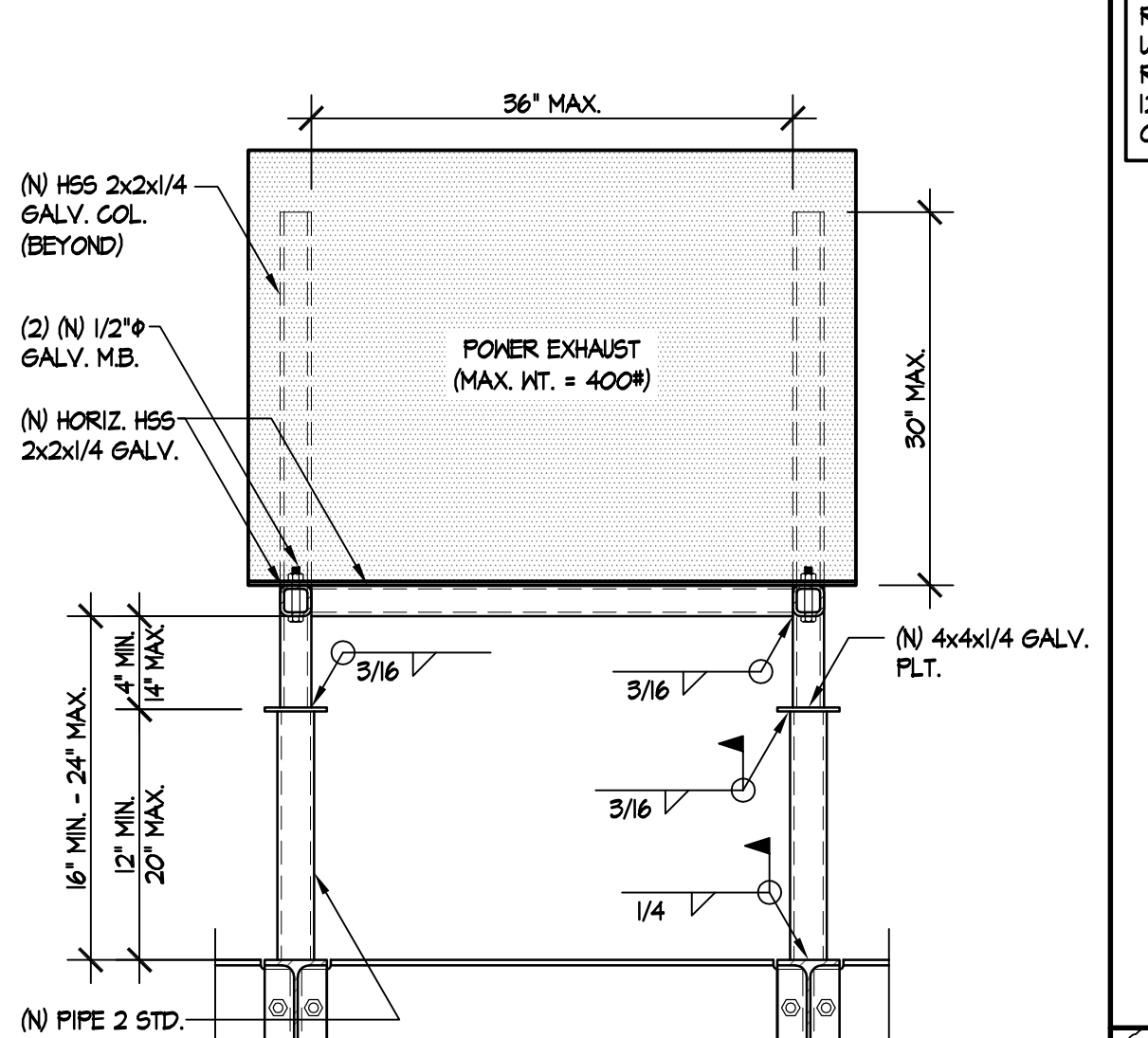
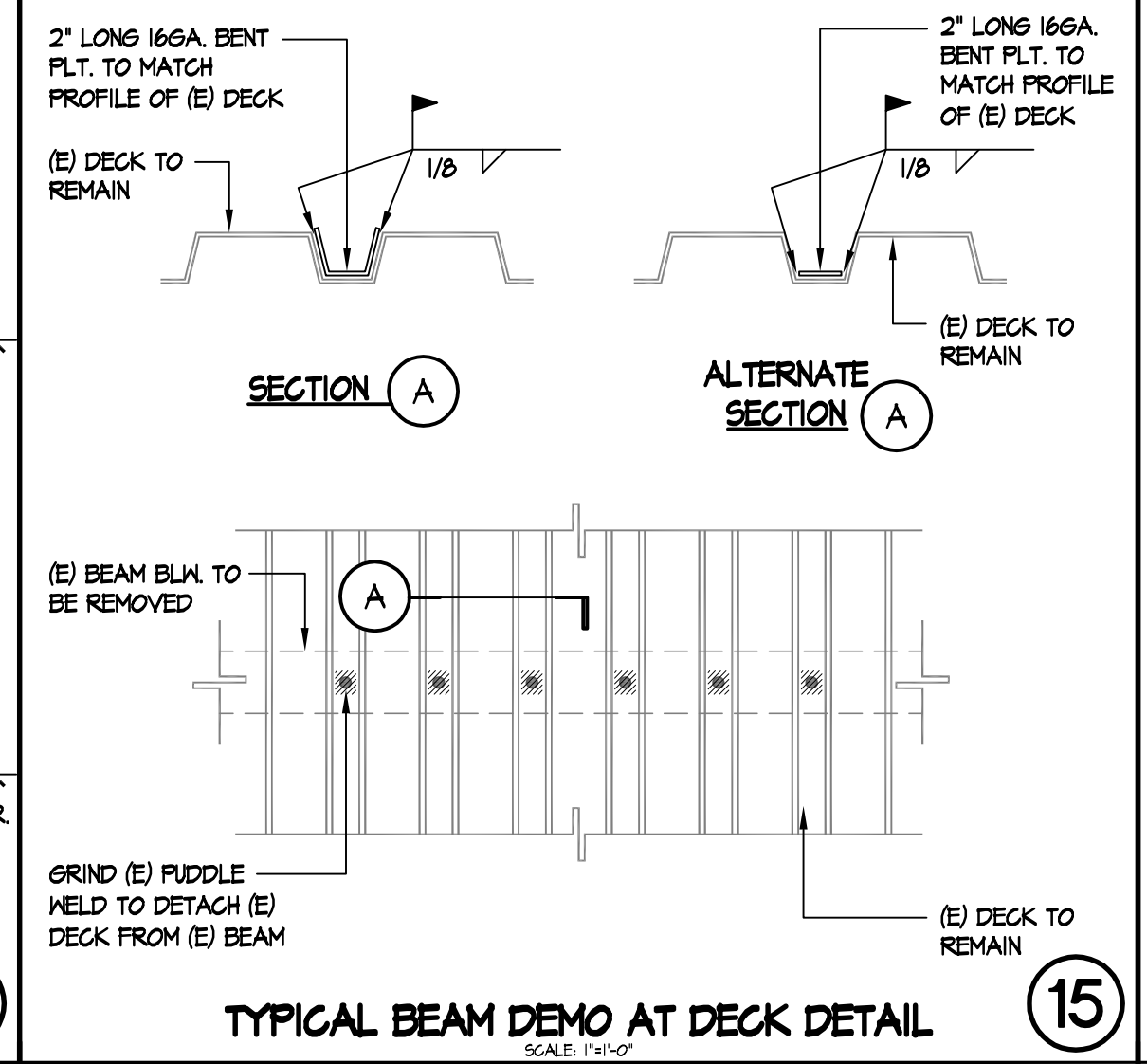
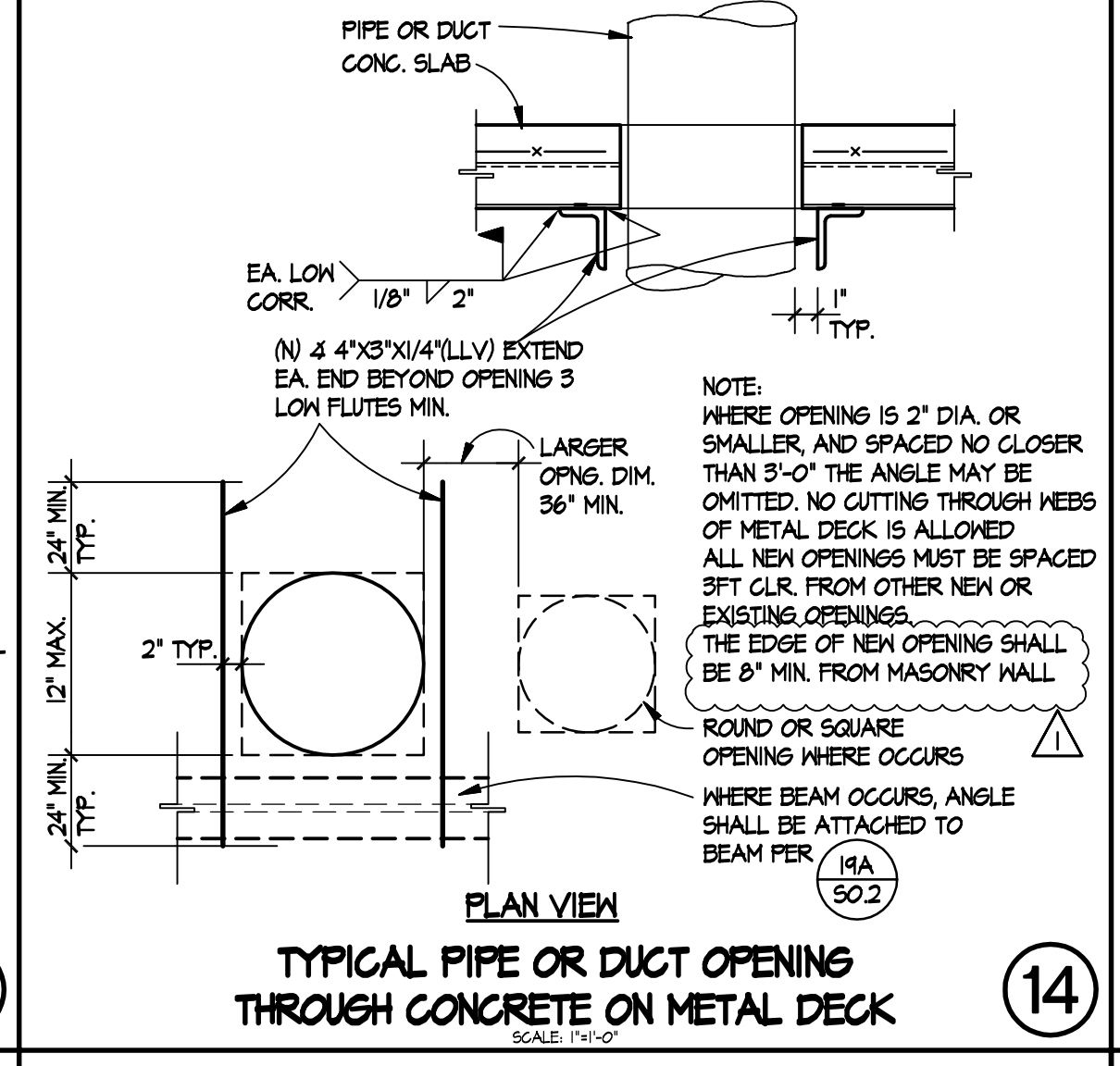
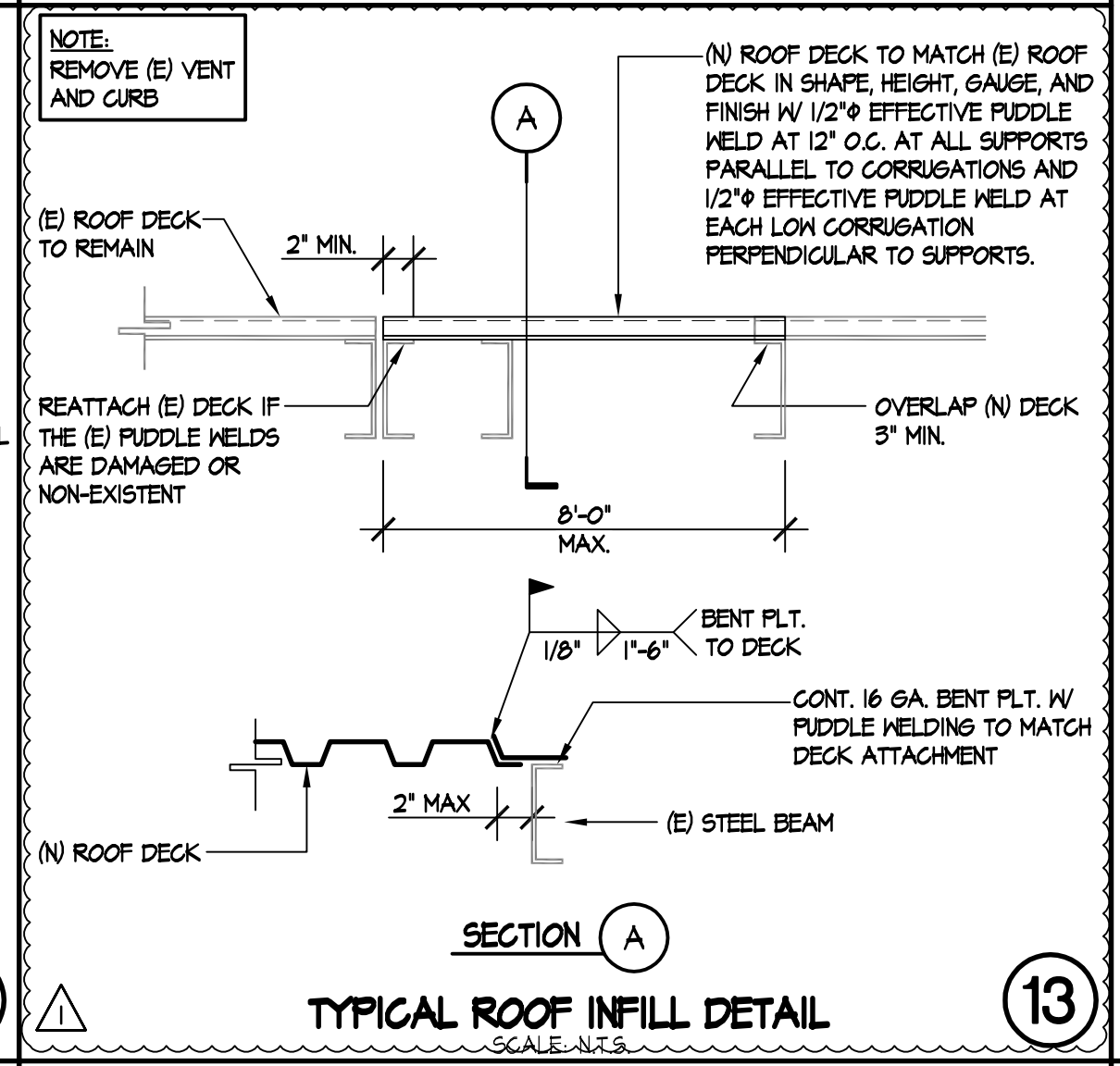
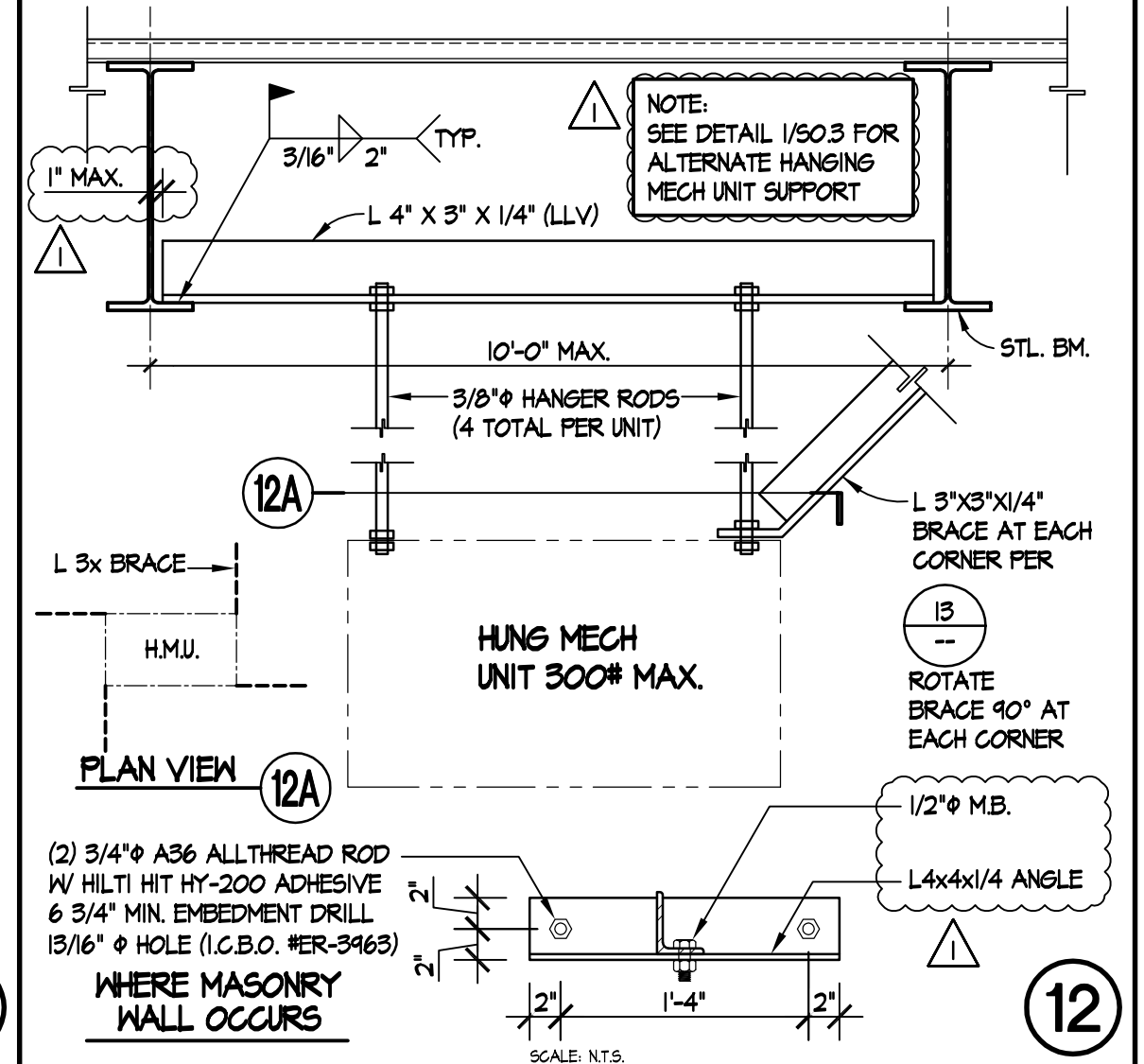
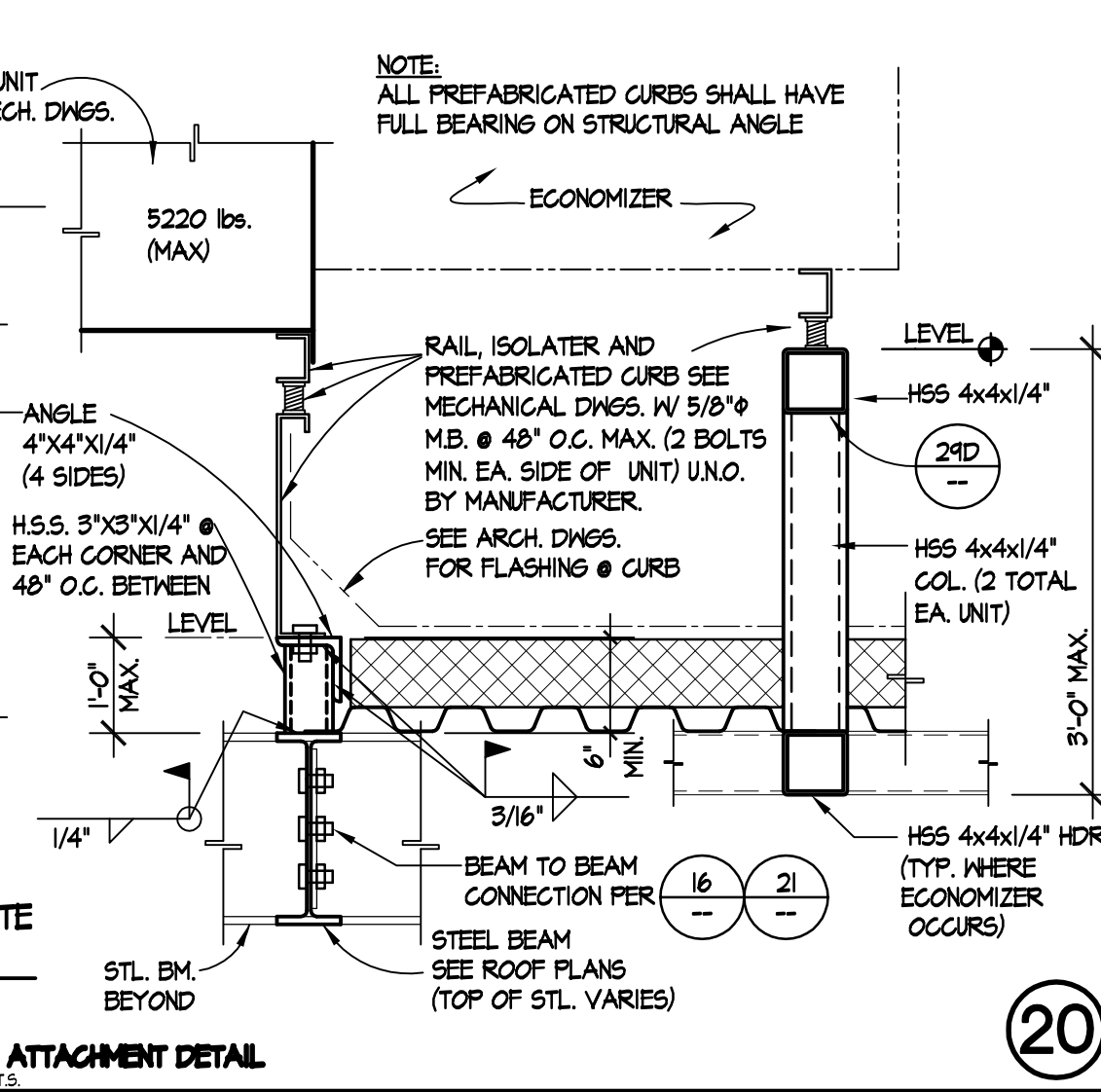
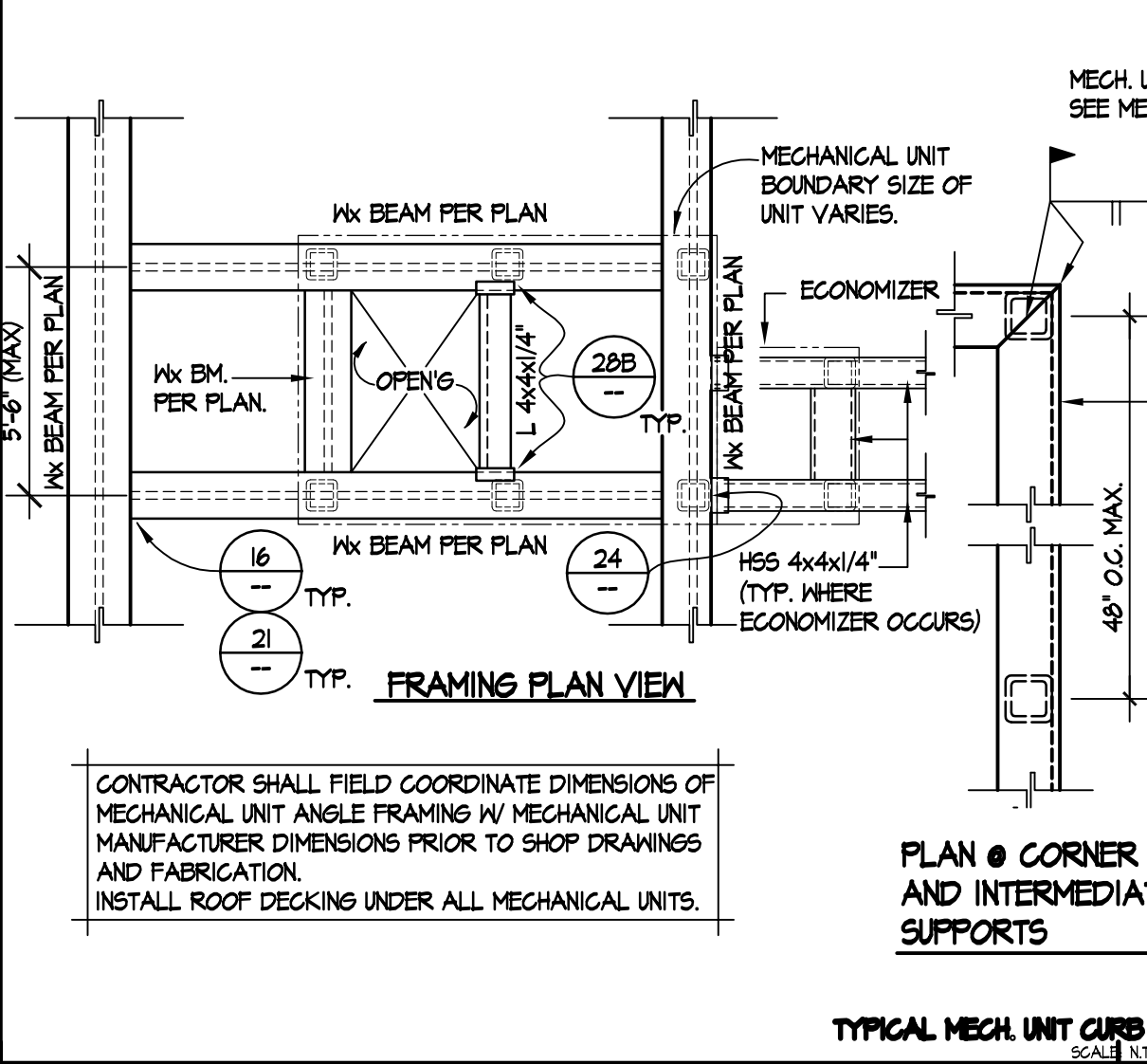
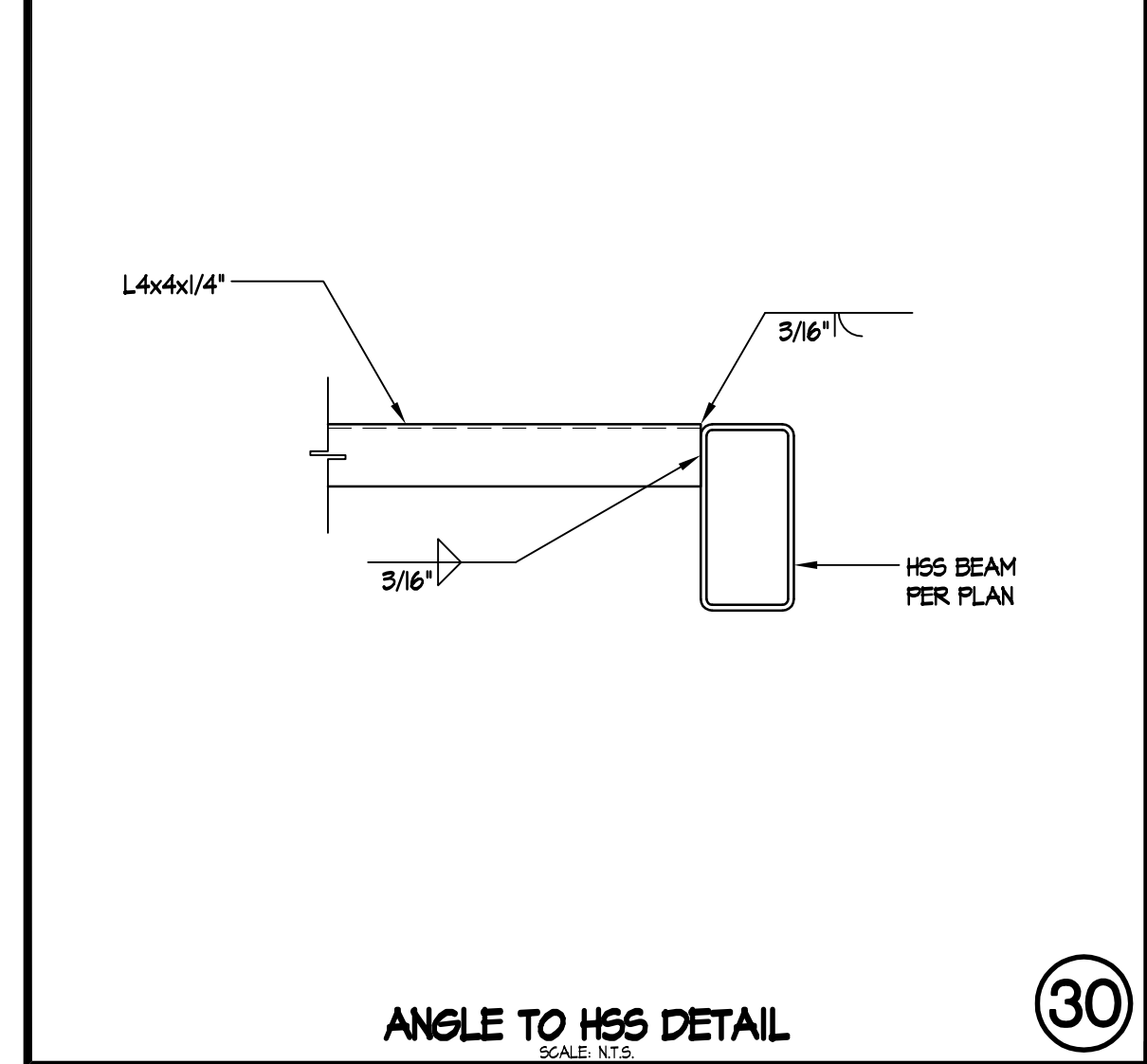
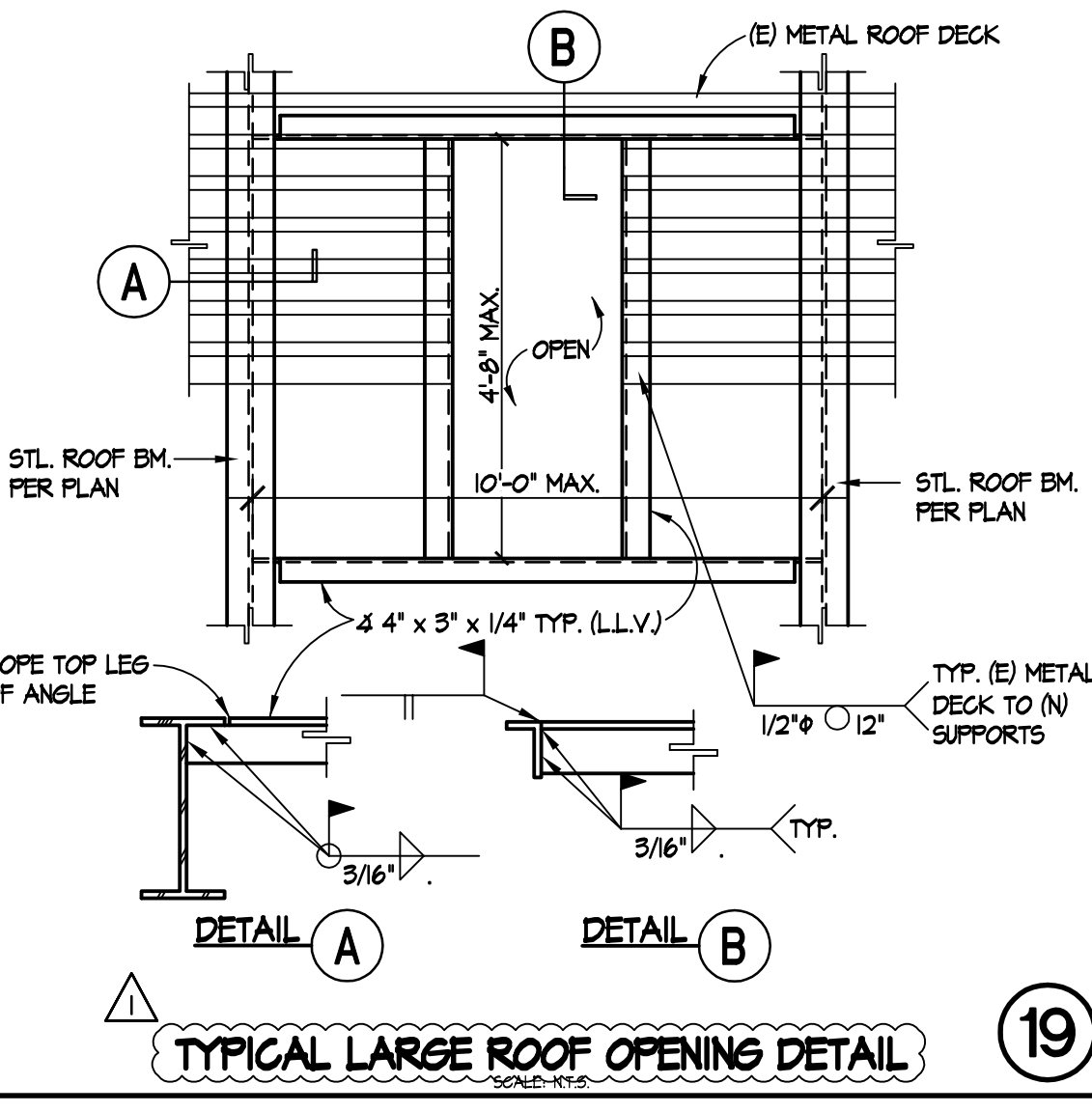
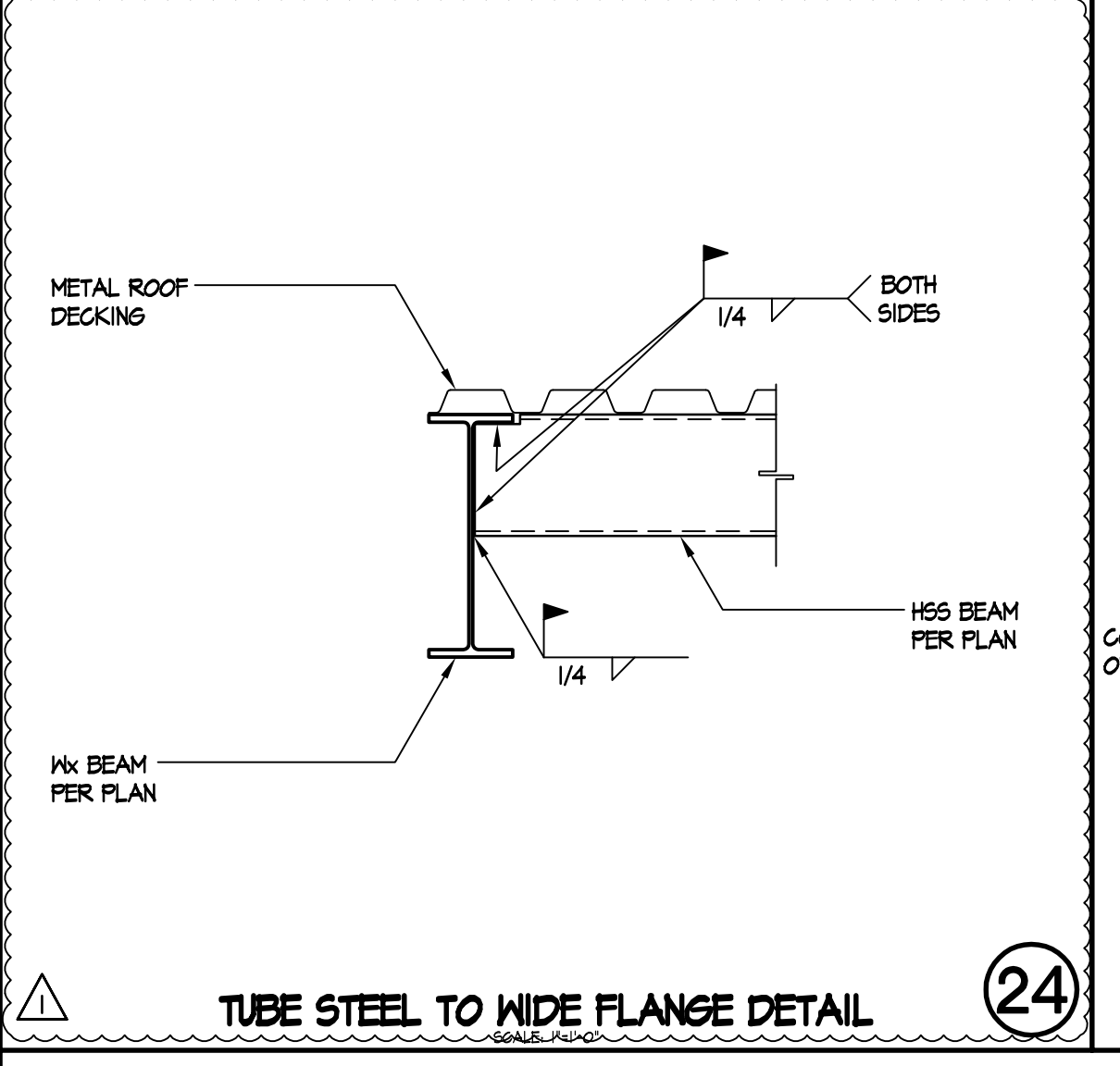
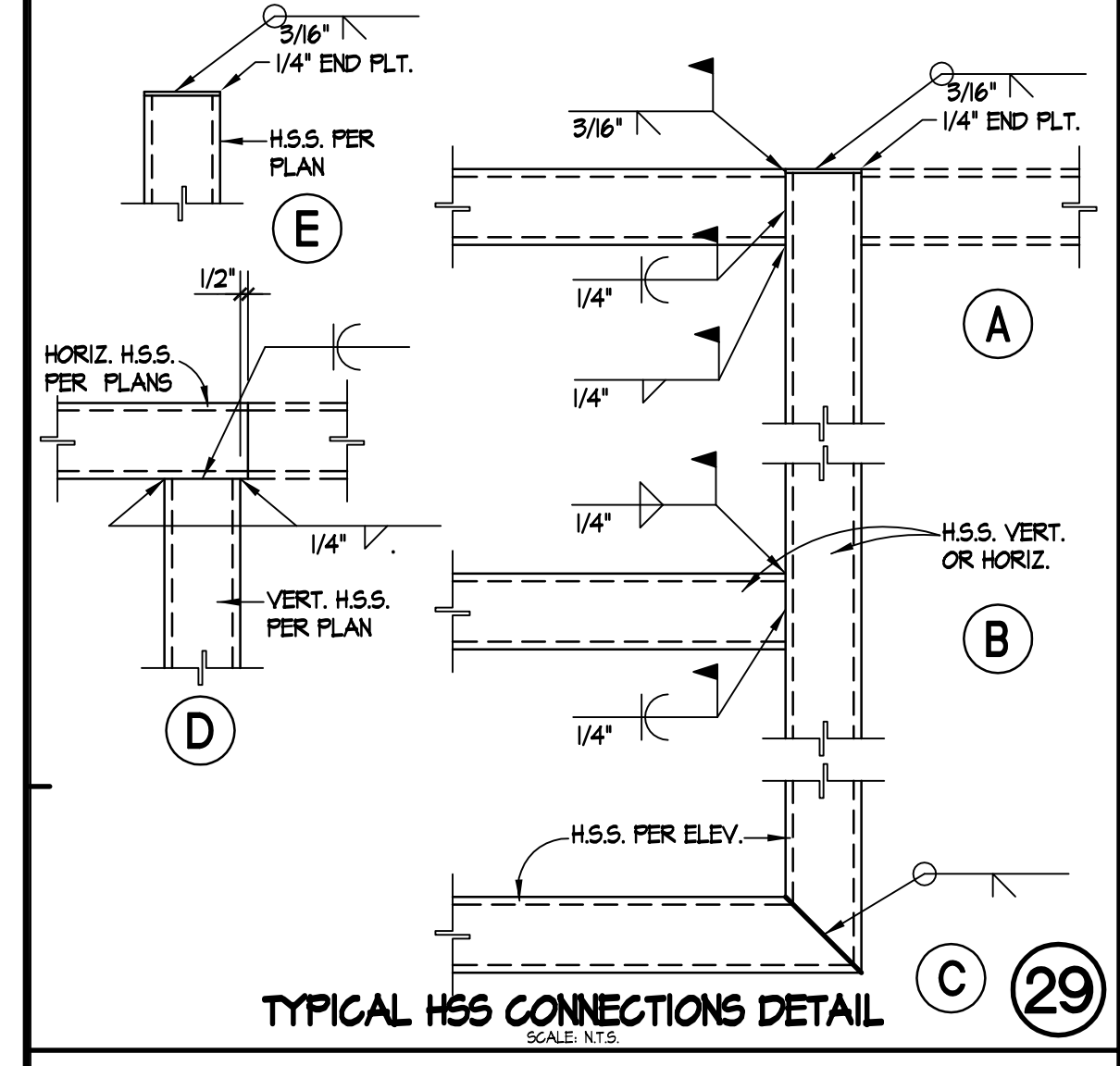
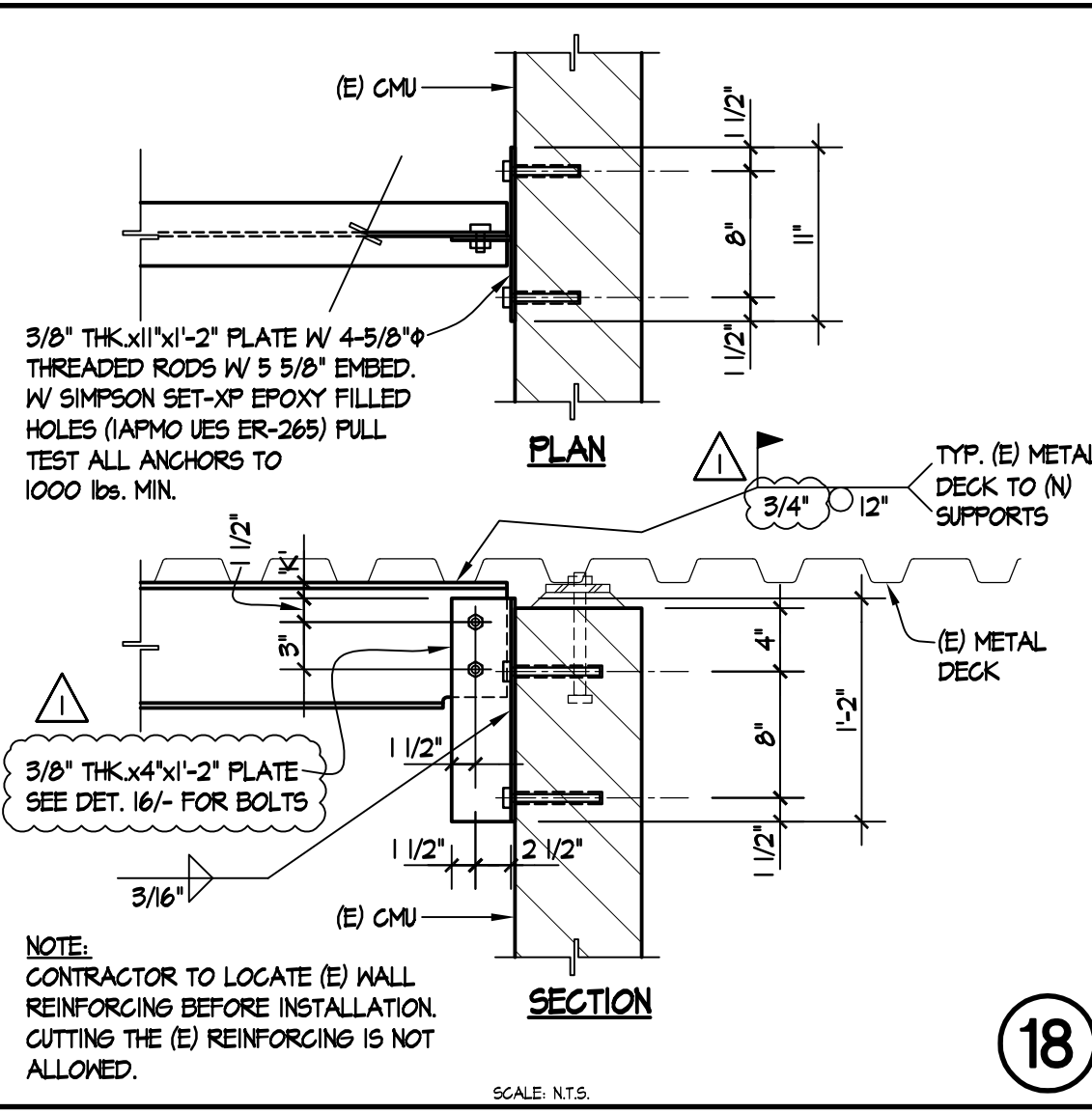
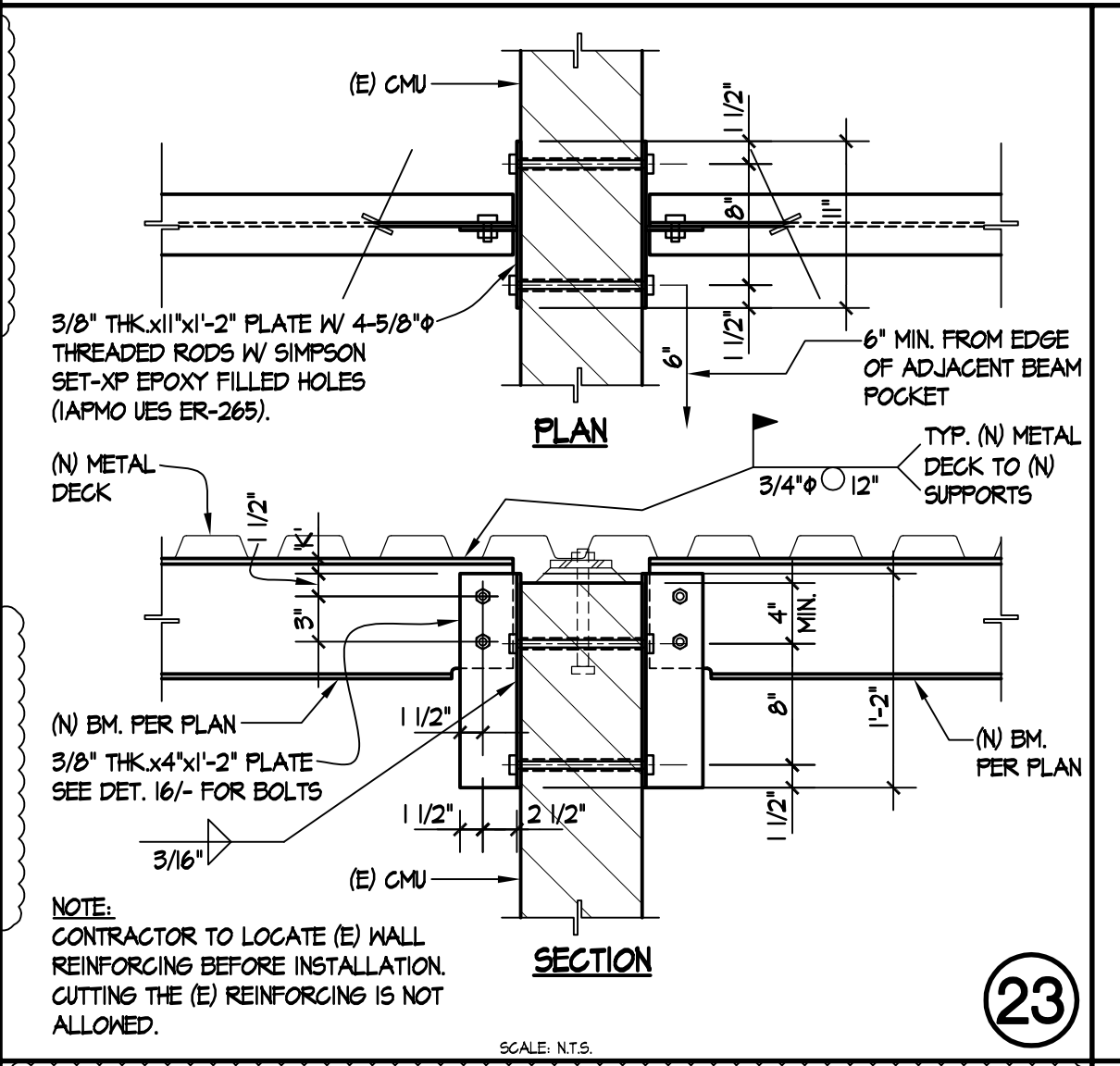
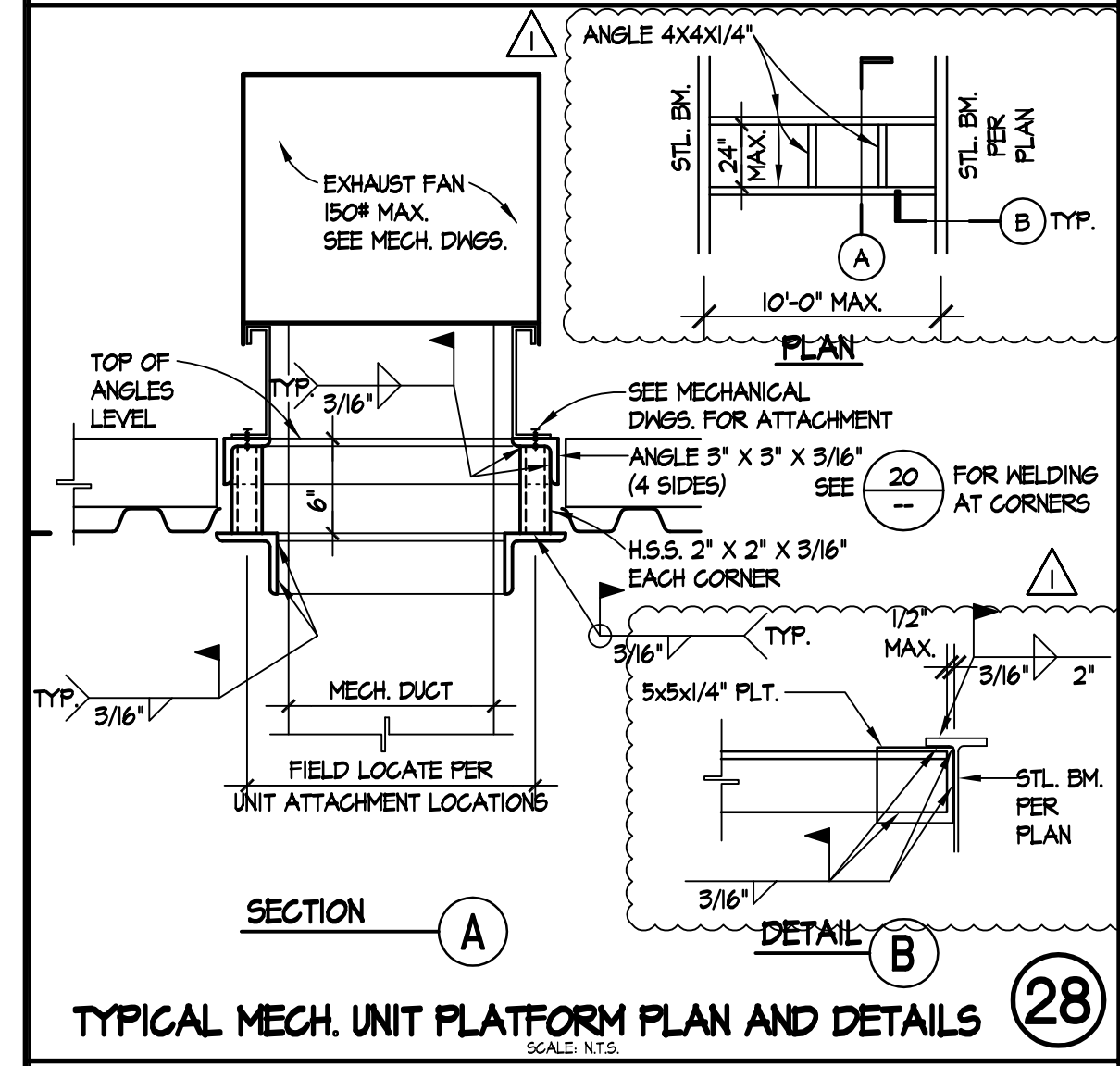
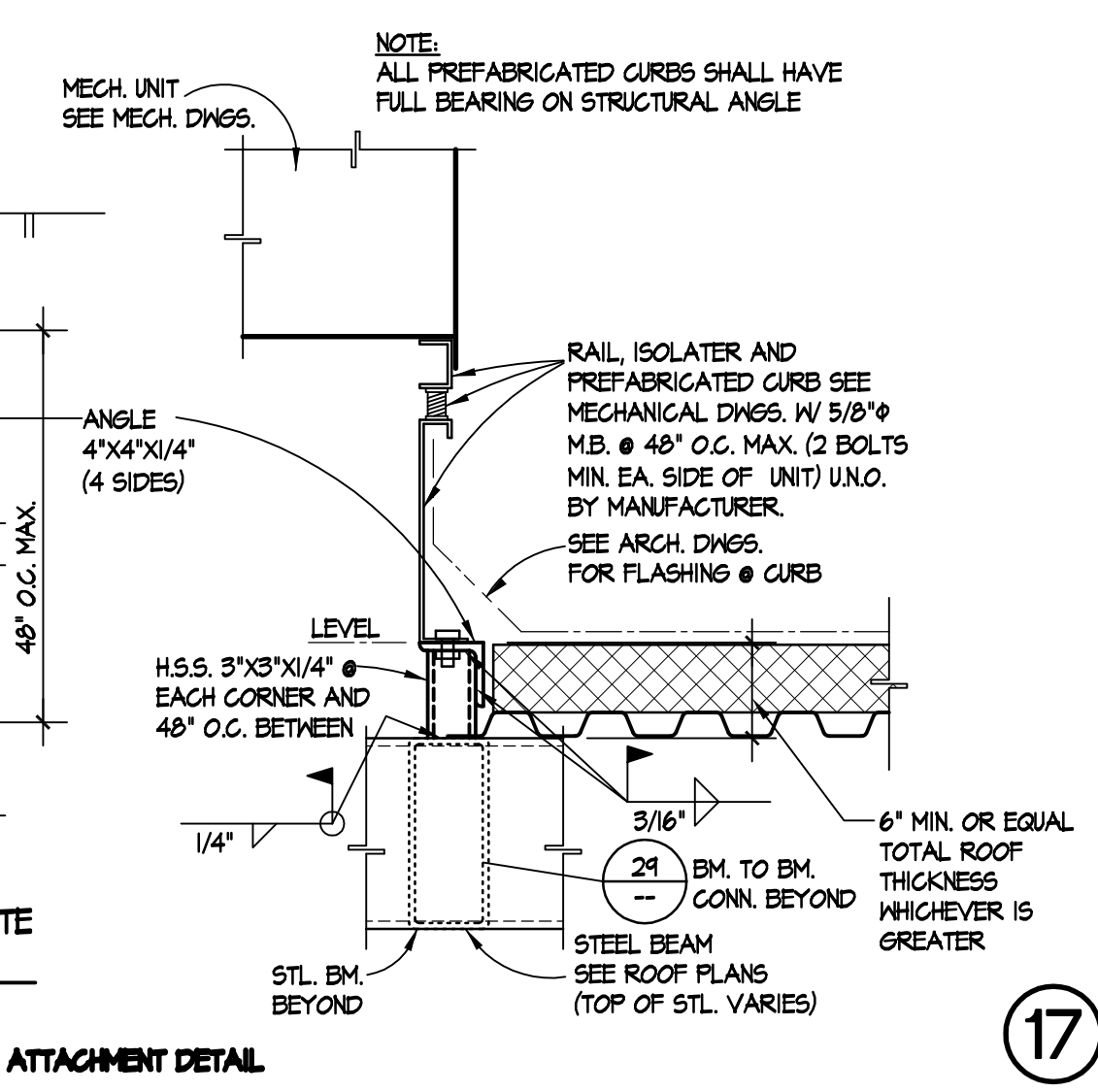
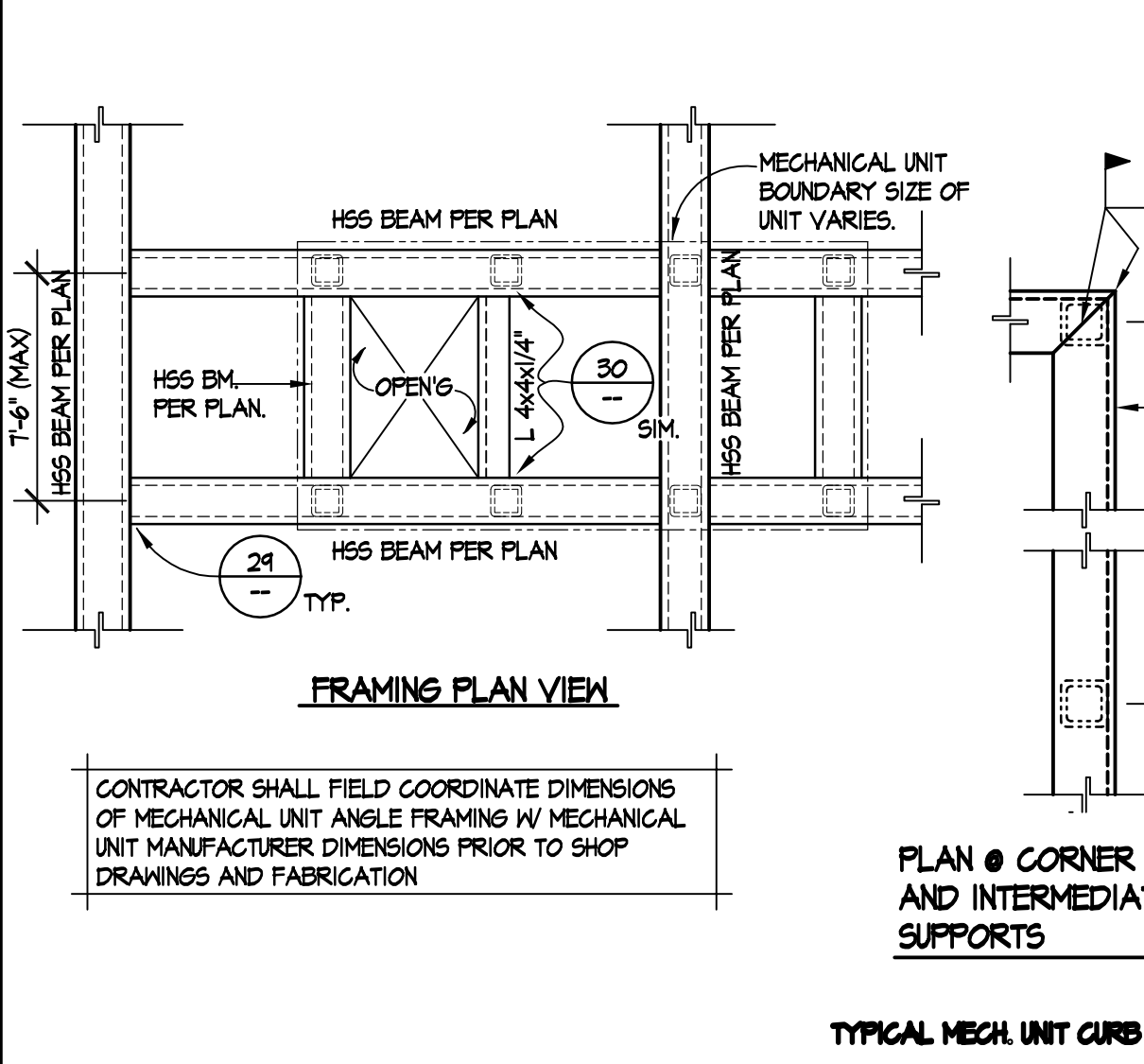
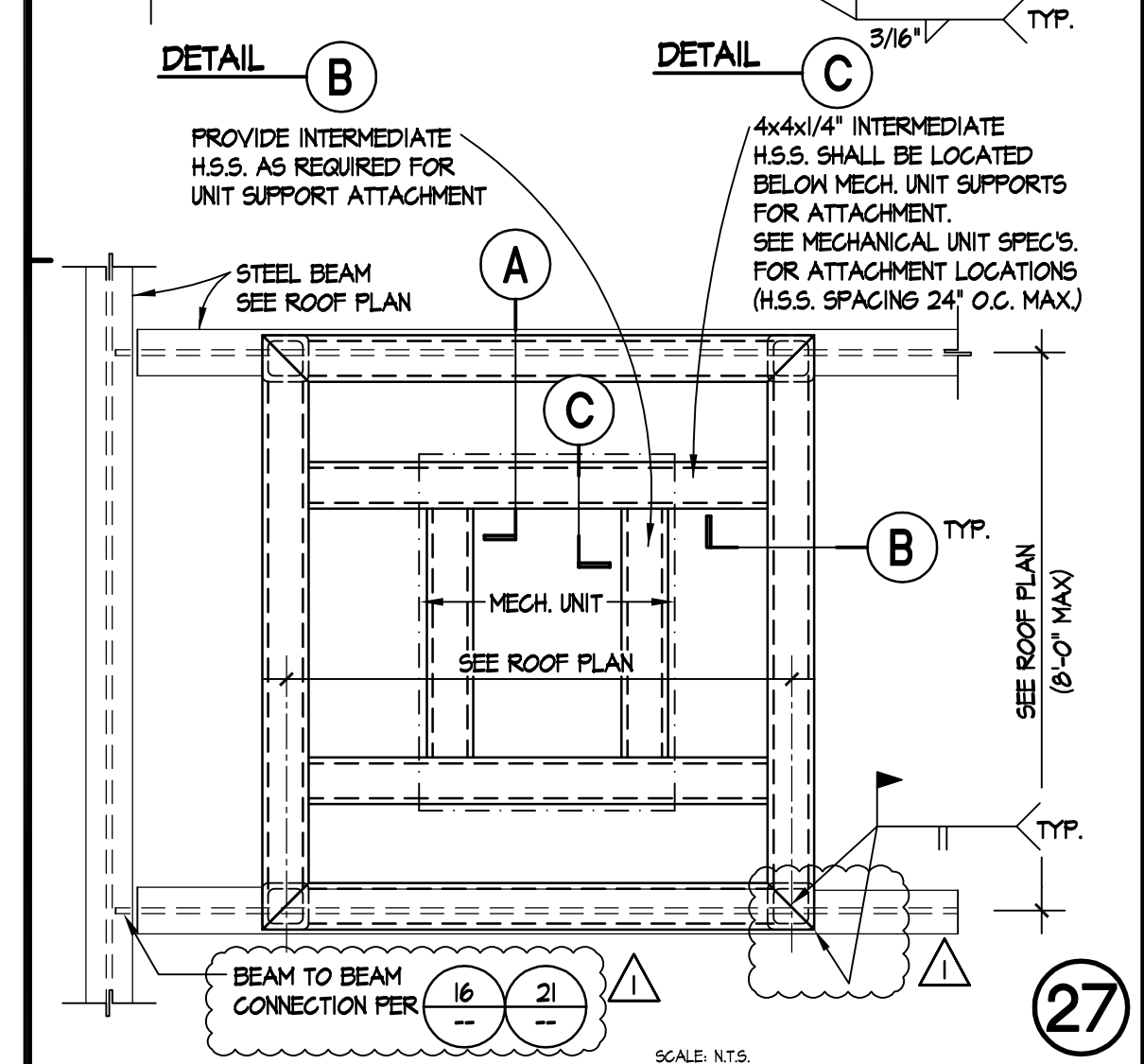
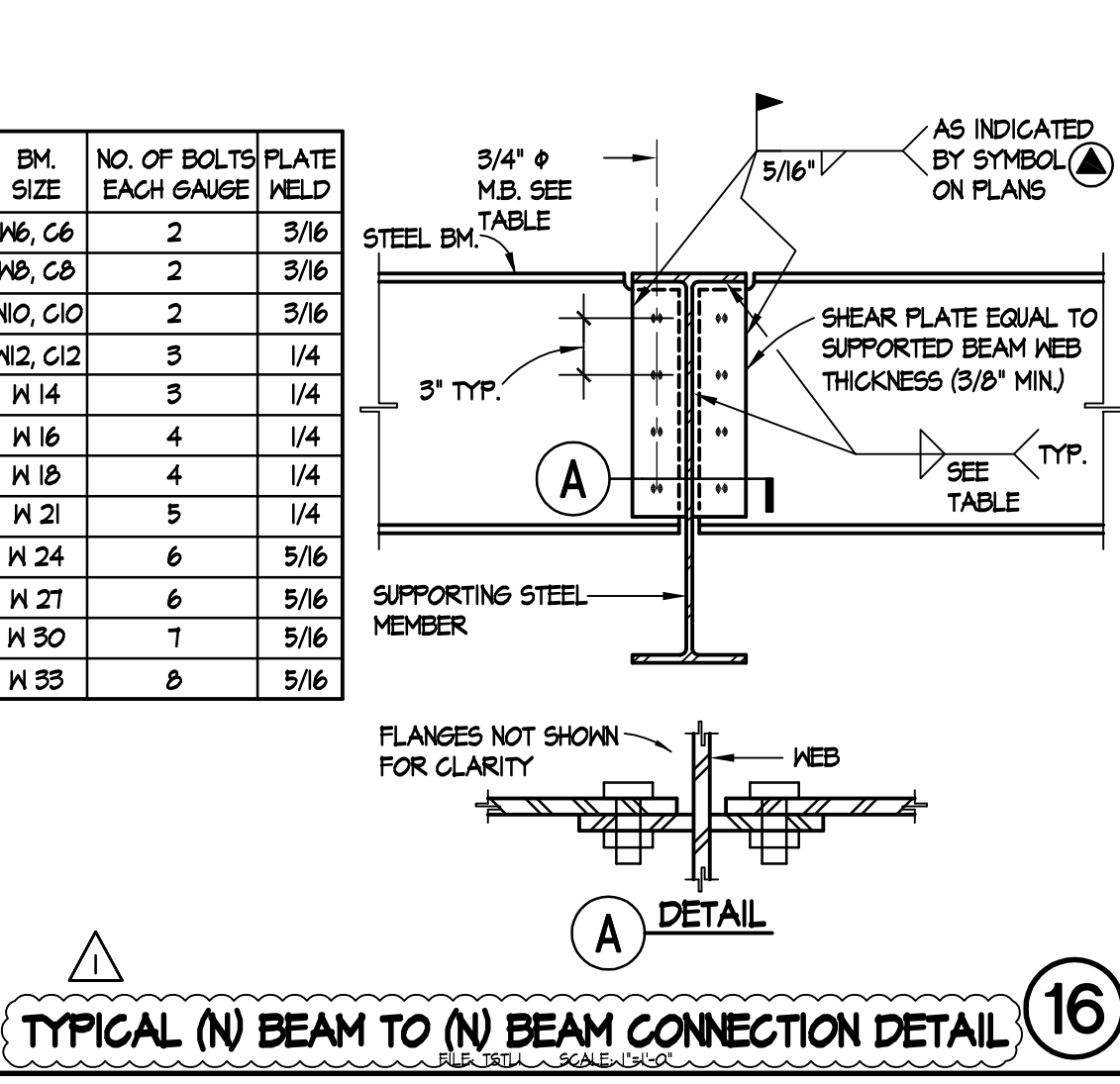
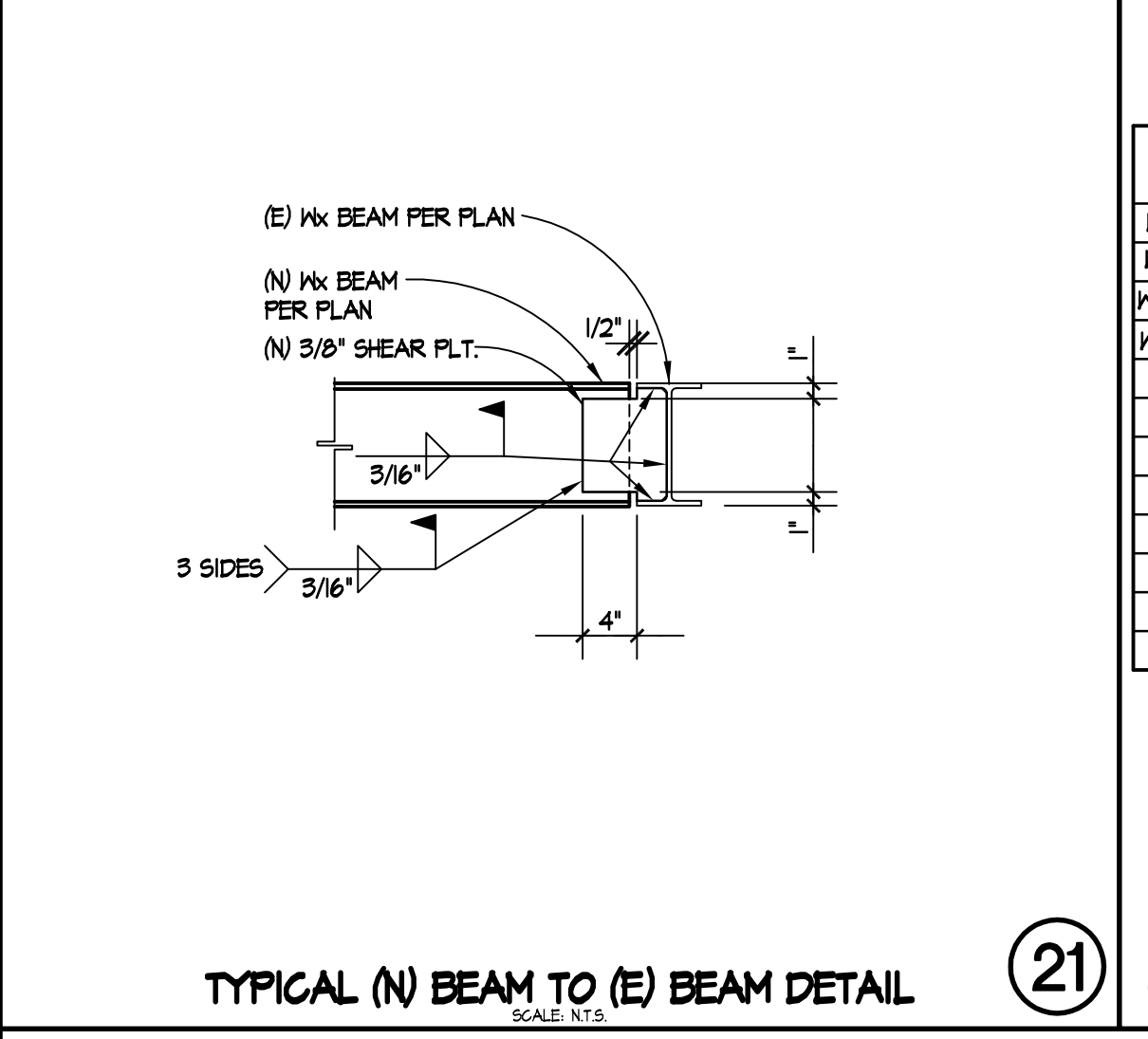
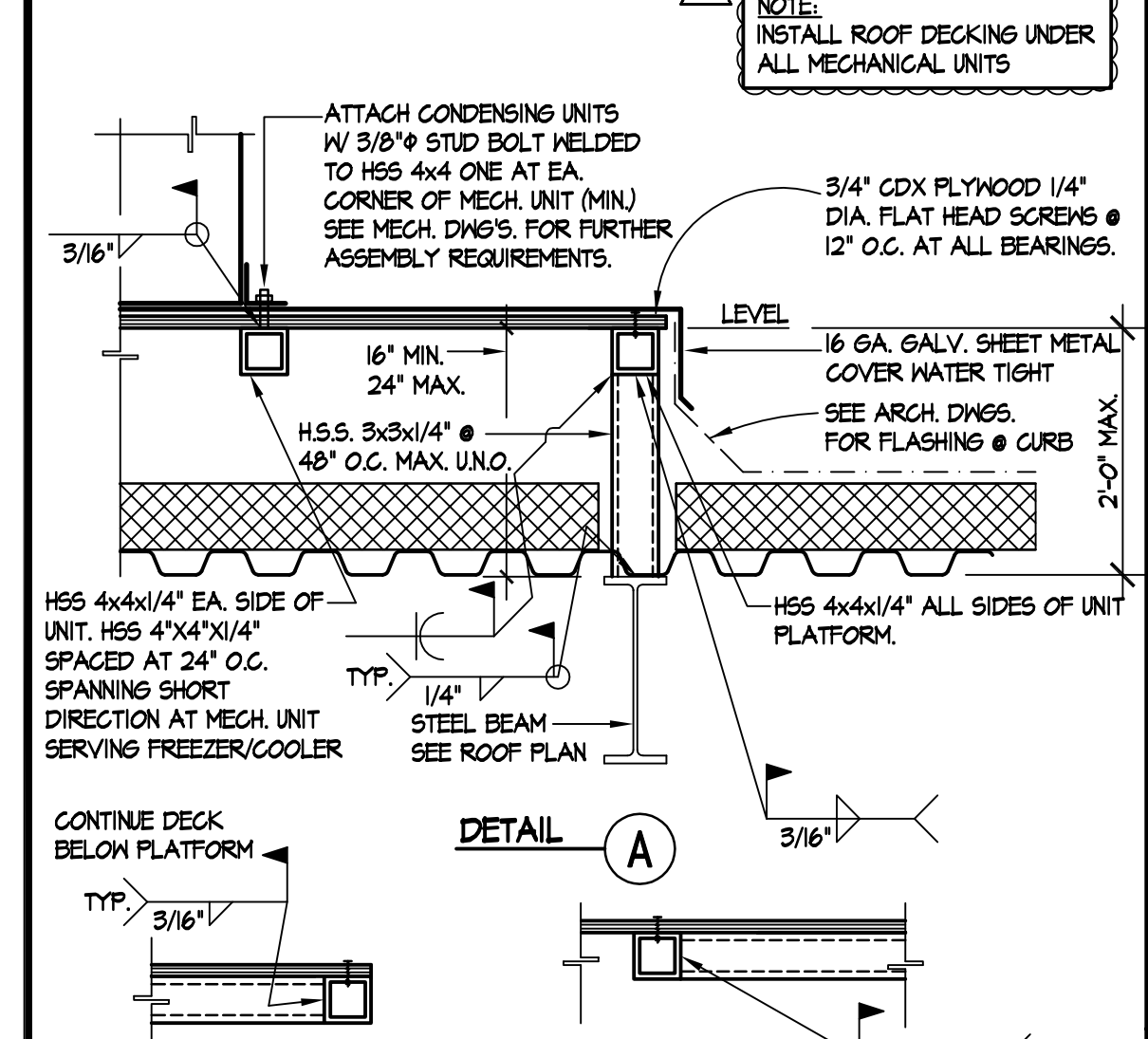
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REVISIONS			

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 PROJECT NUMBER: 1917100

**NEW ROOF PLAN
 - BLDG F**

DRAWING NUMBER: **AF4.1**

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REGISTERED ARCHITECT
MARK GRAHAM
C20566
03-31-21
REGISTERED PROFESSIONAL ENGINEER
MARK R. STANFIELD
No. 53977
Exp. 12/31/20
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

CONSULTANT
ENGINEERING, INC.
CONSULTING STRUCTURAL ENGINEERS
4344 LATHAM ST., SUITE 100
RIVERSIDE, CA 92501-1773
P: 951-684-6200
F: 951-684-6226
WWW.NE-3012027

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1	8/25/20	JV	ADDENDUM 1

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DATE: 12/08/2020	SCALE: N.T.S.
PROJECT NUMBER: 1917000	

DETAILS
DRAWING NUMBER: **S0.2**

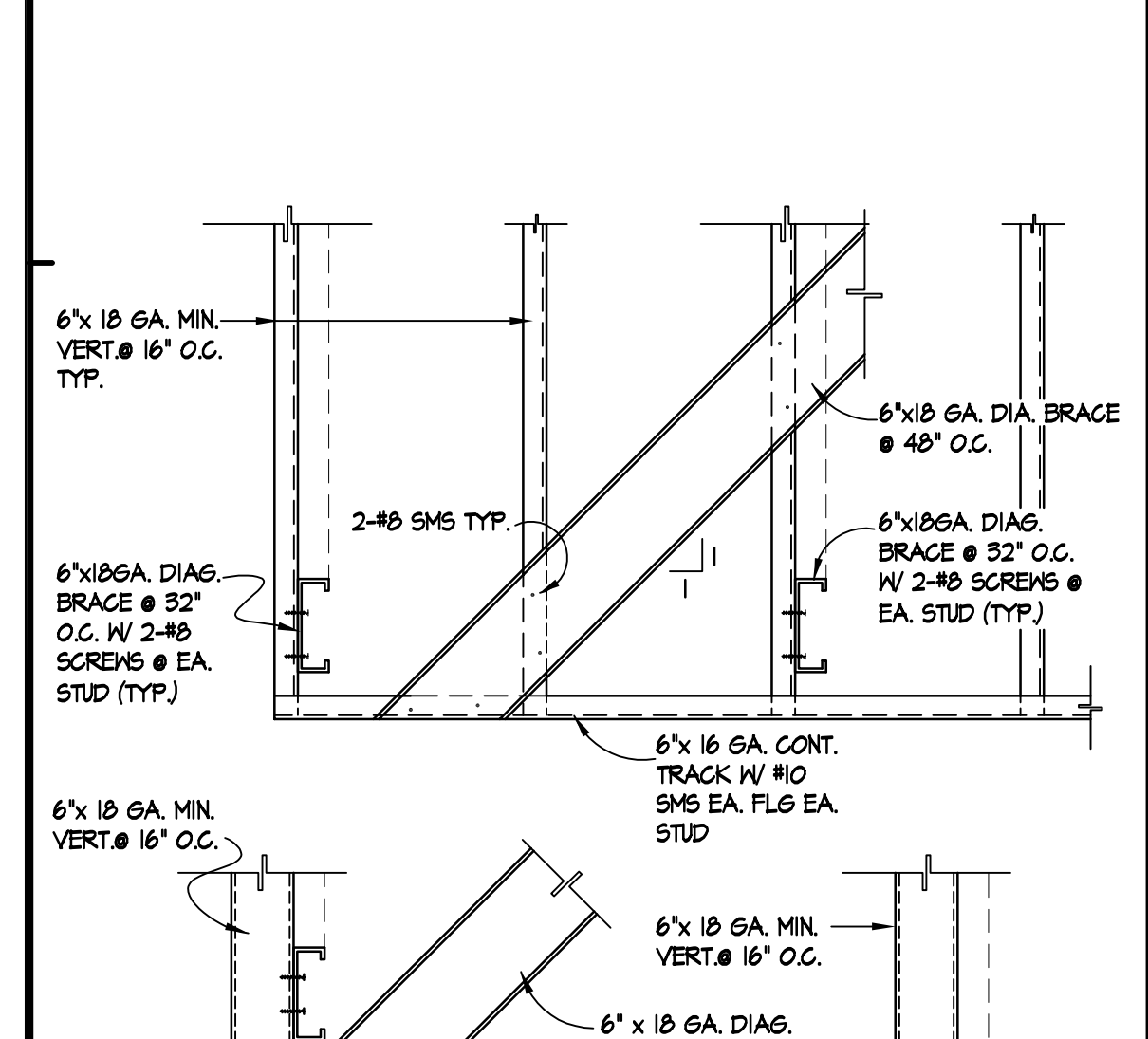
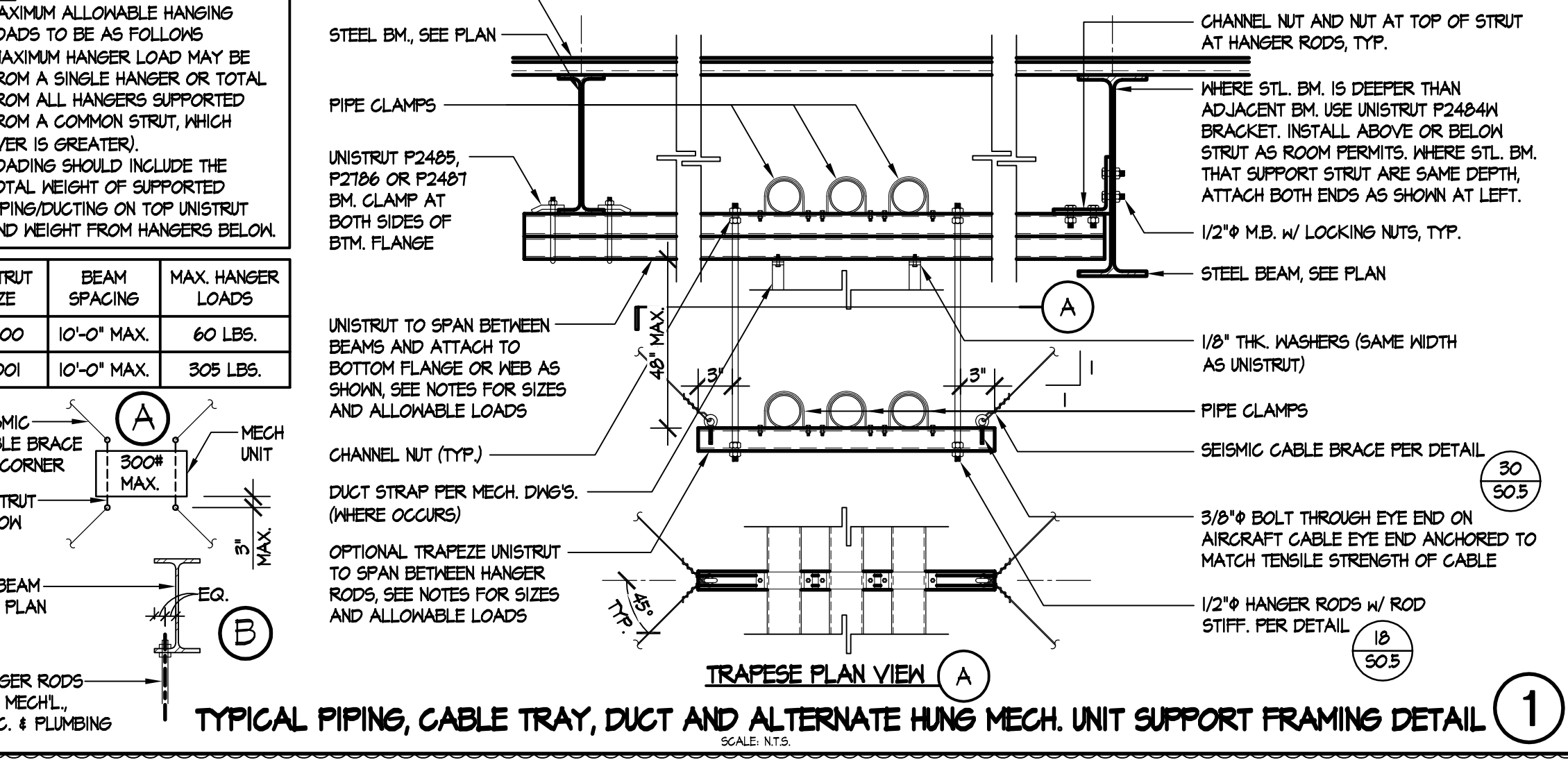
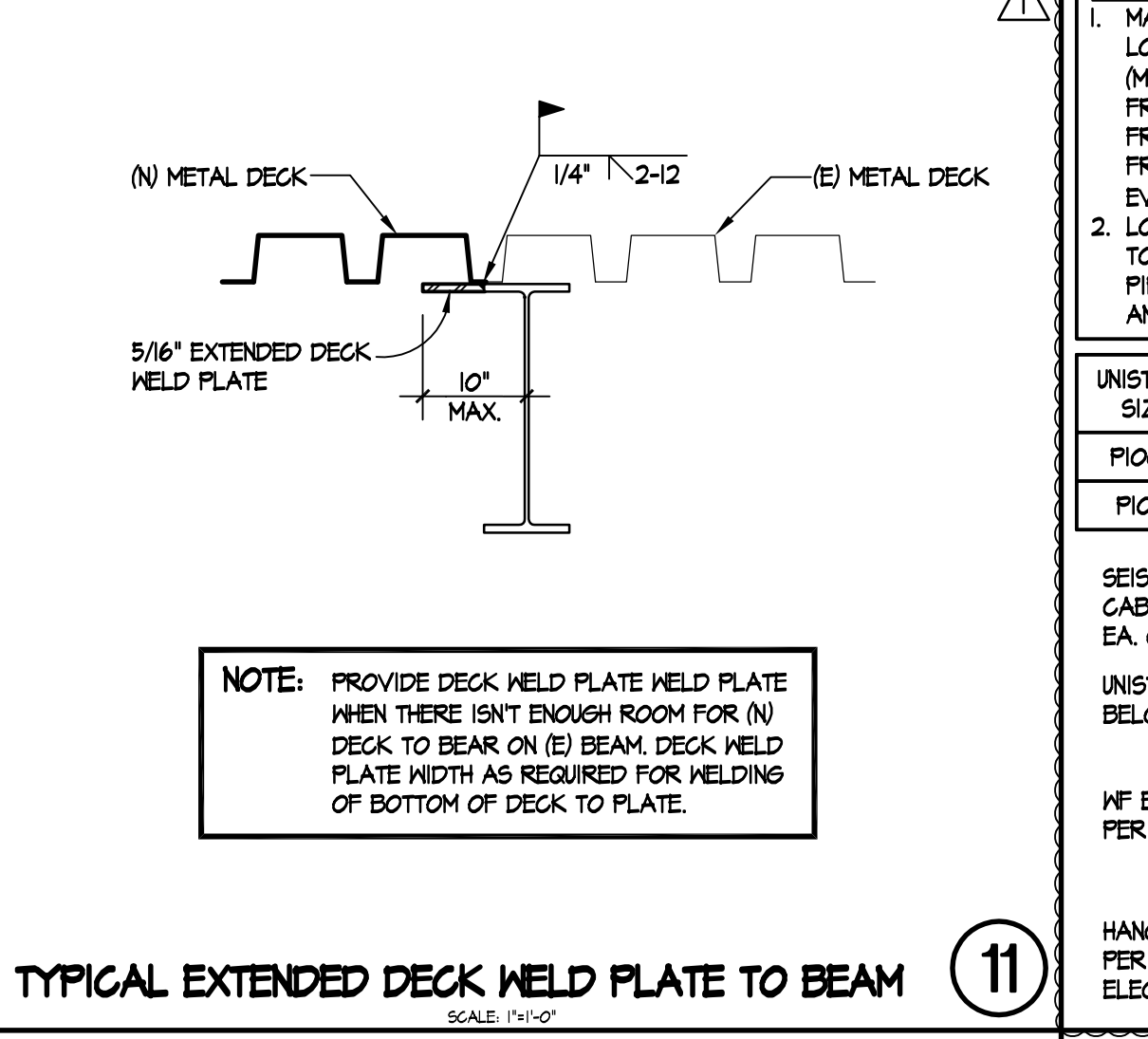
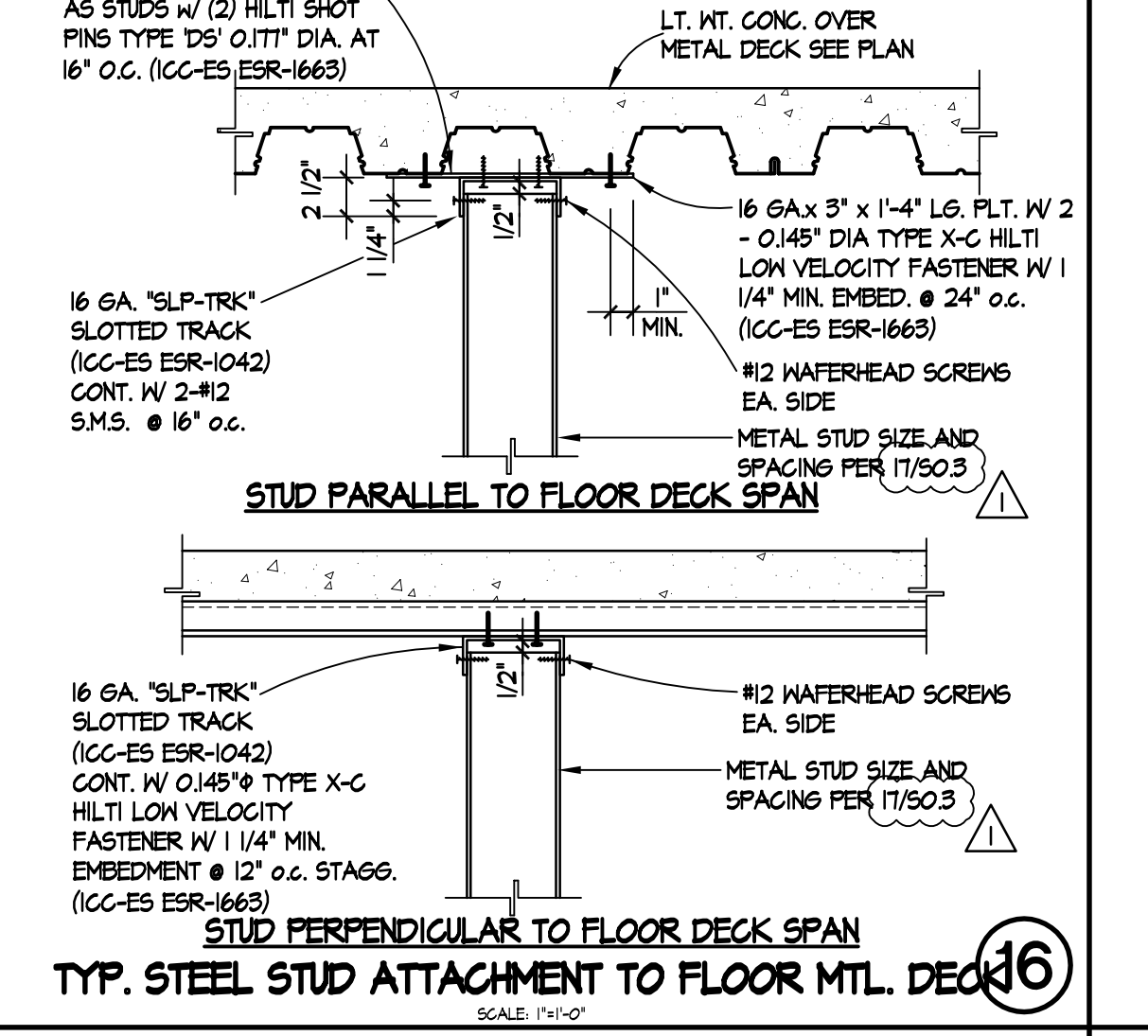
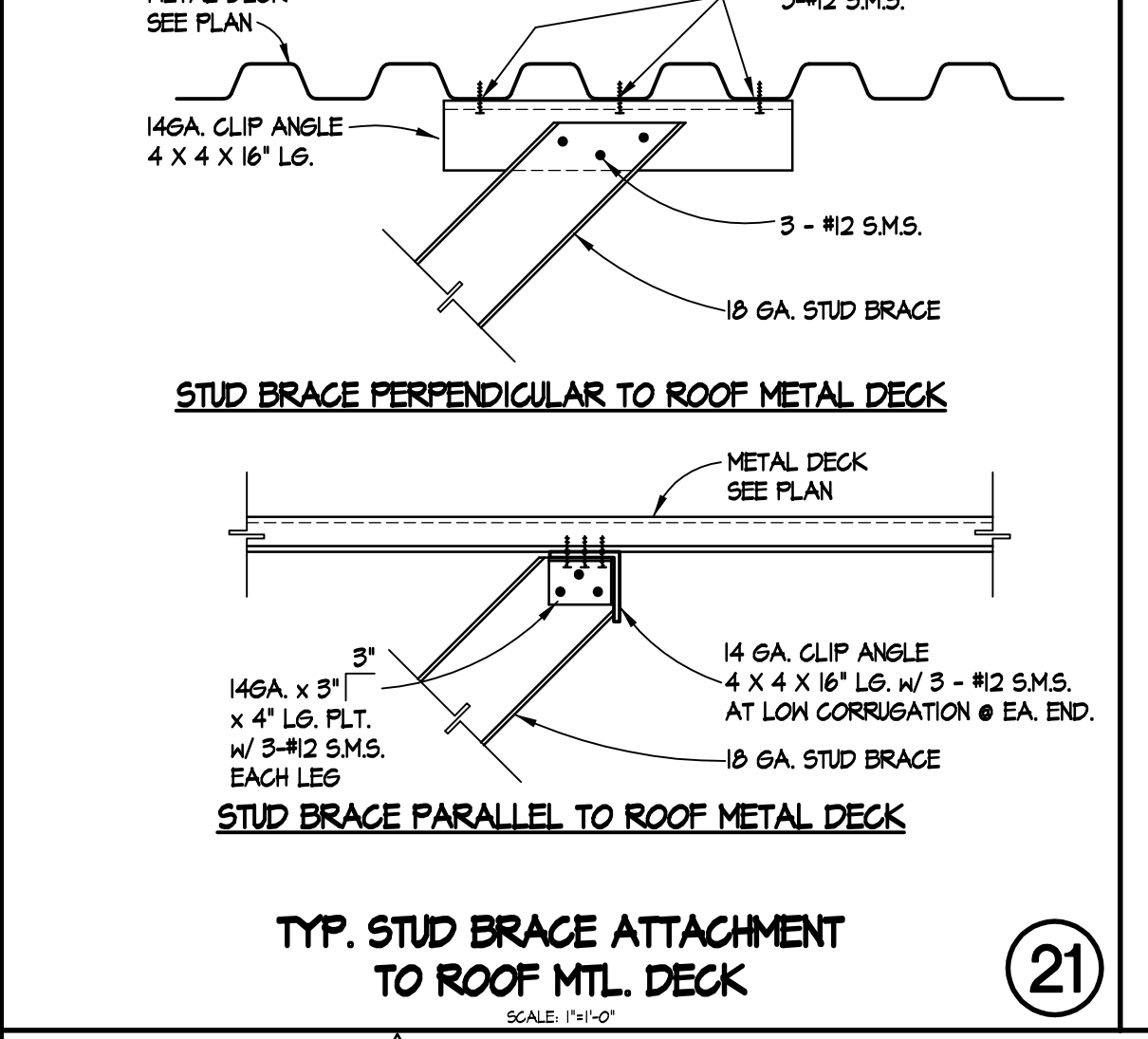
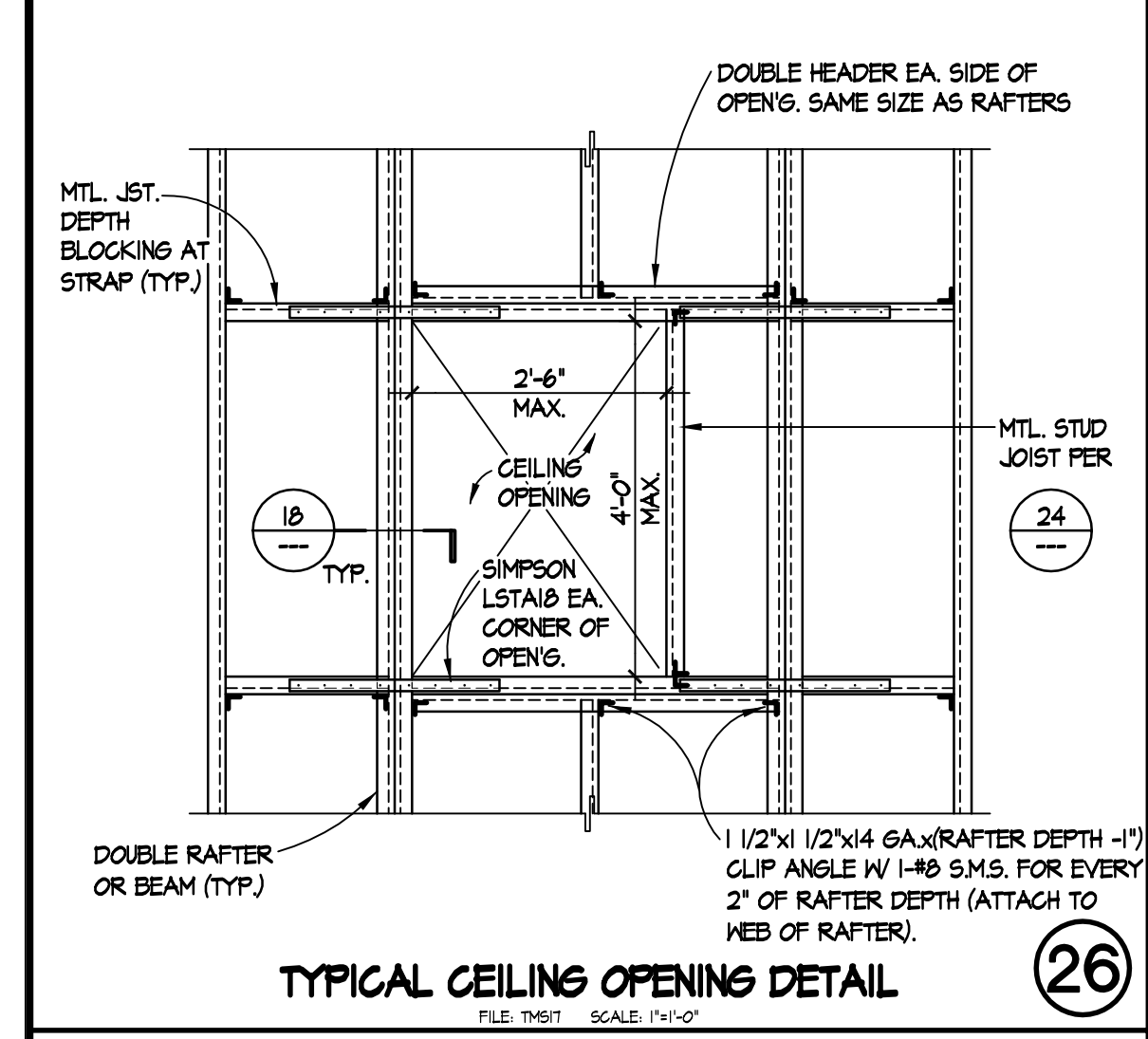


Diagram 25: TYP. STUD BRIDGE DETAIL. Shows a cross-section of a stud bridge with a 1/2\"/>

STEEL STUD PROPERTIES (ICC-ES ESR-3064F)		STUD BRIDGING REQUIREMENTS		ALLOWABLE WALL HEIGHTS (LAT. LD=50% NON-BEARING)	
SIZE / TYPE	GA. / I ²	MAX. O.C. SPACING	STUD 16\"/>		
6005162-43(9K5U)	18 / 0.949	4'-0"	28'-4"	31'-2"	22'-8"
4005162-43(9K5S)	18 / 0.842	4'-0"	20'-1"	22'-8"	22'-8"
MIN.					
TRACKS					
6007100-54(9K5S)	18 / 2.611	0.849			
4007100-54(9K5S)	18 / 1.025	0.494			

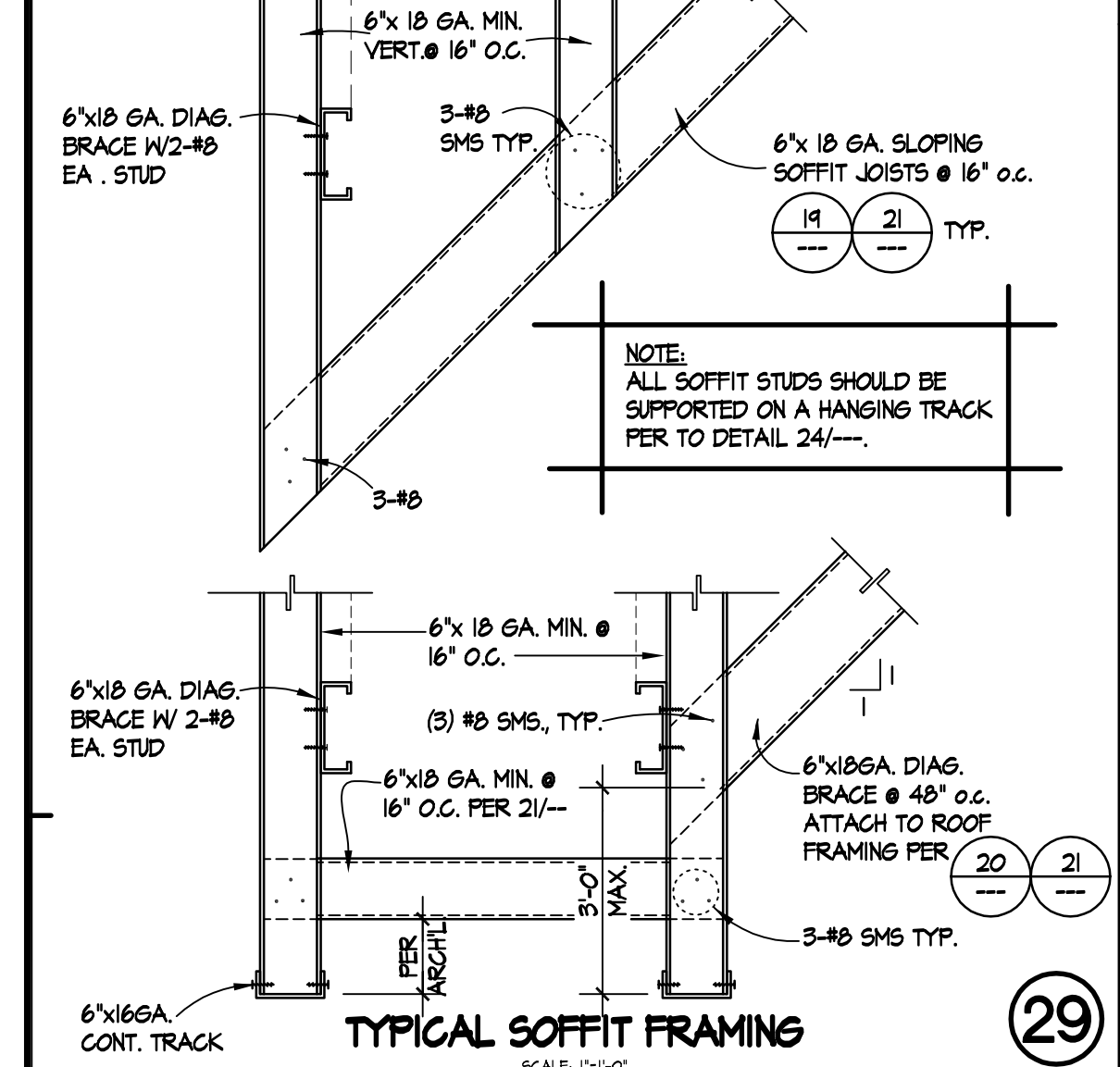
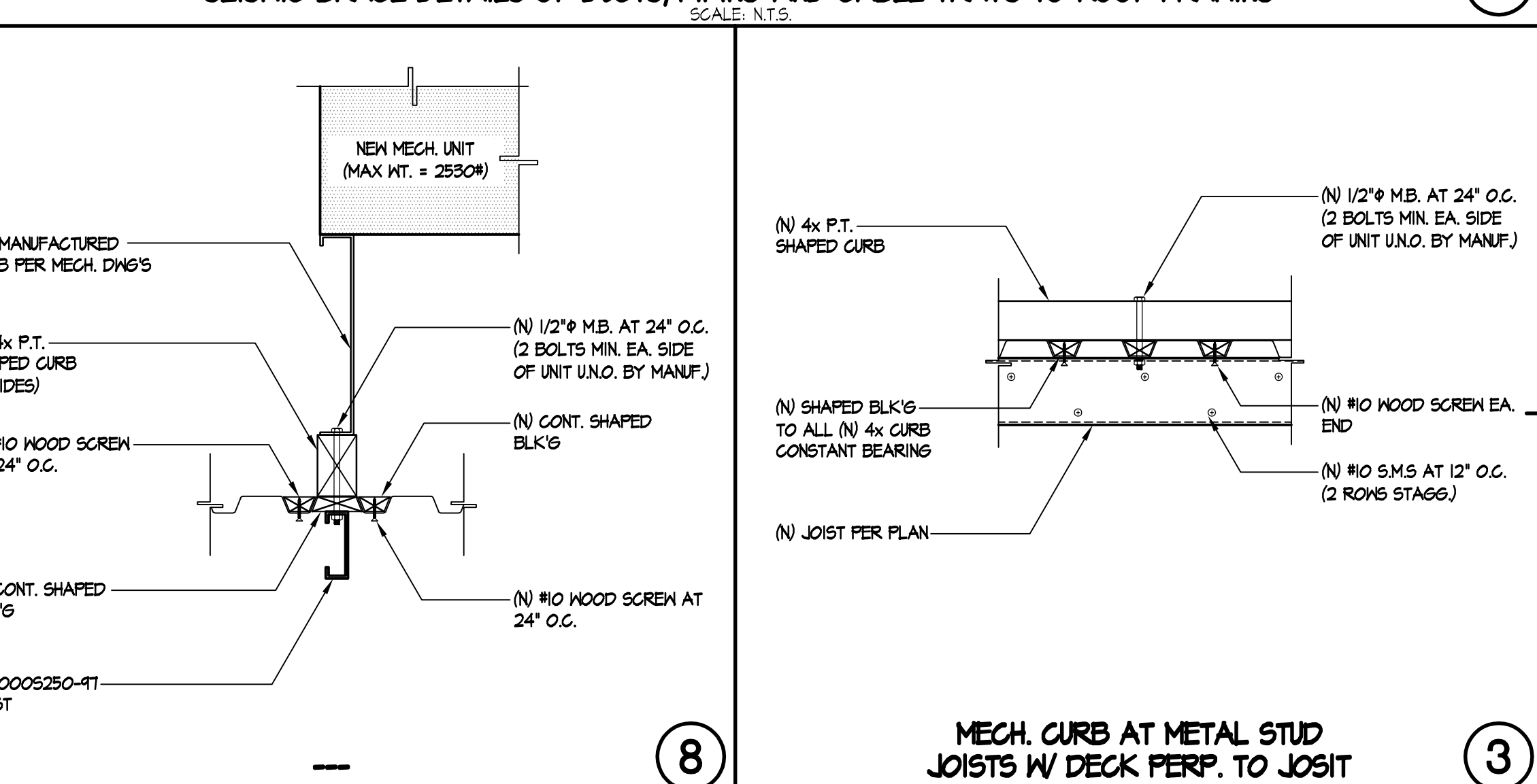
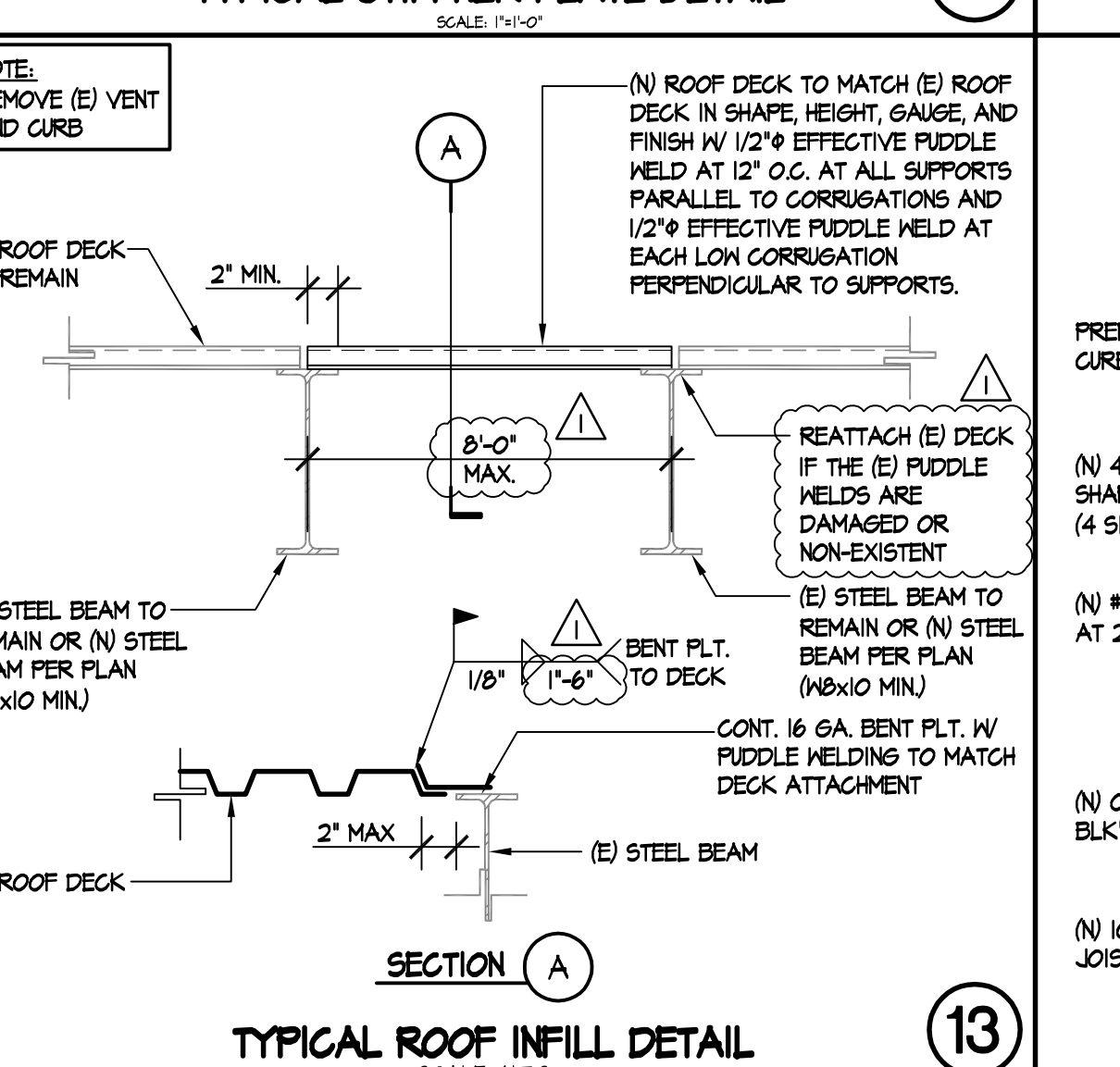
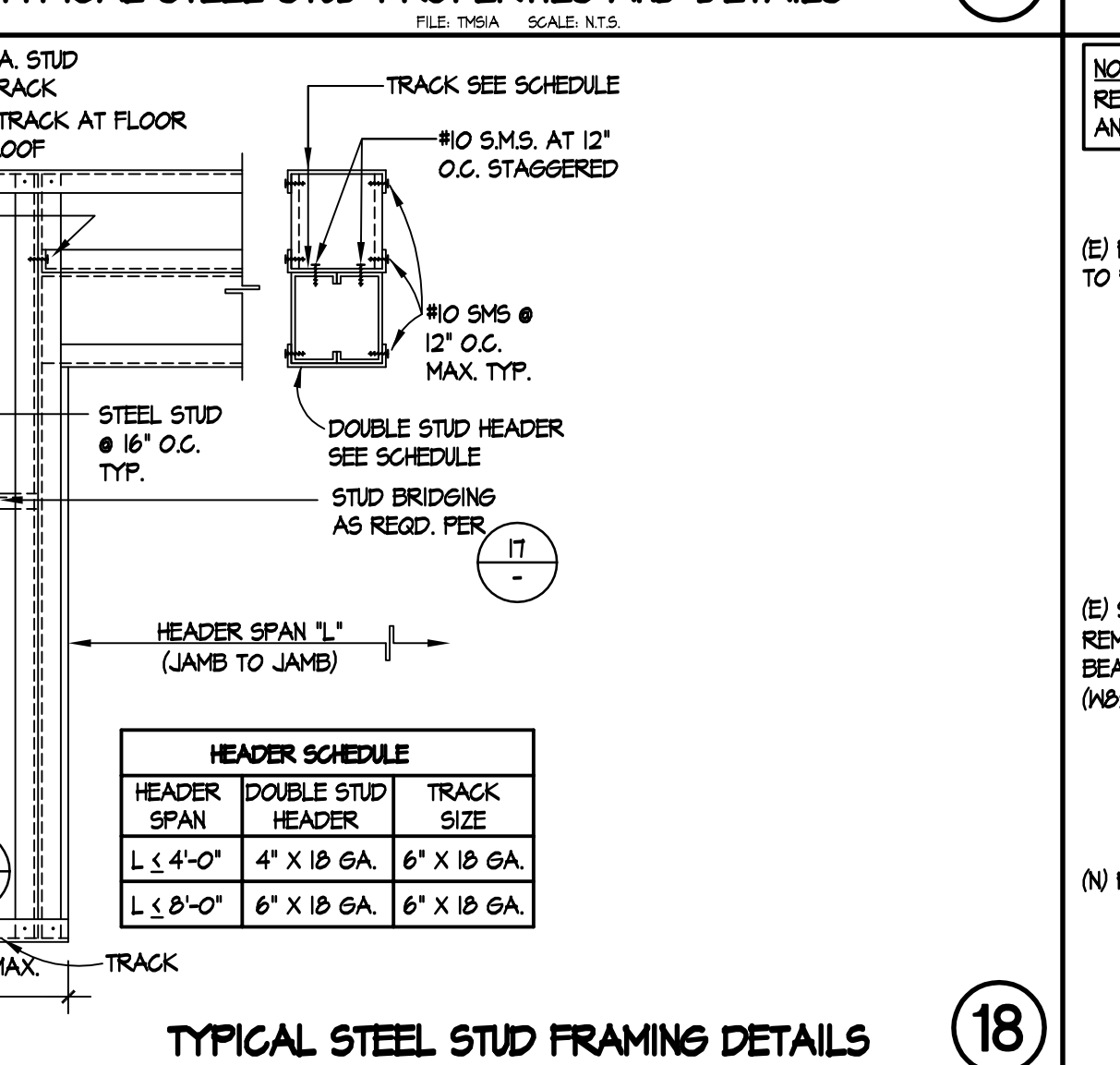
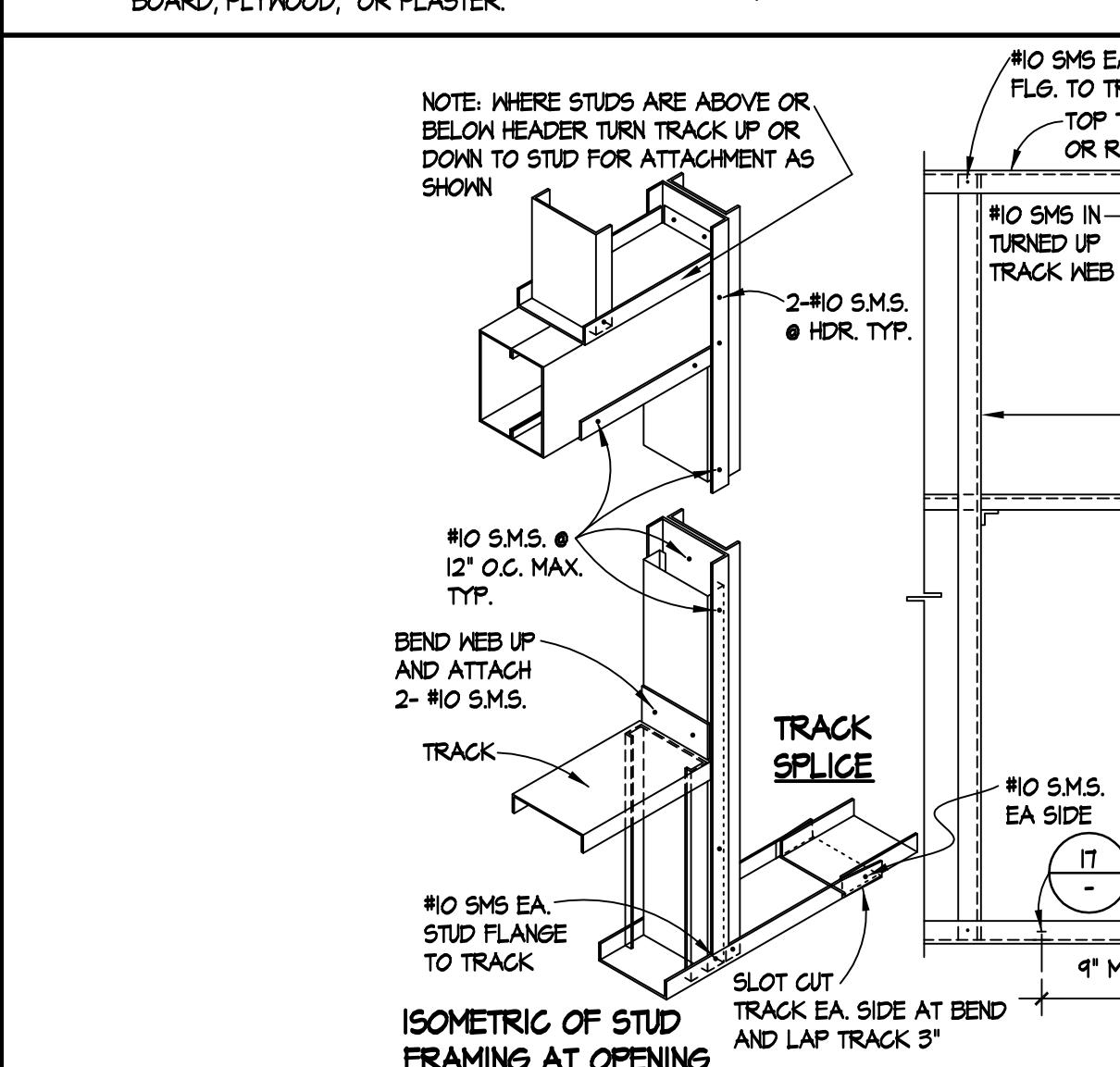
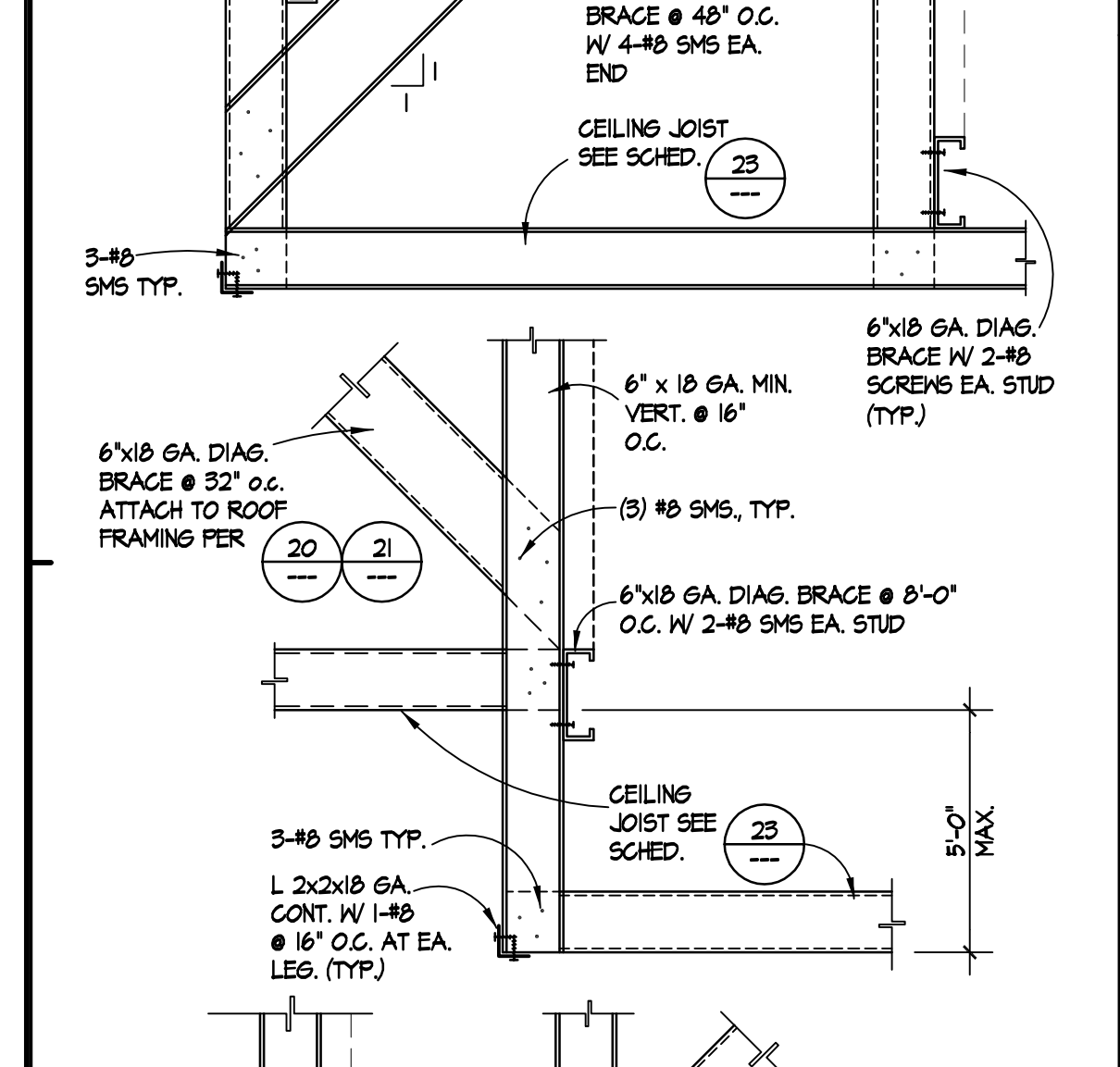
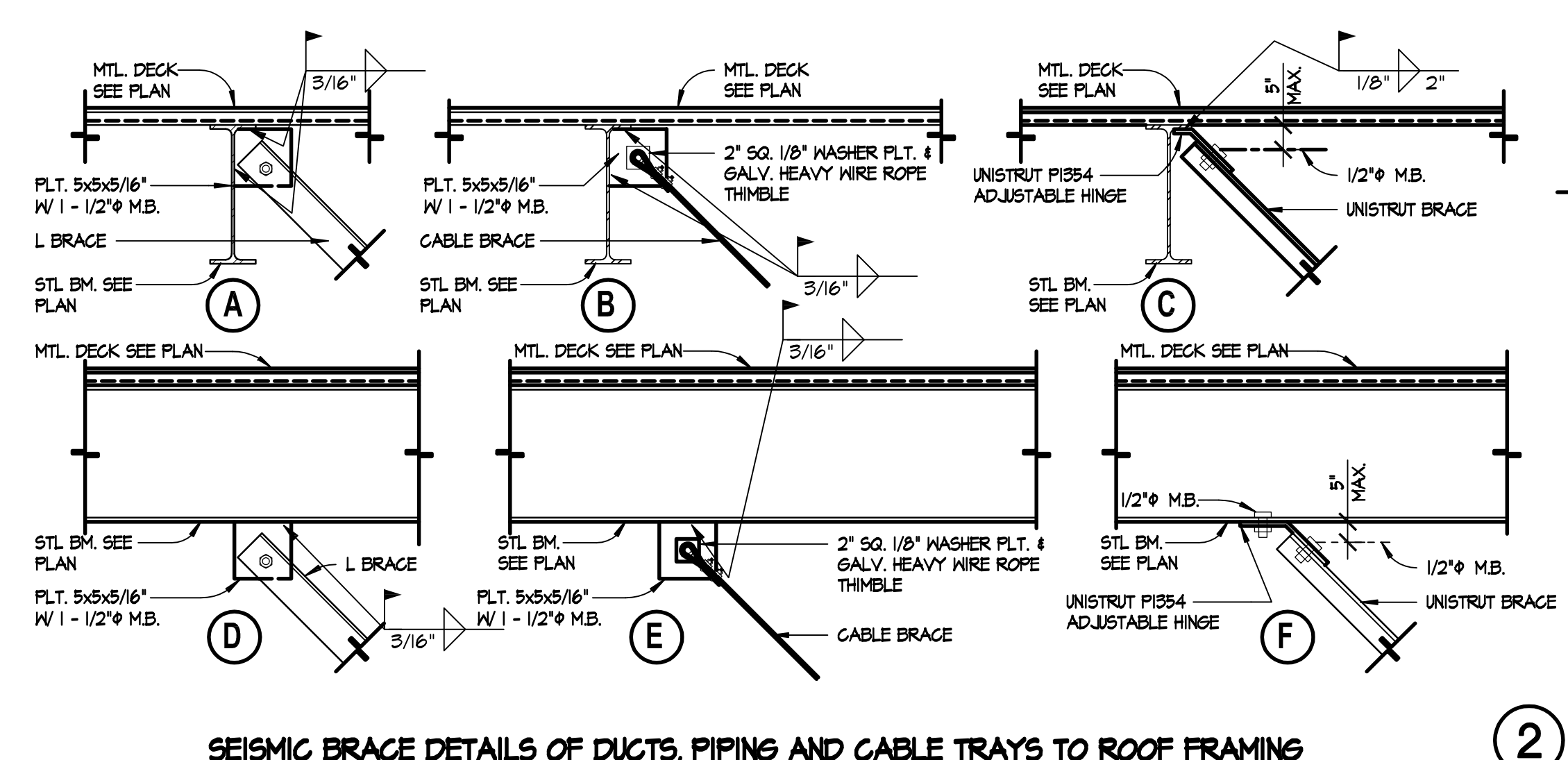
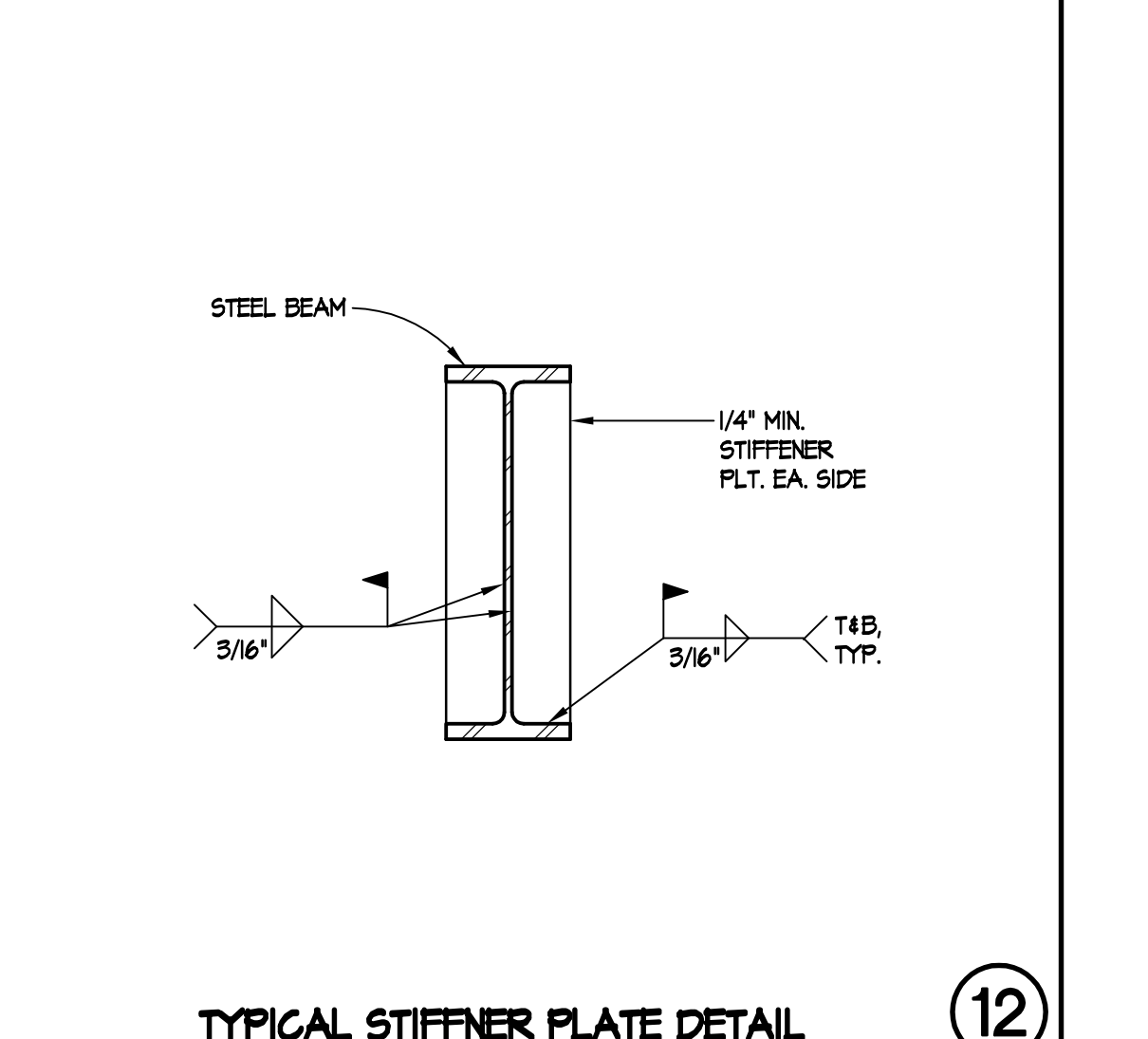
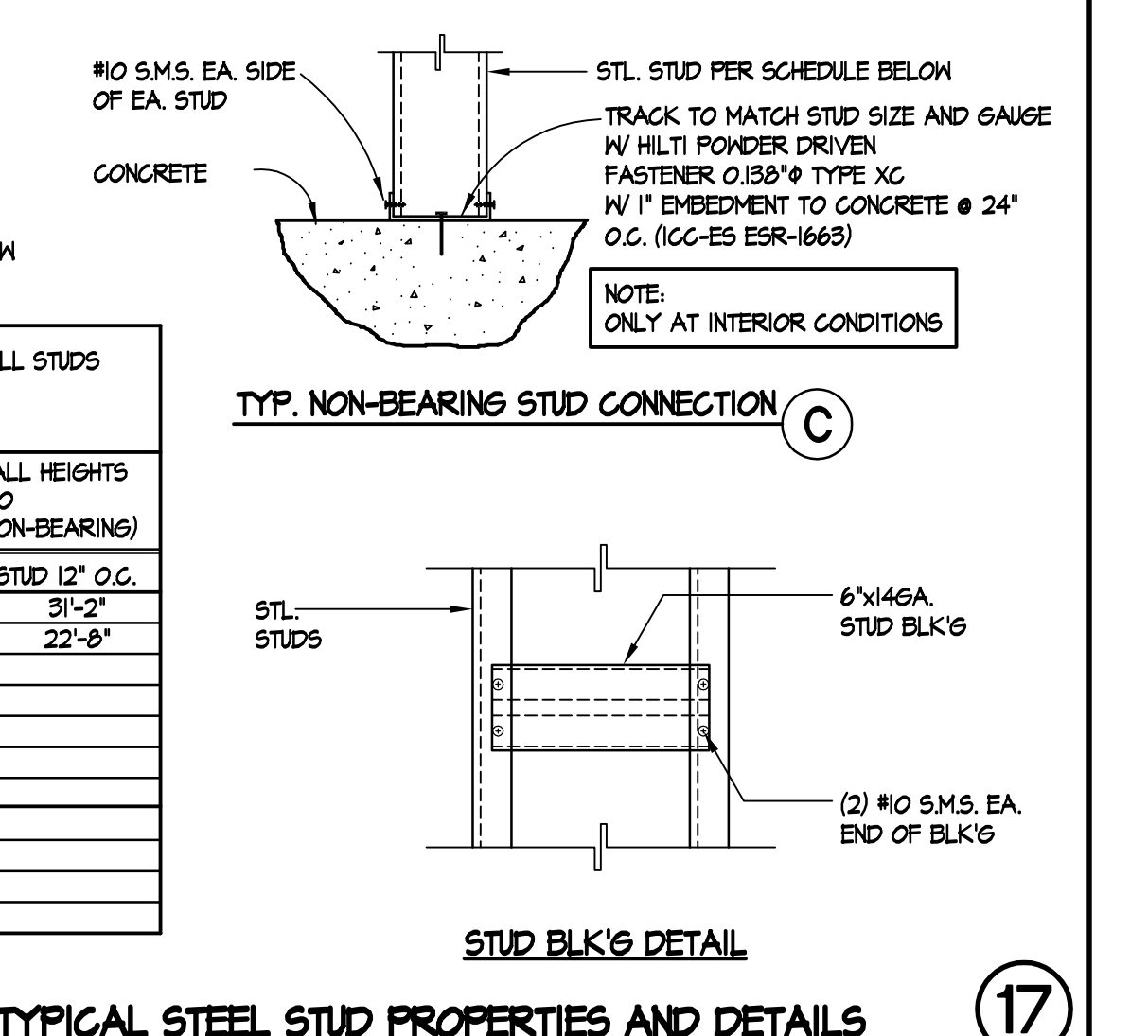


Diagram 24: TYPICAL STEEL STUD CEILING JOIST DETAILS AT INTERIOR GYB. CEILINGS. Shows a cross-section of a steel stud ceiling joist detail. Details include 1/2\"/>

CEILING JOISTS SCHEDULE IS P.S.F. L/240	ICC-ES PER-3044F	ALLOW SPAN	BRIDGING
6005162-43 18 GA. @ 16\"/>			

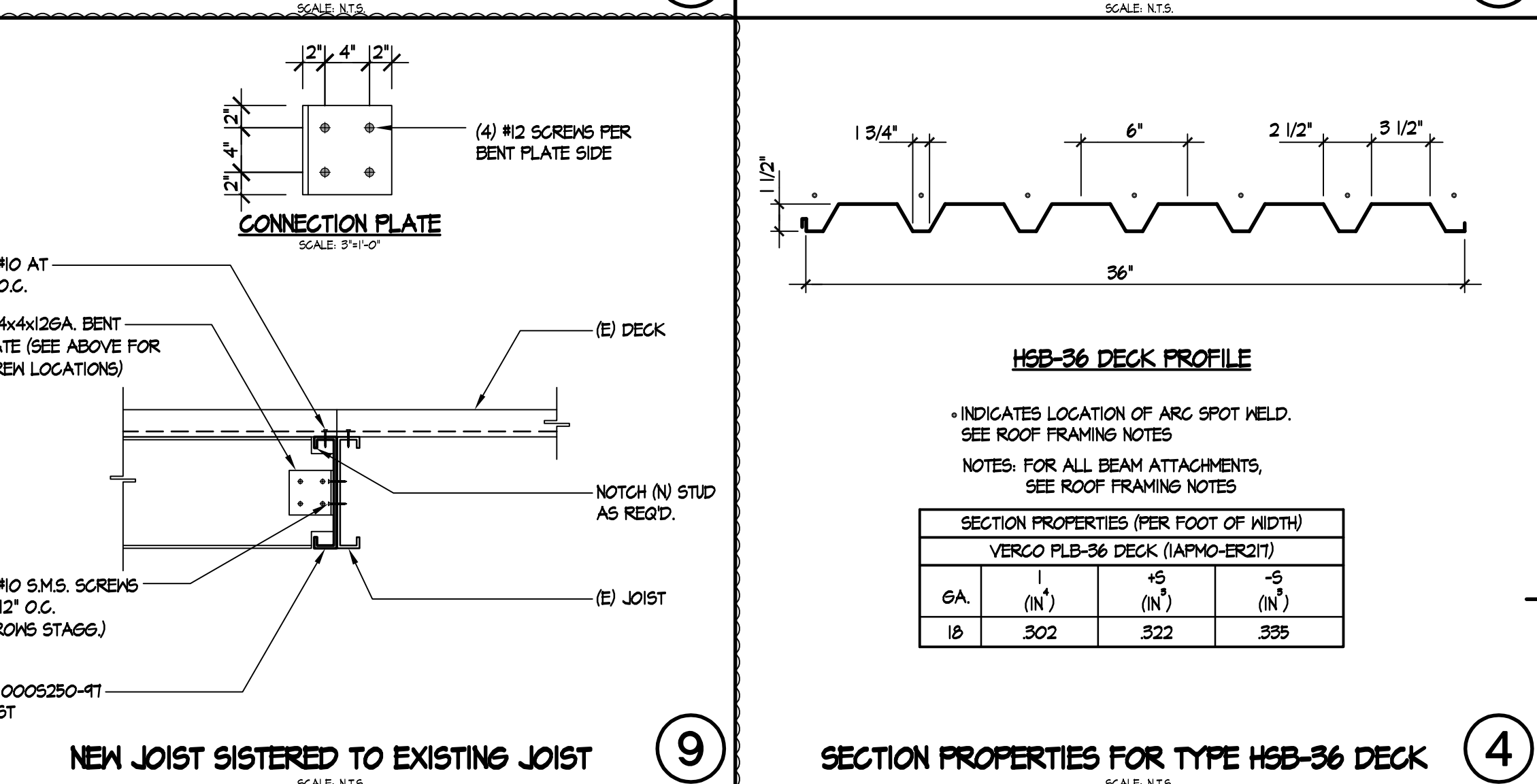
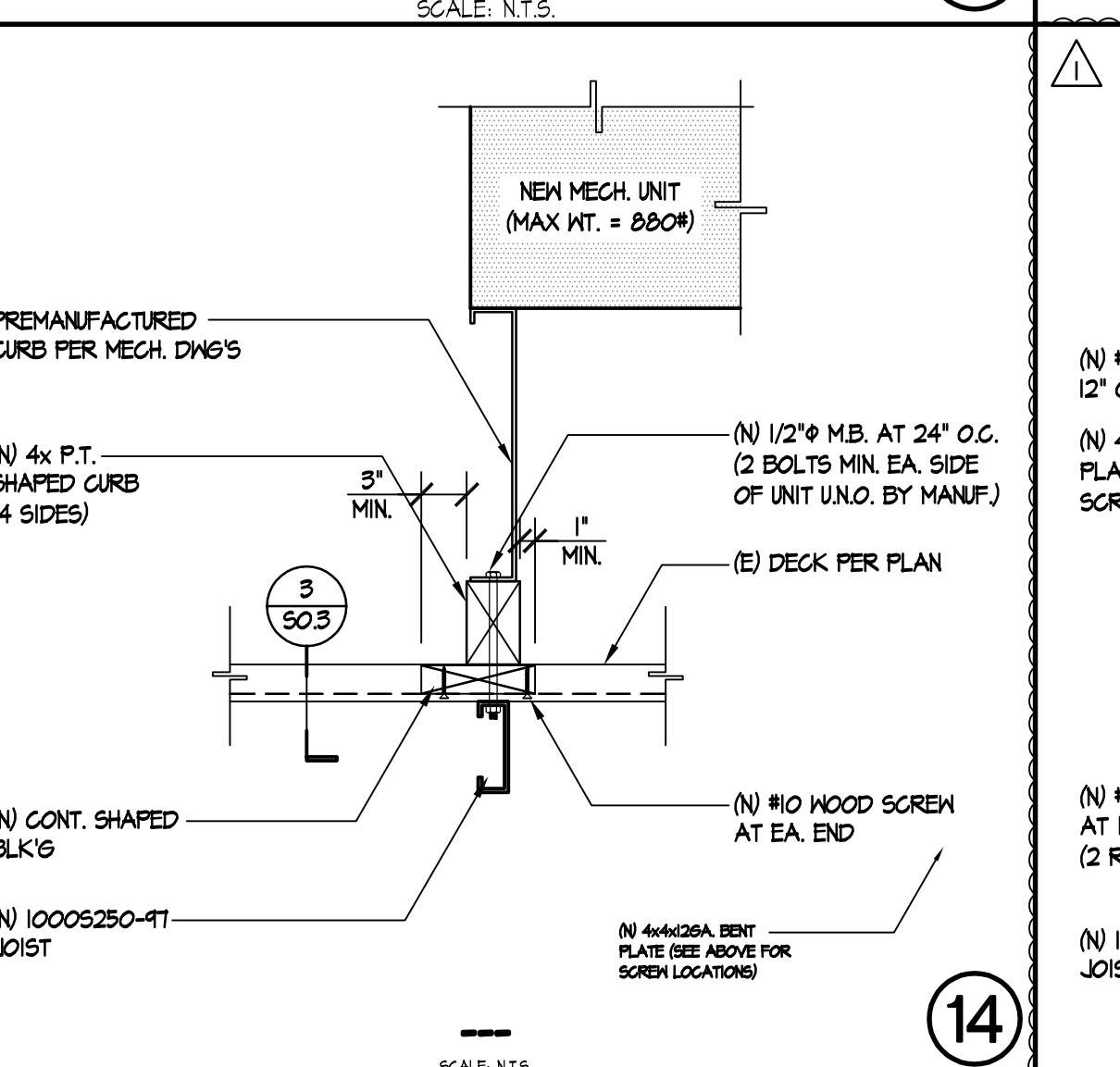
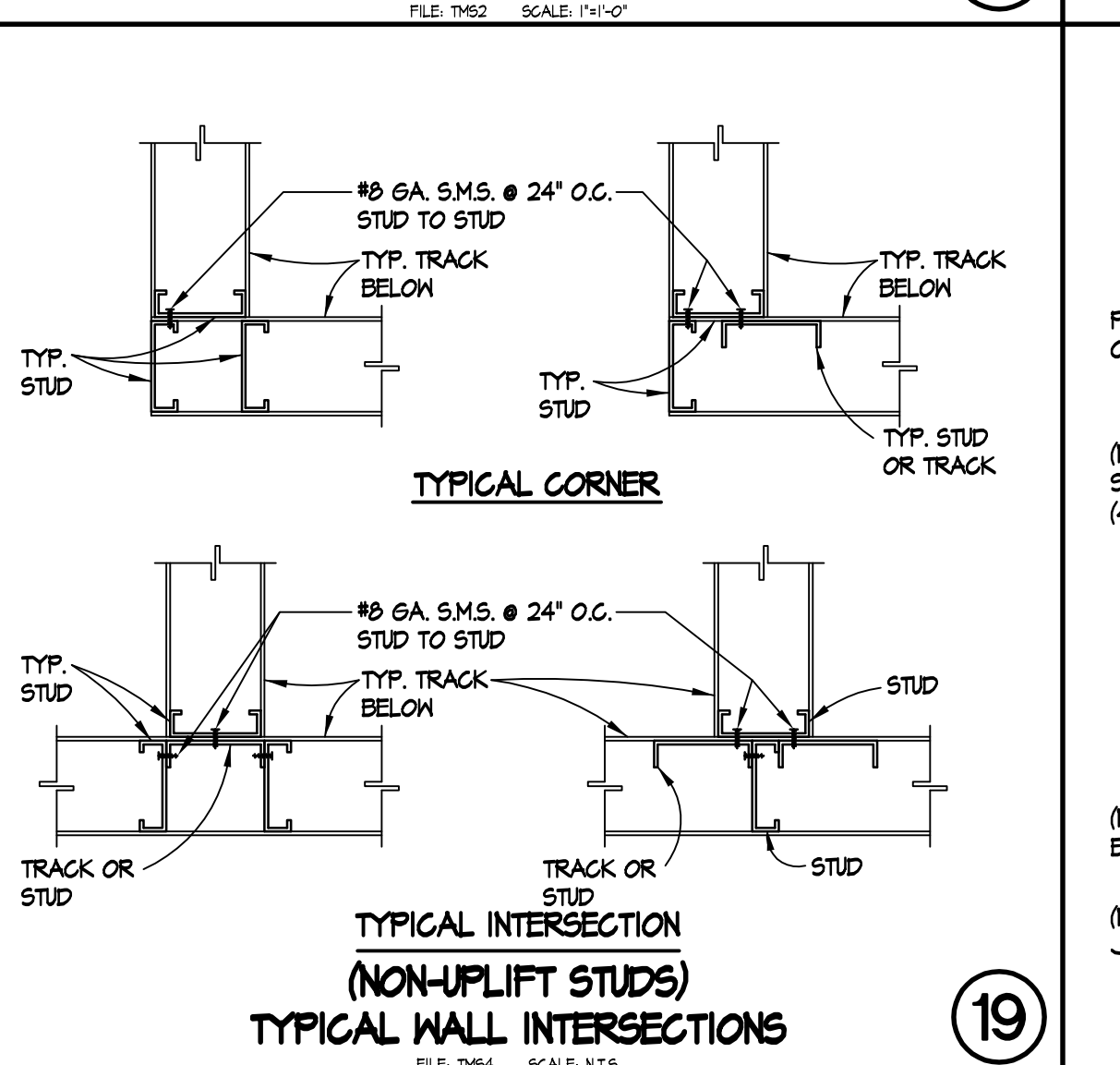
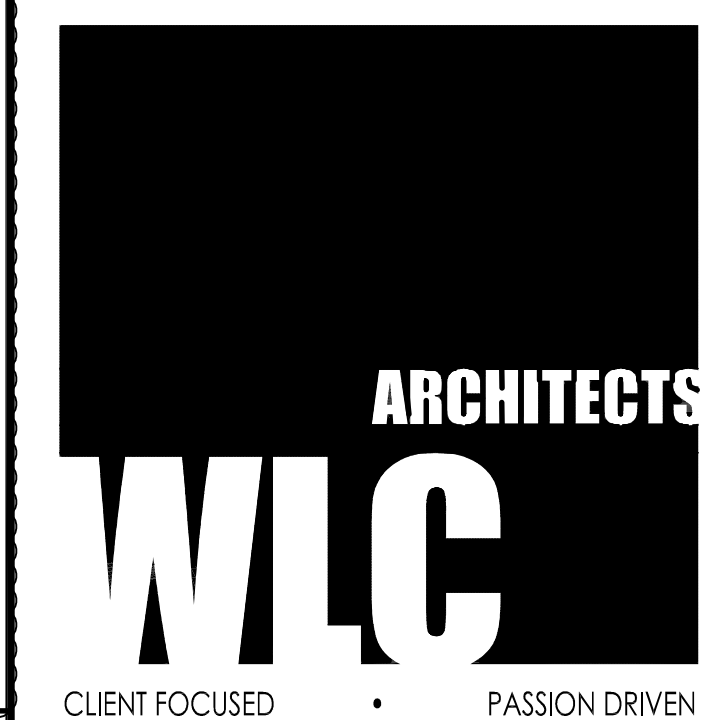
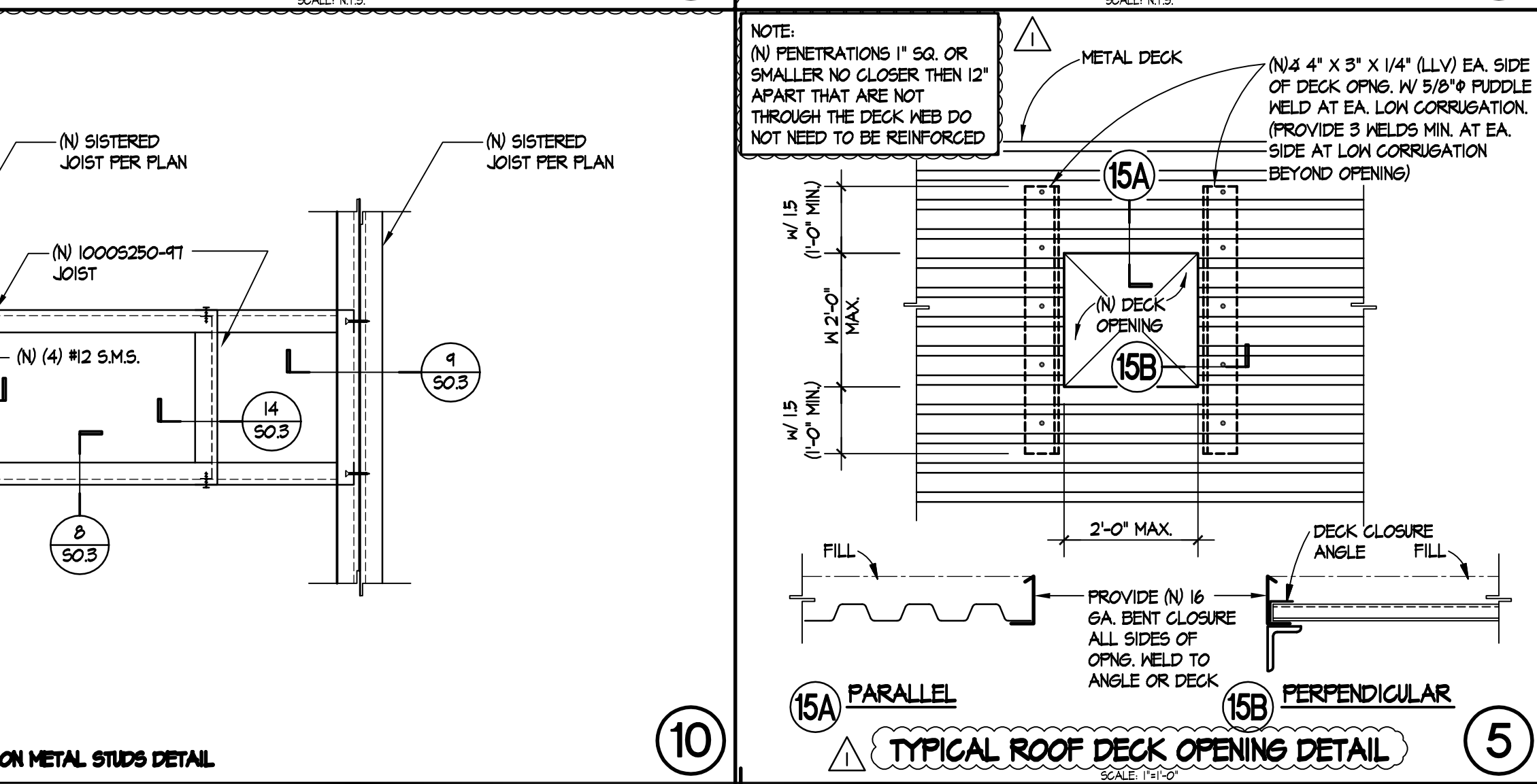
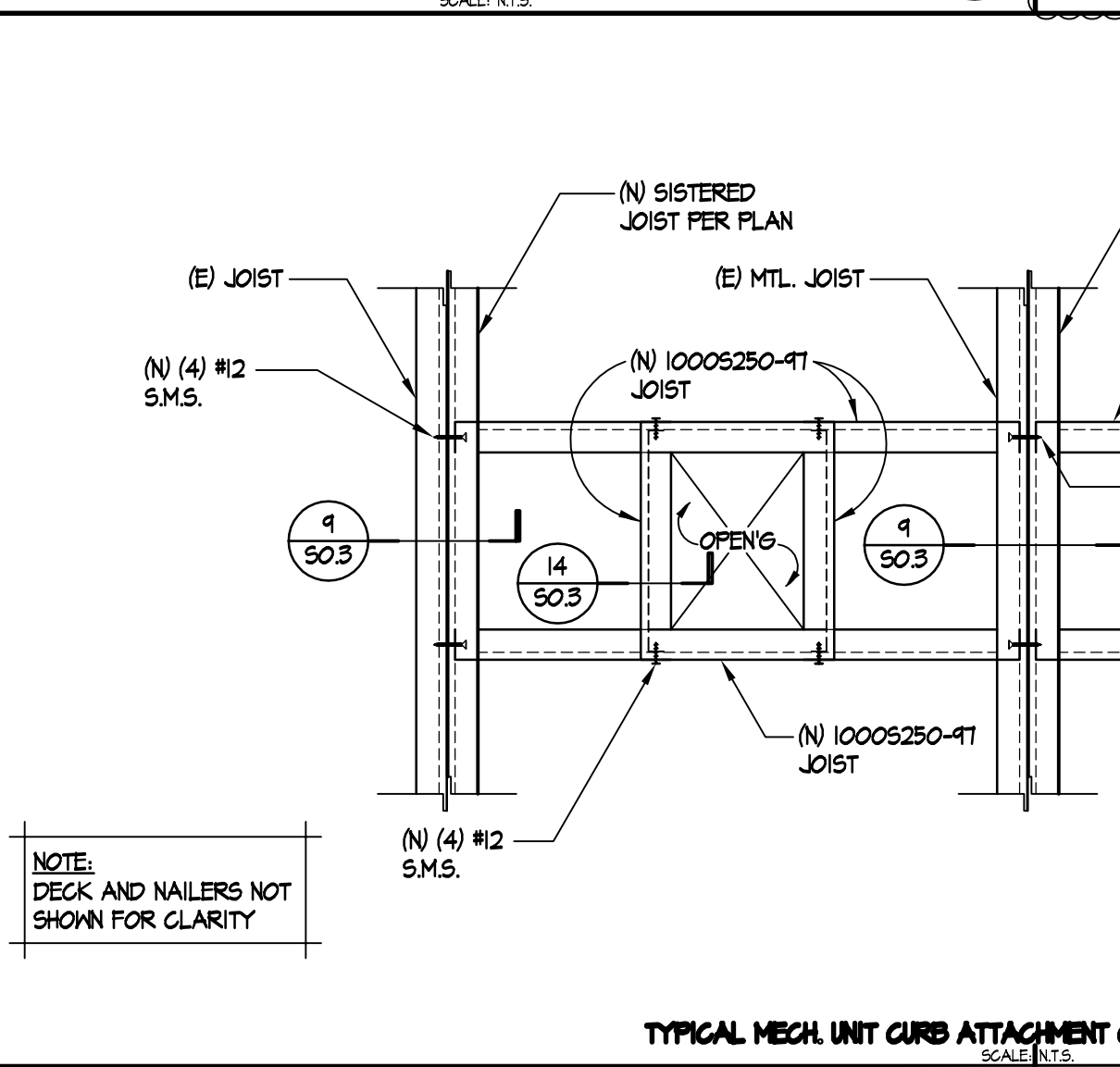
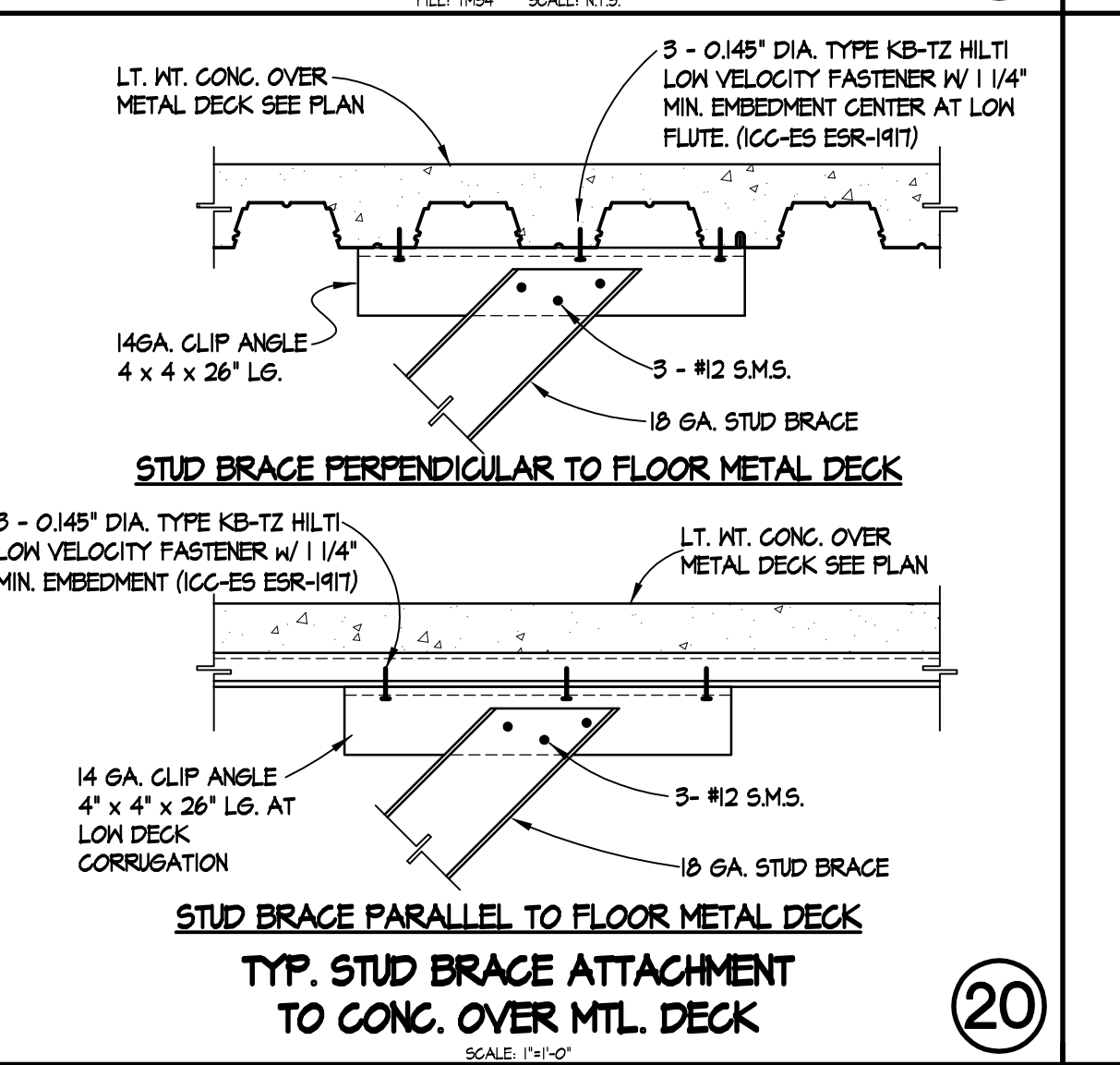
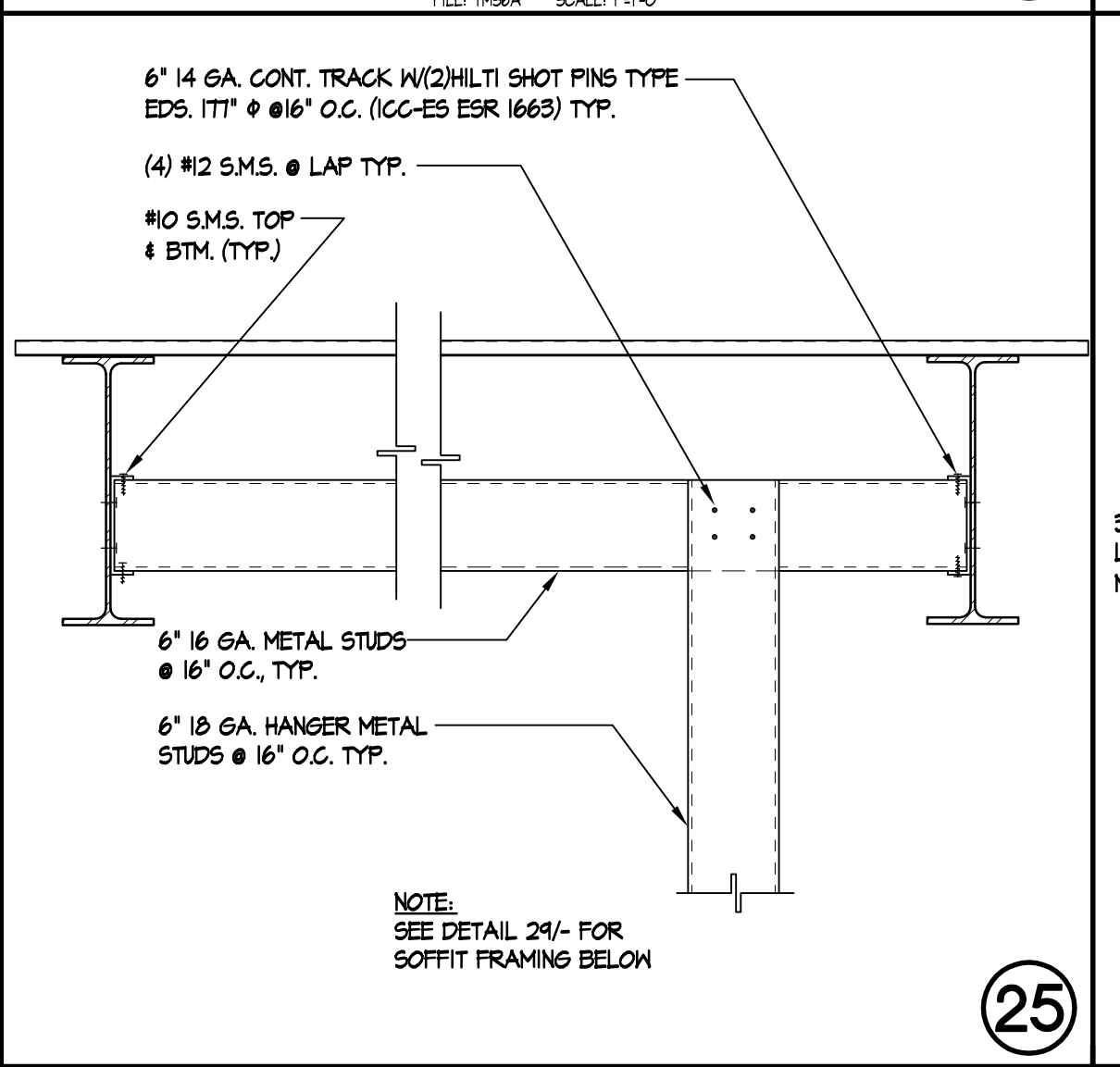
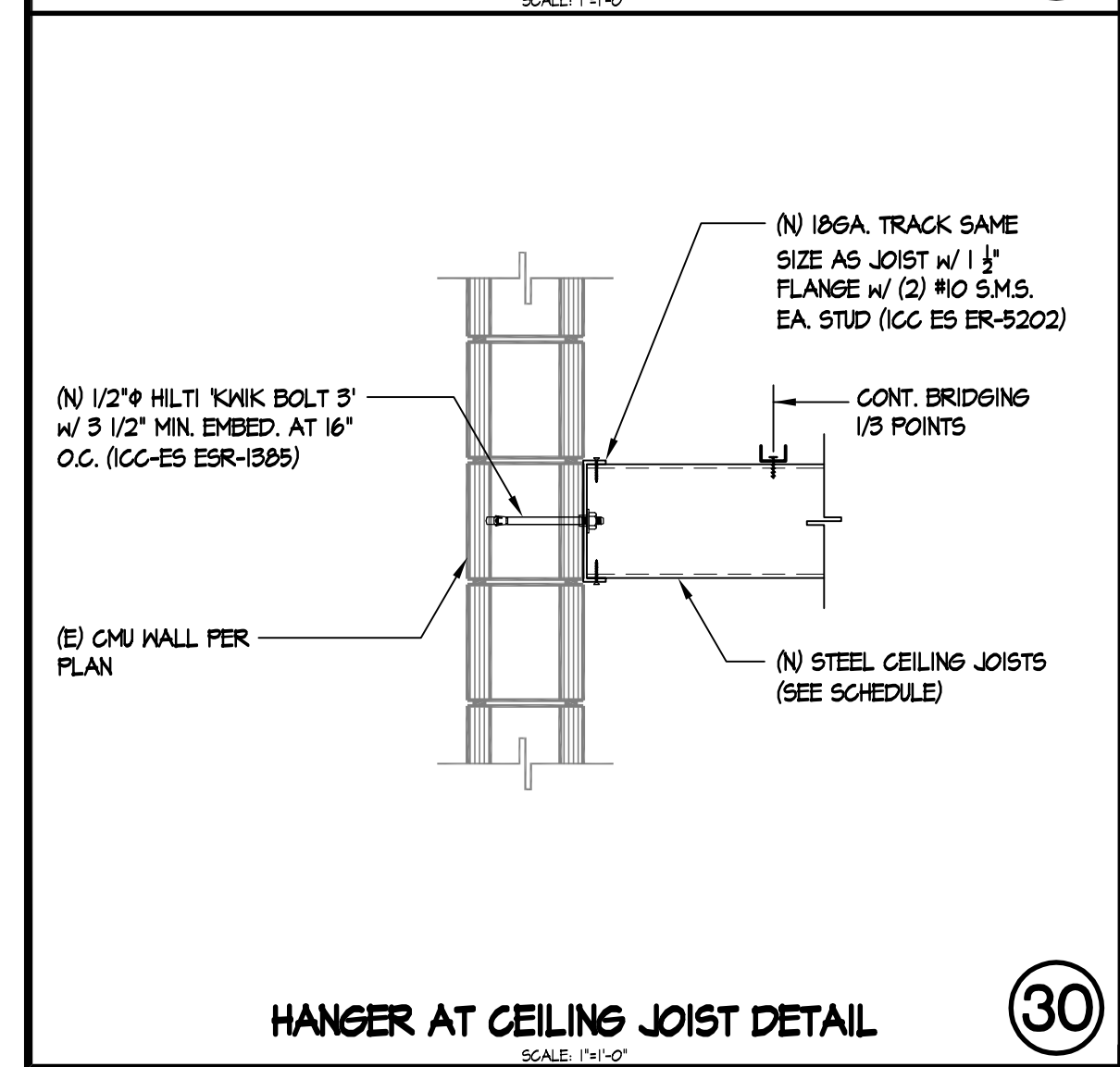


Diagram 4: SECTION PROPERTIES FOR TYPE H5B-36 DECK. Shows a cross-section of an H5B-36 deck profile. Includes a table of section properties and notes on arc spot weld locations.

SECTION PROPERTIES (PER FOOT OF WIDTH)		
VERCO PFB-36 DECK (A190-ER21)	5	5
GA. (N)	15	5
18	302	322
	322	335



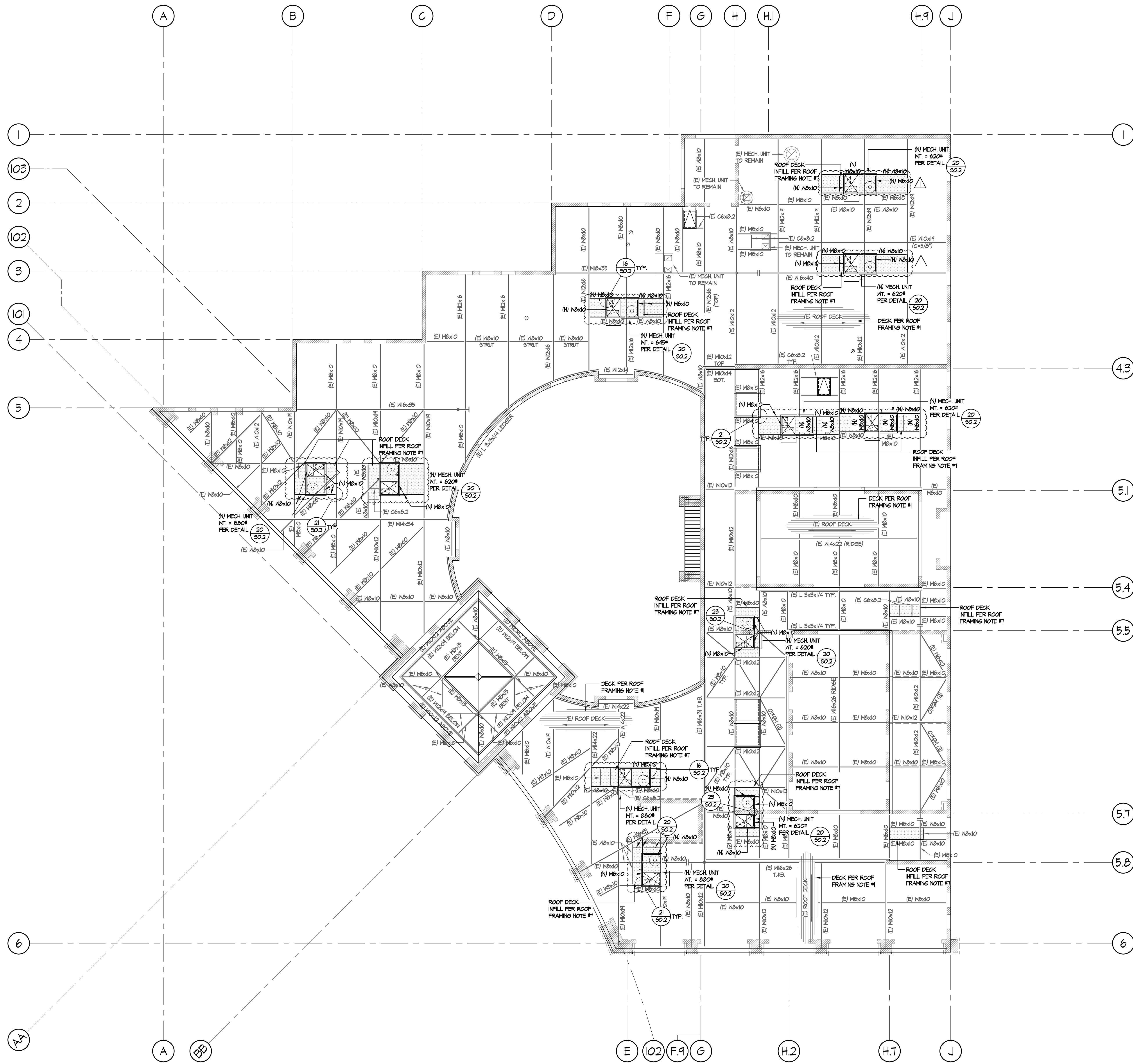
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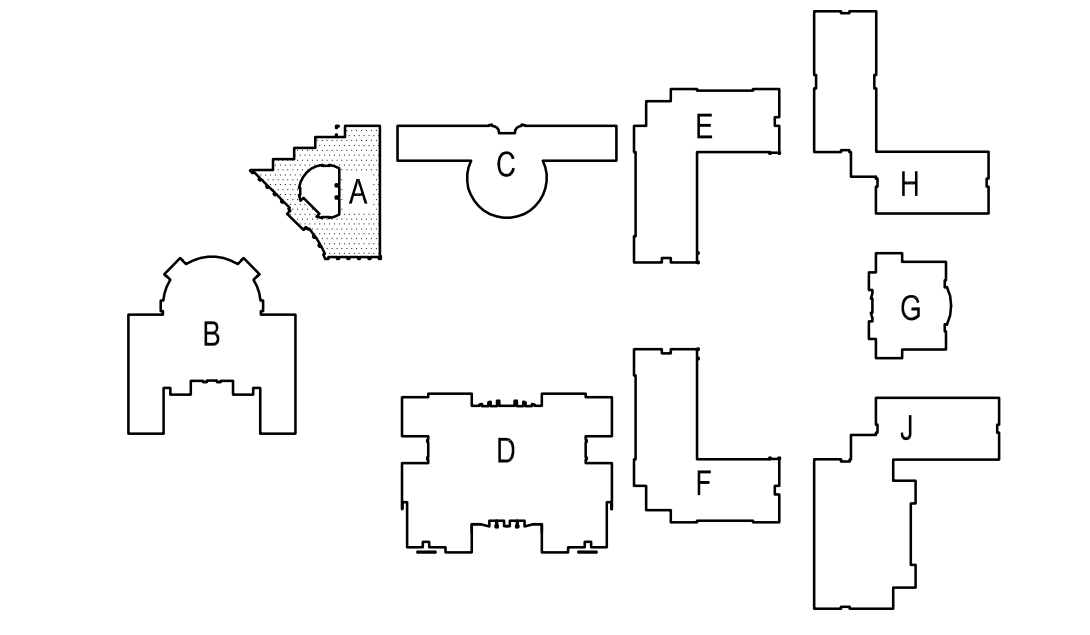
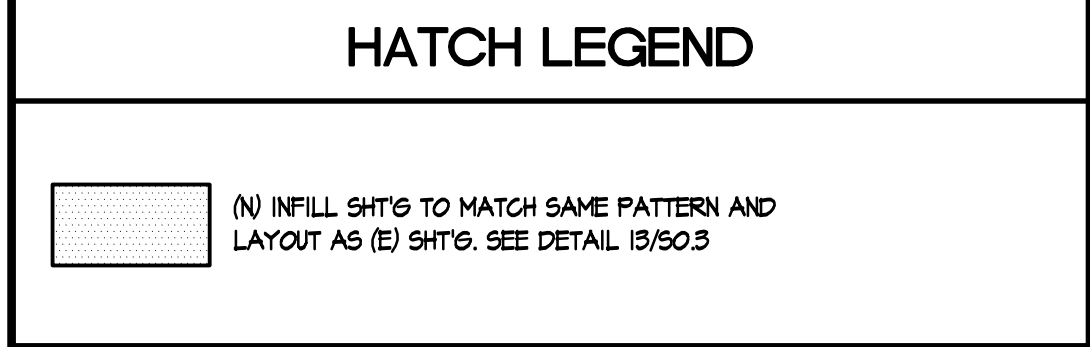
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DETAILS			
DRAWING NUMBER:		S0.3	

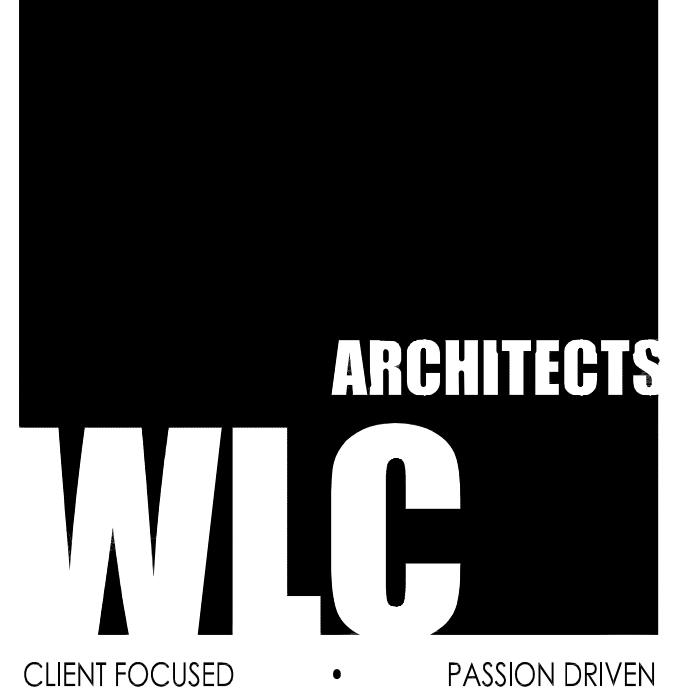


BLDG. 'A' ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"

- ### ROOF FRAMING REMODEL NOTES
- 1 1/2" DEEP 18 GA. VERCO HEB-36 GALV. STL. DECK W/ 5/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM WELD 1 1/2" LONG @ 12" O.C.
 - NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 - (E) INTERIOR NON-BEARING STD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS.
 - BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
 - (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 16/502 OR 5/503.
 - THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 - PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 15/503. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION.
 - REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 15/502.
 - (N) BEAM TO (E) BEAM CONNECTION PER 20/502. (N) BEAM TO (N) BEAM CONNECTION PER 16/502.
 - THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS.

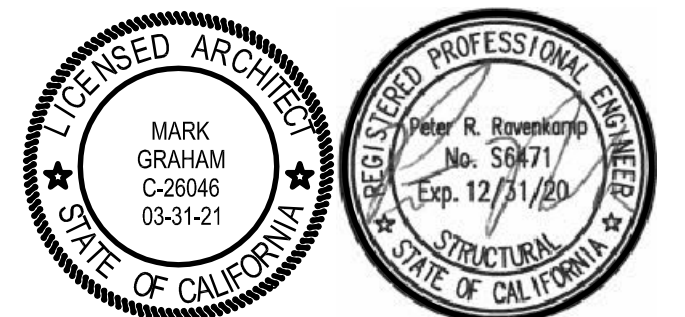


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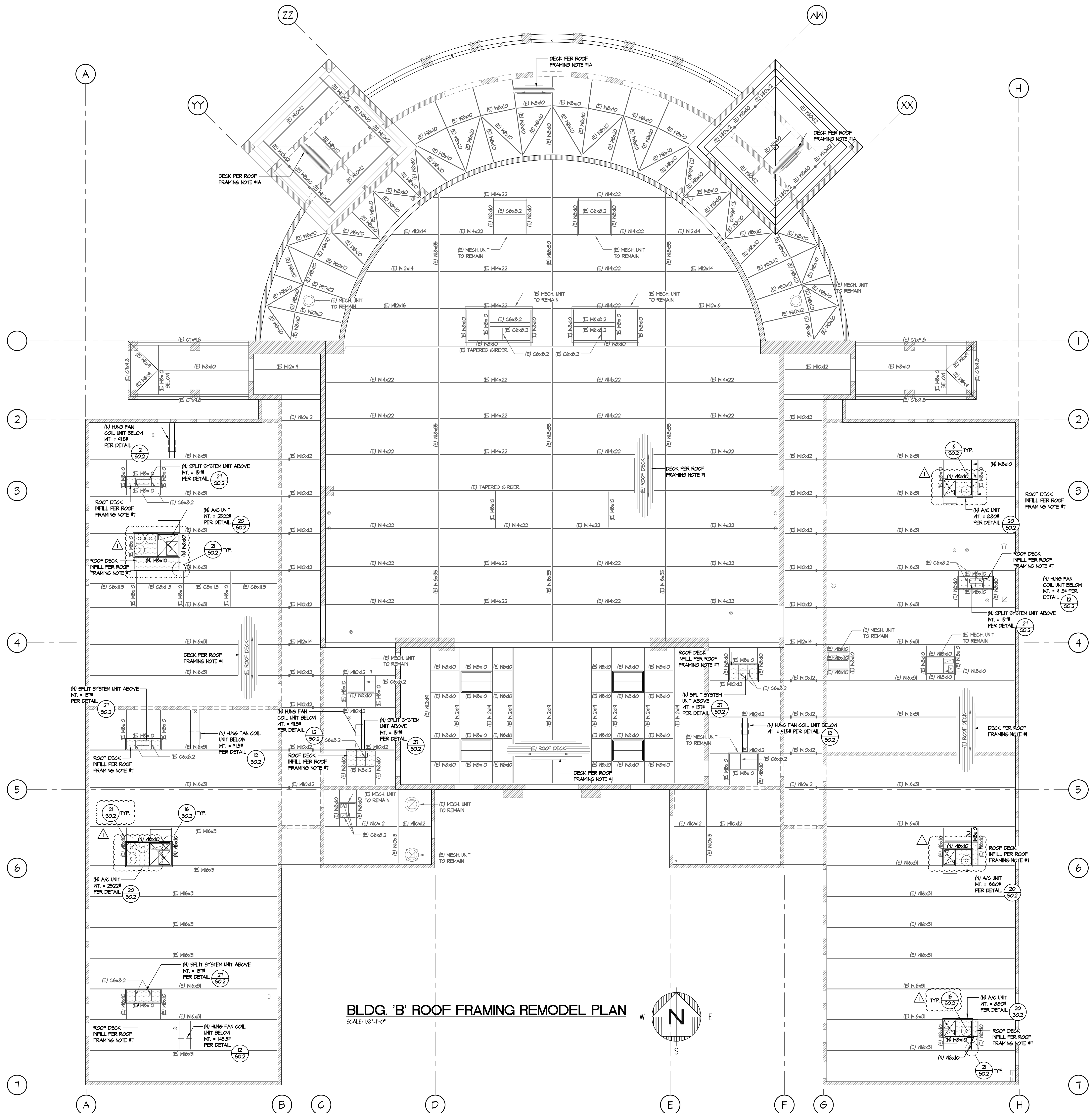
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REVISIONS	

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DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING A
ROOF FRAMING
REMODEL PLAN**

DRAWING NUMBER: **S2.2**

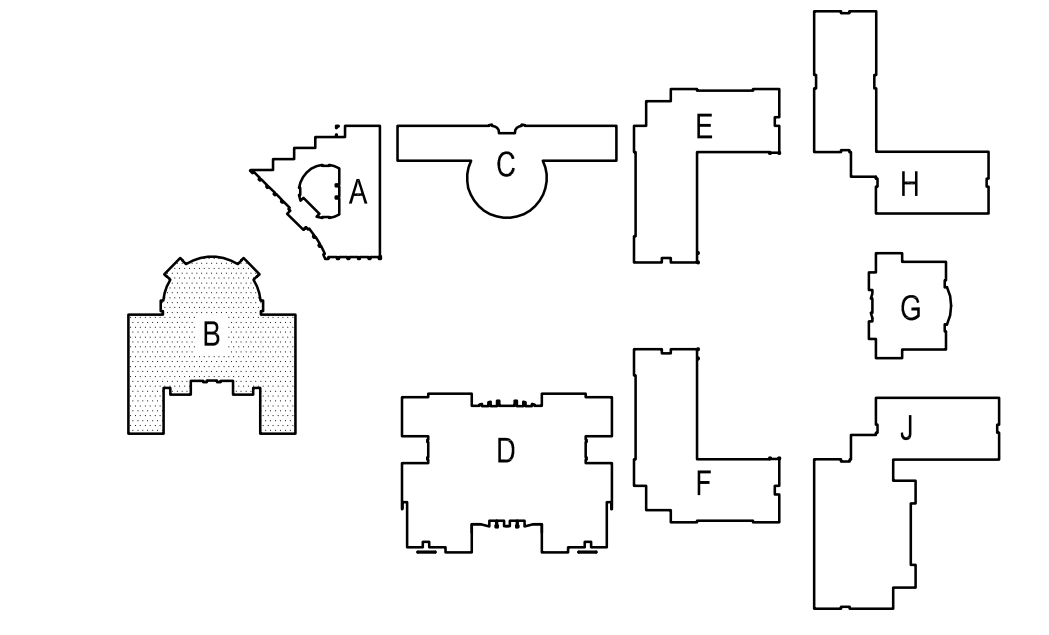
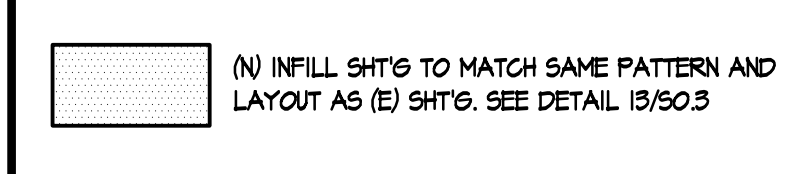


BLDG. 'B' ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"

ROOF FRAMING REMODEL NOTES

- 1 1/2" DEEP 18 GA. VERCO HEB-36 GALV. STL. DECK W/ 5/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM WELD 1 1/2" LONG @ 12" O.C.
- NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
- INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
- BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
- (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 16/502 OR 5/503.
- THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
- PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 15/502. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION. (N) DECK INFILL TO BE ORIENTED THE SAME DIRECTIONS AS THE EXISTING.
- REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 15/502.
- (N) BEAM TO (E) BEAM CONNECTION PER 21/502. (N) BEAM TO (N) BEAM CONNECTION PER 16/502.
- THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS.

HATCH LEGEND

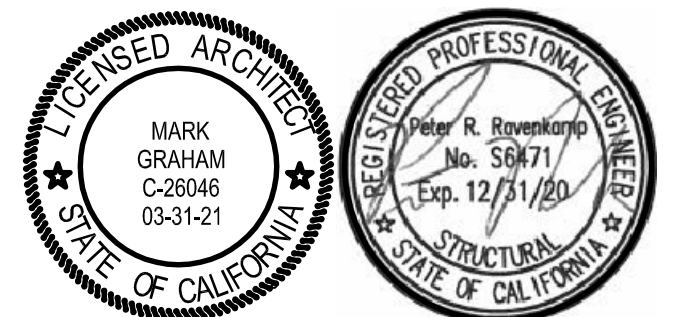


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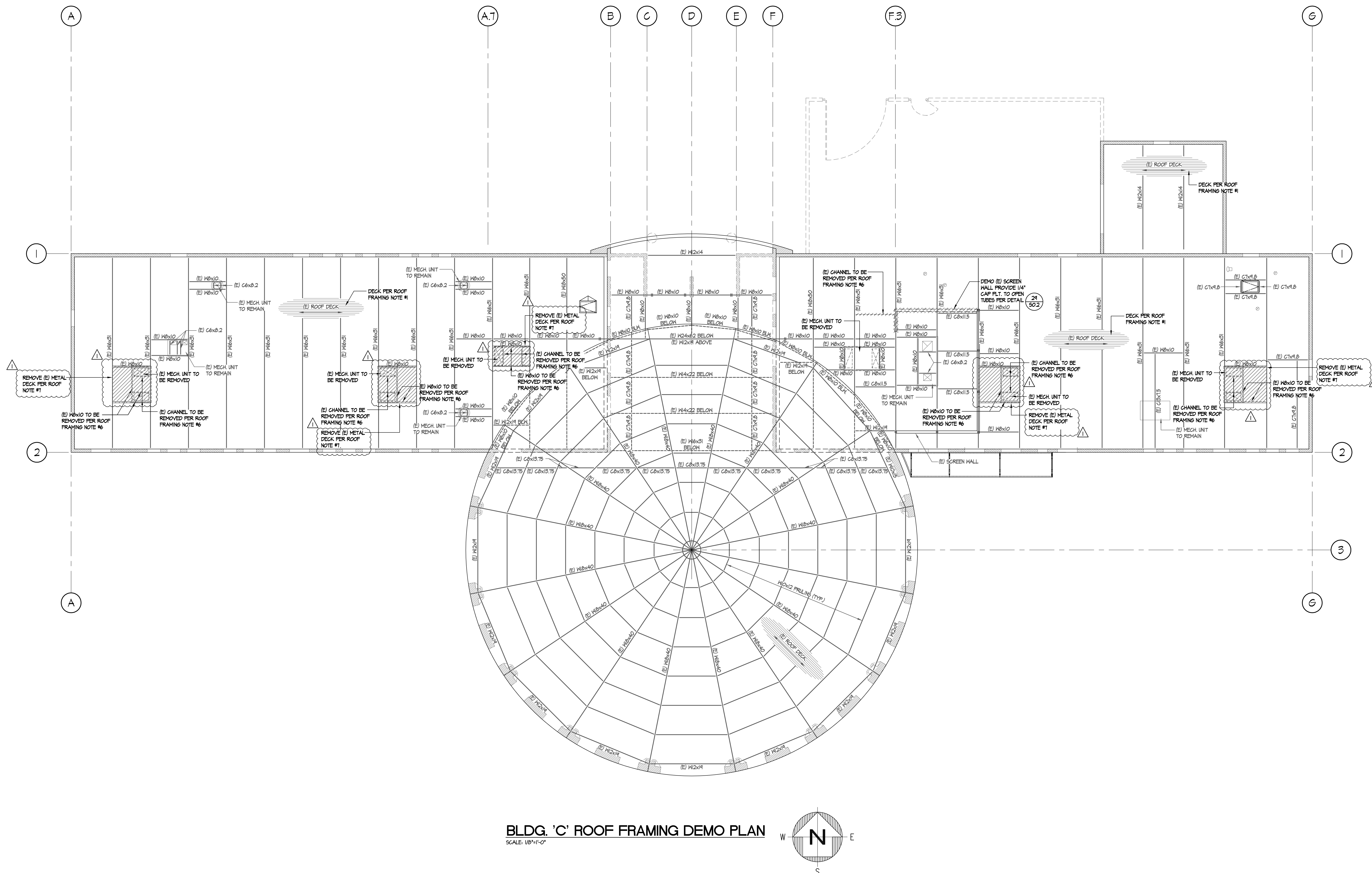
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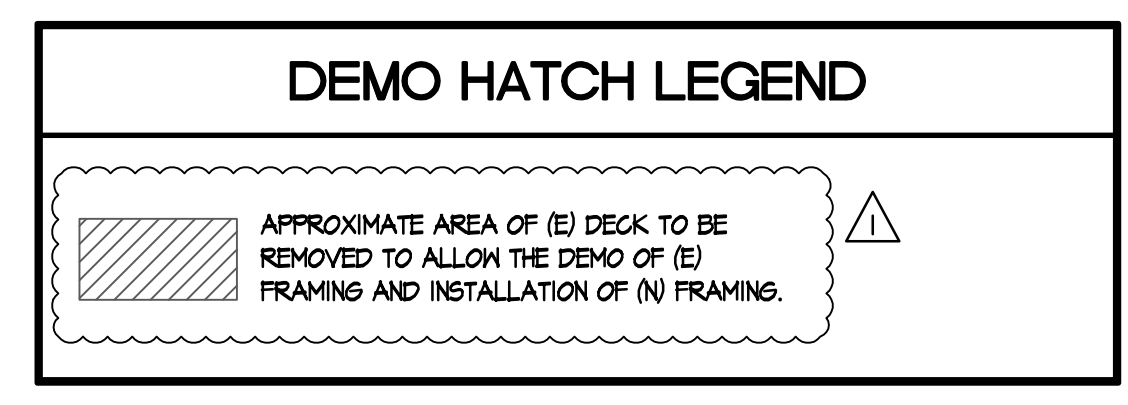
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DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING B
ROOF FRAMING
REMODEL PLAN**

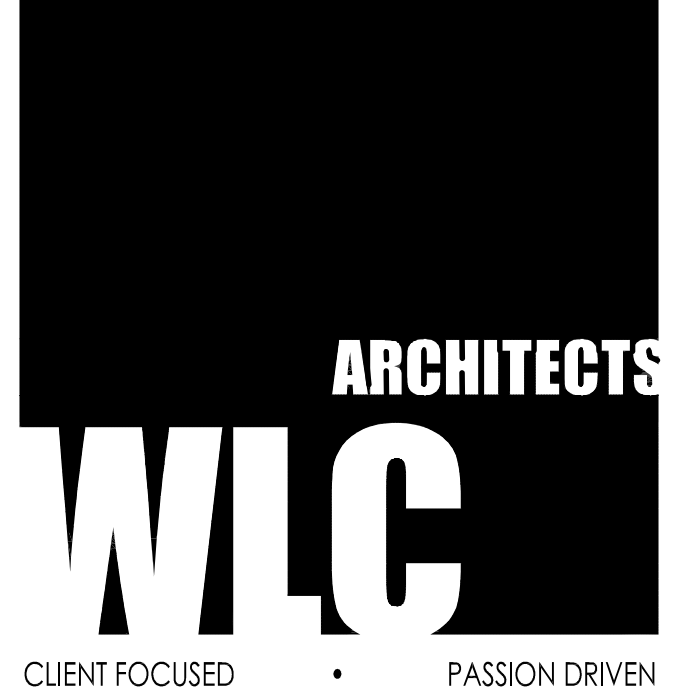
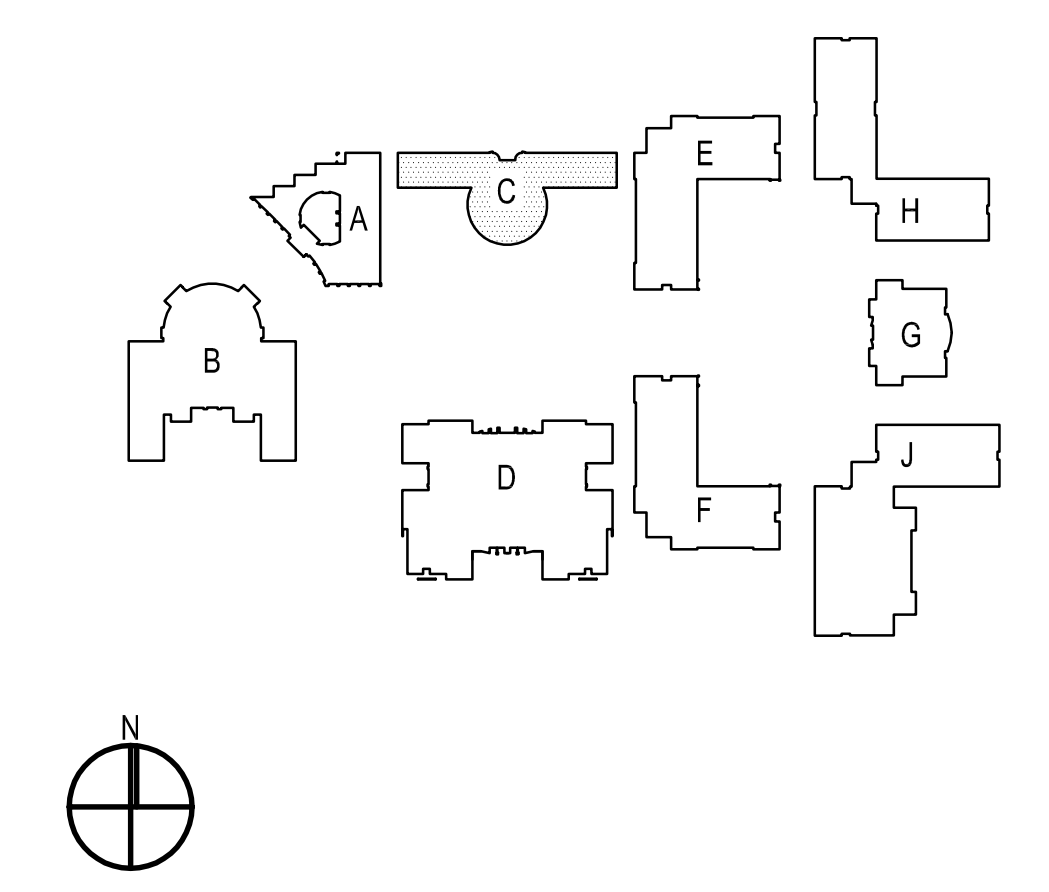
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BLDG. 'C' ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"

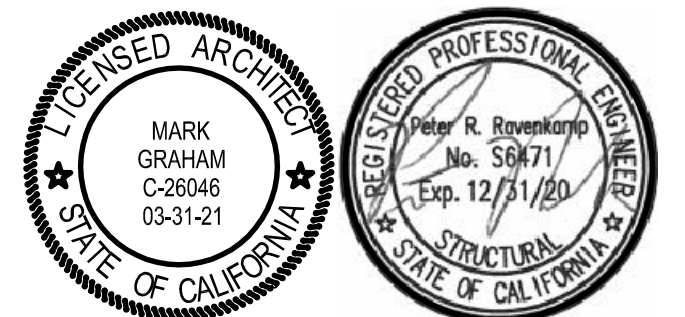


- ROOF FRAMING DEMO NOTES**
- 1 1/2" DEEP 16 GA. VERCO HSB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUZZLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1 1/2" LONG @ 12" O.C.
 - NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 - (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITES TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
 - BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
 - THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 - REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL B5/50.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.
 - REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ACCEPTABLE.



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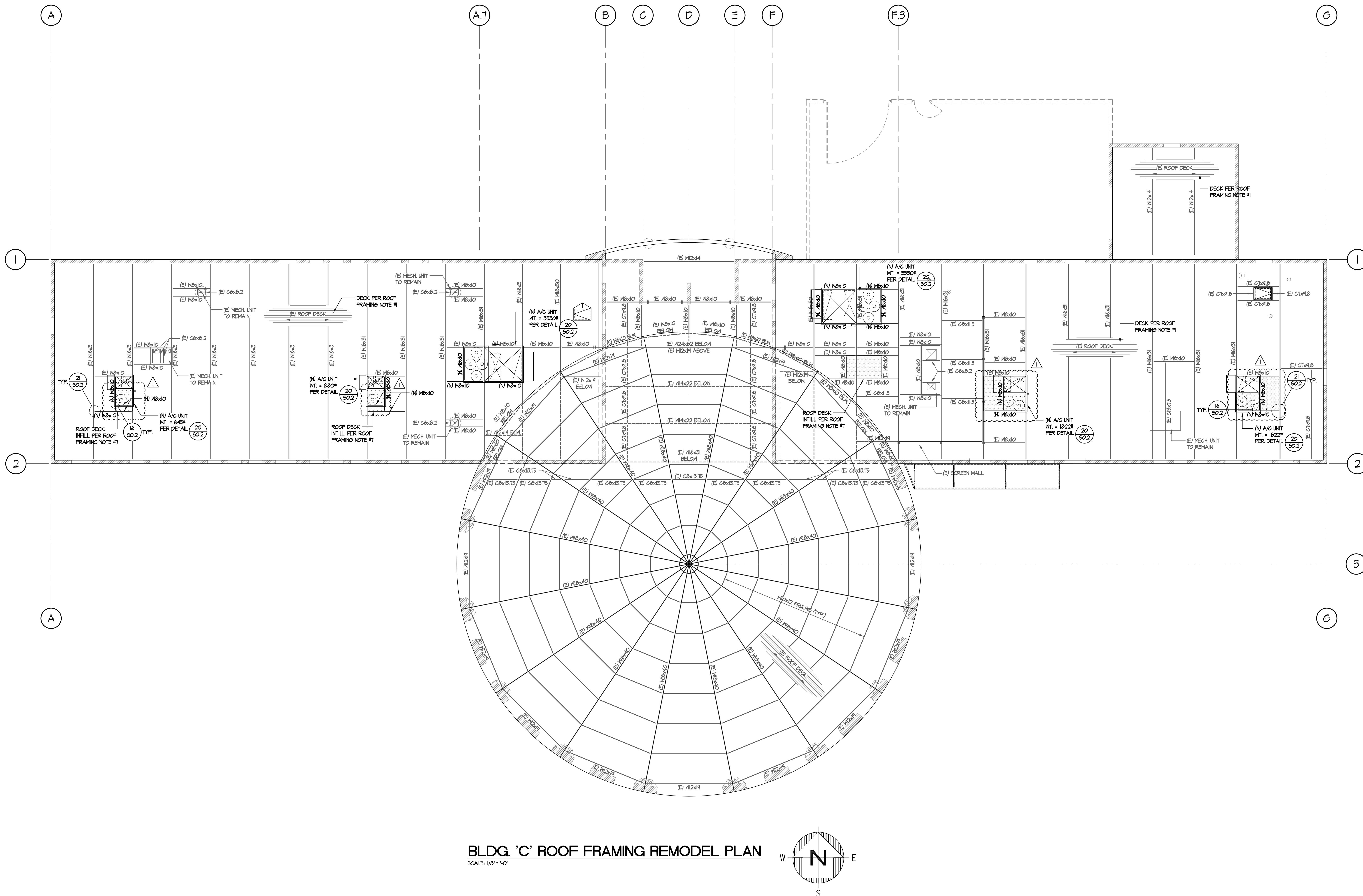
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DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING C
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DEMO PLAN**

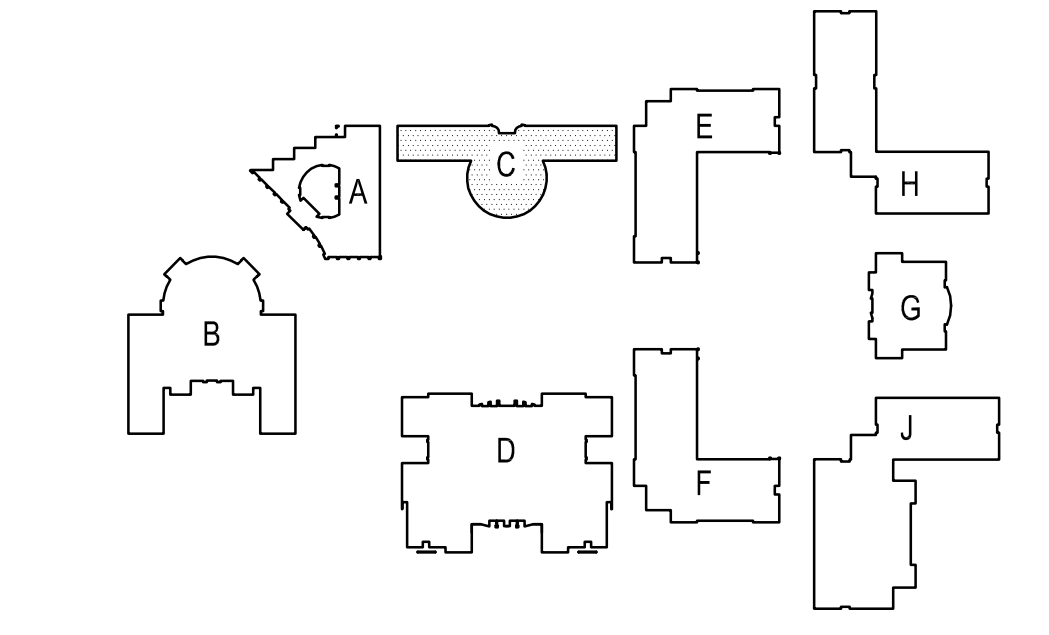
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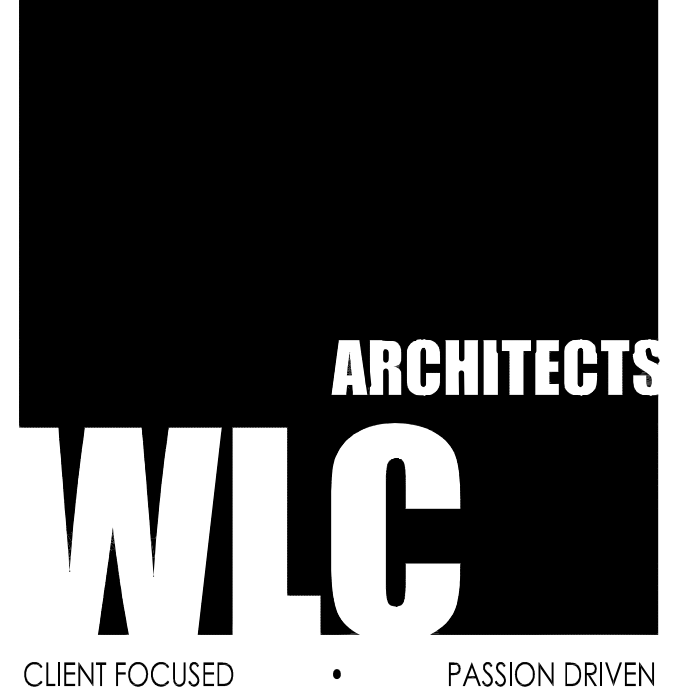
BLDG. 'C' ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"

HATCH LEGEND	
	(N) INFILL SHG'S TO MATCH SAME PATTERN AND LAYOUT AS (E) SHG'S. SEE DETAIL 15/503

- | ROOF FRAMING REMODEL NOTES | |
|---|---|
| 1. 1 1/2" DEEP 18 GA. VERCO HSB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PURPLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1 1/2" LONG @ 12" O.C. | 8. REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 15/502. |
| 2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER. | 9. (N) BEAM TO (E) BEAM CONNECTION PER 2/502. (N) BEAM TO (N) BEAM CONNECTION PER 16/502. |
| 3. (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS | 10. THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS. |
| 4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE. | |
| 5. (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 14/502 OR 5/503. | |
| 6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN PR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION. | |
| 7. PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 15/503. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION. (N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING. | |

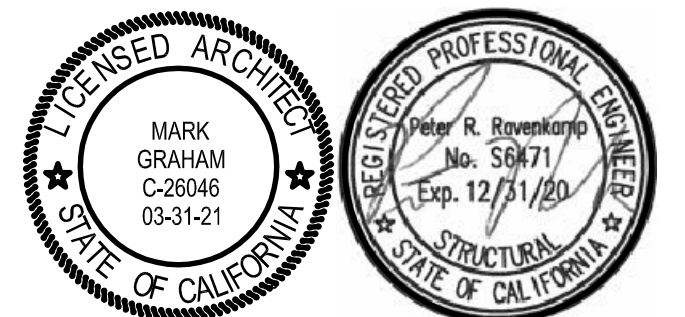


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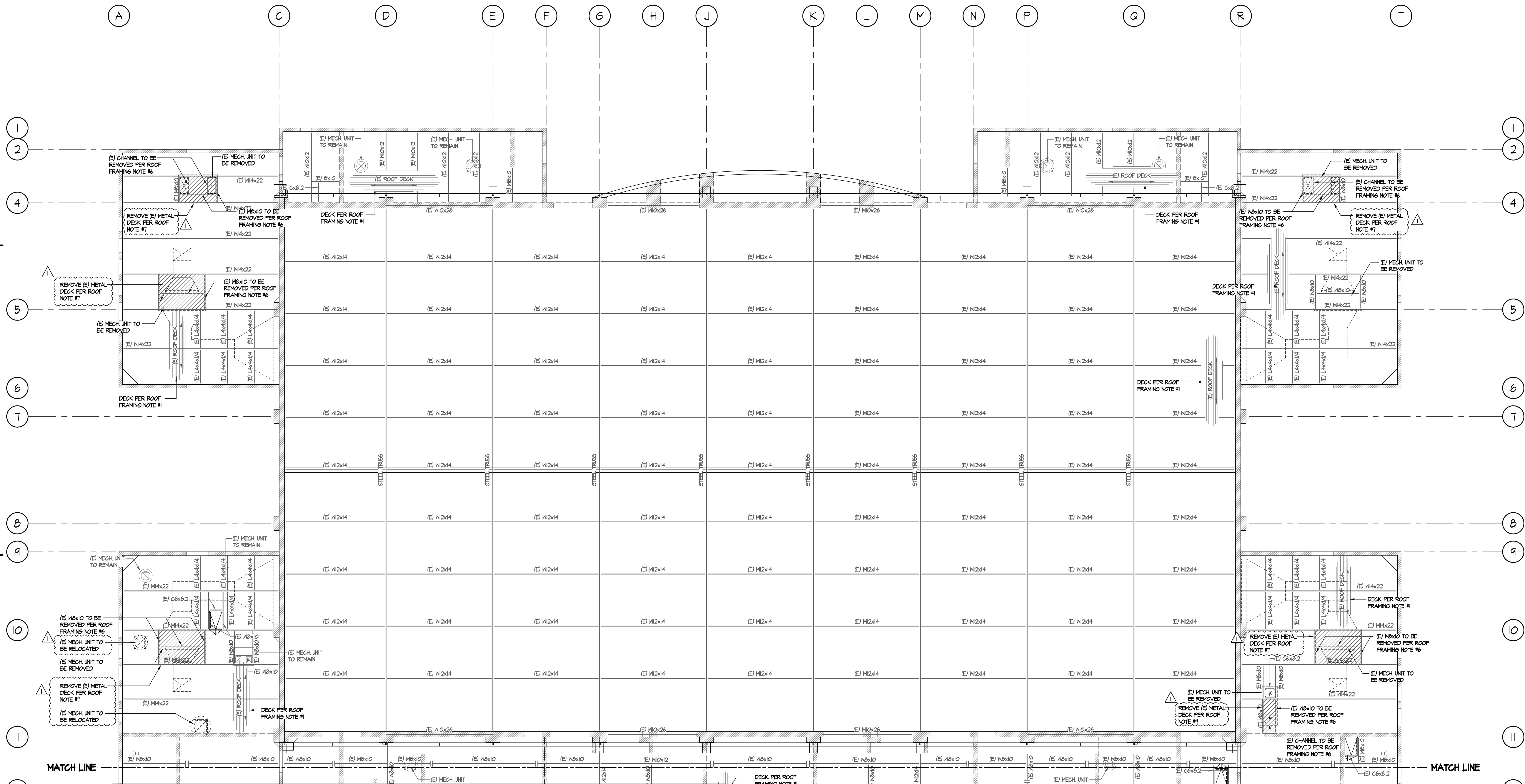
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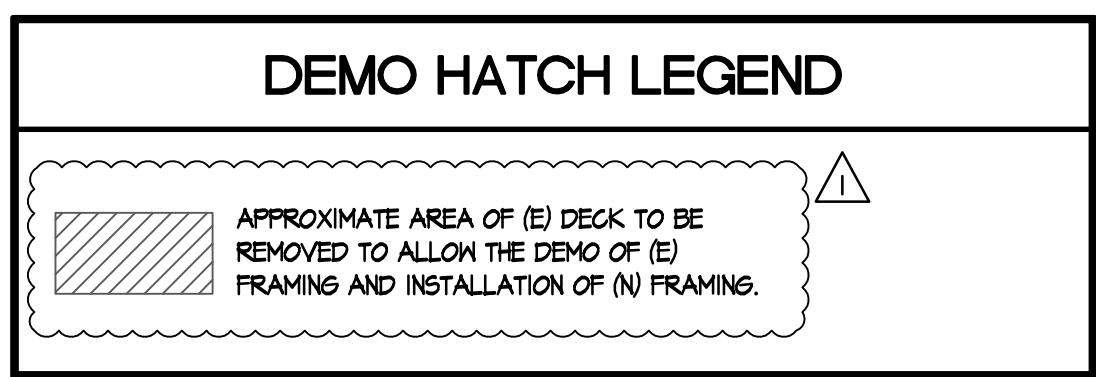
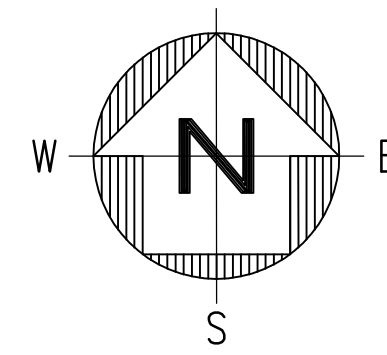
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PROJECT NUMBER: 1917000

**BUILDING C
ROOF FRAMING
REMODEL PLAN**

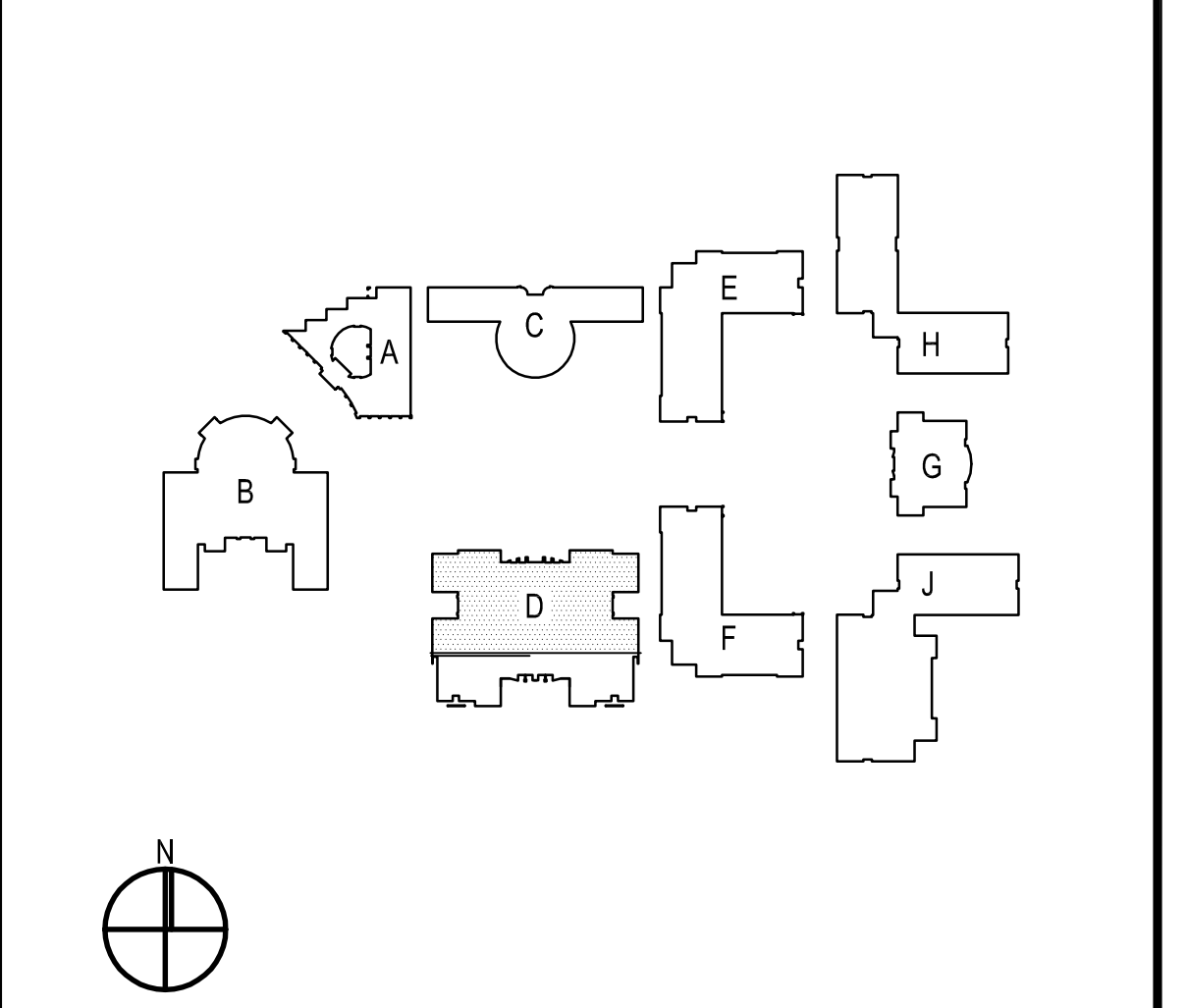
DRAWING NUMBER: **S2.6**



BLDG. 'D' AREA 1 ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"



- ROOF FRAMING DEMO NOTES**
1. 1 1/2" DEEP 16 GA. VERCO HSB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUZZLE HOLE @ 12" O.C. AND AT EA. LOW FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1 1/2" LONG @ 12" O.C.
 2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 3. (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
 4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
 5. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 6. REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL B5/50.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.
 7. REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ACCEPTABLE.



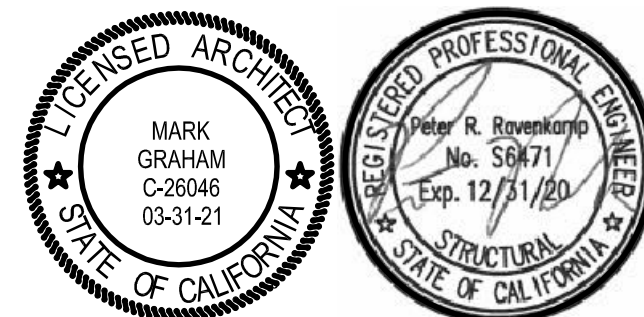
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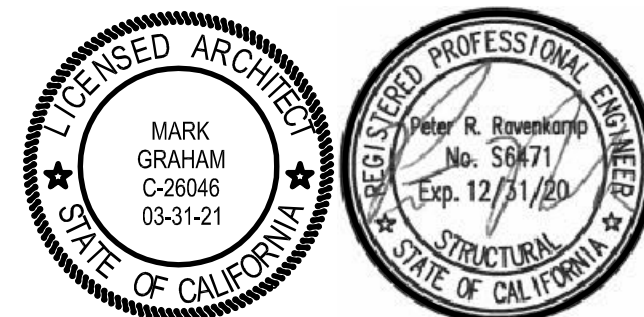
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F: 951.684.6226
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1	8/25/20	JV	ADDENDUM 1
NO	DATE	BY	DESCRIPTION
REVISIONS			
DRAWN:		CHECKED:	
DATE: 12/08/2020		SCALE: N.T.S.	
PROJECT NUMBER: 1917000			

**BUILDING D AREA 1
ROOF FRAMING
DEMO PLAN**

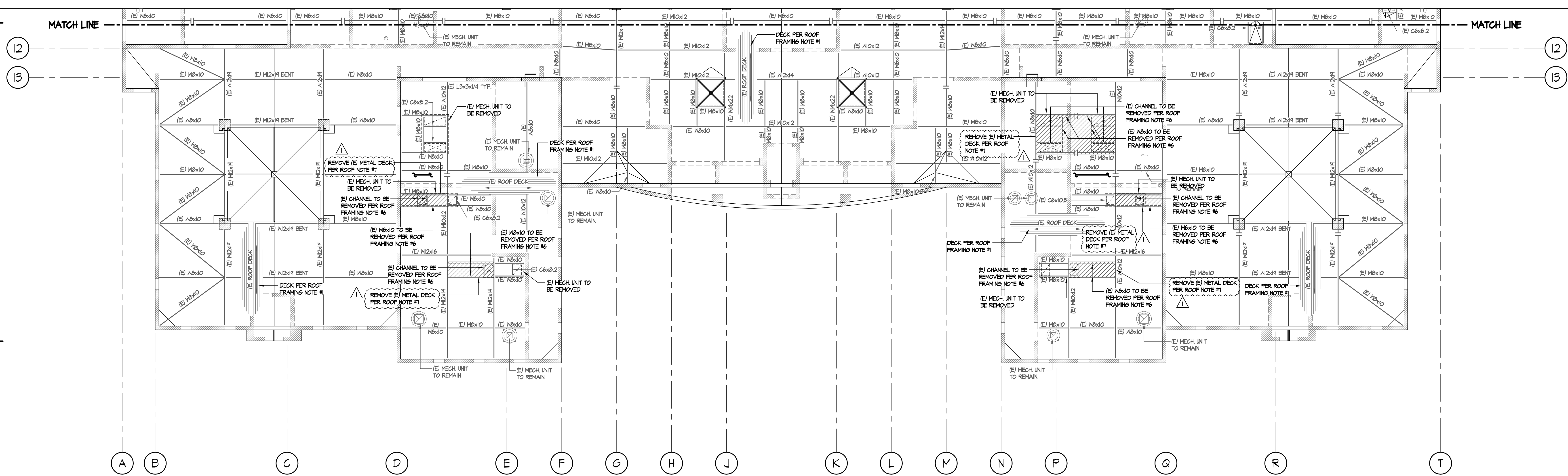
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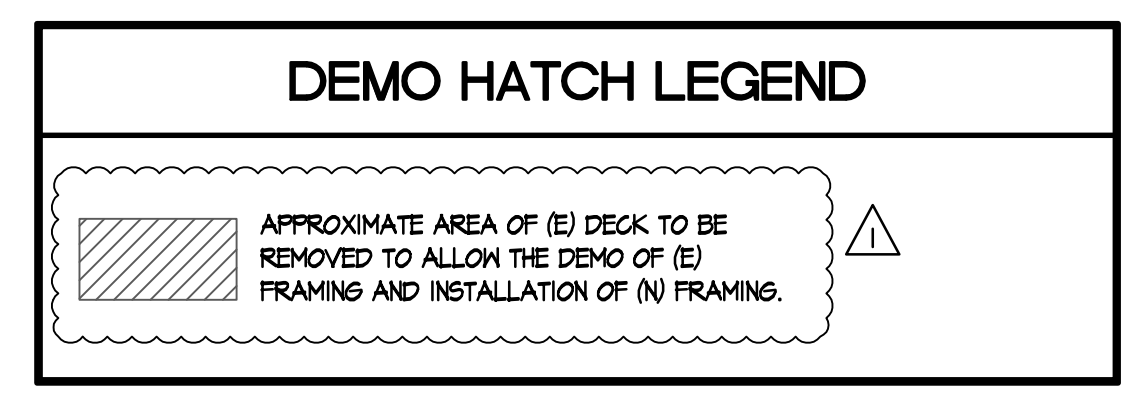
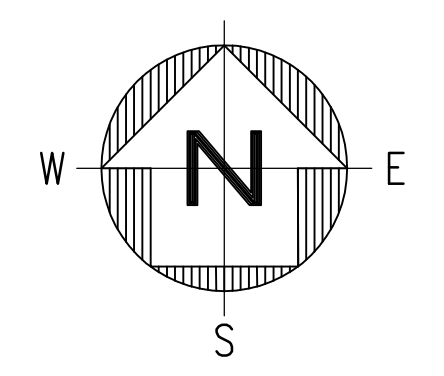


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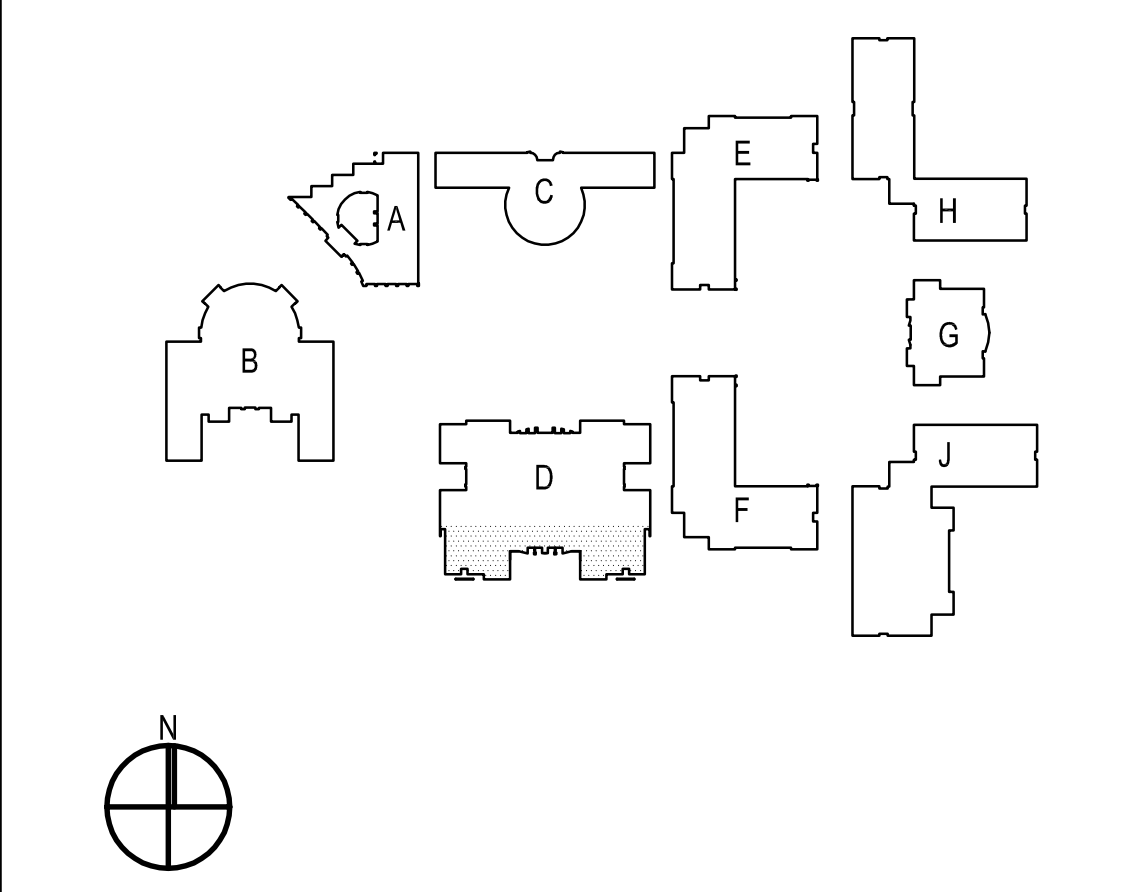
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 JCR NO.: SC13207



BLDG. 'D' AREA 2 ROOF FRAMING DEMO PLAN
 SCALE: 1/8"=1'-0"



- ROOF FRAMING DEMO NOTES**
- 1 1/2" DEEP 16 GA. VERCO HSB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUZZLE HELD @ 12" O.C. AND AT EA. LOW FLUTE. ATTACH SEAMS W/ TOP SEAM HELD 1 1/2" LONG @ 12" O.C.
 - NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 - (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITES TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
 - BEAMS LABELED AS "STRUT" TO REMAIN IN PLACE.
 - THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 - REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL B5/0.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.
 - REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ACCEPTABLE.

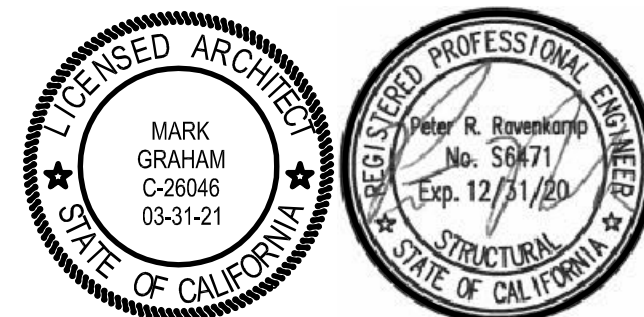


1	8/25/20	JV	ADDENDUM 1
NO	DATE	BY	DESCRIPTION
REVISIONS			

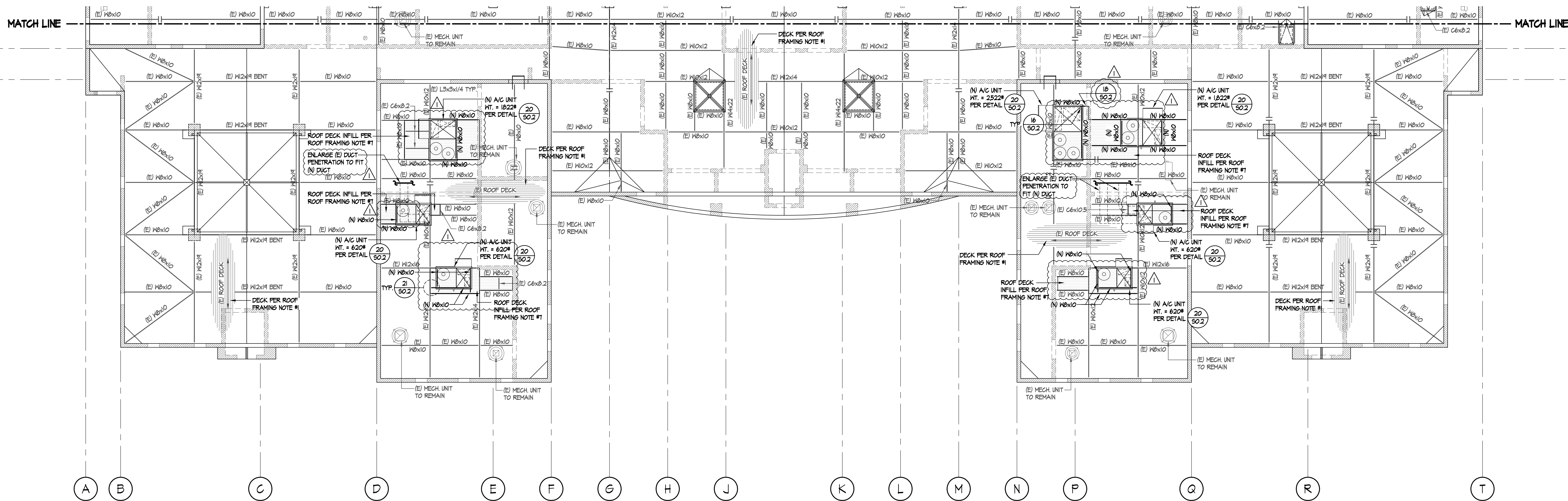
DRAWN:	CHECKED:
DATE: 12/08/2020	SCALE: N.T.S.
PROJECT NUMBER: 1917000	

**BUILDING D AREA 2
 ROOF FRAMING
 DEMO PLAN**

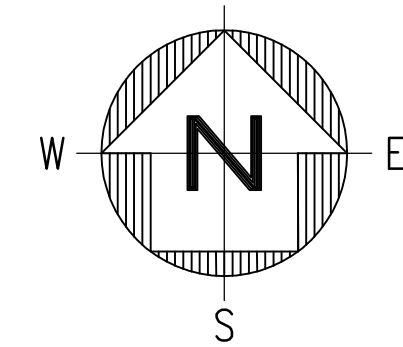
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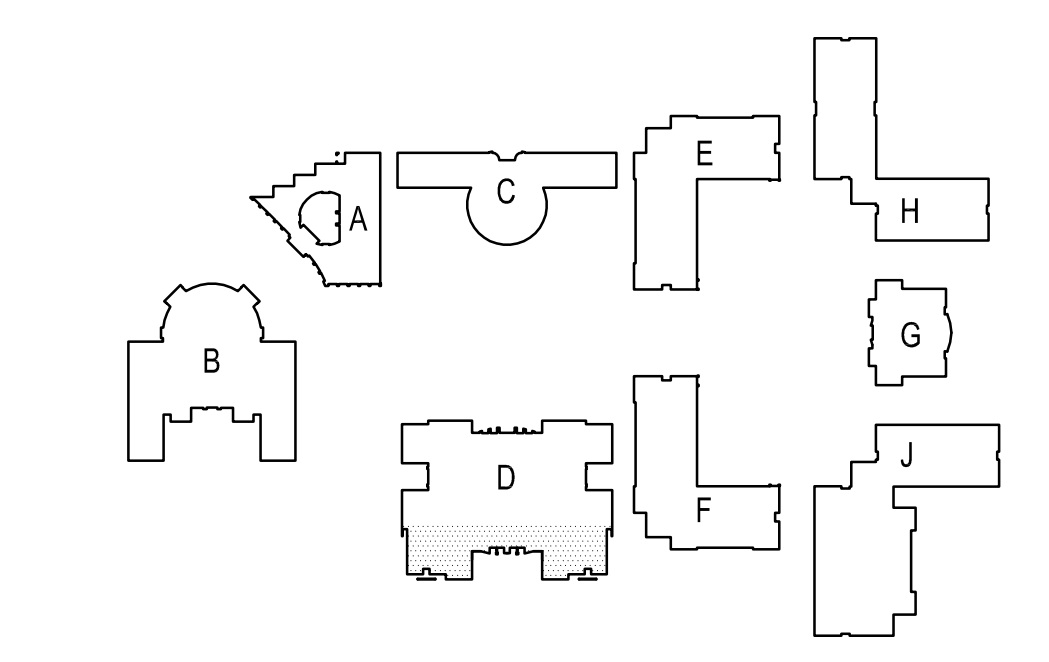
BLDG. 'D' AREA 2 ROOF FRAMING REMODEL PLAN
 SCALE: 1/8"=1'-0"



HATCH LEGEND

	(N) INFILL SHG'S TO MATCH SAME PATTERN AND LAYOUT AS (E) SHG'S. SEE DETAIL 15/503
--	---

- ROOF FRAMING REMODEL NOTES**
- 1 1/2" DEEP 18 GA. VERCO HSB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUZZLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1 1/2" LONG @ 12" O.C.
 - NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 - (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
 - BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
 - (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 14/502 OR 5/503.
 - THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN PR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 - PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 15/503. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION. (N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING.
 - REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 15/502.
 - (N) BEAM TO (E) BEAM CONNECTION PER 2/502. (N) BEAM TO (N) BEAM CONNECTION PER 16/502.
 - THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS.



SITE KEY PLAN

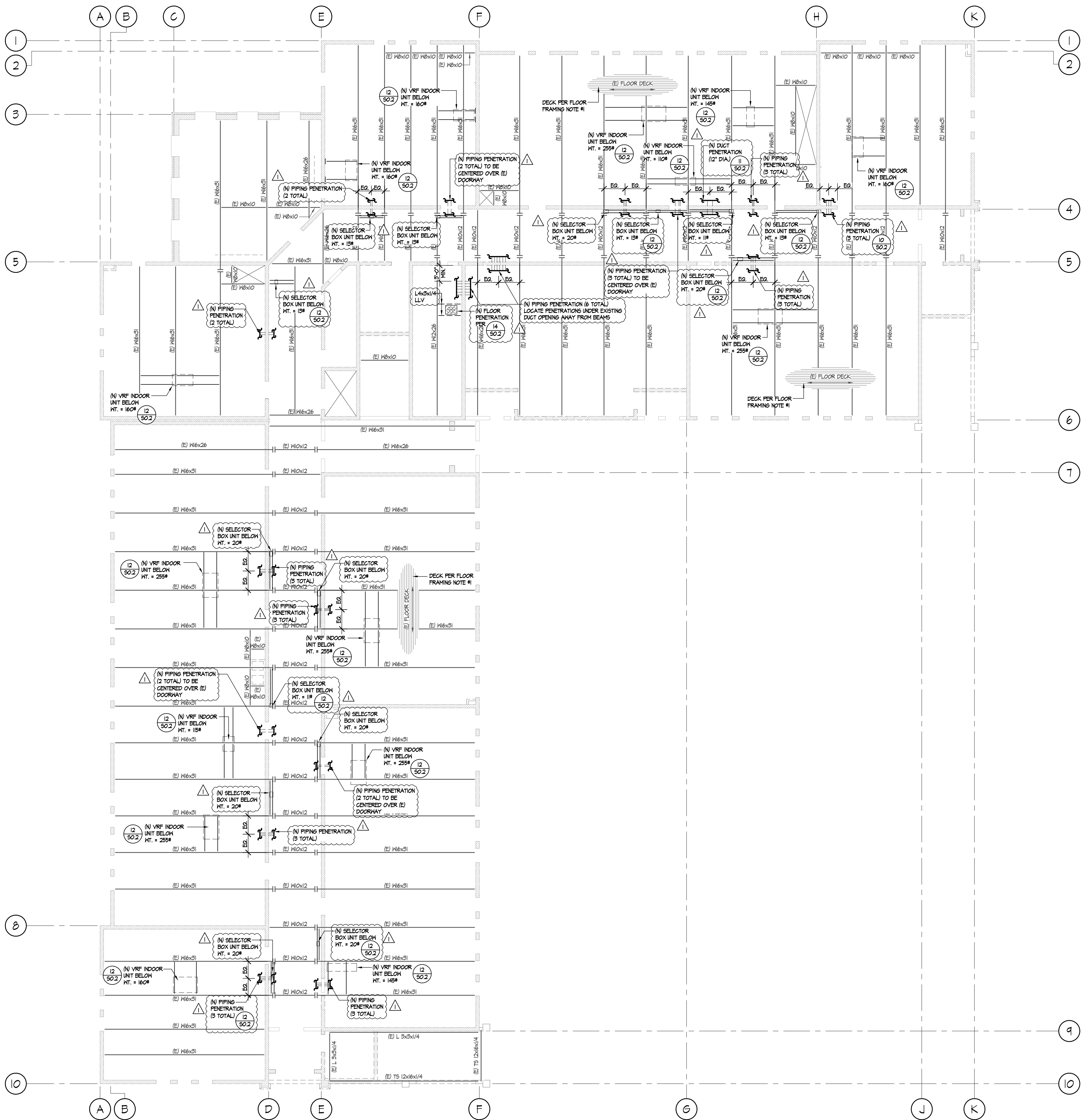
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1	8/25/20	JV	ADDENDUM 1

REVISIONS

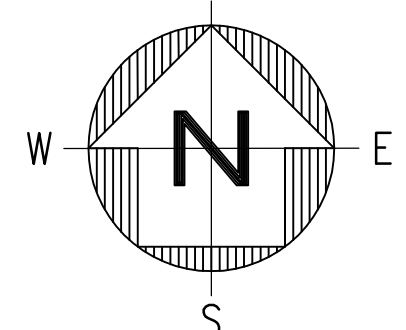
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DATE: 12/08/2020	SCALE: N.T.S.
PROJECT NUMBER: 1917000	

**BUILDING D AREA 2
 ROOF FRAMING
 REMODEL PLAN**

DRAWING NUMBER: S2.10



BLDG. 'E' SECOND FLOOR FRAMING PLAN
SCALE: 1/8"=1'-0"



SECOND FLOOR FRAMING NOTES

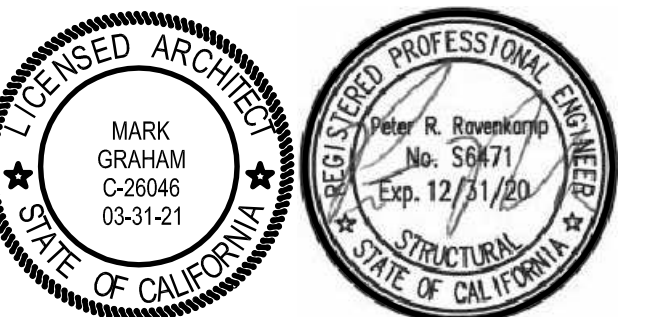
1. 2 1/2" LT. MT. CONG. SLAB W/ FIBER MESH W/ #3 @ 16" O.C. EA. WAY OVER 1 1/2"x20 GA. VERGO B' FORM-LOK (GALV) DECK BY VERGO MANUFACTURING CO. @ 1/4" TOTAL THICKNESS (APPROX 21") QUANTITY OF FIBER MESH IN CONG. PER CONG. NOTE.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. HANG UNITS SHOULD BE FRAMED PER DETAIL 12/503 OR 1/503.
4. FLOOR PENETRATIONS SHOULD BE FRAMED PER DETAIL 4/504.
5. (E) INTERIOR NON-BEARING STUD WALLS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS.
6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND WEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN FOR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
7. THE SUPPORT OF THE MECHANICAL UNIT, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS.
8. (N) PIPE PENETRATIONS MUST FOLLOW 10/502.



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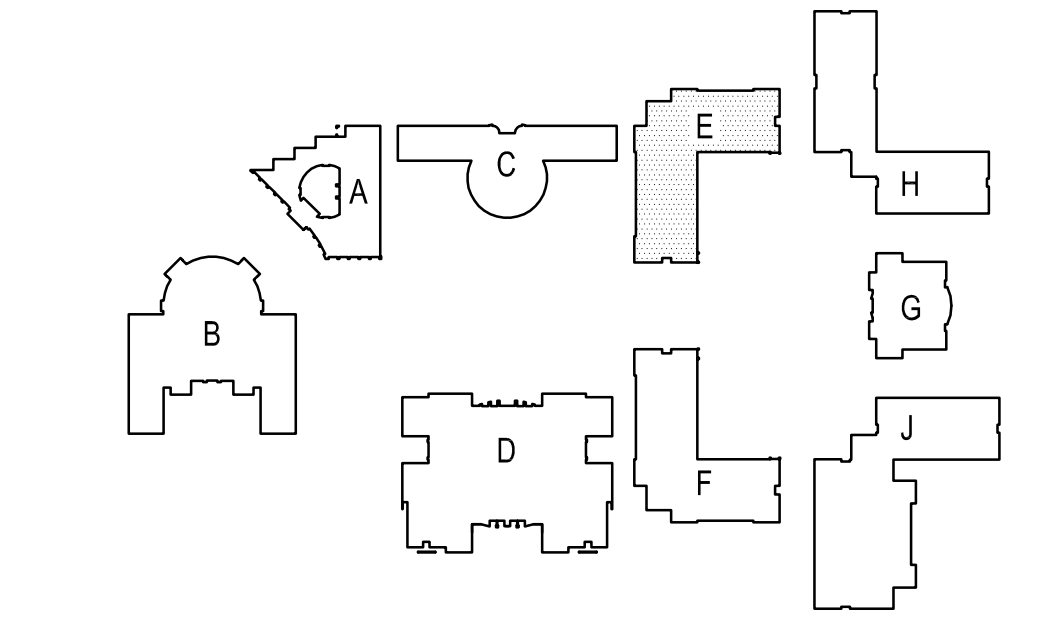
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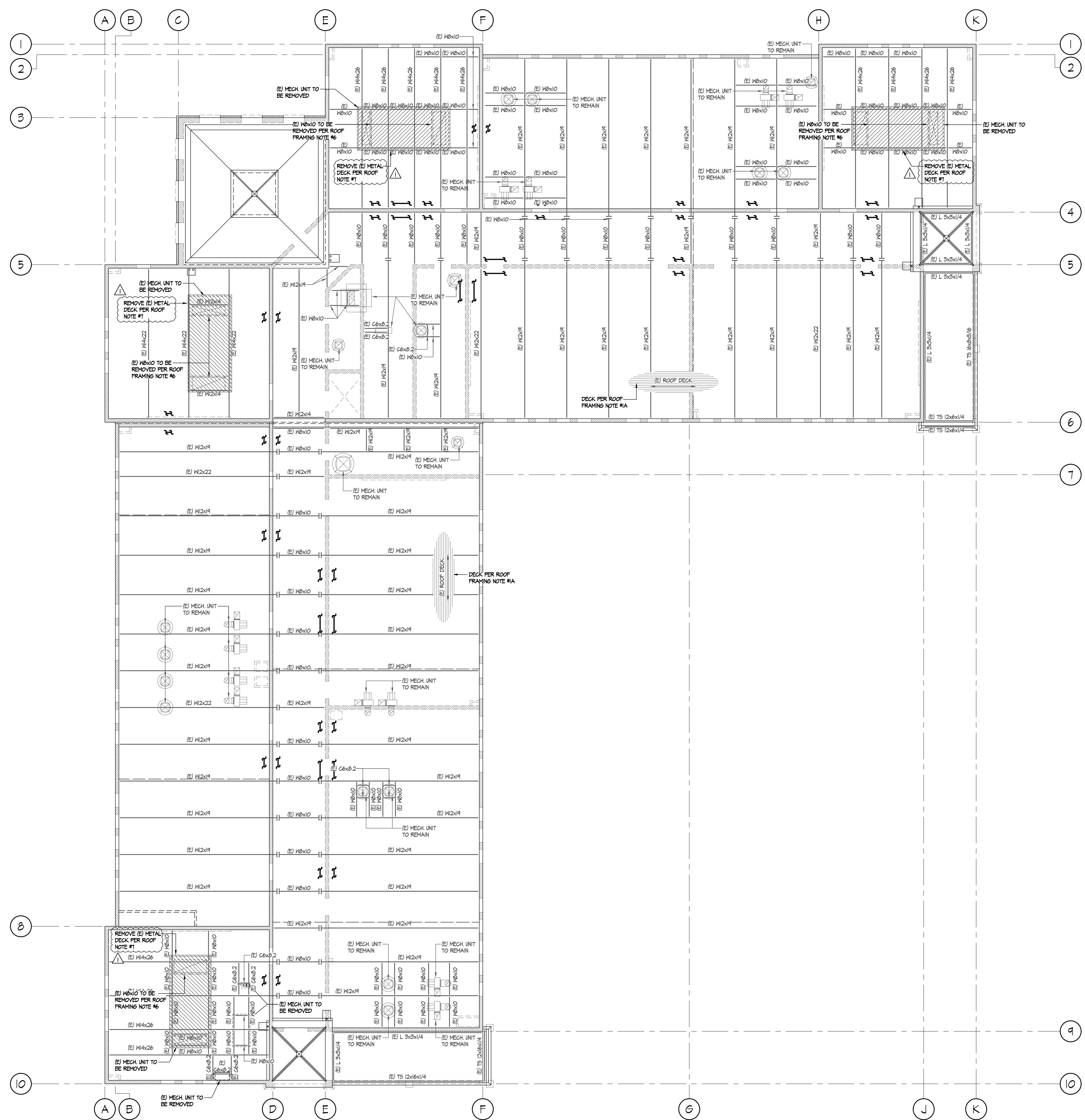
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DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING E
SECOND FLOOR
FRAMING PLAN**

DRAWING NUMBER: **S2.11**



SITE KEY PLAN

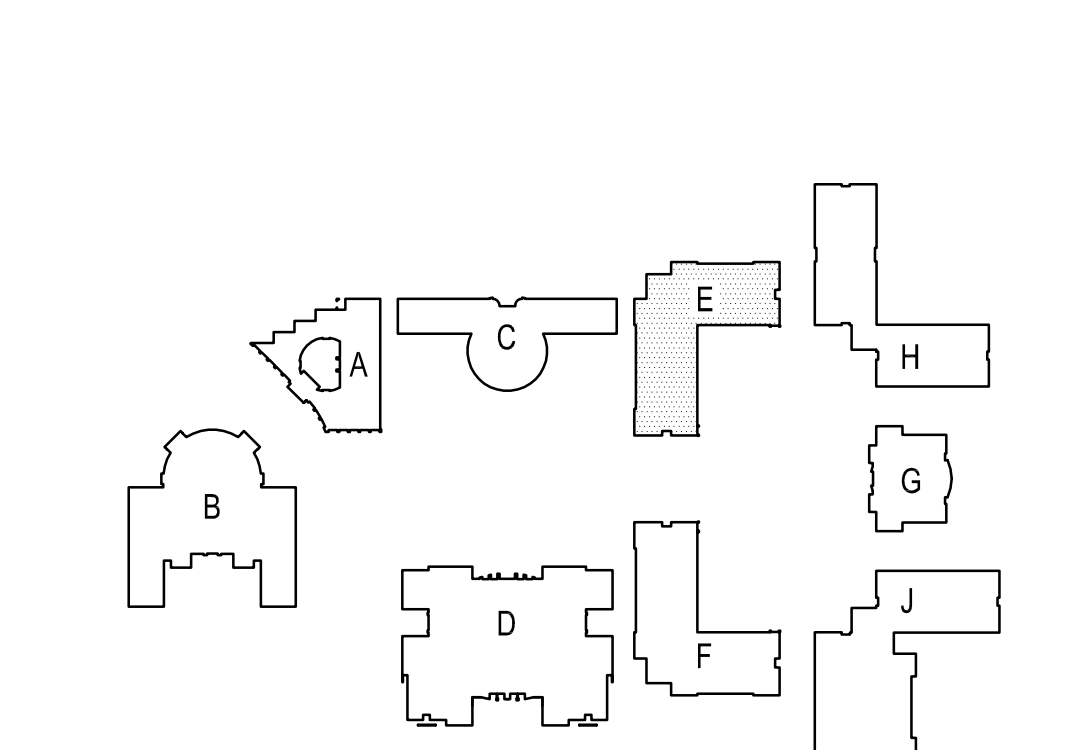


BLDG. 'E' ROOF FRAMING DEMO PLAN
 SCALE: 1/8"=1'-0"
 W N E S

- ### ROOF FRAMING DEMO NOTES
- 1 1/2" DEEP 18 GA. VERCO HB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM WELD 1 1/2" LONG @ 12" O.C.
 - NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
 - (E) INTERIOR NON-BEARING STD. WALLS AND SOFFITES TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
 - BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
 - THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS HAS BEEN DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
 - REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL (B)502. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.
 - EXISTING DECKING TO BE REMOVED AS REQUIRED TO REMOVE DEMO'D FRAMING AND INSTALL NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE.



NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1
REVISIONS			
DRAWN:		CHECKED:	
DATE: 12/08/2020		SCALE: N.T.S.	
PROJECT NUMBER: 1917000			

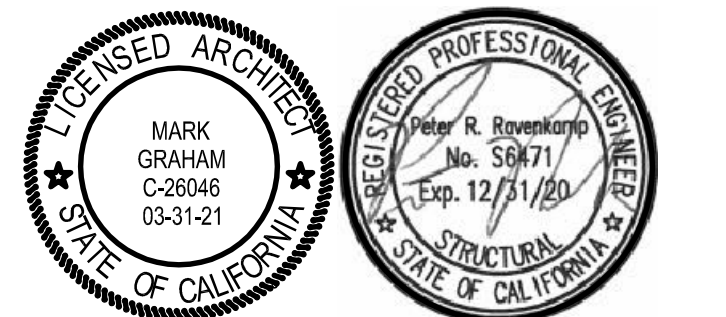


SITE KEY PLAN

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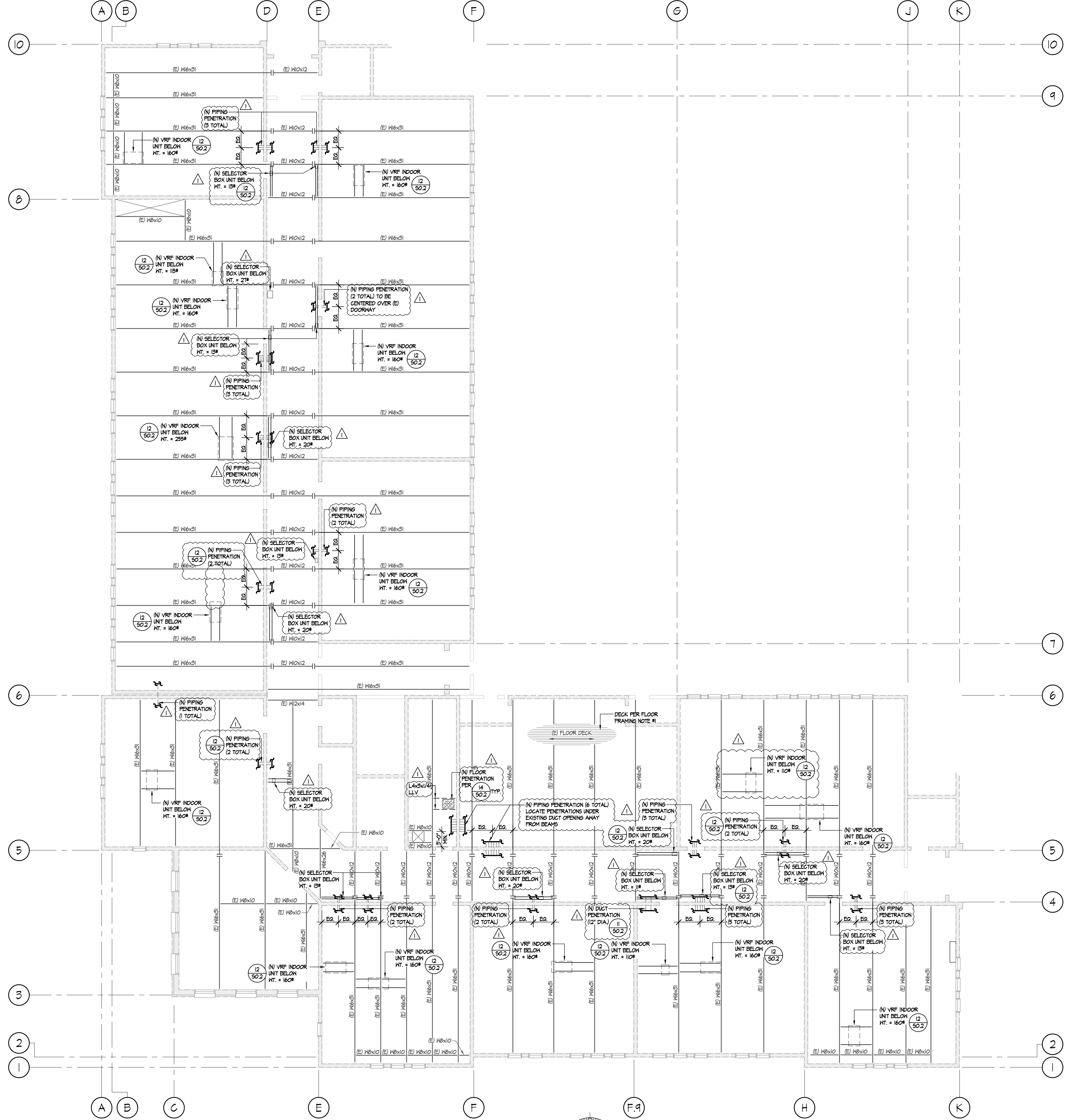
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**BUILDING E
 ROOF FRAMING
 DEMO PLAN**

DRAWING NUMBER: **S2.12**



BLDG. 'F' SECOND FLOOR FRAMING PLAN
SCALE: 1/8"=1'-0"

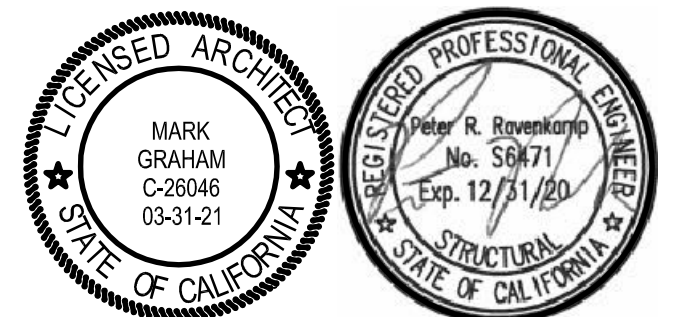
SECOND FLOOR FRAMING NOTES

1. 5 1/4" LT. WT. CONC. SLAB W/ FIBER MESH W/ #4 @ 24" O.C. EA. WAY OVER 3"x16 GA. WB FORMLOK (GALV.) DECK BY VERGO MANUFACTURING CO. & 1/4" TOTAL THICKNESS (APMO ER-217) QUANTITY OF FIBER MESH IN CONC. PER CONC. NOTE.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. HANG UNITS SHOULD BE FRAMED PER DETAIL 12/50.3
4. FLOOR PENETRATIONS SHOULD BE FRAMED PER DETAIL 9/50.4
5. (E) INTERIOR NON-BEARING STUD WALLS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.

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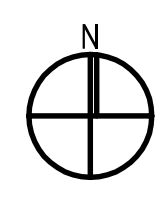
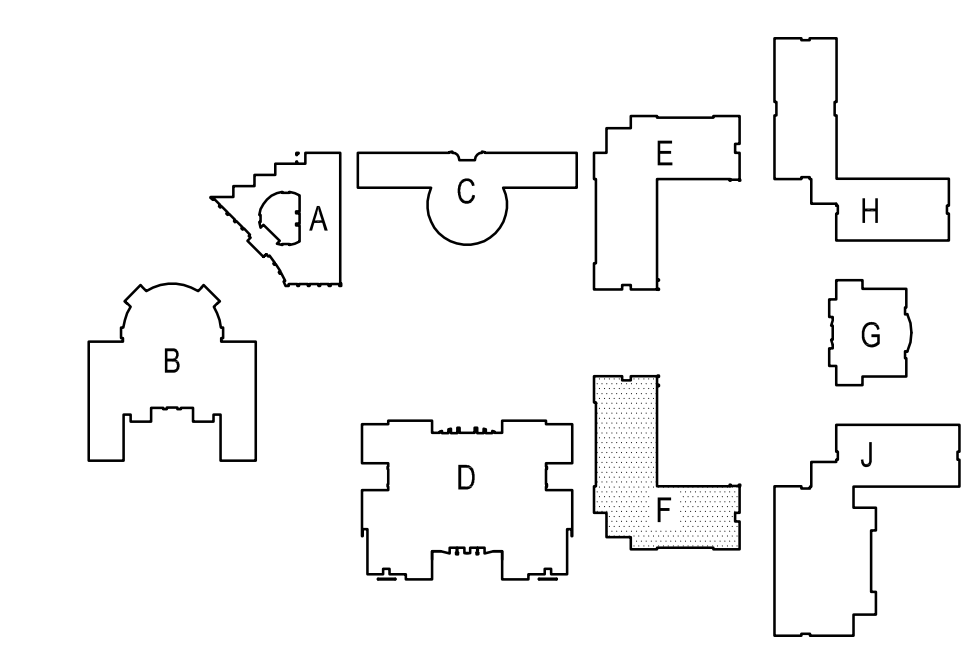
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1	8/25/20	JV	ADDENDUM 1
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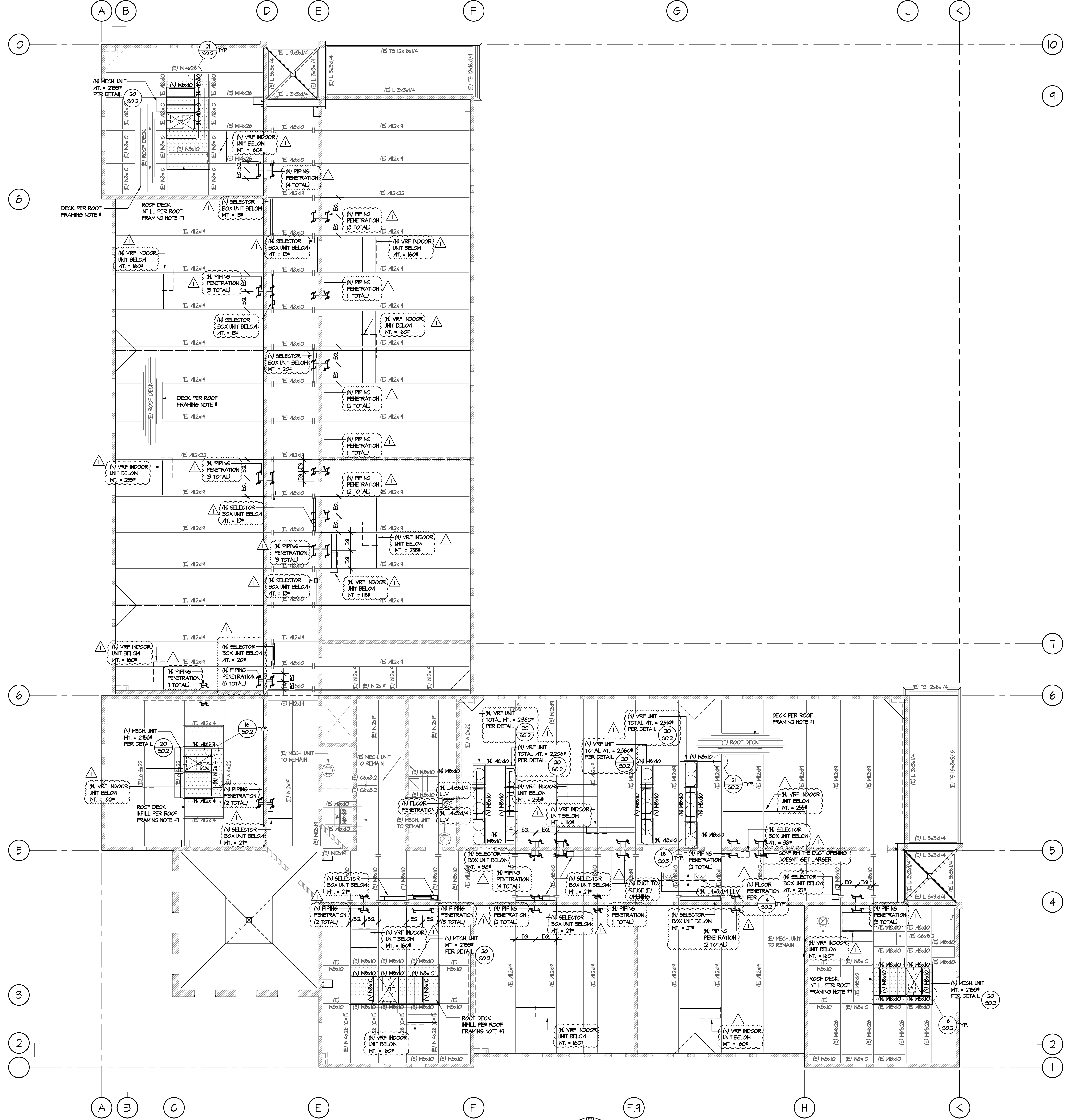
DRAWN: _____ CHECKED: _____
DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING F
SECOND FLOOR
FRAMING PLAN**

DRAWING NUMBER: **S2.14**



SITE KEY PLAN

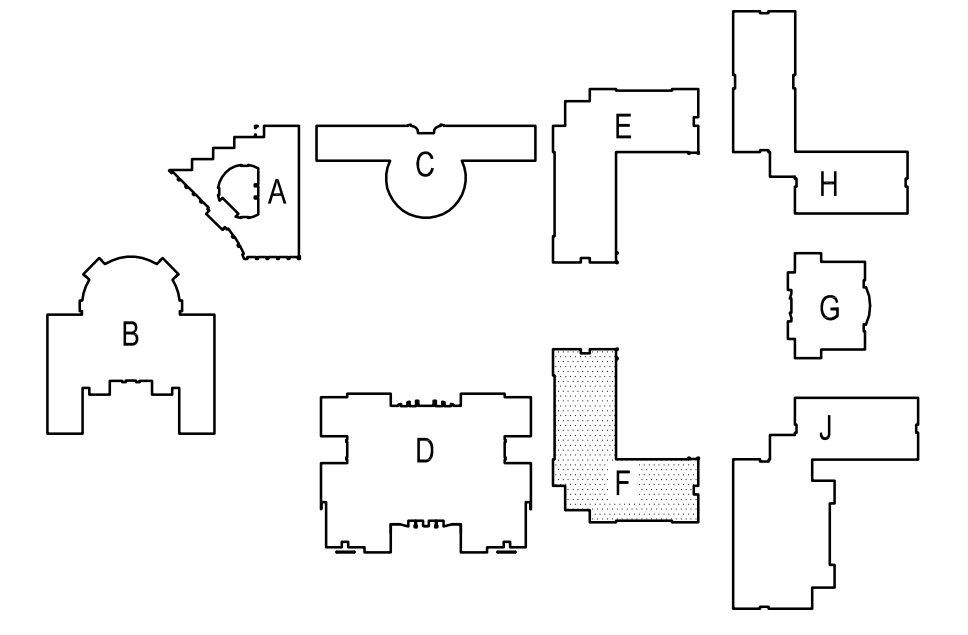
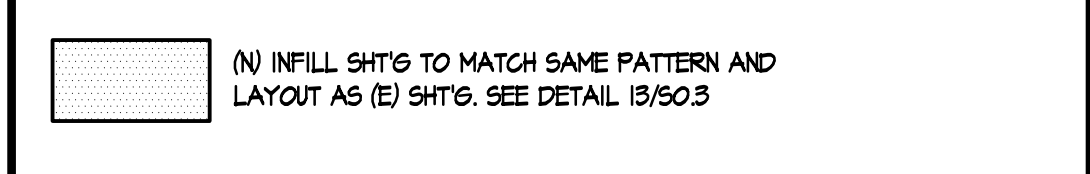


BLDG. 'F' ROOF FRAMING REMODEL PLAN
 SCALE: 1/8"=1'-0"

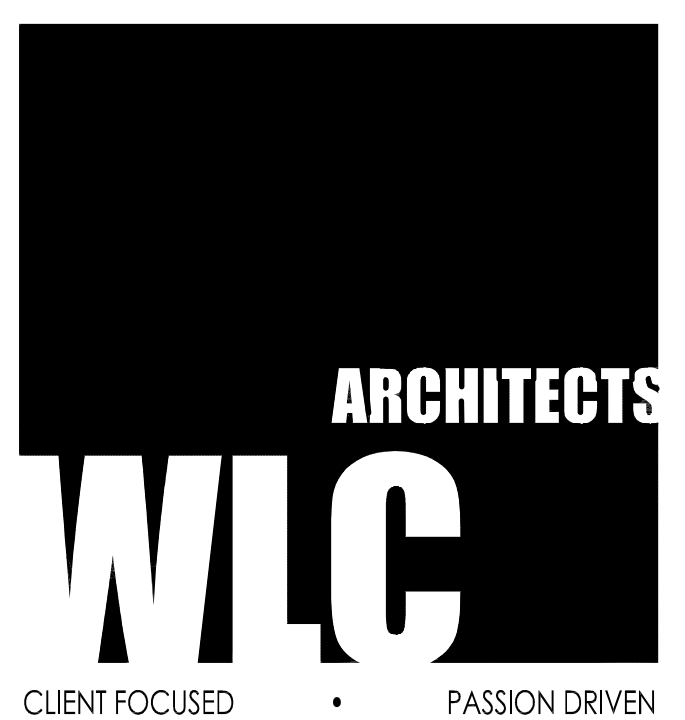
ROOF FRAMING REMODEL NOTES

- 1 1/2" DEEP 20 GA. VERCO H50-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM HELD 1 1/2" LONG @ 12" O.C.
- NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
- (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS.
- BEAMS LABELED AS 'STRICT' TO REMAIN IN PLACE.
- (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 12/502 OR 15/033.
- THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
- PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 15/025. SEE ARCH. & SECL. DRAWINGS FOR REMAINING INFORMATION. (N) DECK INFILL TO BE ORIENTED THE SAME DIRECTION AS THE EXISTING.
- REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 15/502.
- THE SUPPORT OF THE MECHANICAL UNITS, EXHAUST FANS, CONDENSING UNITS, ETC. AS SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE. THE GENERAL CONTRACTOR SHALL COORDINATE THE UNIT TYPE AND QUANTITY WITH THE STRUCTURAL DRAWINGS.
- (N) BEAMS ARE NOT TO BE INSTALLED OVER (E) OPENINGS AS INDICATED IN DETAIL 11/502.
- (N) WALL PENETRATIONS ARE TO BE PER DETAIL 10/502 AND ARE NOT TO BE UNDER (N) OR (E) BEAMS PER 11/502.
- THE CONTRACTOR SHALL COORDINATE (N) WALL PENETRATIONS WITH THE INSTALLATION OF (N) BEAMS PRIOR TO FABRICATION AND INSTALLATION OF THE STEEL BEAMS.

HATCH LEGEND

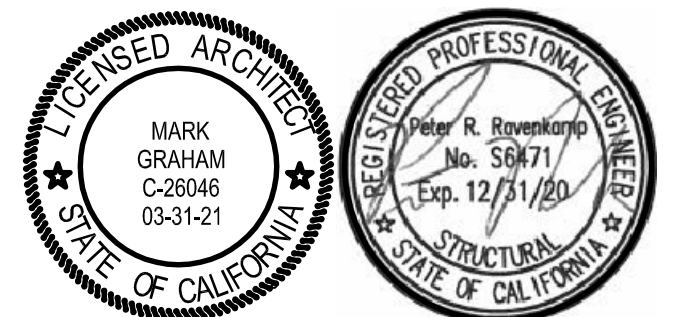


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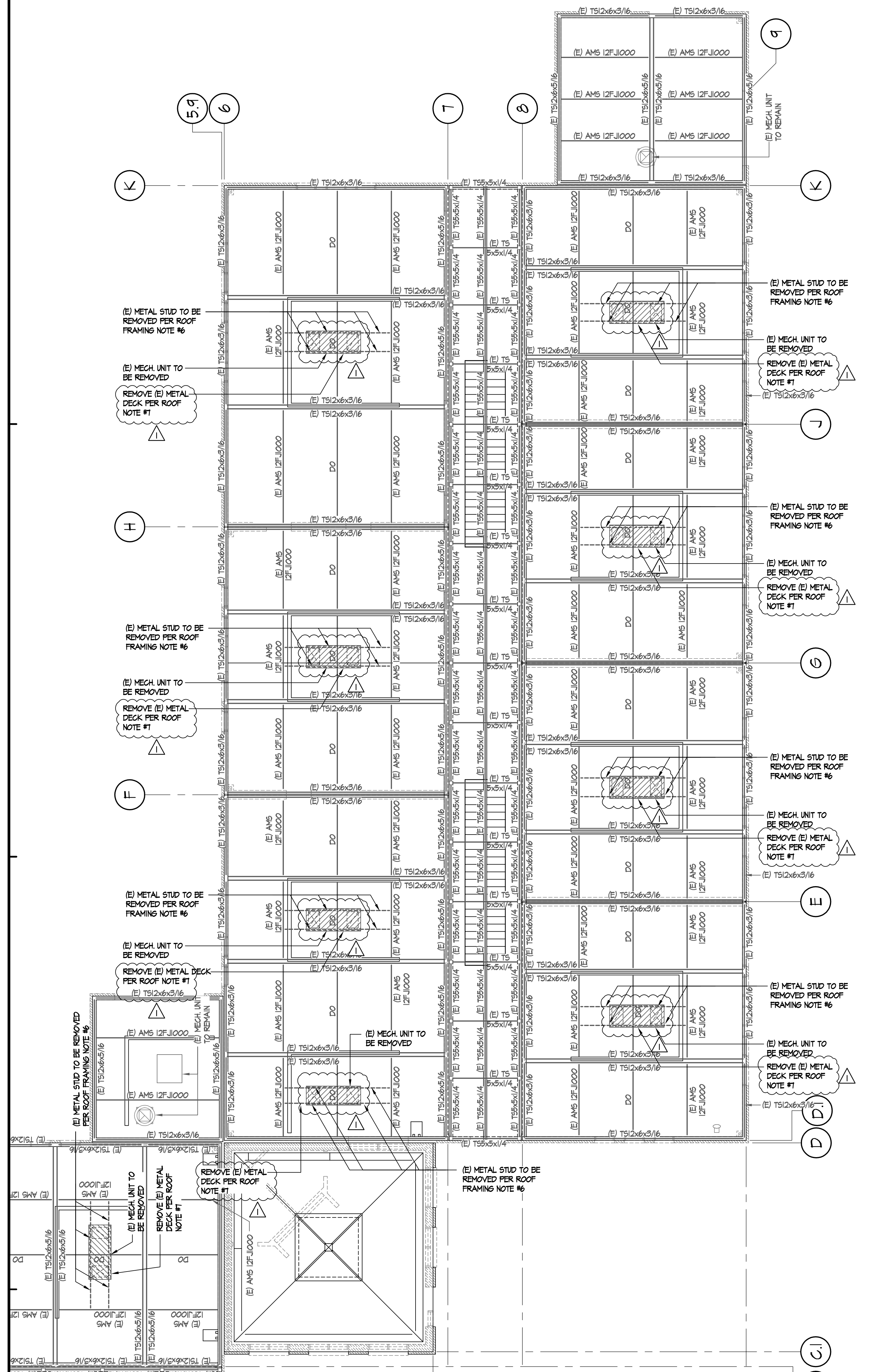
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 4344 LATHAM ST., SUITE 100
 RIVERSIDE, CA 92501-1773
 P: 951-684-6200
 F: 951-684-6226
 JOB NO.: 201902

NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1
REVISIONS			

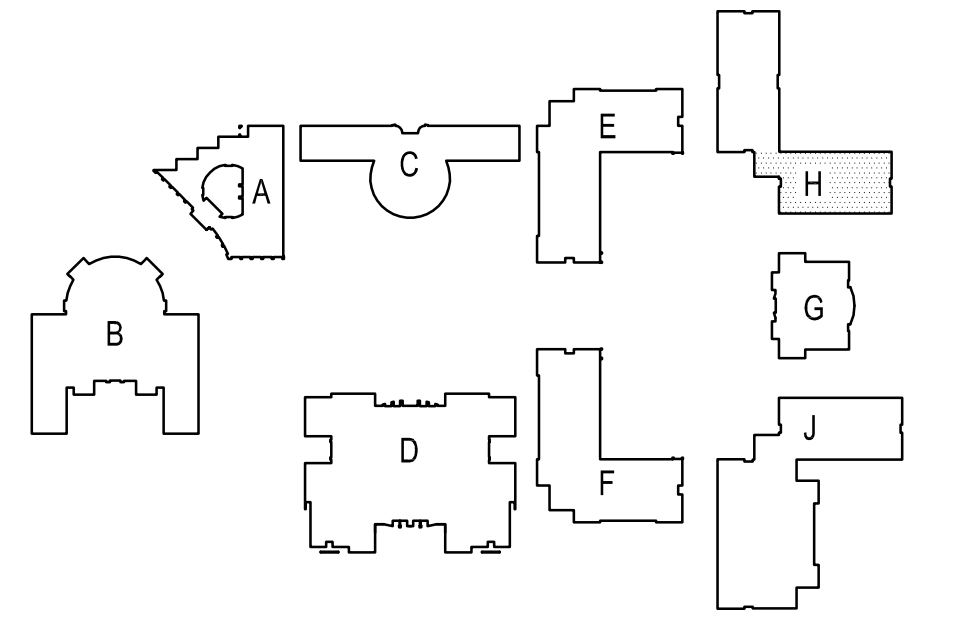
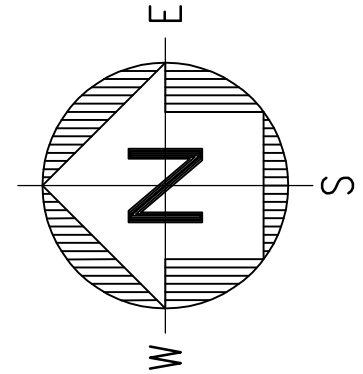
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 DATE: 12/08/2020 SCALE: N.T.S.
 PROJECT NUMBER: 1917000

**BUILDING F
 ROOF FRAMING
 REMODEL PLAN**

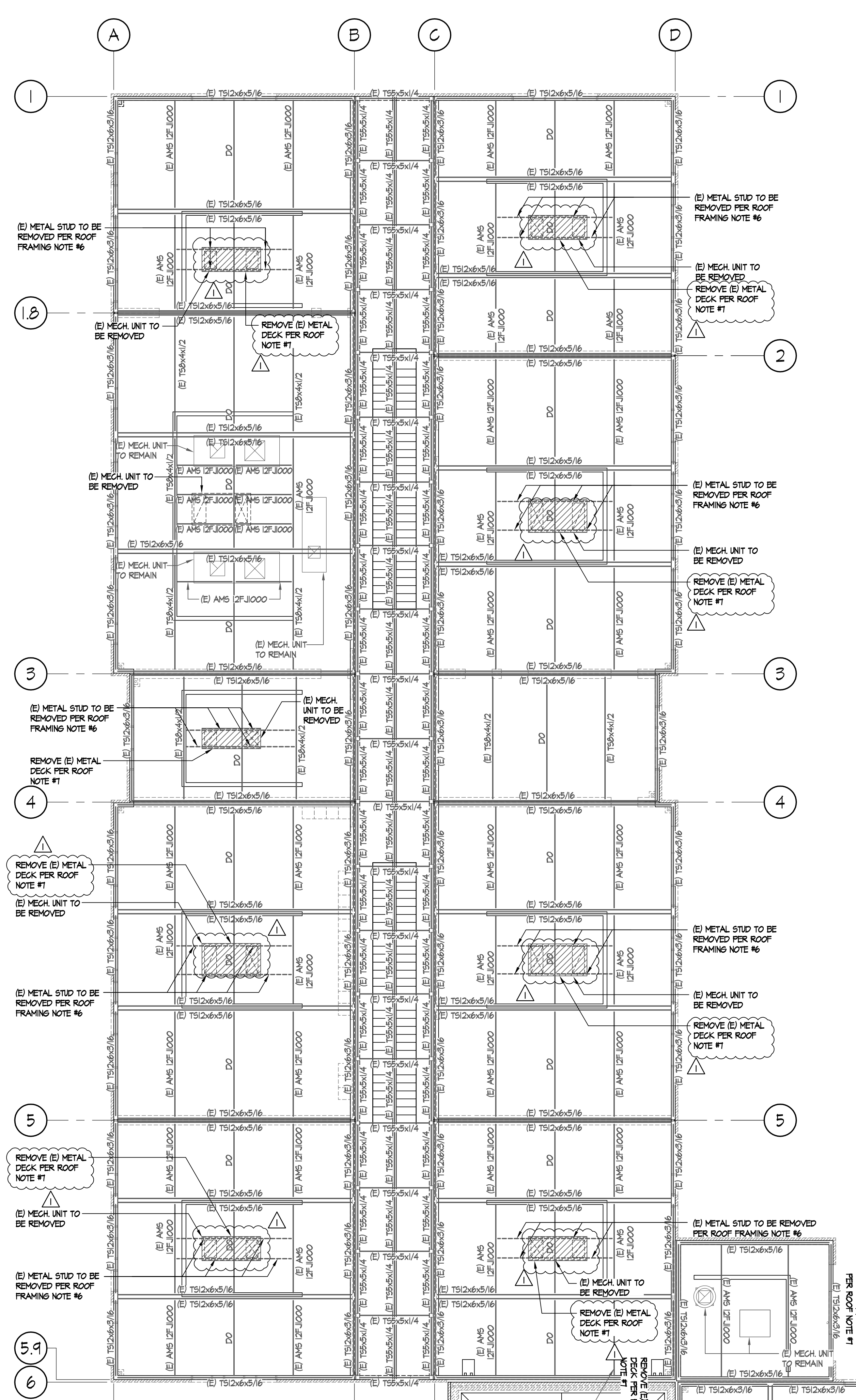
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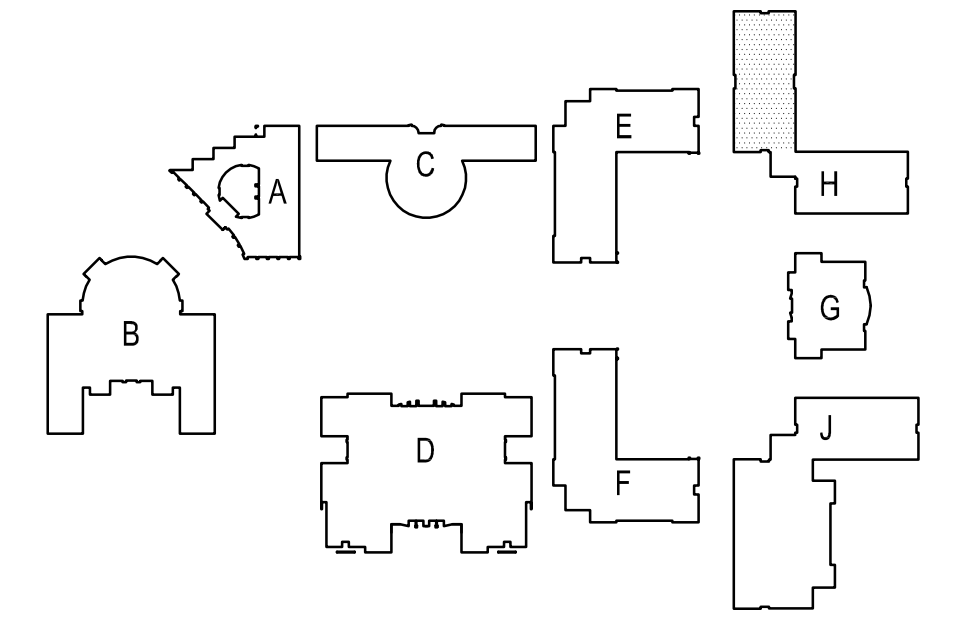
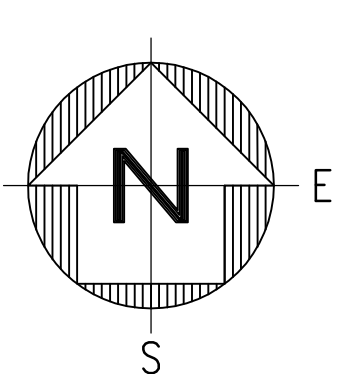
BLDG. 'H' AREA 'B' ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"



SITE KEY PLAN



BLDG. 'H' AREA 'A' ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"

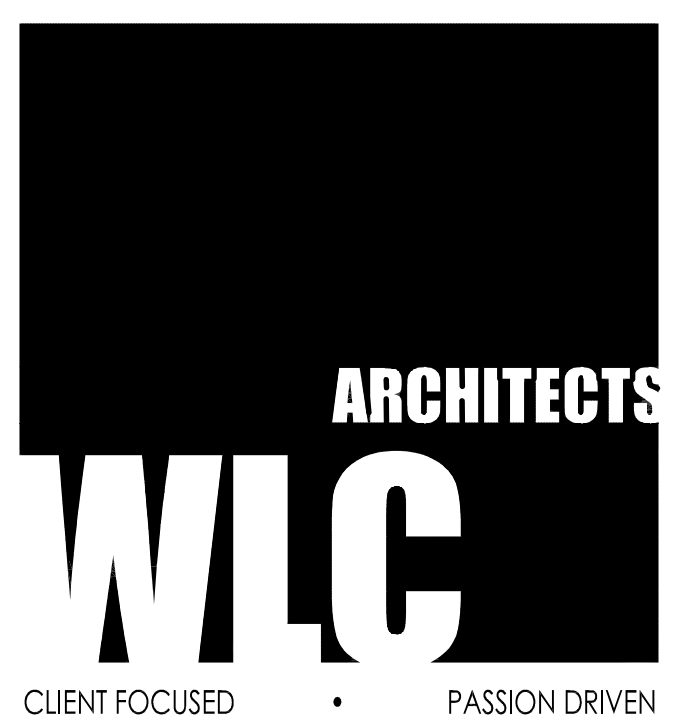
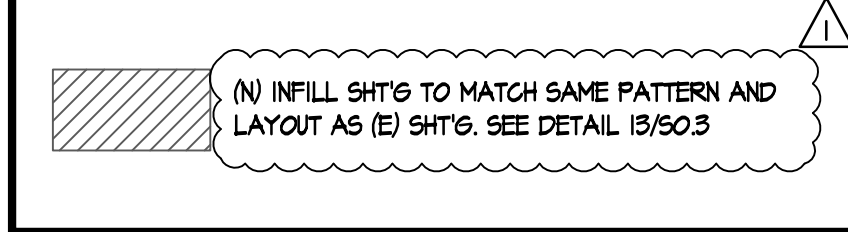


SITE KEY PLAN

ROOF FRAMING DEMO NOTES

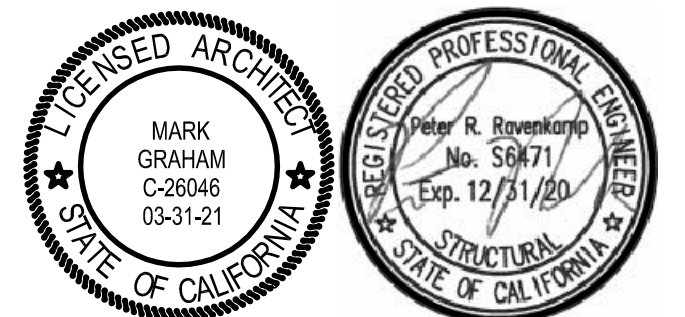
1. 1 1/2" DEEP 18 GA. VERCO HEB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM WELD 1 1/2" LONG @ 12" O.C.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. (E) INTERIOR NON-BEARING STD. WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
5. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS HAS BEEN DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
6. REMOVE (E) JOISTS & REPAIR (E) DECK PER DETAIL 15/50.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.

DEMO HATCH LEGEND



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600 E. GONZALES RD.,
OXNARD, CA 93036



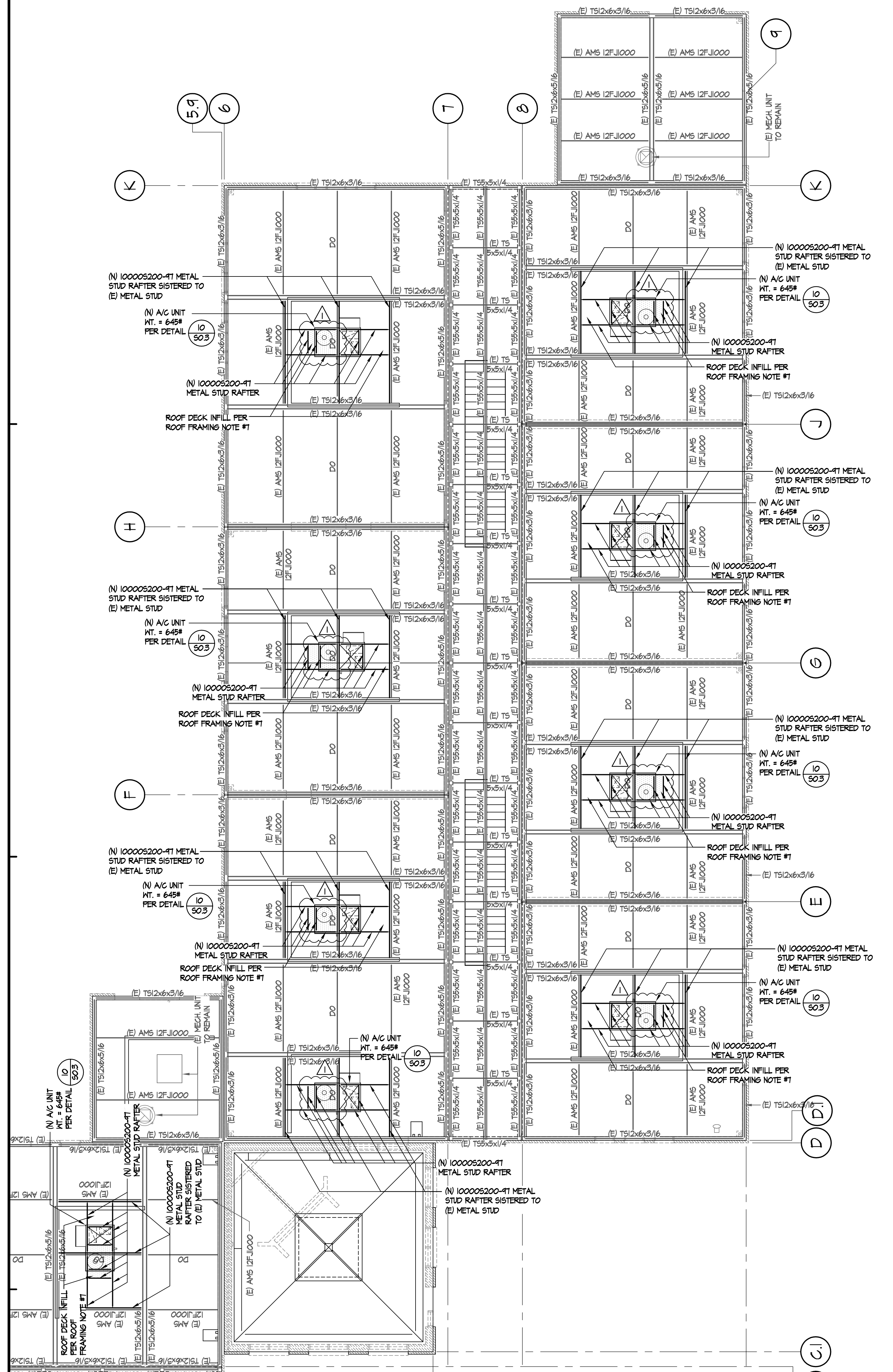
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NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1

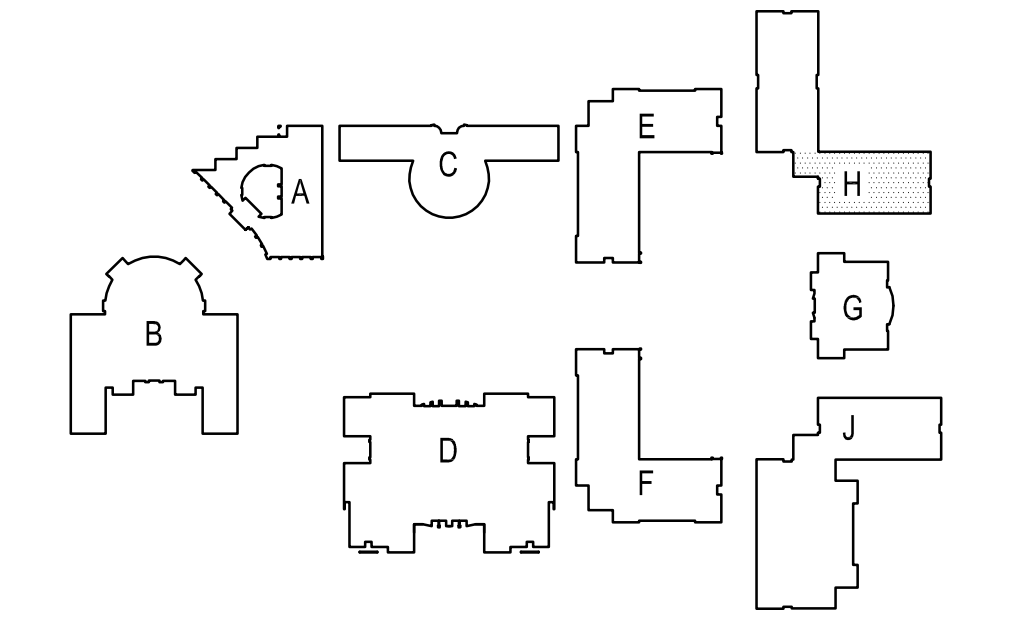
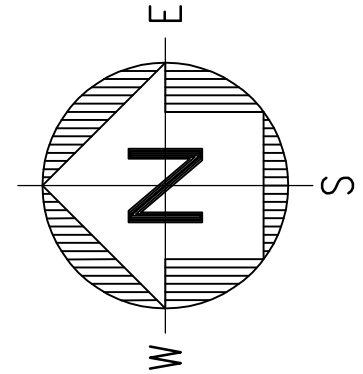
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DATE: 12/08/2020	SCALE: N.T.S.
PROJECT NUMBER: 1917000	

**BUILDING H
ROOF FRAMING
DEMO PLAN**

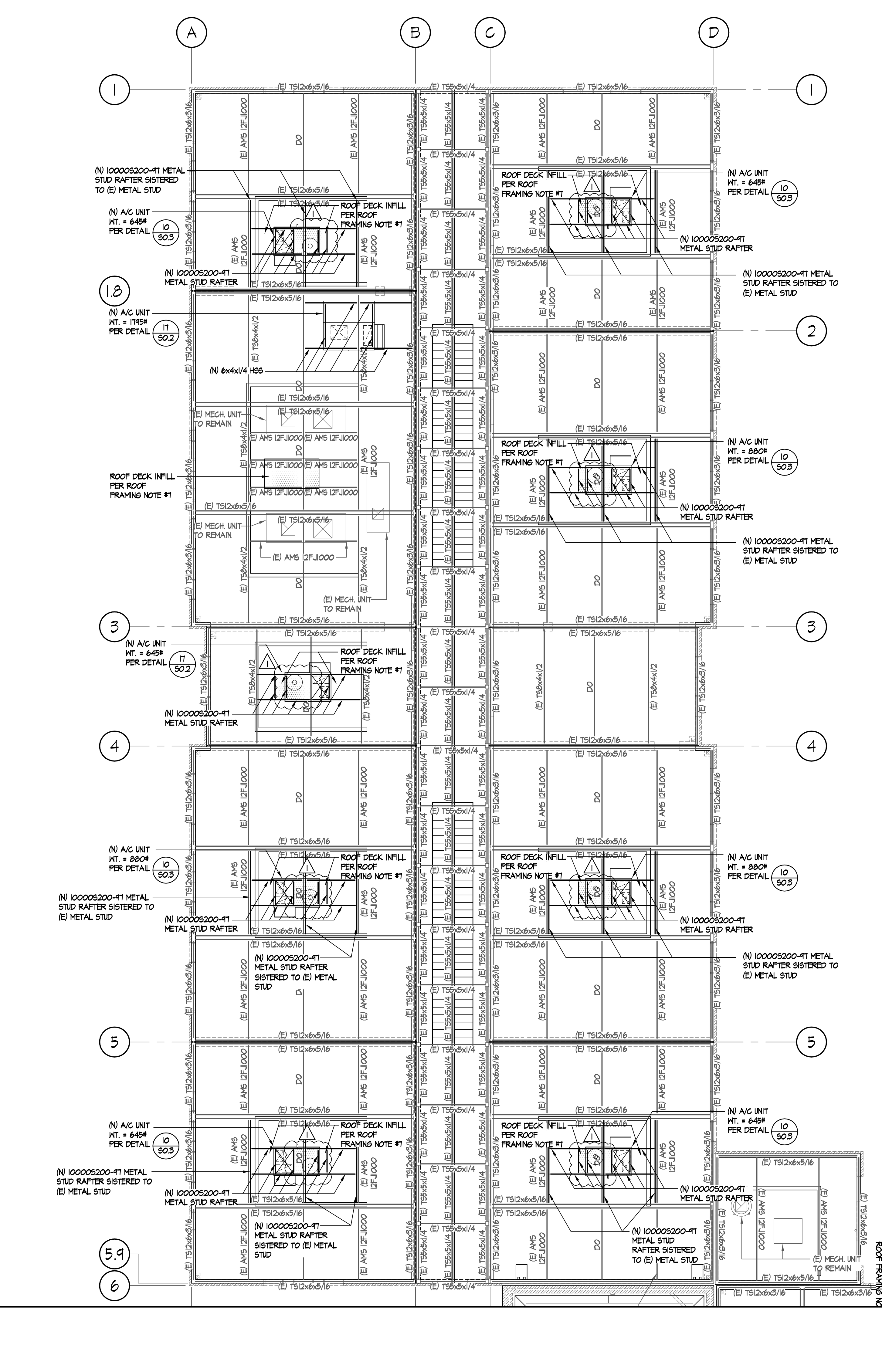
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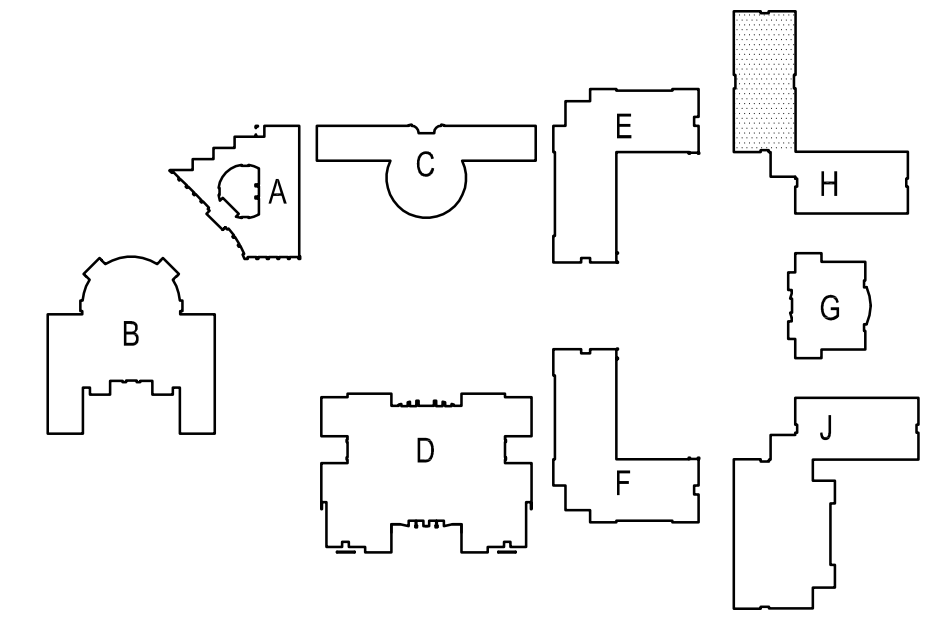
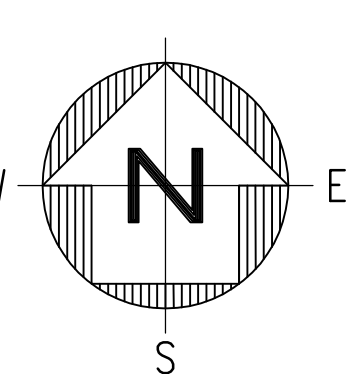
BLDG. 'H' AREA B ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"



SITE KEY PLAN



BLDG. 'H' AREA A ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"



SITE KEY PLAN

ROOF FRAMING REMODEL NOTES

1. 1 1/2" DEEP 18 GA. VERCO HEB-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM WELD 1 1/2" LONG @ 12" O.C.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. (E) INTERIOR NON-BEARING STD. WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS.
4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
5. (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 14/50.2
6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
7. PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 13/50.3. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION.
8. REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 14/50.3.

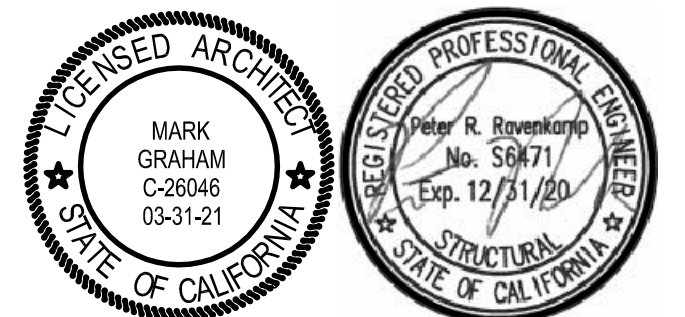
HATCH LEGEND



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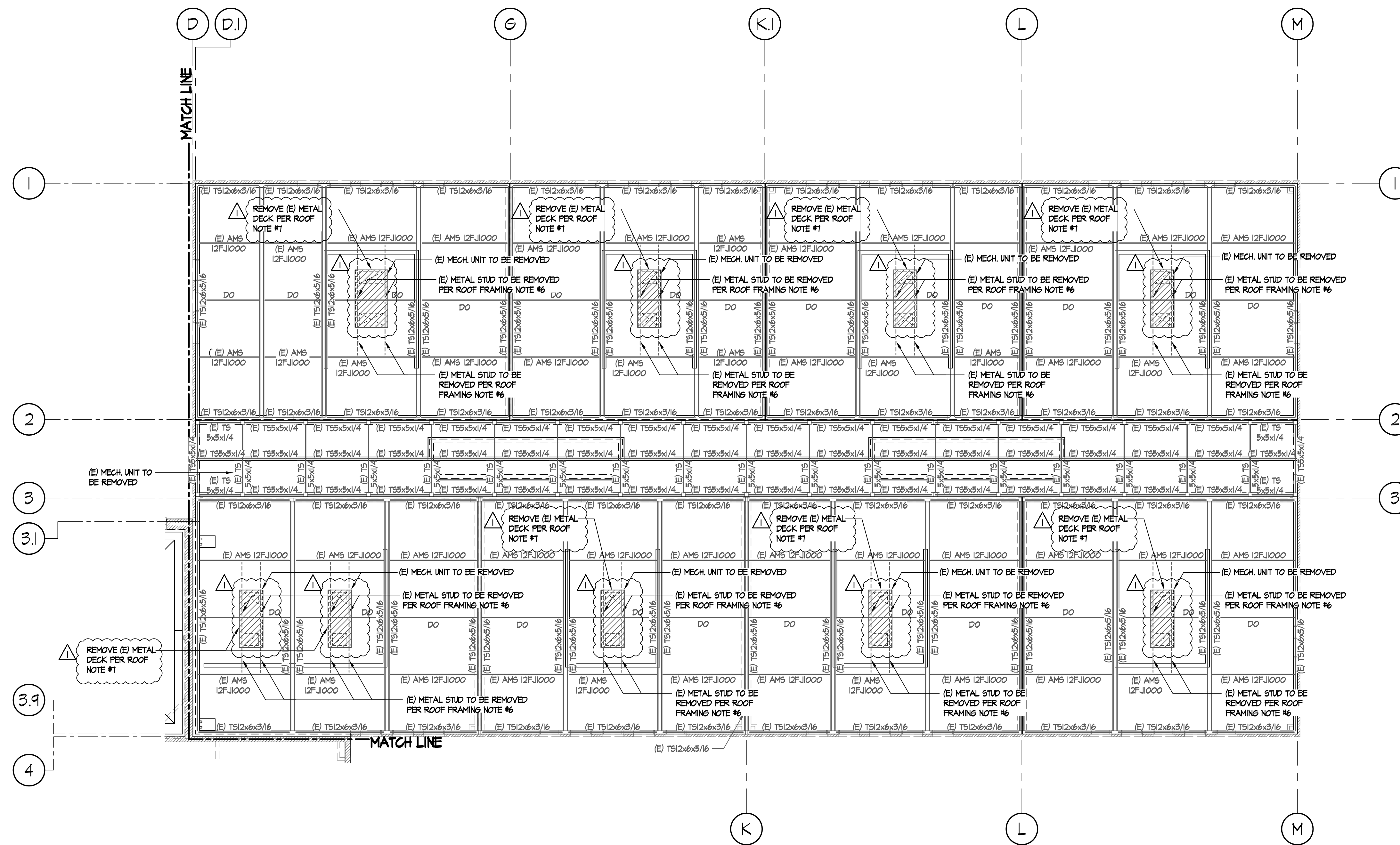
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NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1
REVISIONS			

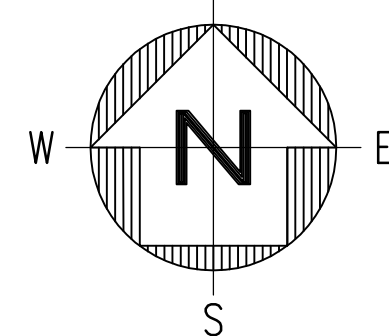
DRAWN: _____ CHECKED: _____
DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING H
ROOF FRAMING
REMODEL PLAN**

DRAWING NUMBER: **S2.18**



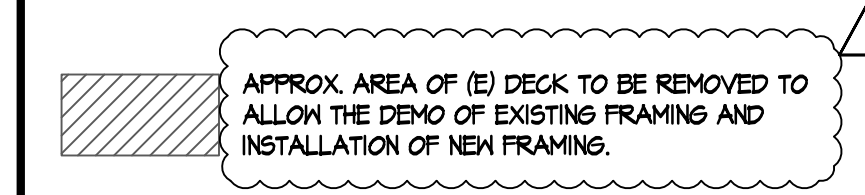
BLDG. 'J' AREA 'A' ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"



ROOF FRAMING DEMO NOTES

- 1 1/2" DEEP 18 GA. VERCO HB-36 GALV. STL. DECK W/ 5/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM HELD 1 1/2" LONG @ 12" O.C.
- NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
- (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
- BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
- THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS HAS BEEN DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN PER MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
- REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL 15/50.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.
- REMOVE DECK ENTIRELY AS SHOWN TO ALLOW THE DEMO OF EXISTING FRAMING AND INSTALLATION OF NEW FRAMING. EXISTING DECK TO BE REMOVED FROM BEAM TO BEAM. NO DECK OVERHANGS OR UNSUPPORTED DECK EDGES ARE ACCEPTABLE.

DEMO HATCH LEGEND

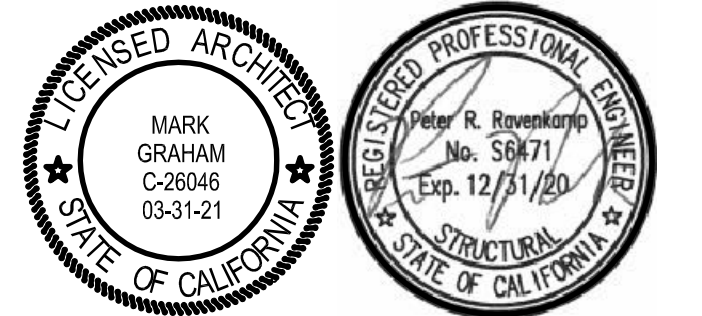


SITE KEY PLAN



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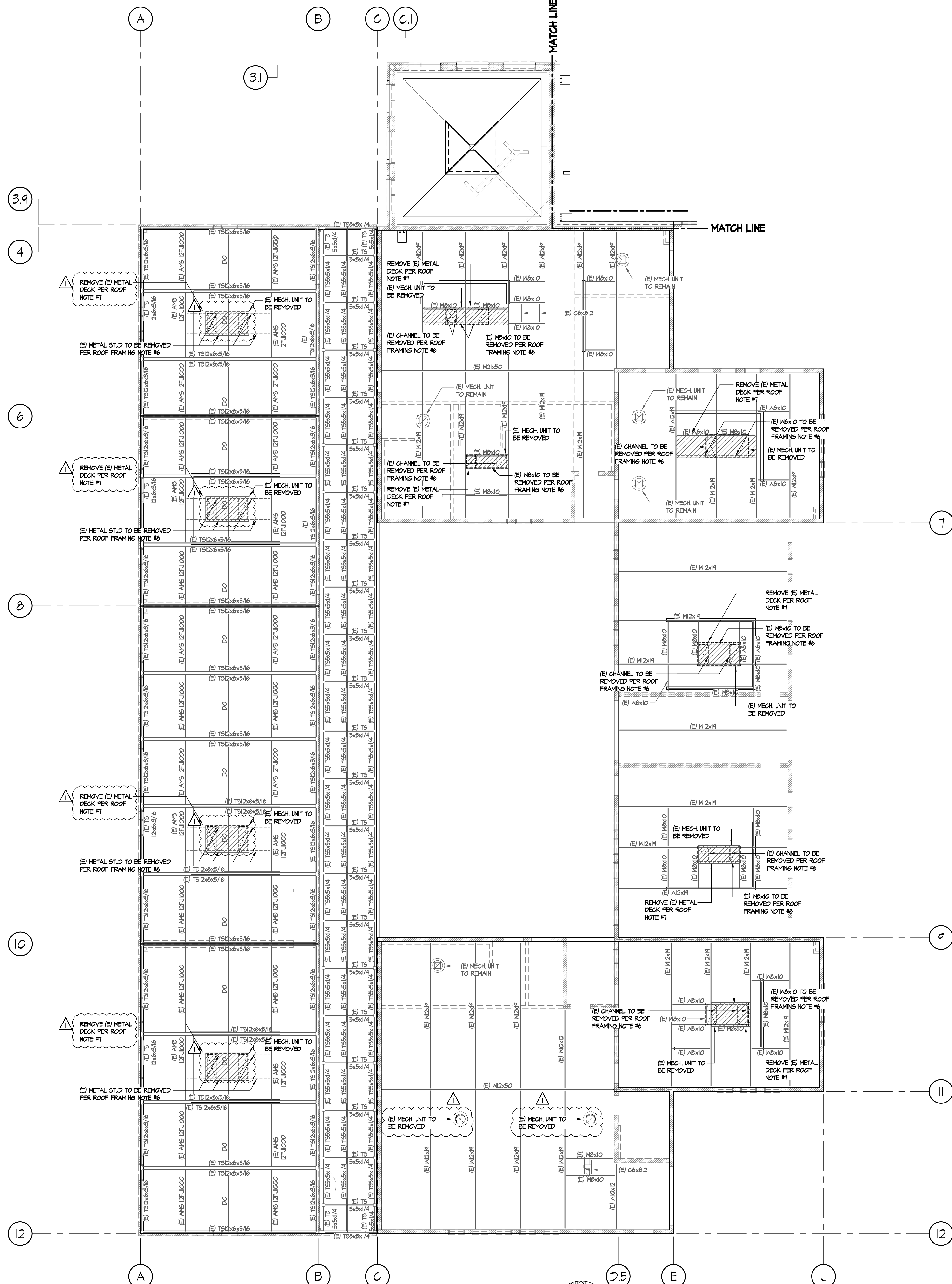
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RIVERBIDE, CA 92501-1773
P: 951.684.6200
F: 951.684.6226
JOB NO.: 201902

NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1

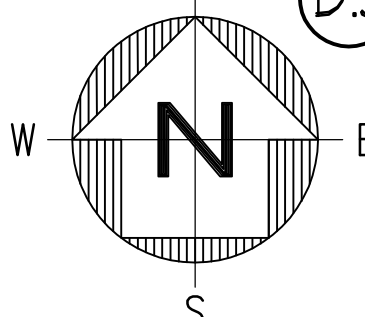
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DATE: 12/08/2020	SCALE: N.T.S.
PROJECT NUMBER: 1917000	

**BUILDING J AREA A
ROOF FRAMING
DEMO PLAN**

DRAWING NUMBER: **S2.19**

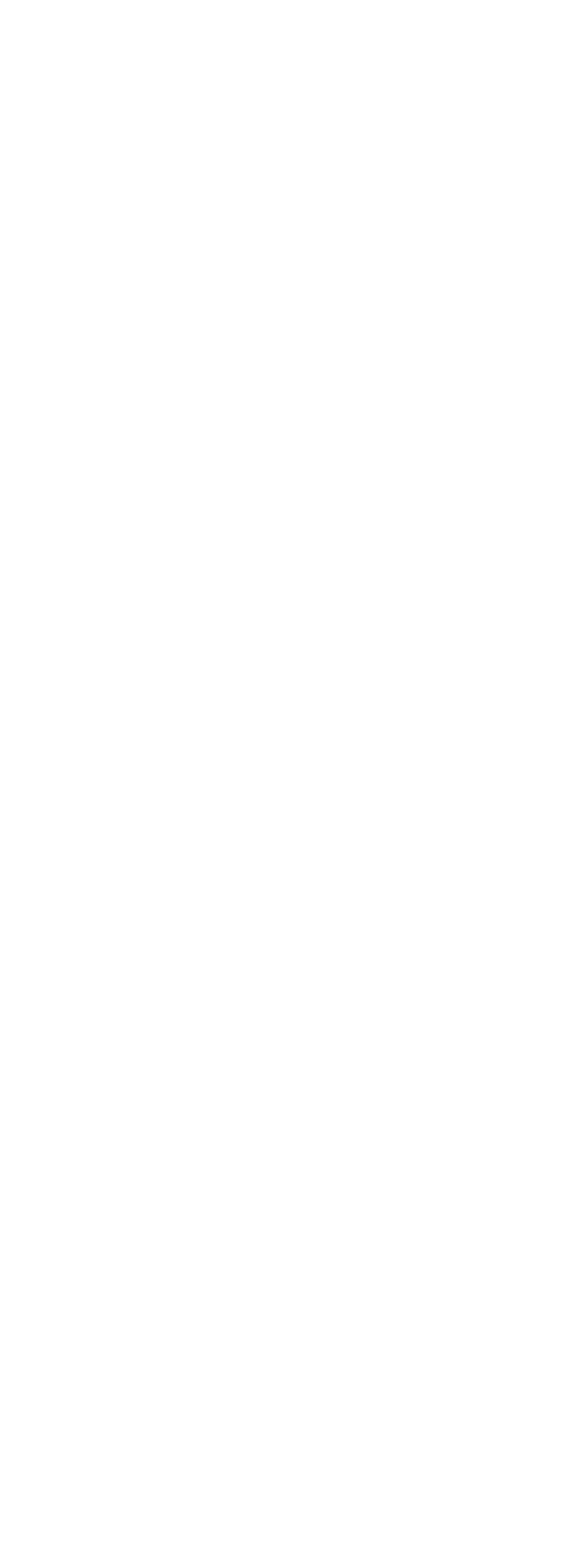
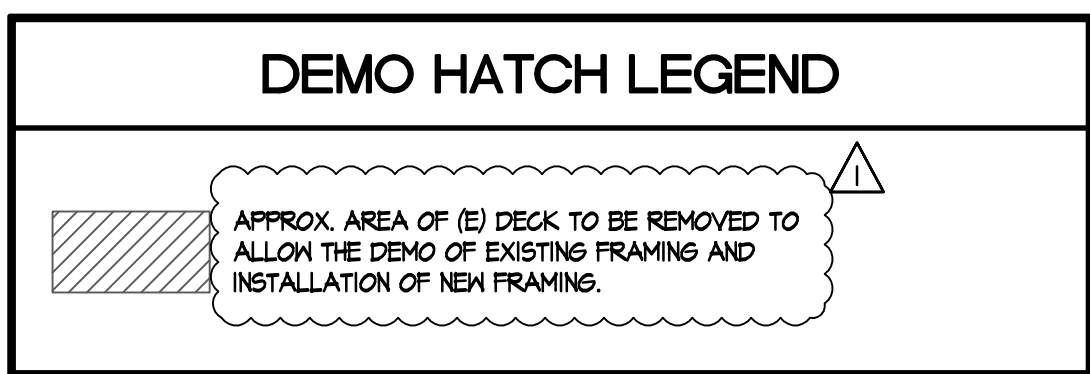


BLDG. 'J' AREA 'B' ROOF FRAMING DEMO PLAN
SCALE: 1/8"=1'-0"



ROOF FRAMING DEMO NOTES

- 1/2" DEEP 18 GA. VERCO HEB-36 GALV. STL. DECK W/ 5/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP BEAM HELD 1/2" LONG @ 12" O.C.
- NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
- INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
- BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
- THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS HAS BEEN DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN PER MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
- REMOVE (E) BEAMS & REPAIR (E) DECK PER DETAIL 15/50.2. (E) BEAM CONNECTION SHEAR PLATE MAY REMAIN.



REVISIONS

NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1

DRAWN: _____ **CHECKED:** _____
DATE: 12/08/2020 **SCALE:** N.T.S.
PROJECT NUMBER: 1917000

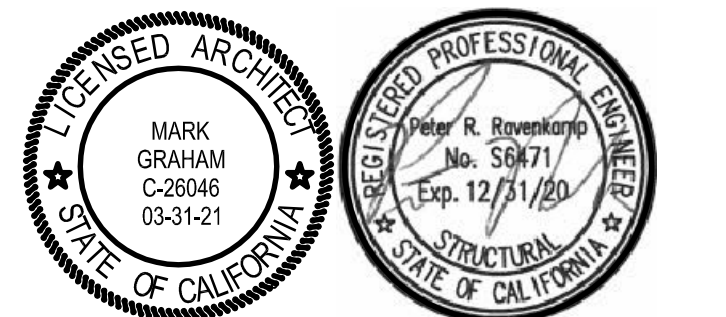
BUILDING J AREA B ROOF FRAMING DEMO PLAN

DRAWING NUMBER: S2.20

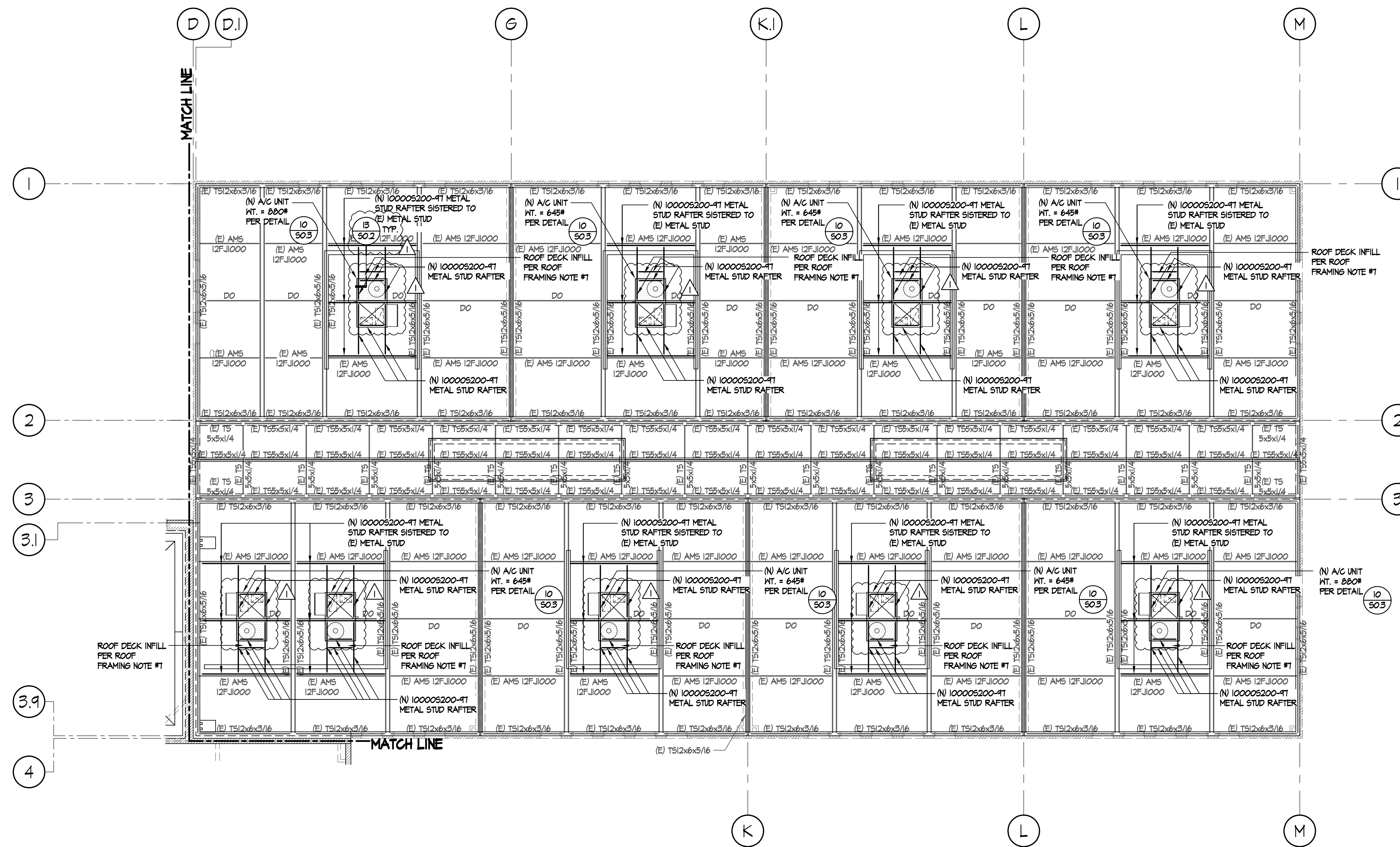
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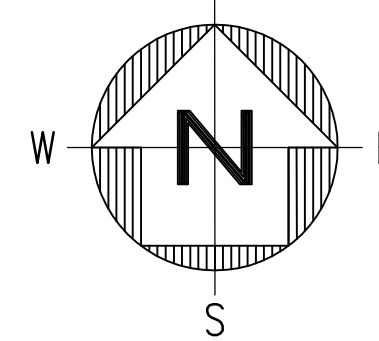
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 JCR NO.: 3013207



BLDG. 'J' AREA 'A' ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"



ROOF FRAMING REMODEL NOTES

1. 1/2" DEEP 20 GA. VERCO H50-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1 1/2" LONG @ 12" O.C.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS
4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
5. (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 19/50.2
6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
7. PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 19/50.3. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION.
8. REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 19/50.3.

HATCH LEGEND

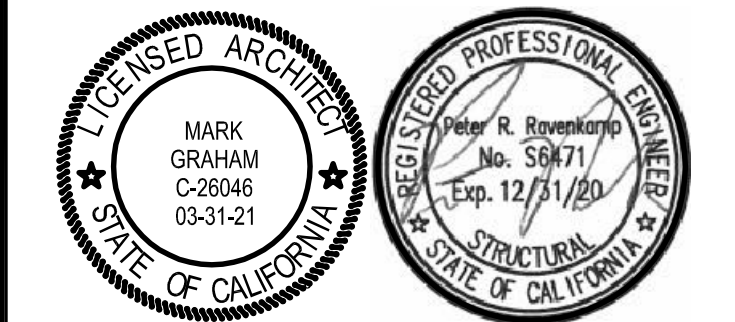
- (N) INFILL SHITG TO MATCH SAME PATTERN AND LAYOUT AS (E) SHITG. SEE DETAIL 19/50.3



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JOB NO.: 201902

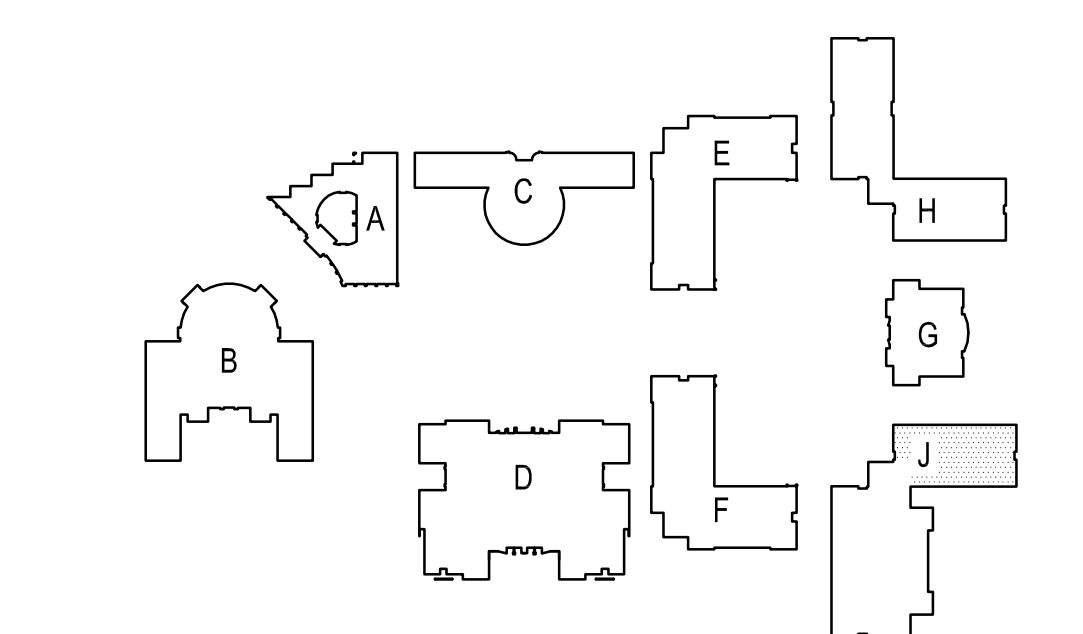
NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1

REVISIONS

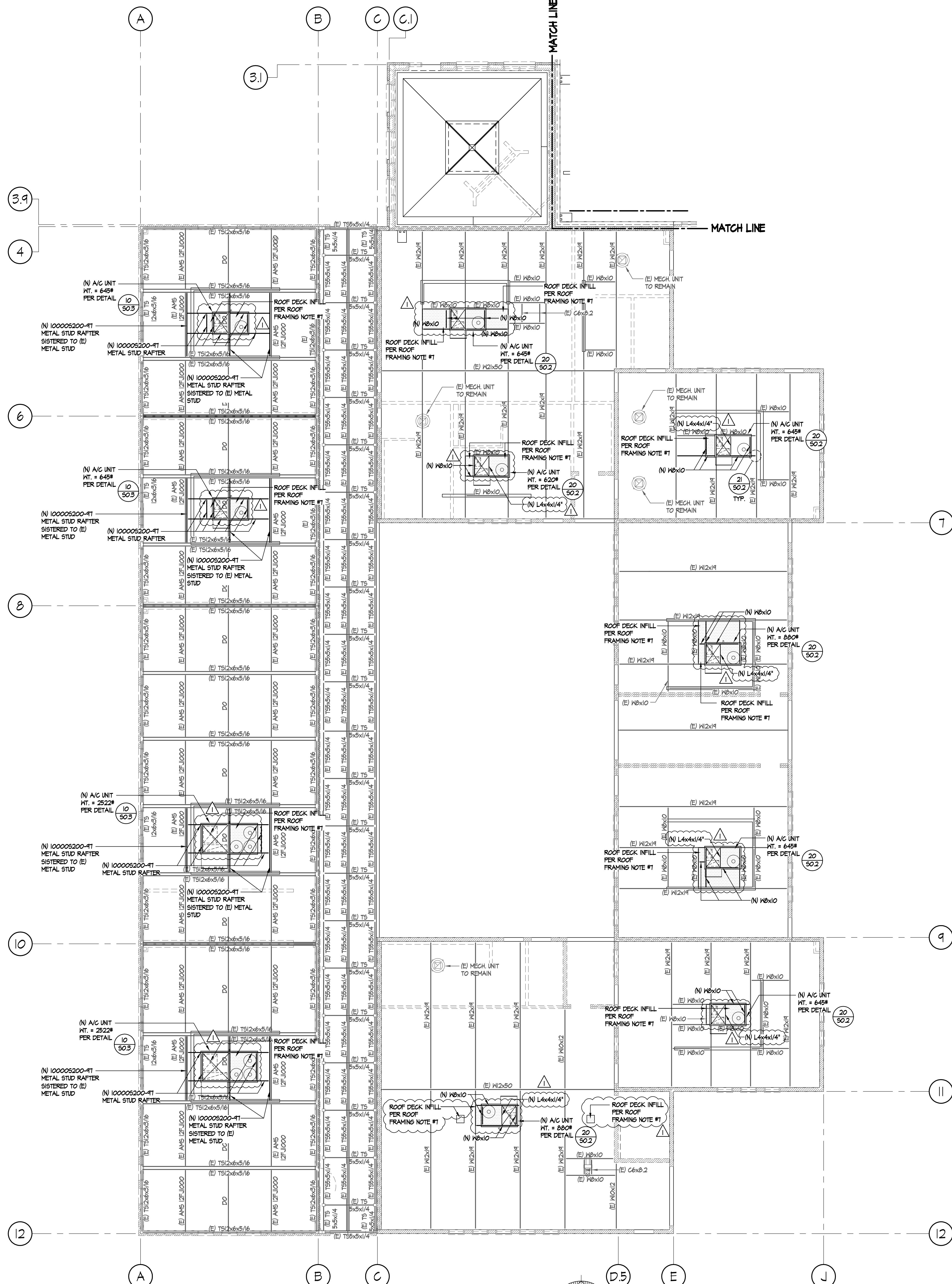
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DATE: 12/08/2020 SCALE: N.T.S.
PROJECT NUMBER: 1917000

**BUILDING J AREA A
ROOF FRAMING
REMODEL PLAN**

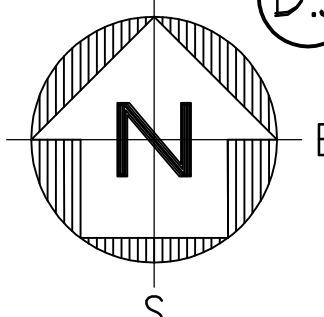
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SITE KEY PLAN



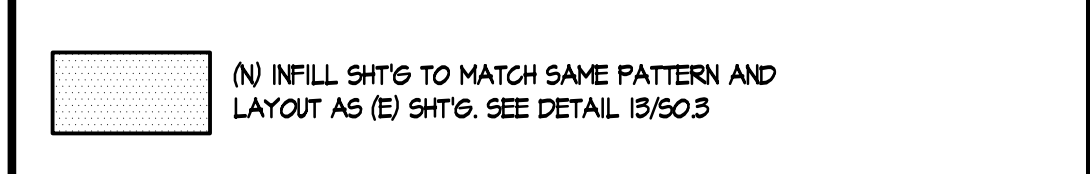
BLDG. 'J' AREA 'B' ROOF FRAMING REMODEL PLAN
SCALE: 1/8"=1'-0"



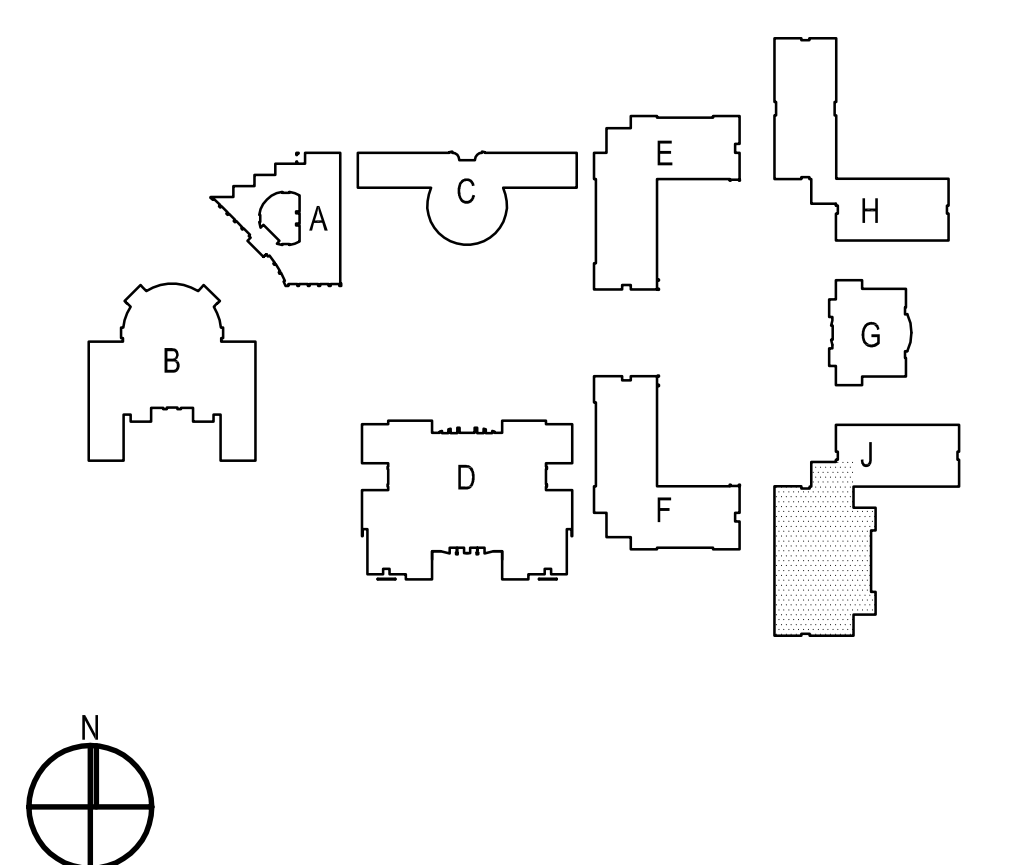
ROOF FRAMING REMODEL NOTES

1. 1/2" DEEP 20 GA. VERCO H50-36 GALV. STL. DECK W/ 3/4" EFFECTIVE PUDDLE WELD @ 12" O.C. AND AT EA. LON FLUTE. ATTACH SEAMS W/ TOP SEAM WELD 1/2" LONG @ 12" O.C.
2. NO FIELD CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT WRITTEN CONSENT OF THE STRUCTURAL ENGINEER.
3. (E) INTERIOR NON-BEARING STUD WALLS AND SOFFITS TO BE DEMO'D AS NECESSARY TO INSTALL (N) BEAMS/SUPPORTS.
4. BEAMS LABELED AS 'STRUT' TO REMAIN IN PLACE.
5. (N) ROOF PENETRATIONS SHOULD BE FRAMED PER DETAIL 19/502.
6. THE FRAMING IN THE VICINITY OF THE MECHANICAL UNITS WAS DESIGNED FOR THE UNIT SIZE AND HEIGHT AS SHOWN ON THE MECHANICAL DRAWINGS. ANY COSTS INCURRED FROM ANY SUBSTITUTION MADE BY THE CONTRACTOR WHICH REQUIRES RE-DESIGN OR MODIFICATIONS TO THE CONSTRUCTION DOCUMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY WISH TO INQUIRE AS TO THE PROBABLE EXTENT OF THESE COSTS PRIOR TO INTRODUCING A SUBSTITUTION.
7. PROVIDE (N) DECK INFILL WITH INSULATION TO MATCH (E) AT LOCATIONS WHERE (E) UNITS ARE BEING REMOVED AND LEAVES AN OPENING IN THE ROOF. (N) DECK INFILL PER DETAIL 19/503. SEE ARCH. & MECH. DRAWINGS FOR REMAINING INFORMATION.
8. REMOVE (E) BEAMS AND REPAIR (E) DECK PER DETAIL 19/503.

HATCH LEGEND

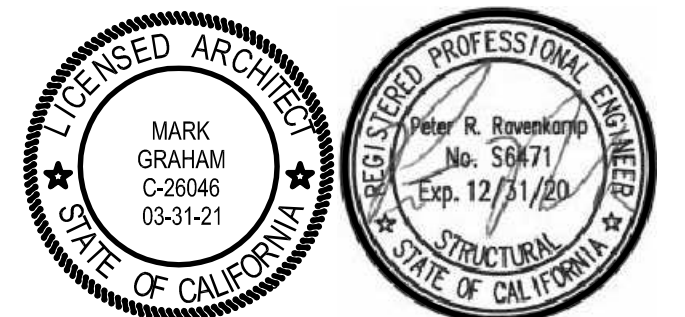


SITE KEY PLAN



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NO	DATE	BY	DESCRIPTION
1	8/25/20	JV	ADDENDUM 1

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PROJECT NUMBER: 1917000

**BUILDING J AREA B
ROOF FRAMING
REMODEL PLAN**

DRAWING NUMBER: **S2.22**

VRF MODULAR OUTDOOR UNIT SCHEDULE

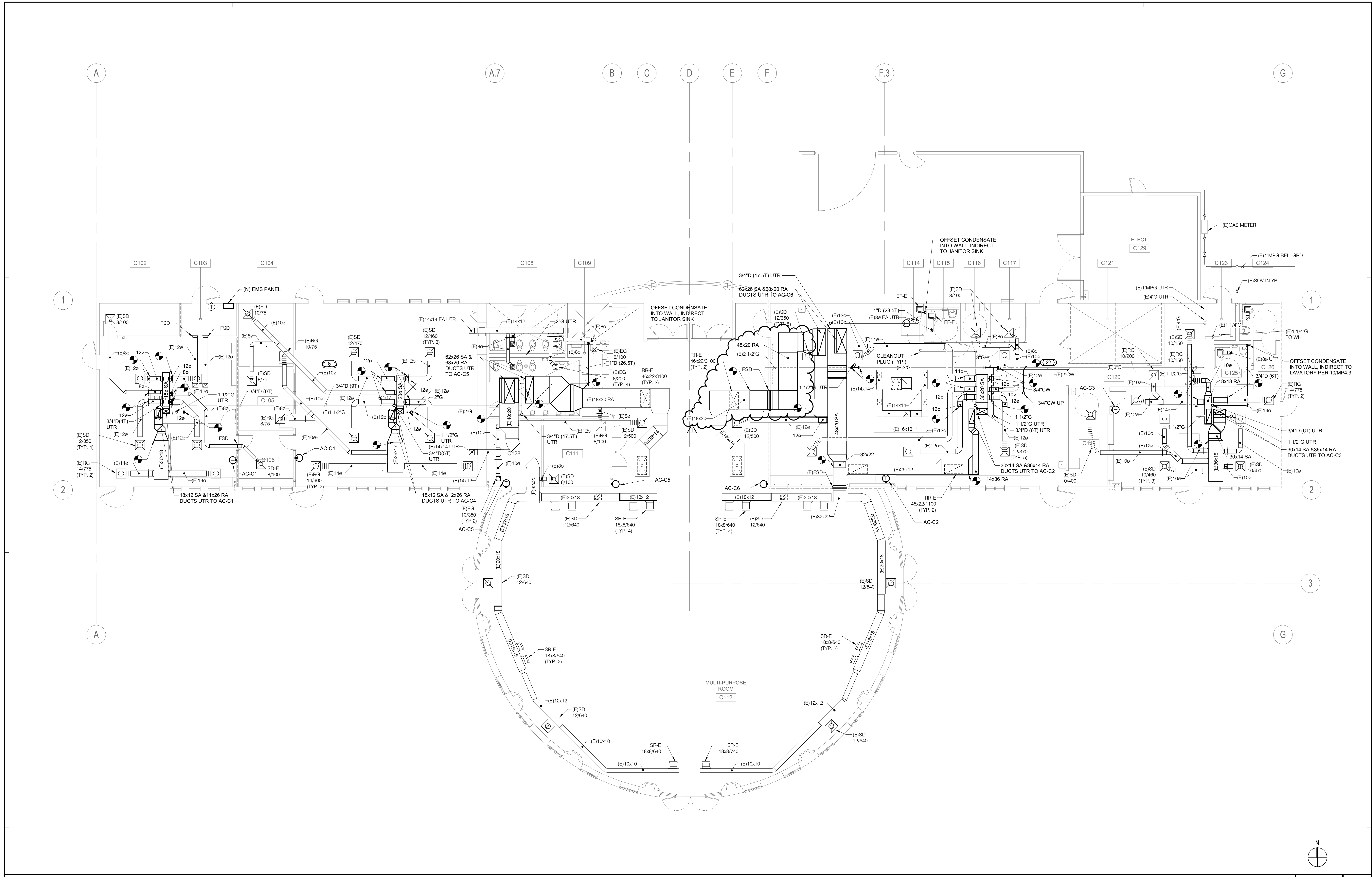
- NOTES:
 1. UNITS SHALL BE SELECTED FOR DESIGN COOLING LOAD.
 2. COORDINATE ELECTRICAL CONNECTIONS WITH MANUFACTURER. UNIT IS SUPPLIED AS MULTIPLE MODULES. EACH MODULE REQUIRES A SEPARATE ELECTRICAL CONNECTION AND DISCONNECT.
 3. NOMINAL COOLING CAPACITY RATED AT INDOOR TEMP = 80°F DB/67°F WB, OUTDOOR TEMP = 95°F DB.
 4. DESIGN COOLING CAPACITY SHALL BE RATED AT INDOOR TEMP = 74°F DB/61°F WB, OUTDOOR TEMP = 95°F DB. EFFECTS OF ESTIMATED REFRIGERANT LINE LENGTH SHALL BE INCLUDED IN COMPUTING DESIGN CAPACITY.
 5. DESIGN HEATING CAPACITY SHALL BE RATED AT INDOOR TEMP = 70°F DB, OUTDOOR TEMP = 14°F DB. EFFECTS OF ESTIMATED REFRIGERANT LINE LENGTHS AND DEFROSTING SHALL BE INCLUDED IN COMPUTING DESIGN CAPACITY.
 6. REFER TO SPECIFICATION SECTION 23.81.45 FOR ADDITIONAL REQUIREMENTS.
 7. PROVIDE MARINE COATING PER SPECIFICATION 23.81.45, SECTION 2.4.

TAG NAME	AREA SERVED	REFRIGERANT	MAX. REFRIGERANT CHARGE	COOLING BTUH (NOTE 3)	HEATING BTUH (NOTE 5)	NUMBER OF CONNECTED INDOOR UNITS	CONNECTION RATIO %	VOLTAGE	PHASES	ELECTRICAL						WEIGHT			TOTAL OPERATING	MANUFACTURER	MODEL	ANCHORAGE DETAIL	NOTES	
										MCA	MOCP	MCA	MOCP	MCA	MOCP	MODULE 1	MODULE 2	MODULE 3						SCCR
OU-E1	BUILDING E	R-410A	0	384,000 Btu/h	432,000 Btu/h	7	96.9	480	3	23.4 A	30 A	22 A	25 A	22 A	25 A	5000 A	838	684	684	2360	Carrier	MMY-AP3846F79PUL	11MP4.3	NOTE 6 & 7
OU-E2	BUILDING E	R-410A	0	408,000 Btu/h	459,000 Btu/h	7	96.9	480	3	23.4 A	30 A	22 A	25 A	22 A	25 A	5000 A	838	684	684	2360	Carrier	MMY-AP4086F79PUL	11MP4.3	NOTE 6 & 7
OU-E3	BUILDING E	R-410A	0	456,000 Btu/h	513,000 Btu/h	9	97.4	480	3	29.7 A	35 A	23.4 A	30 A	23.4 A	30 A	5000 A	838	838	838	2514	Carrier	MMY-AP4566F79PUL	11MP4.3	NOTE 6 & 7
OU-E4	BUILDING E	R-410A	0	384,000 Btu/h	432,000 Btu/h	7	96.9	480	3	23.4 A	30 A	22 A	25 A	22 A	25 A	5000 A	838	684	684	2206	Carrier	MMY-AP3846F79PUL	11MP4.3	NOTE 6 & 7
OU-F1	BUILDING F	R-410A	0	408,000 Btu/h	459,000 Btu/h	8	96.6	480	3	23.4 A	30 A	23.4 A	30 A	22 A	25 A	5000 A	838	838	838	2360	Carrier	MMY-AP4086F79PUL	11MP4.3	NOTE 6 & 7
OU-F2	BUILDING F	R-410A	0	384,000 Btu/h	432,000 Btu/h	8	100	480	3	23.4 A	30 A	22 A	25 A	22 A	25 A	5000 A	838	684	684	2206	Carrier	MMY-AP3846F79PUL	11MP4.3	NOTE 6 & 7
OU-F3	BUILDING F	R-410A	0	408,000 Btu/h	459,000 Btu/h	8	100	480	3	23.4 A	30 A	22 A	25 A	22 A	25 A	5000 A	838	684	684	2206	Carrier	MMY-AP4086F79PUL	11MP4.3	NOTE 6 & 7
OU-F4	BUILDING F	R-410A	0	456,000 Btu/h	513,000 Btu/h	9	100	480	3	29.7 A	35 A	23.4 A	30 A	23.4 A	30 A	5000 A	838	838	838	2514	Carrier	MMY-AP4566F79PUL	11MP4.3	NOTE 6 & 7

VRF INDOOR UNIT SCHEDULE

- NOTES:
 1. INDOOR UNITS SELECTED FOR SPACE PEAK LOADS.
 2. PROVIDE FILTER MEDIUM FOR EACH UNIT. FILTER MEDIUM MAY BE INTEGRAL OR SUITABLE FOR FIELD INSTALLATION IN FABRICATED FILTER ANGLES. FILTER ANGLES PROVIDED BY M.C.
 3. COMPLETE WITH CONDENSATE PUMP, DIVERSITY CONTROL, AND SLOPE TO THE PUMP.
 4. REFER TO SPECIFICATION SECTION 23.81.45 FOR ADDITIONAL REQUIREMENTS.
 5. INDOOR UNIT CAPACITY SHALL BE RATED AT INDOOR TEMP = 74°F DB/61°F WB, OUTDOOR TEMP = 95°F DB. EFFECTS OF ESTIMATED REFRIGERANT LINE LENGTHS AND DEFROSTING SHALL BE INCLUDED IN COMPUTING DESIGN CAPACITY.
 6. REFER TO SPECIFICATION SECTION 23.81.45 FOR ADDITIONAL REQUIREMENTS.
 7. COMPLETE WITH CONDENSATE OVERFLOW FLOAT SWITCH AND PROVIDE INDOOR UNIT SHUTDOWN UPON OVERFLOW DETECTION.

TAG NAME	AREA SERVED	ASSOCIATED VRF HEAT PUMP	TONS	CFM	OA CFM	DCV CFM	EXT. S.P. IN. W.C.	COOLING CAPACITY BTUH	HEATING CAPACITY BTUH	ELECTRICAL						OPERATING WEIGHT LBS	AUTOMATIC SMOKE DETECTION SHUTOFF	MANUFACTURER	MODEL	ANCHORAGE DETAIL	NOTES
										VOLTAGE	PHASES	MCA	MOCP	MCA	MOCP						
FC-E1	TEACHERS CENTER-E106	OU-E1	4	1445	110	N/A	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E2	CLASSROOM-E108	OU-E1	4	1445	355	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E3	GENERAL SCIENCE LAB-E109	OU-E1	6	2235	550	220	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E4	PREP ROOM/OFFICE-E110	OU-E1	1	480	75	N/A	0.8	12000	13500	208	1	1.50	15 A	145	N/A	Carrier	MMD-AP0120VHGZUL	2MP4.2	NOTE 3.7		
FC-E5	CORRIDOR-E112	OU-E1	2	760	210	N/A	0.8	24000	27000	208	1	5.70	15 A	110	N/A	Carrier	MMD-AP0240VHGZUL	2MP4.2	NOTE 3.7		
FC-E6	MATH CLASSROOM-E111	OU-E1	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E7	MATH CLASSROOM-E114	OU-E1	6	2235	500	200	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E8	MATH CLASSROOM-E104	OU-E1	4	1445	365	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E9	PHYSICS CLASSROOM-E103	OU-E2	6	2235	540	215	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E10	MATH CLASSROOM-E122	OU-E2	6	2235	500	200	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E11	CORRIDOR-E125	OU-E2	2.5	1130	310	N/A	0.8	30000	34000	208	1	7.10	15 A	115	N/A	Carrier	MMD-AP0304H2UL	2MP4.2	NOTE 3.7		
FC-E12	CHEMISTRY CLASSROOM-E123	OU-E2	6	2235	545	215	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E13	PHYSICS CLASSROOM-E102	OU-E2	6	2235	545	215	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E14	MATH CLASSROOM-E101	OU-E2	6	2235	360	145	0.8	48000	54000	208	1	7.60	15 A	160	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E15	PREP ROOM-E124	OU-E2	1	480	60	N/A	0.8	12000	13500	208	1	1.50	15 A	145	N/A	Carrier	MMD-AP0120VHGZUL	2MP4.2	NOTE 3.7		
FC-E16	TEACHERS CENTER-E208	OU-E3	4	1445	355	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E17	MATH CLASSROOM-E206	OU-E3	4	1445	355	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E18	GENERAL SCIENCE CLASSROOM-E209	OU-E3	6	2235	545	215	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E19	PREP ROOM-E210	OU-E3	1	480	70	N/A	0.8	12000	13500	208	1	1.50	15 A	145	N/A	Carrier	MMD-AP0120VHGZUL	2MP4.2	NOTE 3.7		
FC-E20	MATH CLASSROOM-E211	OU-E3	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E21	CORRIDOR-E212	OU-E3	2	760	235	N/A	0.8	24000	27000	208	1	5.70	15 A	110	N/A	Carrier	MMD-AP0240VHGZUL	2MP4.2	NOTE 3.7		
FC-E22	MATH CLASSROOM-E214	OU-E3	6	2235	485	195	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E23	MATH CLASSROOM-E213	OU-E3	6	2235	500	200	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E24	CLASSROOM-E204	OU-E3	4	1445	365	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-E25	CORRIDOR-E222	OU-E4	2	760	215	N/A	0.8	24000	27000	208	1	5.70	15 A	110	N/A	Carrier	MMD-AP0240VHGZUL	2MP4.2	NOTE 3.7		
FC-E26	BIOLOGY CLASSROOM-E203	OU-E4	6	2235	535	210	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E27	MATH CLASSROOM-E219	OU-E4	6	2235	500	200	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E28	BIOLOGY CLASSROOM-E202	OU-E4	6	2235	525	210	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E29	LIFE SCIENCE CLASSROOM-E220	OU-E4	6	2235	545	215	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-E30	PREP ROOM-E221	OU-E4	1	480	60	N/A	0.8	12000	13500	208	1	1.50	15 A	145	N/A	Carrier	MMD-AP0120VHGZUL	2MP4.2	NOTE 3.7		
FC-E31	MATH CLASSROOM-E201	OU-E4	4	1445	355	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F1	PHYSICAL SCIENCE CLASSROOM-F112	OU-F1	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F2	SPECIAL ED-F115	OU-F1	4	1445	400	160	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F3	CORRIDOR-F113	OU-F1	2.5	1130	300	N/A	0.8	30000	34000	208	1	7.10	15 A	115	N/A	Carrier	MMD-AP0304H2UL	2MP4.2	NOTE 3.7		
FC-F4	CLASSROOM-F111	OU-F1	4	1445	365	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F5	SPECIAL ED-F116	OU-F1	4	1445	400	160	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F6	CLASSROOM-F110	OU-F1	6	2235	365	145	1	72000	81000	208	1	9.60	15 A	255	YES	Carrier	MMD-AP0726HPUL	2MP4.2	NOTE 3.7		
FC-F7	SPECIAL ED-F117	OU-F1	4	1445	400	160	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F8	CLASSROOM-F109	OU-F1	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F9	CLASSROOM-F108	OU-F1	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F10	TEACHERS CENTER-F105	OU-F2	4	1445	110	N/A	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F11	ENGLISH CLASSROOM-F104	OU-F2	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F12	ENGLISH CLASSROOM-F103	OU-F2	4	1445	360	145	0.8	48000	54000	208	1	7.60	15 A	160	N/A	Carrier	MMD-AP0484H2UL	2MP4.2	NOTE 3.7		
FC-F13	CORRIDOR-F127	OU-F2	2	760	225	N/A	0.8	24000	27000	208	1	5.70	15 A	110	N/A	Carrier	MMD-AP0240VHGZUL	2MP4.2	NOTE 3.7		



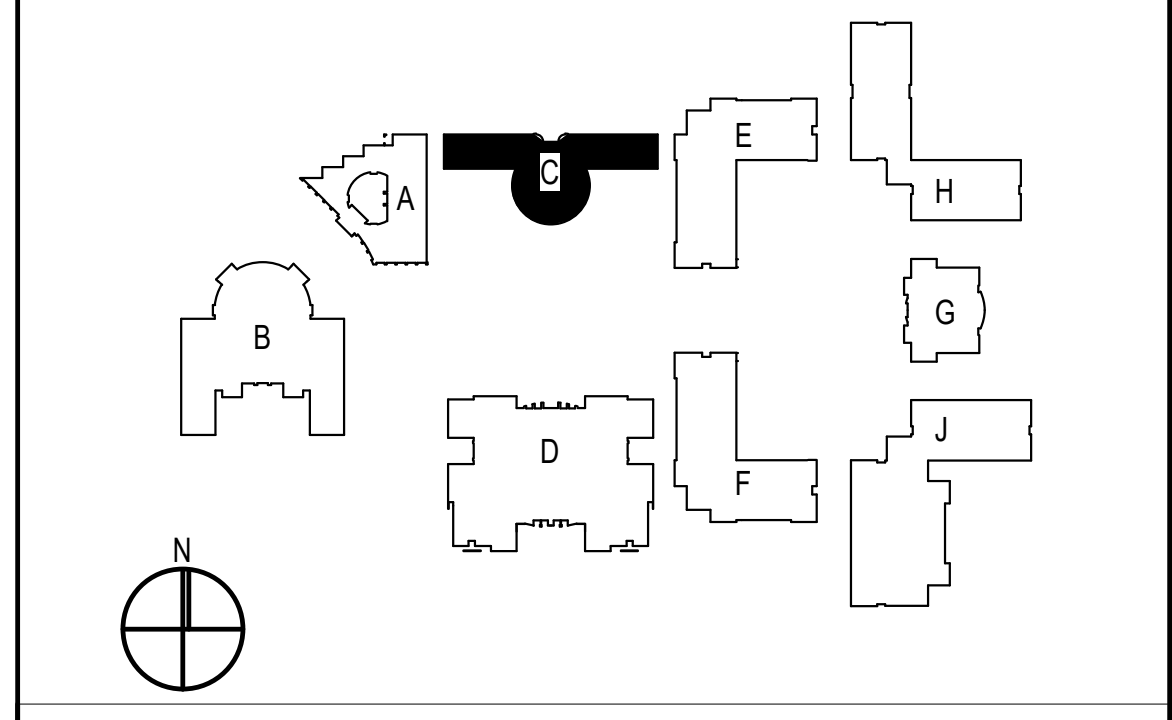
BUILDING C REMODEL FIRST FLOOR PLAN 1/8" = 1'-0" 1

REMODEL KEYNOTES: #

- 18x12 SA & 12x26 RA DUCTS UTR TO AC UNITS.
- P.O.C. 3/4" CW LINE TO (E) CW LINE. CHECK DRAWING AND V.I.F. SIZE OF (E) CW PIPE SIZE.

REMODEL GENERAL NOTES:

- FOR DUCT SUPPORT DETAIL, SEE DETAIL 8/MP4.2.
- FOR DUCT CONNECTION TO CEILING AIR DEVICES, SEE DETAIL 7/MP4.2.
- FOR VOLUME DAMPER, SEE DETAIL 11/MP4.2.
- FOR PIPING WITH INSULATION THRU RATED WALL, SEE DETAIL 1/MP4.3.
- FOR FIRE/SMOKE DAMPER, SEE DETAIL 2/MP4.3.
- FOR SINGLE PIPE HANGER, SEE DETAIL 8/MP4.3.
- FOR PIPE THRU ROOF, SEE DETAIL 9/MP4.3.
- FOR CONDENSATE CONNECTION TO DRAINAGE, SEE DETAIL 10/MP4.3.
- INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING. REUSE EXISTING CONDUIT ON WALL. PROVIDE NEW CONDUIT AS REQUIRED.
- PROVIDE NEW CONNECTIONS TO EMS PANEL AS REQUIRED.



SITE KEY PLAN

1	08/25/20	CG	ADDENDUM 1
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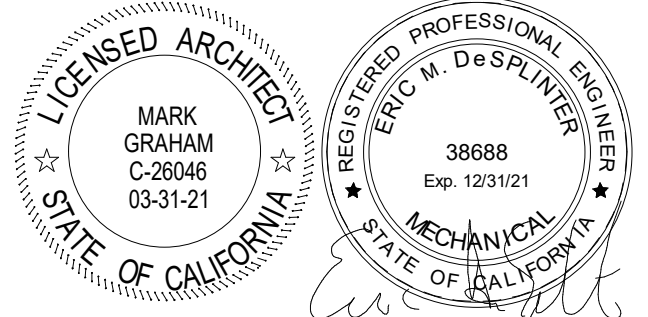
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REVISIONS			

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DATE: Issue Date	SCALE: 1/8" = 1'-0"
PROJECT NUMBER: Project Number	

**BUILDING C REMODEL
FIRST FLOOR PLAN**

DRAWING NUMBER: **MPC2.1**

**PACIFICA HIGH SCHOOL
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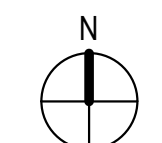
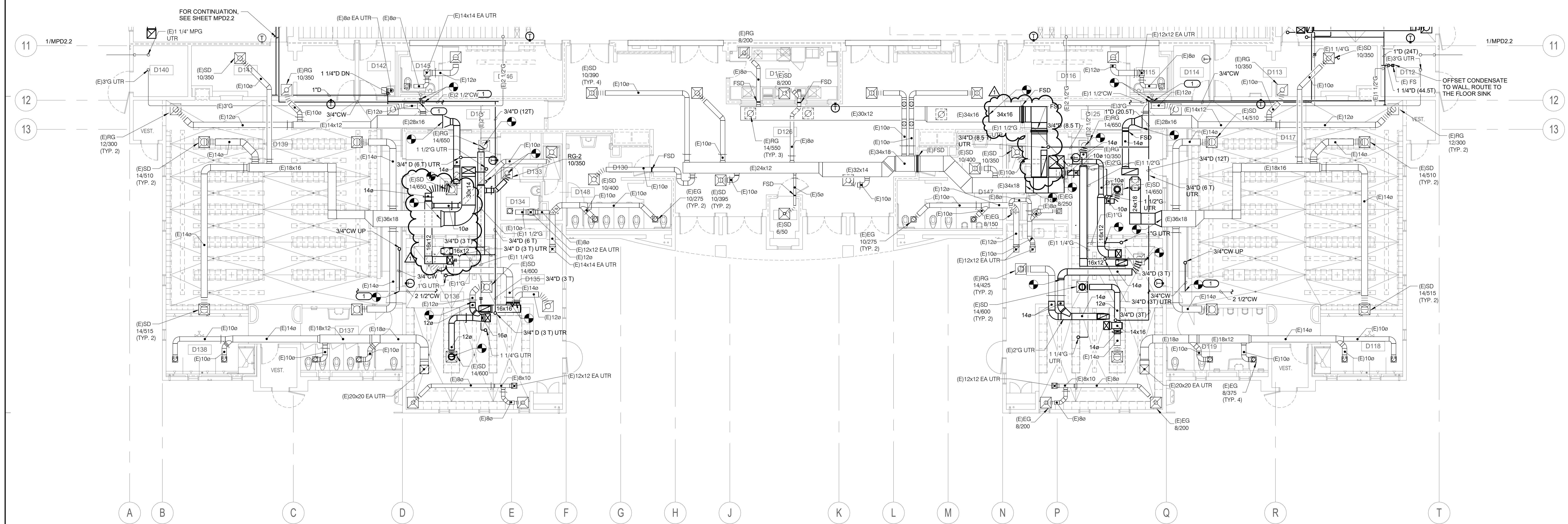
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NO	DATE	BY	DESCRIPTION
REVISIONS			

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DATE: Issue Date	SCALE: 1/8" = 1'-0"
PROJECT NUMBER: Project Number	

**BUILDING D REMODEL
FLOOR PLAN - AREA 2**

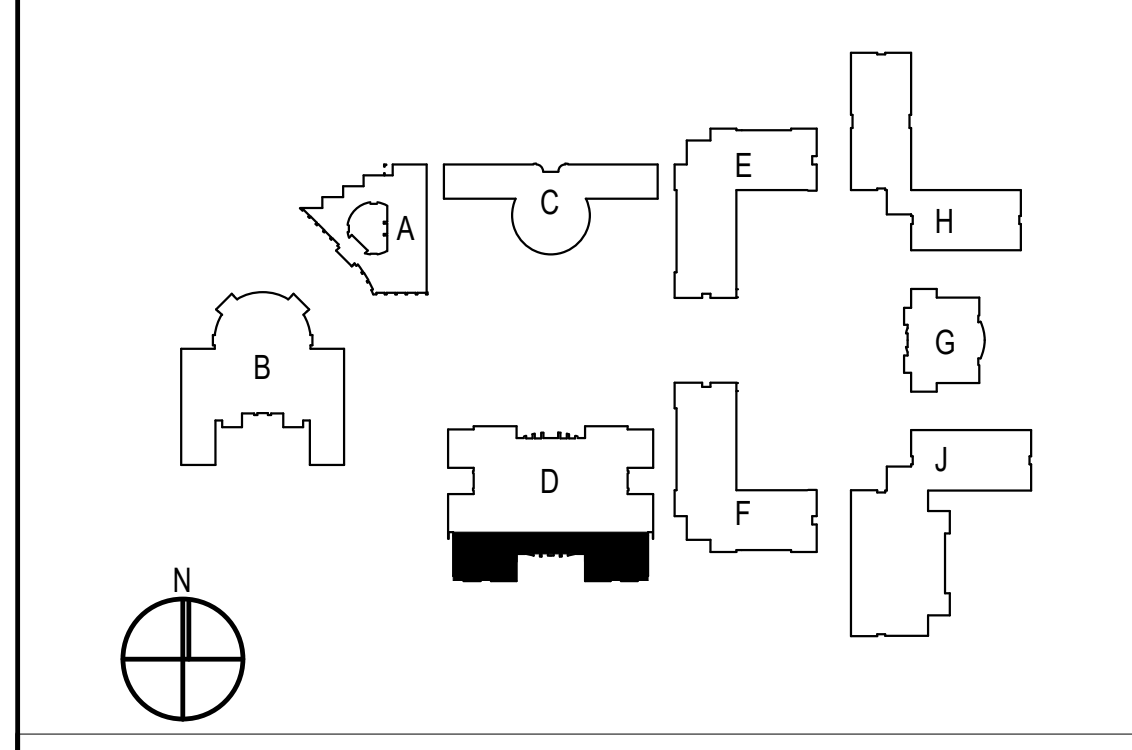
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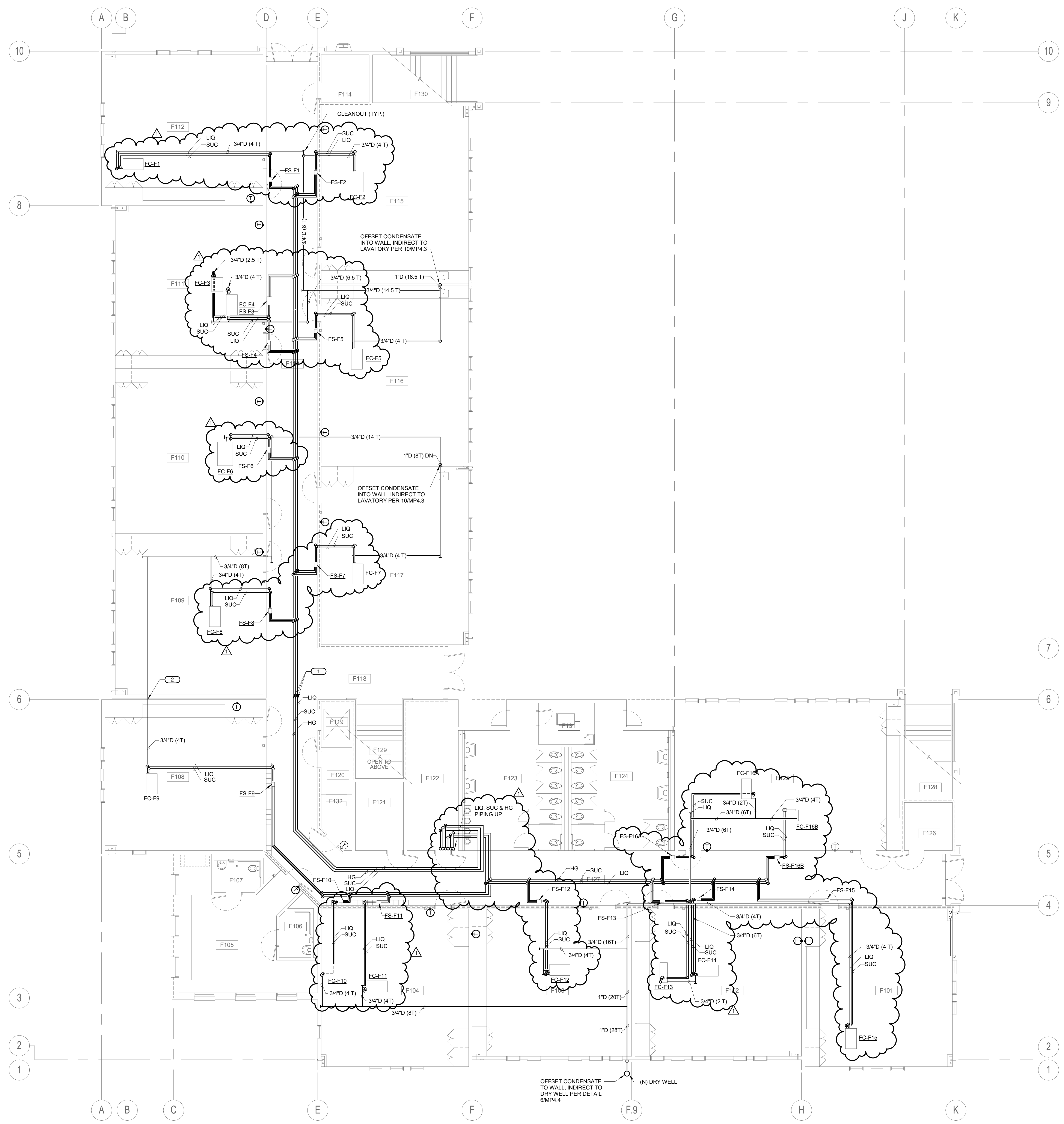
BUILDING D REMODEL FLOOR PLAN - AREA 2 1/8" = 1'-0" 1

- REMODEL KEYNOTES:** #
- P.O.C. 3/4" CW LINE TO (E) CW LINE. CHECK DRAWING AND V.I.F. SIZE OF (E) CW PIPE SIZE.
 - OFFSET CONDENSATE INTO WALL. INDIRECT TO LAVATORY PER 10MP4.3.

- REMODEL GENERAL NOTES:**
- FOR DUCT SUPPORT DETAIL, SEE DETAIL 8MP4.2.
 - FOR DUCT CONNECTION TO CEILING AIR DEVICES, SEE DETAIL 7MP4.2.
 - FOR VOLUME DAMPER, SEE DETAIL 11MP4.2.
 - FOR PIPING WITH INSULATION THRU RATED WALL, SEE DETAIL 1MP4.3.
 - FOR FIRE/SMOKE DAMPER, SEE DETAIL 2MP4.3.
 - FOR SINGLE PIPE HANGER, SEE DETAIL 8MP4.3.
 - FOR PIPE THRU ROOF, SEE DETAIL 9MP4.3.
 - FOR CONDENSATE CONNECTION TO LAVATORY, SEE DETAIL 10MP4.3.
 - INSTALL NEW TEMPERATURE CONTROL SENSORS AND WIRING. REUSE EXISTING CONDUIT ON WALL. PROVIDE NEW CONDUIT AS REQUIRED.



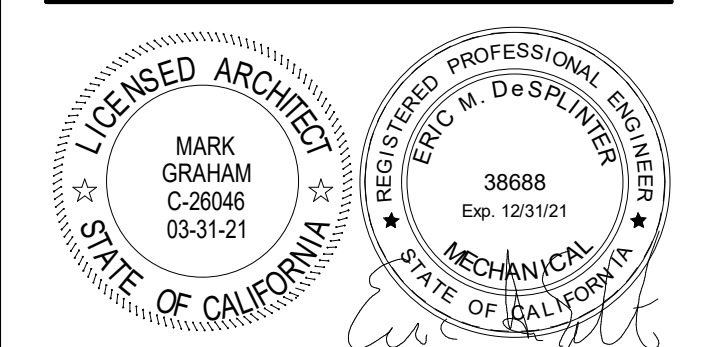
SITE KEY PLAN



- REMODEL KEYNOTES:**
1. PROVIDE FLEXIBLE CONNECTION FOR PIPING PENETRATING SEISMIC SEPARATION PER DETAIL 7/MP4.4.
 2. PROVIDE FLEXIBLE CONNECTION FOR CONDENSATE PIPING PENETRATING SEISMIC SEPARATION PER DETAIL 8/MP4.4.

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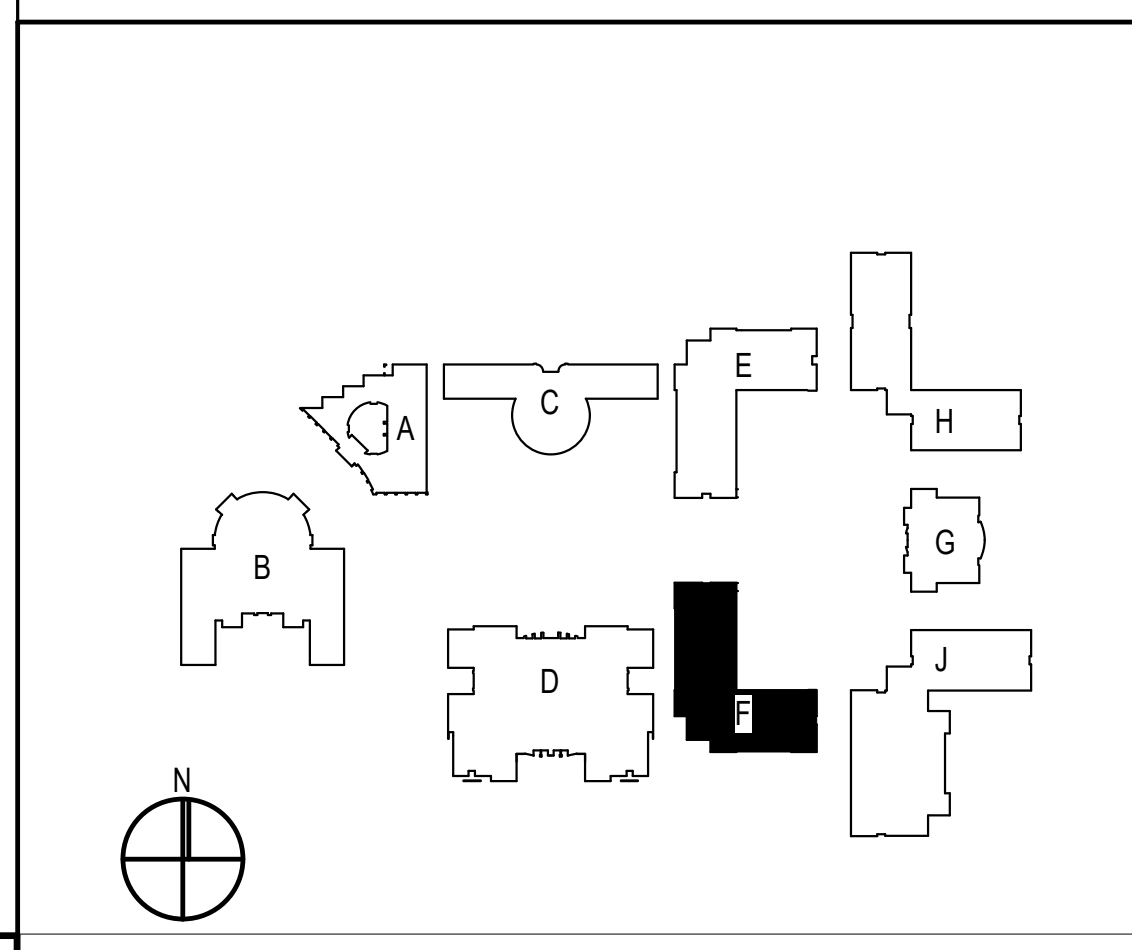
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1	08/25/20	CG	ADDENDUM 1
NO	DATE	BY	DESCRIPTION
REVISIONS			

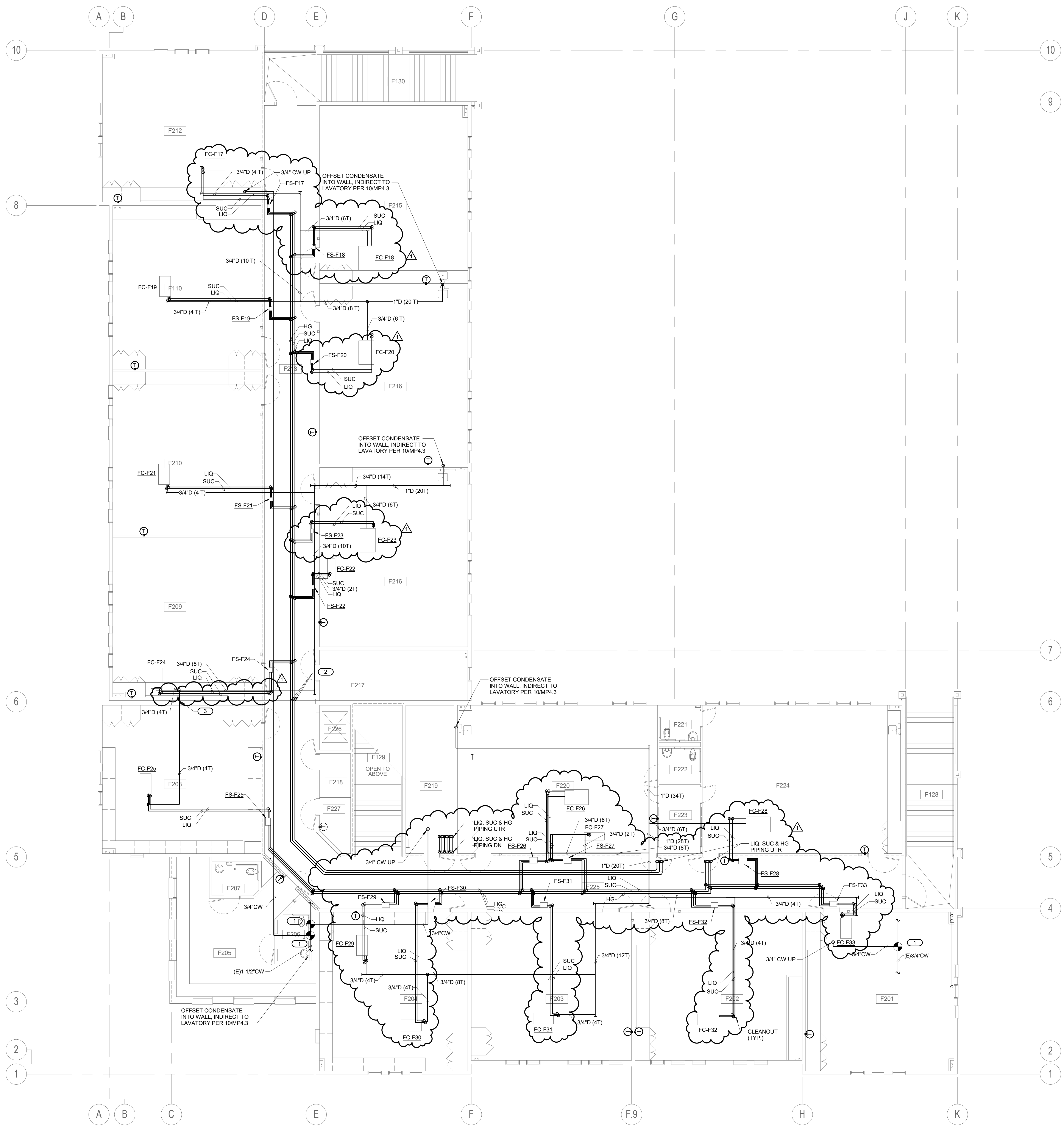
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 PROJECT NUMBER: Project Number

**BUILDING F REMODEL
 PIPING FIRST FLOOR
 PLAN**

DRAWING NUMBER: **MPF2.3**



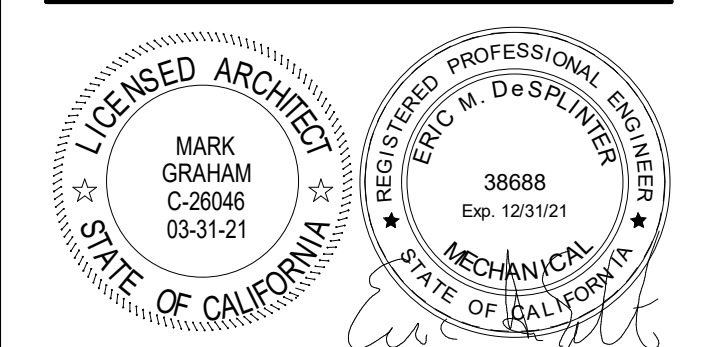
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- REMODEL KEYNOTES:**
1. P.O.C. 3/4\"/>

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**PACIFICA HIGH SCHOOL
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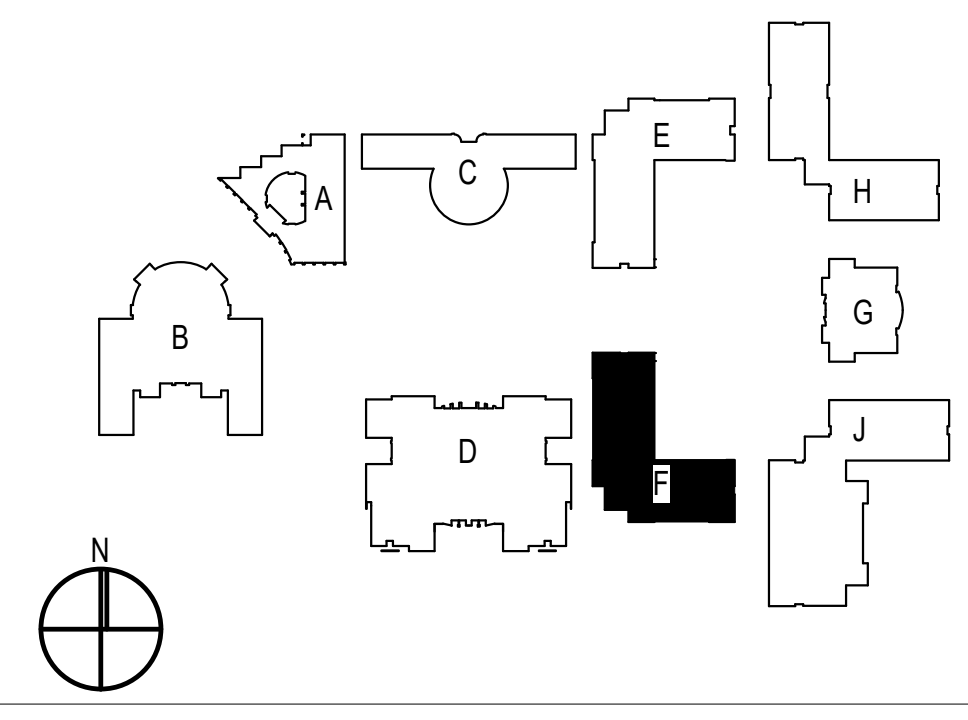
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NO	DATE	BY	DESCRIPTION
1	08/25/20	CG	ADDENDUM 1
REVISIONS			

DRAWN: CDG CHECKED: PD
 DATE: Issue Date SCALE: 1/8" = 1'-0"
 PROJECT NUMBER: Project Number

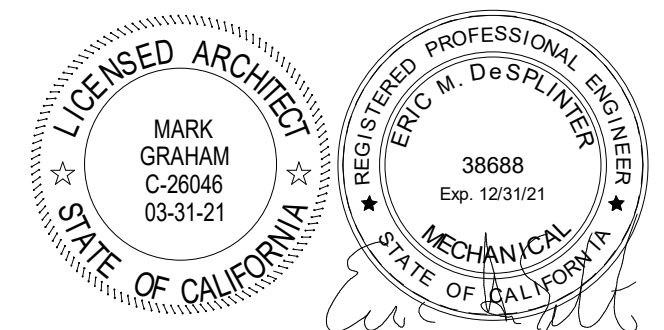
**BUILDING F REMODEL
 PIPING SECOND FLOOR
 PLAN**

DRAWING NUMBER: **MPF2.5**



**PACIFICA HIGH SCHOOL
 HVAC ADDITION**
 OXNARD UNION HIGH SCHOOL DISTRICT
 SCHOOL SITE (805) 278-2907
 3400 W GONZALES RD,
 OXNARD, CA 93036

- REMODEL GENERAL NOTES:**
1. MAINTAIN MIN. 10 FT. FROM OA INTAKES AND PLUMBING VENTS. RELOCATE EXISTING PLUMBING VENTS AS REQUIRED.
 2. FOR REFRIGERANT PIPE SUPPORT ON ROOF, SEE DETAIL 9/MP4.1
 3. FOR REFRIGERANT PIPE THRU ROOF, SEE DETAIL 10/MP4.1.
 4. FOR ROOF CAP MOUNTING, SEE DETAIL 7/MP4.1.
 5. FOR ROOF MOUNTED HOSE BIBS, SEE DETAIL 7/MP4.3.



CONSULTANT
IMEG
 901 VIA PIEMONTE SUITE 400
 ONTARIO, CA 91764
 909-477-6915 FAX: 909-477-6916
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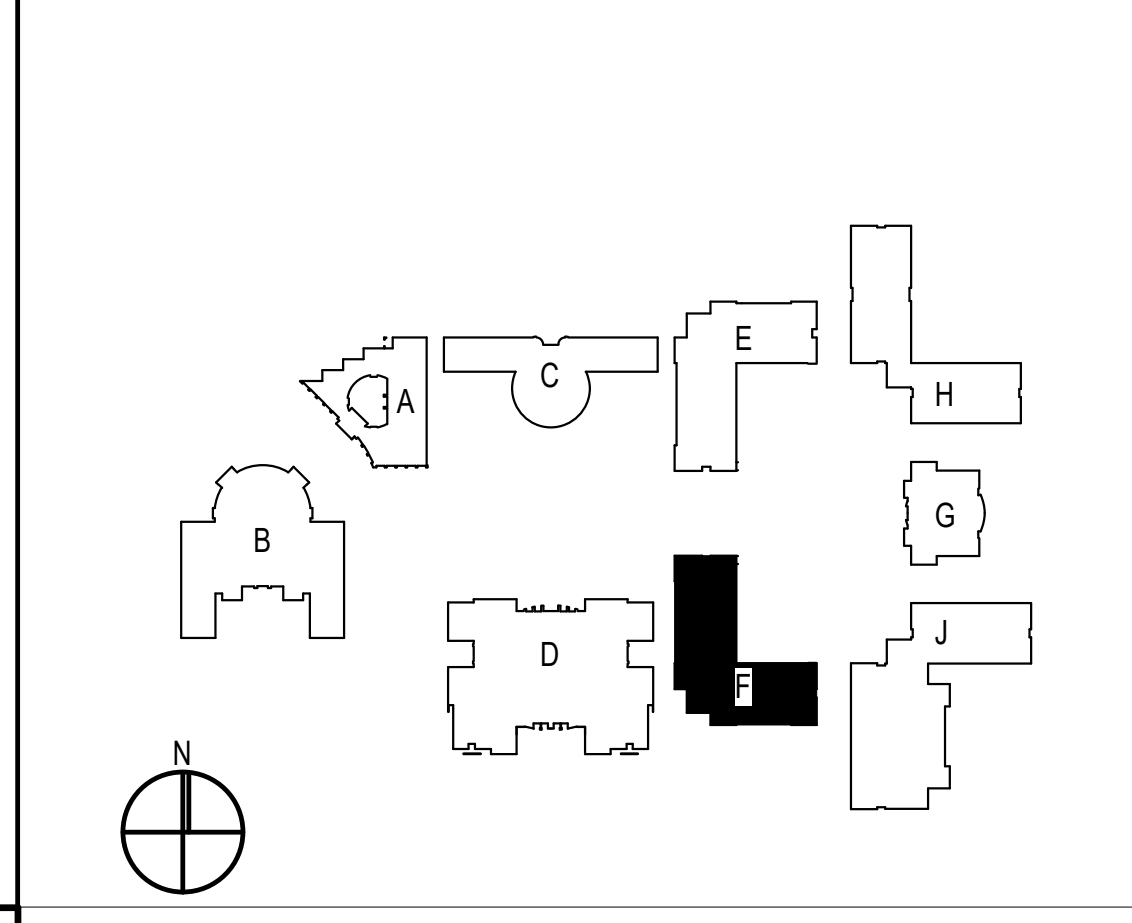
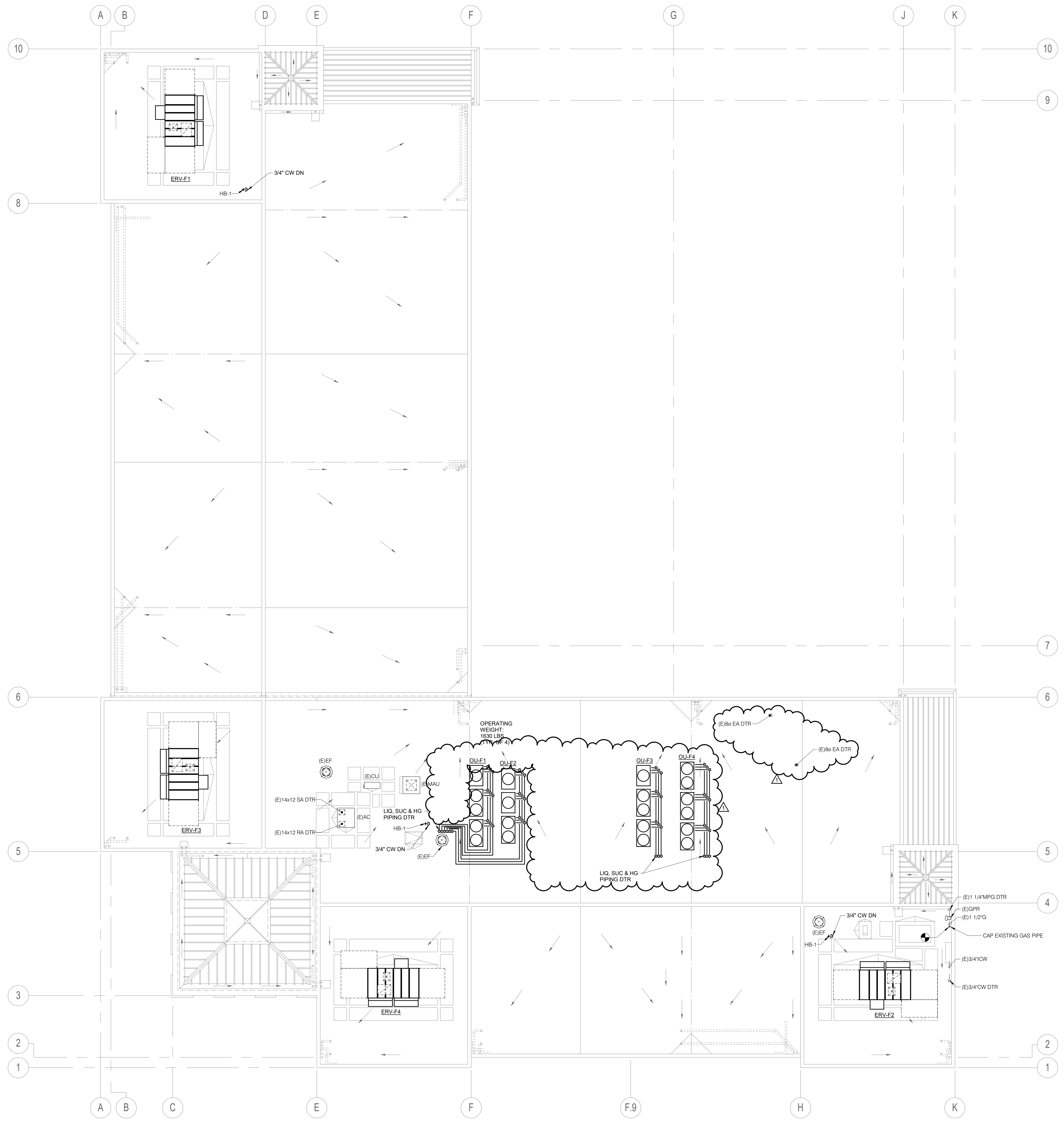
NO	DATE	BY	DESCRIPTION
REVISIONS			

1	08/25/20	CG	ADDENDUM 1
---	----------	----	------------

DRAWN: CDG	CHECKED: PD
DATE: Issue Date	SCALE: 1/8" = 1'-0"
PROJECT NUMBER:	Project Number

**BUILDING F REMODEL
 ROOF PLAN**

DRAWING NUMBER: **MPF3.1**



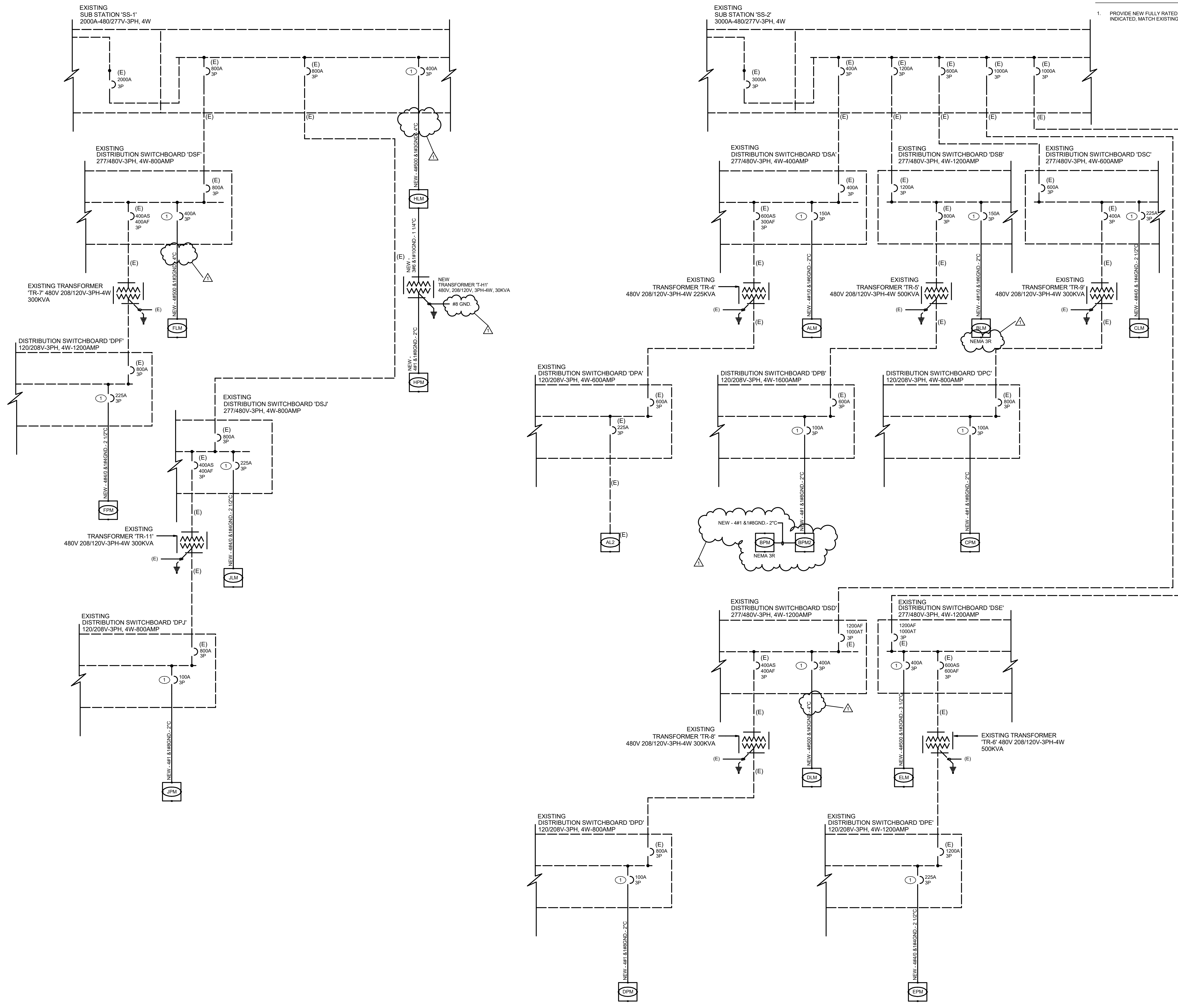
BUILDING F REMODEL ROOF PLAN 1/8" = 1'-0" 1

SITE KEY PLAN

08/25/20 11:52:13 AM
 C:\Projects\MPF3.1\MPF3.1.dwg
 08/25/20 11:52:13 AM
 C:\Projects\MPF3.1\MPF3.1.dwg

KEYED NOTES

1. PROVIDE NEW FULLY RATED BREAKER WITH MOUNTING KITS AS INDICATED. MATCH EXISTING MANUFACTURER AND RATING.



ARCHITECTS
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**PACIFICA HIGH SCHOOL
 HVAC ADDITION**
 OXNARD UNION HIGH SCHOOL DISTRICT
 SCHOOL SITE (805) 278-2907
 3400 W GONZALES RD,
 OXNARD, CA 93036

LICENSED ARCHITECT
 MARK GRAMM
 C-26346
 03-31-21
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ELECTRICAL ENGINEER
 JAMES J. GIBSON
 Lic. E18934
 Exp. 6-30-2021
 STATE OF CALIFORNIA

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1	08/25/20	Addendum 1	
NO	DATE	BY	DESCRIPTION
REVISIONS			

DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE:
PROJECT NUMBER:	Project Number

SINGLE LINE DIAGRAM

DRAWING NUMBER: **E0.2**

08/25/20 3:11 PM
 C:\Users\jgibson\OneDrive\Documents\Projects\HVAC\MEG\MEG - 08/25/20.dwg

PANEL NAME: CLM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DSC
SCCR LOCATION:

CONNECTED 156.56 KVA
MAIN: 225A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 156.56 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	AC-C1	15 A	3	3.05	3.6			3	15 A	AC-C4	2
3	--	--	--		3.05	3.6		--	--	--	4
5	--	--	--			3.05	3.6	--	--	--	6
7	AC-C5	90 A	3	11.94	0.5			3	15 A	AC-C4 POWER EXHAUST	8
9	--	--	--		11.94	0.5		--	--	--	10
11	--	--	--			11.94	0.5	--	--	--	12
13	AC-C5 Power EXHAUST	15 A	3	1.39	11.94			3	50 A	AC-C6	14
15	--	--	--		1.39	11.94		--	--	--	16
17	--	--	--			1.39	11.94	--	--	--	18
19	AC-C2	25 A	3	5.54	1.39			3	15 A	AC-C6 POWER EXHAUST	20
21	--	--	--		5.54	1.39		--	--	--	22
23	--	--	--			5.54	1.39	--	--	--	24
25	AC-C2 Power EXHAUST	15 A	3	0.66	5.54			3	25 A	AC-C3	26
27	--	--	--		0.66	5.54		--	--	--	28
29	--	--	--			0.66	5.54	--	--	--	30
31	--	--	--		6.65			3	15 A	AC-C3 POWER EXHAUST	32
33	--	--	--			6.65		--	--	--	34
35	--	--	--				6.65	--	--	--	36
37	--	--	--					--	--	--	38
39	--	--	--					--	--	--	40
41	--	--	--					--	--	--	42
Total Load:				52.19 KVA	52.19 KVA	52.19 KVA					
Total Amps:				168.39	168.39	168.39					

[Key*]

PANEL NAME: BLM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DSB
SCCR LOCATION:

CONNECTED 77 KVA
MAIN: 150A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 76.95 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	AC-B3	15 A	3	2.77	3.6			3	15 A	AC-B4	2
3	--	--	--		2.77	3.6		--	--	--	4
5	--	--	--			2.77	3.6	--	--	--	6
7	AC-B5	15 A	3	3.6	0.5			3	15 A	AC-B4 POWER EXHAUST	8
9	--	--	--		3.6	0.5		--	--	--	10
11	--	--	--			3.6	0.5	--	--	--	12
13	AC-B5 POWER EXHAUST	15 A	3	0.5	6.37			3	25 A	AC-B1	14
15	--	--	--		0.5	6.37		--	--	--	16
17	--	--	--			0.5	6.37	--	--	--	18
19	AC-B2 POWER EXHAUST	15 A	3	0.97	0.97			3	15 A	AC-B1 POWER EXHAUST	20
21	--	--	--		0.97	0.97		--	--	--	22
23	--	--	--			0.97	0.97	--	--	--	24
25	AC-B2	25 A	3	6.37				--	--	--	26
27	--	--	--		6.37			--	--	--	28
29	--	--	--			6.37		--	--	--	30
31	--	--	--					--	--	--	32
33	--	--	--					--	--	--	34
35	--	--	--					--	--	--	36
37	--	--	--					--	--	--	38
39	--	--	--					--	--	--	40
41	--	--	--					--	--	--	42
Total Load:				25.65 KVA	25.65 KVA	25.65 KVA					
Total Amps:				92.6	92.6	92.6					

[Key*]

PANEL NAME: AL2 (EXISTING)

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DPA
SCCR LOCATION:

CONNECTED 1.58 KVA
MAIN: 225A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 1.58 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
3	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	2
4	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	8
9	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	10
11	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	12
13	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	14
15	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	16
17	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	18
19	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	20
21	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	22
23	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	24
25	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	26
27	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	28
29	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	30
31	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	32
33	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	34
35	EXISTING CIRCUIT	--	--	0	0			--	--	EXISTING CIRCUIT	36
37	EXISTING CIRCUIT	--	--	0	1.08			1	20 A	ROOF MAINT Receptacles	38
39	EXISTING CIRCUIT	--	--	0	0.5			1	20 A	FACP	40
41	EXISTING CIRCUIT	--	--	0	0			1	20 A	SPARE	42
Total Load:				1.08 KVA	0.5 KVA	0 KVA					
Total Amps:				9.64	4.81	0					

[Key*] 1. PROVIDE LOCK-ON DEVICE

PANEL NAME: CPM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DPC
SCCR LOCATION:

CONNECTED 10.73 KVA
MAIN: 100A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 10.73 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	ROOF MAINT Receptacles	20 A	1	0.36	0.36			1	20 A	ROOF MAINT Receptacles	2
3	FSD	20 A	1		0.2	4.4		3	20 A	DPM	4
5	--	--	--		2.74			--	--	--	6
7	--	--	--			2.68		--	--	--	8
9	--	--	--				2.68	--	--	--	10
11	--	--	--					--	--	--	12
13	--	--	--					--	--	--	14
15	--	--	--					--	--	--	16
17	--	--	--					--	--	--	18
19	--	--	--					--	--	--	20
21	--	--	--					--	--	--	22
23	--	--	--					--	--	--	24
25	--	--	--					--	--	--	26
27	--	--	--					--	--	--	28
29	--	--	--					--	--	--	30
31	--	--	--					--	--	--	32
33	--	--	--					--	--	--	34
35	--	--	--					--	--	--	36
37	--	--	--					--	--	--	38
39	--	--	--					--	--	--	40
41	--	--	--					--	--	--	42
Total Load:				3.48 KVA	4.6 KVA	2.68 KVA					
Total Amps:				29.81	39.29	22.31					

[Key*]

PANEL NAME: BPM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: BPM2
SCCR LOCATION:

CONNECTED 14.78 KVA
MAIN: 100A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 14.78 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	HP-B6	15 A	2	0.94	0.94			2	15 A	HP-B5	2
3	--	--	--		0.94	0.94		--	--	--	4
5	HP-B4	15 A	2		0.94	0.94		2	15 A	HP-B1	6
7	--	--	--		0.94	0.94		--	--	--	8
9	HP-B2	15 A	2		0.94	2.08		2	30 A	HP-B3	10
11	--	--	--			0.94	2.08	--	--	--	12
13	ROOF MAINT Receptacles	20 A	1	1.26				--	--	--	14
15	--	--	--					--	--	--	16
17	--	--	--					--	--	--	18
19	--	--	--					--	--	--	20
21	--	--	--					--	--	--	22
23	--	--	--					--	--	--	24
25	--	--	--					--	--	--	26
27	--	--	--					--	--	--	28
29	--	--	--					--	--	--	30
31	--	--	--					--	--	--	32
33	--	--	--					--	--	--	34
35	--	--	--					--	--	--	36
37	--	--	--					--	--	--	38
39	--	--	--					--	--	--	40
41	--	--	--					--	--	--	42
Total Load:				5 KVA	4.89 KVA	4.89 KVA					
Total Amps:				41.7	40.73	40.73					

[Key*]

PANEL NAME: ALM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DSA
SCCR LOCATION:

CONNECTED 104.21 KVA
MAIN: 150 MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 104.21 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	AC-A4	15 A	3	2.77	2.77			3	15 A	AC-A5	2
3	--	--	--		2.77	2.77		--	--	--	4
5	--	--	--			2.77	2.77	--	--	--	6
7	AC-A3	15 A	3	3.05	2.77			3	15 A	AC-A6	8
9	--	--	--		3.05	2.77		--	--	--	10
11	--	--	--			3.05	2.77	--	--	--	12
13	AC-A7	15 A	3	2.77	3.6			3	15 A	AC-A1	14
15	--	--	--		2.77	3.6		--	--	--	16
17	--	--	--			2.77	3.6	--	--	--	18
19	AC-A2	15 A	3	2.77	0.5			3	15 A	AC-A1 POWER EXH	20
21	--	--	--		2.77	0.5		--	--	--	22
23	--	--	--			2.77	0.5	--	--	--	24
25	AC-A8	15 A	3	2.77	2.77			3	15 A	AC-A10	26
27	--	--	--		2.77	2.77		--	--	--	28
29	--	--	--			2.77	2.77	--	--	--	30
31	AC-A11	15 A	3	3.6	3.6			3	15 A	AC-A9	32
33	--	--	--		3.6	3.6		--	--	--	34
35	--	--	--			3.6	3.6	--	--	--	36
37	AC-A9 POWER EXH	15 A	3	0.5	0.5			3	15 A	AC-A9 POWER EXH	38
39	--	--	--		0.5	0.5		--	--	--	40
41	--	--	--			0.5	0.5	--	--	--	42
Total Load:				34.74 KVA	34.74 KVA	34.74 KVA					
Total Amps:				125.4	125.4	125.4					

[Key*]

PANEL NAME: ELM

TYPE: BOLT-ON MOUNTING SURFACE
FED FROM: DSE
SCCR LOCATION:

CONNECTED 328.86 KVA
MAIN: 400A MCB
VOLTS: 480/277 V Wye
PHASE: 3
WIRE: 4
DEMAND: 273.28 KVA

SOLID NEUTRAL GROUND BUS

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	ERV-E1	15 A	3	2.91	6.48			3	30 A	OU-E3 MOD 3	2
3	--	--	--		2.91	6.48		--	--	--	4
5	--	--	--			2.91	6.48	--	--	--	6
7	ERV-E3	15 A									

PANEL NAME: FLM

TYPE: BOLT-ON
MOUNTING SURFACE
FED FROM: DSJ
SCCR
LOCATION:

SOLID NEUTRAL
GROUND BUS

CONNECTED TO: 400A MCB
MAIN: 400A MCB
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
DEMAND: 273.28 kVA

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	OU-F1 MOD 1	30 A	3	6.48	8.22			3	35 A	OU-F4 MOD 1	2
3				6.48	8.22						4
5						6.48	8.22				6
7	OU-F1 MOD 2	30 A	3	6.48	6.48	6.48	6.48	3	30 A	OU-F4 MOD 2	8
9				6.48	6.48						10
11						6.48	6.48				12
13	OU-F1 MOD 3	25 A	3	6.48	6.48	6.48	6.48	3	30 A	OU-F4 MOD 3	14
15				6.48	6.48						16
17						6.48	6.48				18
19	OU-F2 MOD 1	30 A	3	6.48	2.91	6.48	2.91	3	15 A	ERV-F1	20
21				6.48	2.91	6.48	2.91				22
23						6.48	2.91				24
25	OU-F2 MOD 2	25 A	3	6.48	2.91	6.48	2.91	3	15 A	ERV-F2	26
27				6.48	2.91	6.48	2.91				28
29						6.48	2.91				30
31	OU-F2 MOD 3	25 A	3	6.48	2.91	6.48	2.91	3	15 A	ERV-F4	32
33				6.48	2.91	6.48	2.91				34
35						6.48	2.91				36
37	OU-F3 MOD 1	30 A	3	6.48	2.91	6.48	2.91	3	15 A	ERV-F3	38
39				6.48	2.91	6.48	2.91				40
41						6.48	2.91				42
43	OU-F3 MOD 2	30 A	3	6.48	0	6.48	0			SPACE	44
45				6.48	0	6.48	0			SPACE	46
47						6.48	0			SPACE	48
49	OU-F3 MOD 3	25 A	3	6.48	0	6.48	0			SPACE	50
51				6.48	0	6.48	0			SPACE	52
53						6.48	0			SPACE	54
55	SPACE			0	0					SPACE	56
57	SPACE			0	0					SPACE	58
59	SPACE			0	0					SPACE	60
61	SPACE			0	0					SPACE	62
63	SPACE					0	0			SPACE	64
65	SPACE					0	0			SPACE	66
67	SPACE			0	0					SPACE	68
69	SPACE			0	0					SPACE	70
71	SPACE			0	0					SPACE	72
Total Load:				91.09 kVA	91.09 kVA	91.09 kVA					
Total Amps:				328.86	328.86	328.86					

[Key*]

PANEL NAME: JLM

TYPE: BOLT-ON
MOUNTING SURFACE
FED FROM: DSJ
SCCR
LOCATION:

SOLID NEUTRAL
GROUND BUS

CONNECTED TO: 225A MCB
MAIN: 225A MCB
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
DEMAND: 224.51 kVA

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	AC-J1	15 A	3	3.6	3.05			3	15 A	AC-J1	2
3				3.6	3.05						4
5						3.6	3.05				6
7	AC-J1 Power Exhaust	15 A	3	0.5	3.05	0.5	3.05	3	15 A	AC-J3	8
9				0.5	3.05						10
11						0.5	3.05				12
13	AC-J4	15 A	3	3.05	3.05			3	15 A	AC-J8	14
15				3.05	3.05						16
17						3.05	3.05				18
19	AC-J7	15 A	3	3.05	3.05	3.05	3.05	3	15 A	AC-J6	20
21				3.05	3.05	3.05	3.05				22
23						3.05	3.05				24
25	AC-J5	15 A	3	3.05	3.05			3	15 A	AC-J10	26
27				3.05	3.05						28
29						3.05	3.05				30
31	AC-J9	15 A	3	3.6	3.05	3.6	3.05	3	15 A	AC-J11	32
33				3.6	3.05	3.6	3.05				34
35						3.6	3.05				36
37	AC-J9 Power Exhaust	15 A	3	0.5	3.05			3	15 A	AC-J12	38
39				0.5	3.05						40
41						0.5	3.05				42
43	AC-J13	15 A	3	2.77	3.05	2.77	3.05	3	15 A	AC-J14	44
45				2.77	3.05	2.77	3.05				46
47						2.77	3.05				48
49	AC-J15	15 A	3	3.6	3.37			3	30 A	AC-J16	50
51				3.6	3.37						52
53						3.6	3.37				54
55	AC-J15 Power Exhaust	15 A	3	0.5	10.8	0.5	0	3	20 A	AC-J19	56
57				0.5	10.8	0.5	0				58
59						0.5	0				60
61	AC-J18	25 A	3	6.37	3.04			3	20 A	AC-17	62
63				6.37	3.04						64
65						6.37	3.04				66
67	AC-J18 Power Exhaust	20 A	3	0.5	6.37	0.5	6.37	3	20 A	AC-20	68
69				0.5	6.37	0.5	6.37				70
71						0.5	6.37				72
Total Load:				82.03 kVA	71.24 kVA	71.24 kVA					
Total Amps:				296.14	257.17	257.17					

[Key*]

PANEL NAME: DLM

TYPE: BOLT-ON
MOUNTING SURFACE
FED FROM: DSD
SCCR
LOCATION:

SOLID NEUTRAL
GROUND BUS

CONNECTED TO: 400A MCB
MAIN: 400A MCB
VOLTS: 480/277 Wye
PHASE: 3
WIRE: 4
DEMAND: 307.32 kVA

Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	AC-D1	15 A	3	3.6	14.13			3	50 A	AC-D3	2
3				3.6	14.13						4
5						3.6	14.13				6
7	AC-D1 Power Exhaust	15 A	3	0.5	2.22	0.5	2.22	3	15 A	AC-D3 Power Exhaust	8
9				0.5	2.22	0.5	2.22				10
11						0.5	2.22				12
13	AC-D2	15 A	3	3.6	14.28			3	50 A	AC-D4	14
15				3.6	14.28						16
17						3.6	14.28				18
19	AC-D2 Power Exhaust	15 A	3	0.5	2.22	0.5	2.22	3	15 A	AC-D4 Power Exhaust	20
21				0.5	2.22	0.5	2.22				22
23						0.5	2.22				24
25	AC-D6	50 A	3	14.28	2.22			3	15 A	AC-D7	26
27				14.28	2.22						28
29						14.28	2.22				30
31	AC-D6 Power Exhaust	15 A	3	3.05	14.28	3.05	14.28	3	50 A	AC-D5	32
33				3.05	14.28	3.05	14.28				34
35						3.05	14.28				36
37	AC-D14	25 A	3	5.54	2.22			3	15 A	AC-D5 Power Exhaust	38
39				5.54	2.22						40
41						5.54	2.22				42
43	AC-D14 Power Exhaust	15 A	3	0.66	6.93	0.66	6.93	3	30 A	AC-D11	44
45				0.66	6.93	0.66	6.93				46
47						0.66	6.93				48
49	AC-D13	15 A	3	2.77	0.5	2.77	0.5	3	15 A	AC-D11 Power Exhaust	50
51				2.77	0.5	2.77	0.5				52
53						2.77	0.5				54
55	AC-D8	25 A	3	5.54	2.77	5.54	2.77	3	20 A	AC-D10	56
57				5.54	2.77	5.54	2.77				58
59						5.54	2.77				60
61	AC-D8 Power Exhaust	15 A	3	0.66	0	0.66	0			SPACE	62
63				0.66	0	0.66	0			SPACE	64
65						0.66	0			SPACE	66
67	SPACE			0	0					SPACE	68
69	SPACE			0	0					SPACE	70
71	SPACE			0	0					SPACE	72
Total Load:				102.44 kVA	102.44 kVA	102.44 kVA					
Total Amps:				369.82	369.82	369.82					

[Key*]

PANEL NAME: FPM

TYPE: BOLT-ON
MOUNTING SURFACE
FED FROM: DSD
SCCR
LOCATION:

SOLID NEUTRAL
GROUND BUS

CONNECTED TO: 400A MCB
MAIN: 225A MCB
VOLTS: 120/208 Wye
PHASE: 3
WIRE: 4
DEMAND: 68.94 kVA

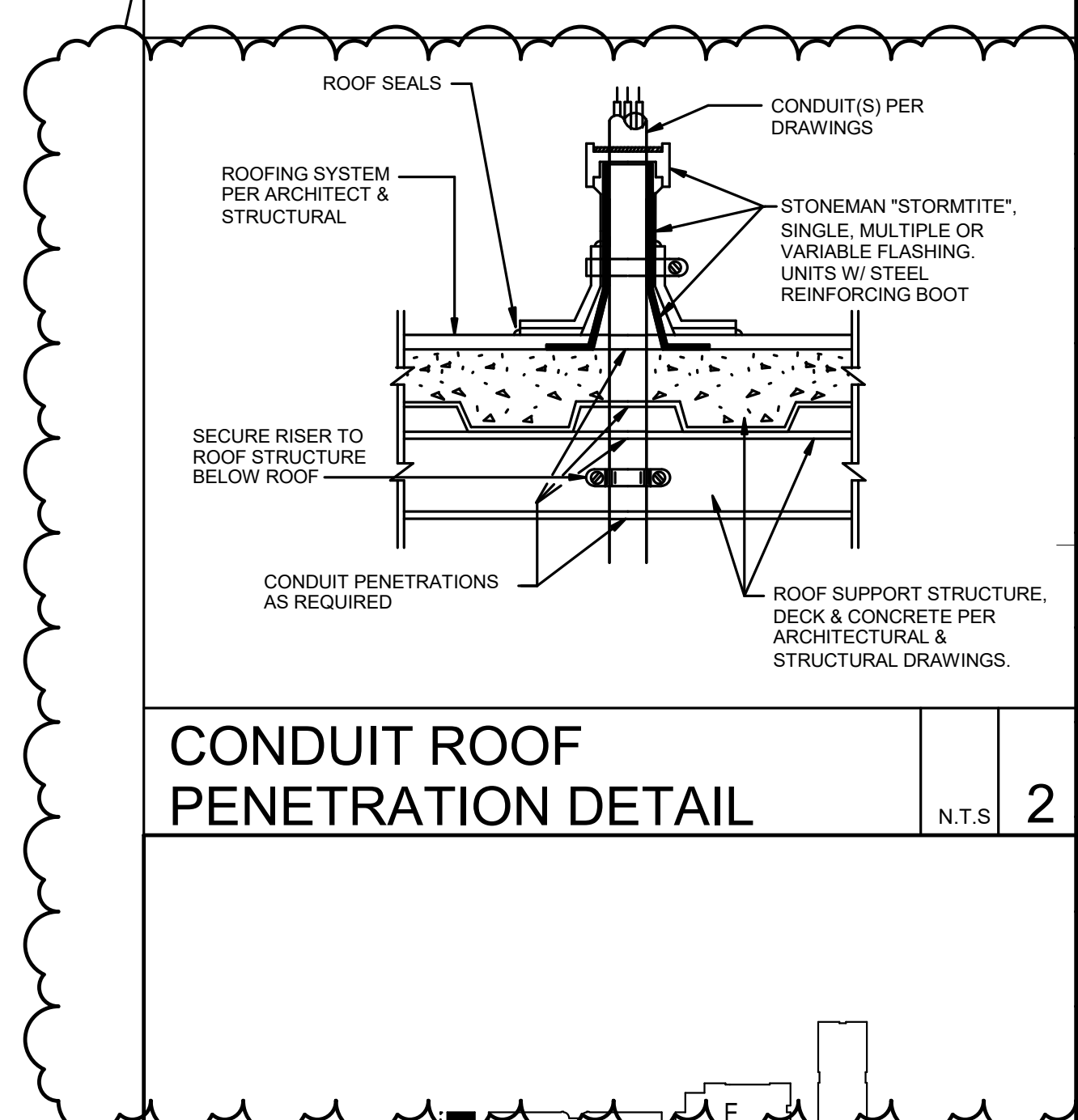
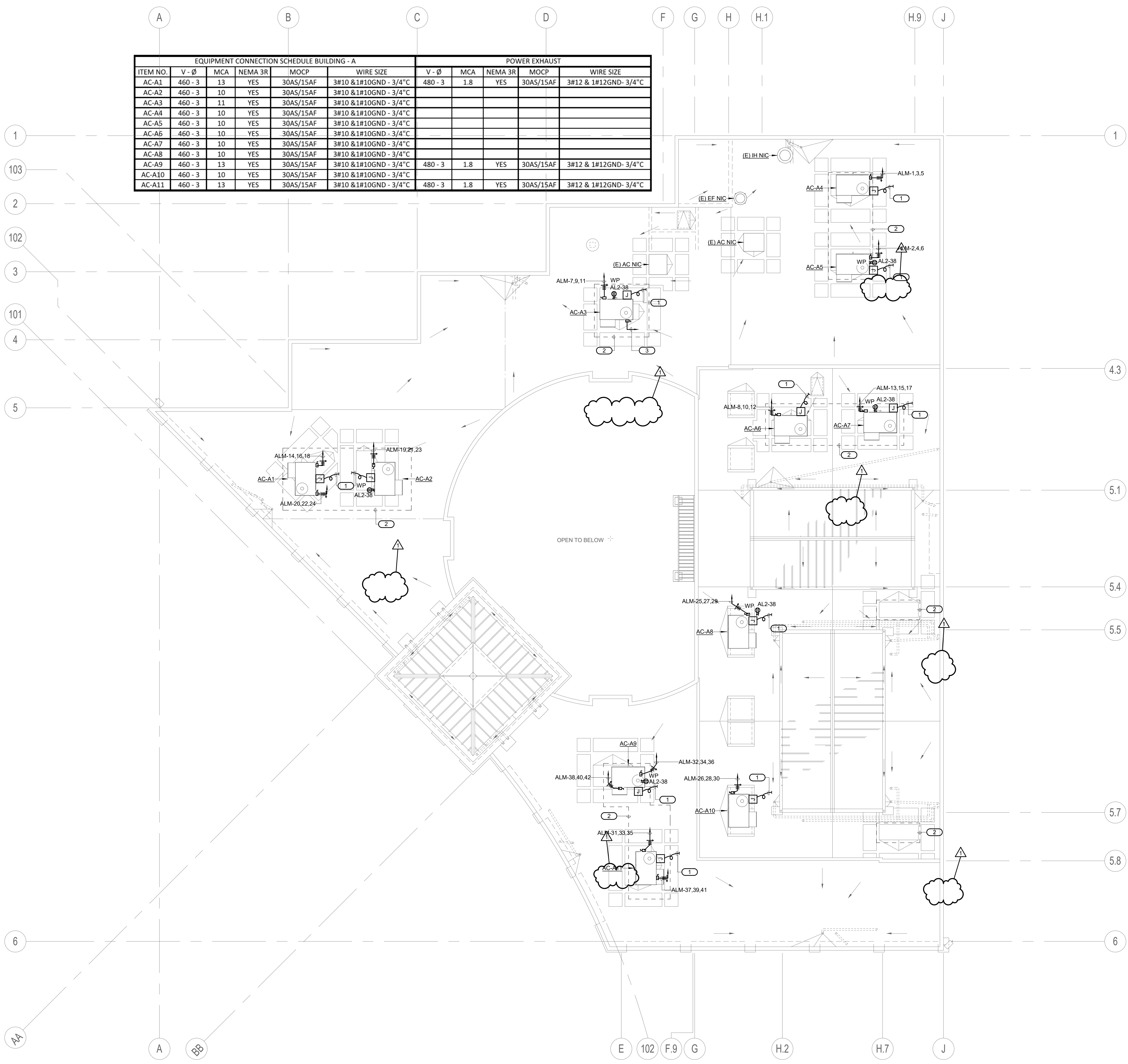
Panel Notes:

CKT NO.	LOAD DESCRIPTION	OVERCURRENT PROTECTION AMPS	WIRE ID	A	B	C	WIRE ID	OVERCURRENT PROTECTION AMPS	LOAD DESCRIPTION	CKT NO.	
1	FC-F2	15 A	2	1	1			2	15 A	FC-F33	2
3				1	1						4
5	FC-F1	15 A	2			1	1	2	15 A	FC-F32	6
7				1	1						8
9	FC-F3	15 A	2			1	1	2	15 A	FC-F31	10
11				1	1						12
13	FC-F4	15 A	2	1	1	1	1	2	15 A	FC-F30	14
15				1	1	1	1				16
17	FC-F5	15 A	2			1	1	2	15 A	FC-F29	18
19				1	1						20
21	FC-F6	15 A	2			1	1	2	15 A	FC-F28	22
23				1	1						24
25	FC-F7	15 A	2	1	1	1	1	2	15 A	FC-F27	26
27				1	1	1	1				28
29	FC-F8	15 A	2			1	1	2	15 A	FC-F26	30
31				1	1						32
33	FC-F9	15 A	2			1	1	2	15 A	FC-F25	34
35				1	1						36
37	FC-F10	15 A	2	1	1	1	1	2	15 A	FC-F24	38
39				1	1	1	1				40
41	FC-F11	15 A	2			1	1	2	15 A	FC-F22	42
43				1	1						44

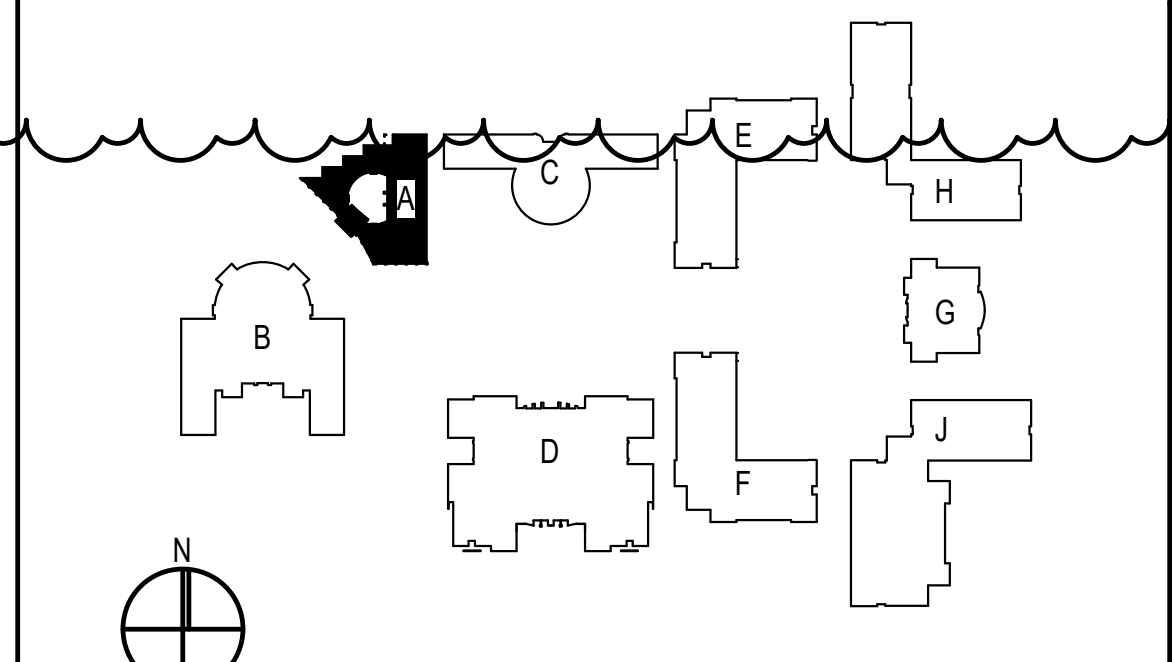
EQUIPMENT CONNECTION SCHEDULE BUILDING - A						POWER EXHAUST					
ITEM NO.	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	
AC-A1	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	
AC-A2	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A3	460 - 3	11	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A4	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A5	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A6	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A7	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A8	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A9	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	
AC-A10	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-A11	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	

- GENERAL NOTES**
- PROVIDE PIPE FLASHINGS FOR ALL ELECTRICAL ROOF PENETRATIONS REQUIRED AND COORDINATE ALL WORK WITH ROOFING CONTRACTOR FOR A WATERPROOF INSTALLATION. REFER TO DETAIL THIS SHEET.
 - ALL CONDUIT SERVING ROOF MOUNTED HVAC EQUIPMENT, GFI MAINTENANCE RECEPTACLES, DUCT TYPE SMOKE DETECTORS, ETC. SHALL BE ROUTED IN CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.
 - COATINGS: APPLY MARINE COATING BY CERTIFIED LICENSED APPLICATOR THE COATING PRODUCT MANUFACTURER SHALL BE ABLE TO DOCUMENT A CLASS 5B RESULT ON A CROSS HATCH ADHESION TEST (ASTM D5339) AND THE TESTING FOR A MINIMUM 4000 HOURS IN BOTH SALT SPRAY (ASTM B117) AND ACID SALT SPRAY (ASTM G85) TEST. THE TOTAL DRY FILM THICKNESS OF THE COATING SHALL BE 1MIL. THE COATING SHALL PROVIDE INHERENT PROTECTION AGAINST ULTRAVIOLET RADIATION AND HAVE A DRY TEMPERATURE RESISTANCE FROM -4°F TO 302°F. THE FOLLOWING COMPONENTS SHALL BE COATED: ELECTRICAL DISCONNECT SWITCH, J-BOX'S AND PANELBOARDS MOUNTED IN ROOF.

- KEYED NOTES**
- PROVIDE 3/4" Ø (S) TO RESPECTIVE DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION ON MECHANICAL PLANS.
 - DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING HV UNIT. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.
 - INTERLOCK WITH EXISTING EF-4A. PROVIDE NEW WIRE: 2#12 & 1#12 GND-3/4". PROVIDE A NEW STARTER AND RELAY. COORDINATE WITH LOW VOLTAGE CONSULTANT.



CONDUIT ROOF PENETRATION DETAIL N.T.S. 2



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1	08/25/20	Addendum 1
NO	DATE	BY DESCRIPTION
REVISIONS		

DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE: 1/8" = 1'-0"
PROJECT NUMBER: Project	Number

**BUILDING A REMODEL
 ROOF PLAN**

DRAWING NUMBER: **EA3.1**

08/25/20 11:49 AM
 C:\Users\michael.miller\OneDrive\Documents\Projects\BID\HVAC\HVAC - BIDD\HVAC - BIDD.dwg

KEYED NOTES

- INTERCONNECT WITH ASSOCIATED OUTDOOR UNIT. REFER TO MECHANICAL WIRING DIAGRAMS.
- PROVIDE DEDICATED 120V CIRCUIT POWER SOURCE TO NEAREST AVAILABLE CIRCUIT. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL INDICATING FIRE ALARM TO CIRCUIT ID.
- TECHNOLOGY/LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE RECEPTACLE POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - RE-INSTALL POWER OUTLET WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF OUTLET SHALL BE PERFORMED AND OUTLET SHALL BE FULLY OPERABLE.
- PROCEED WITH THE FOLLOWING INDICATIONS PRIOR MECHANICAL EQUIPMENT INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS FOR IDENTIFICATION OF CONFLICTING CONDUITS. INTERCEPT CONFLICTING CONDUIT AND REROUTE. PROVIDE A JUNCTION BOX ON EACH END OF CONDUIT TO BE REROUTED. EACH JUNCTION BOX AND CONDUIT SHALL BE PROPERLY INSTALLED AND STRAPPED TO BUILDING INFRASTRUCTURE.
 - FOR ELECTRICAL CONDUIT PROVIDE NEW CONDUCTORS FROM NEW JUNCTION BOXES AND SPLICE CONDUCTORS TO BE EXTENDED. MATCH EXISTING CONDUCTORS TO BE SPLICED.
 - FOR FIRE ALARM CONDUIT PROVIDE NEW FIRE ALARM CABLES FROM THE NEAREST TERMINAL STRIP OR DEVICE WITH LANDING TERMINAL.
 - FOR TECHNOLOGY/LOW VOLTAGE CONDUIT PROVIDE THE NECESSARY CONNECTION BOXES FOR EXTENDING CAT TYPE CABLE.
- INSTALL MOTOR RATED SWITCH OR NEXT TO MECHANICAL UNIT. SWITCH SHALL HAVE THREE FEET CLEARANCE IN FRONT FOR SERVICE CLEARANCE.
- LIGHT FIXTURE AFFECTED DURING REMOVAL/RE-INSTALLATION OF CEILING.
 - REMOVE LIGHT FIXTURE AND SALVAGE FOR FUTURE RE-INSTALLATION.
 - REMOVE POWER TO FIXTURES BACK TO JUNCTION BOX AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX. MOUNT JUNCTION BOX ON AREA NOT AFFECTED FOR MAINTAINING WORKING CLEARANCE.
 - RE-INSTALL LIGHT FIXTURE WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF LIGHT FIXTURE SHALL BE PERFORMED AND LIGHT FIXTURE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR FROM CEILING.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON NEW CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.

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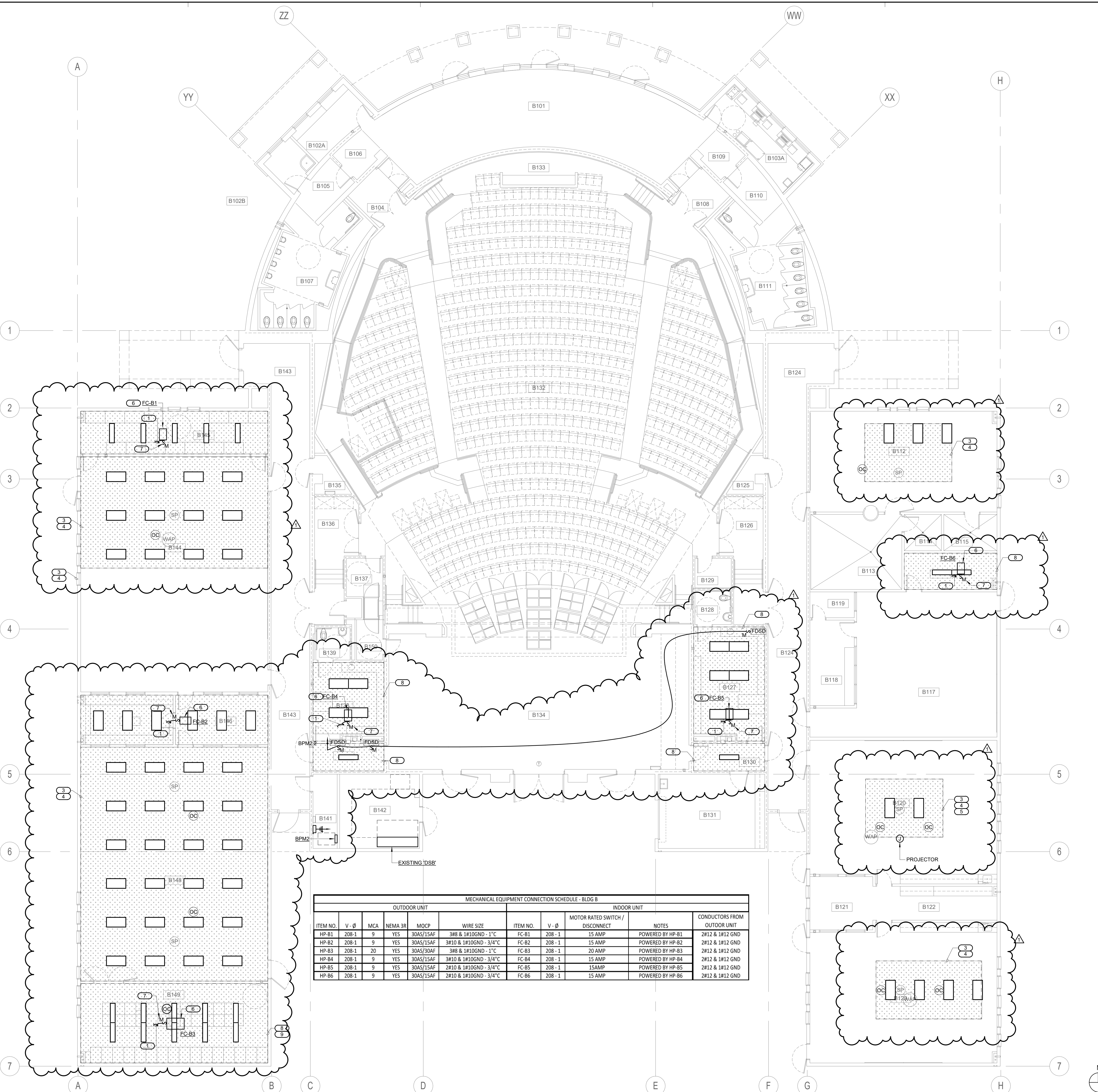
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1	08/25/20	Addendum 1	
NO	DATE	BY	DESCRIPTION
REVISIONS			

DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE: As indicated
PROJECT NUMBER: Project Number	

BUILDING B REMODEL FLOOR PLAN

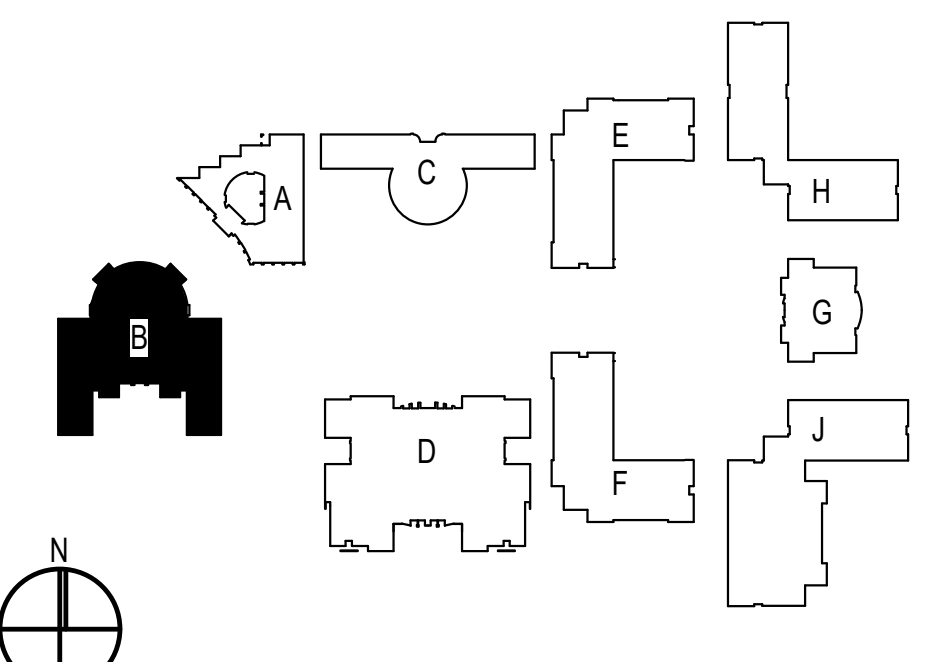
DRAWING NUMBER: **EB2.1**



MECHANICAL EQUIPMENT CONNECTION SCHEDULE - BLDG B										
OUTDOOR UNIT					INDOOR UNIT					
ITEM NO.	V-Ø	MCA	NEMA 3R	MOCF	WIRE SIZE	ITEM NO.	V-Ø	MOTOR RATED SWITCH / DISCONNECT	NOTES	CONDUCTORS FROM OUTDOOR UNIT
HP-B1	208-1	9	YES	30AS/15AF	3#8 & 1#10GND - 1/4"	FC-B1	208-1	15 AMP	POWERED BY HP-B1	2#12 & 1#12 GND
HP-B2	208-1	9	YES	30AS/15AF	3#10 & 1#10GND - 3/4"	FC-B2	208-1	15 AMP	POWERED BY HP-B2	2#12 & 1#12 GND
HP-B3	208-1	20	YES	30AS/20AF	3#8 & 1#10GND - 1/4"	FC-B3	208-1	20 AMP	POWERED BY HP-B3	2#12 & 1#12 GND
HP-B4	208-1	9	YES	30AS/15AF	3#10 & 1#10GND - 3/4"	FC-B4	208-1	15 AMP	POWERED BY HP-B4	2#12 & 1#12 GND
HP-B5	208-1	9	YES	30AS/15AF	2#10 & 1#10GND - 3/4"	FC-B5	208-1	15AMP	POWERED BY HP-B5	2#12 & 1#12 GND
HP-B6	208-1	9	YES	30AS/15AF	2#10 & 1#10GND - 3/4"	FC-B6	208-1	15 AMP	POWERED BY HP-B6	2#12 & 1#12 GND

BUILDING B REMODEL FLOOR PLAN 1/8" = 1'-0" 1

SITE KEY PLAN



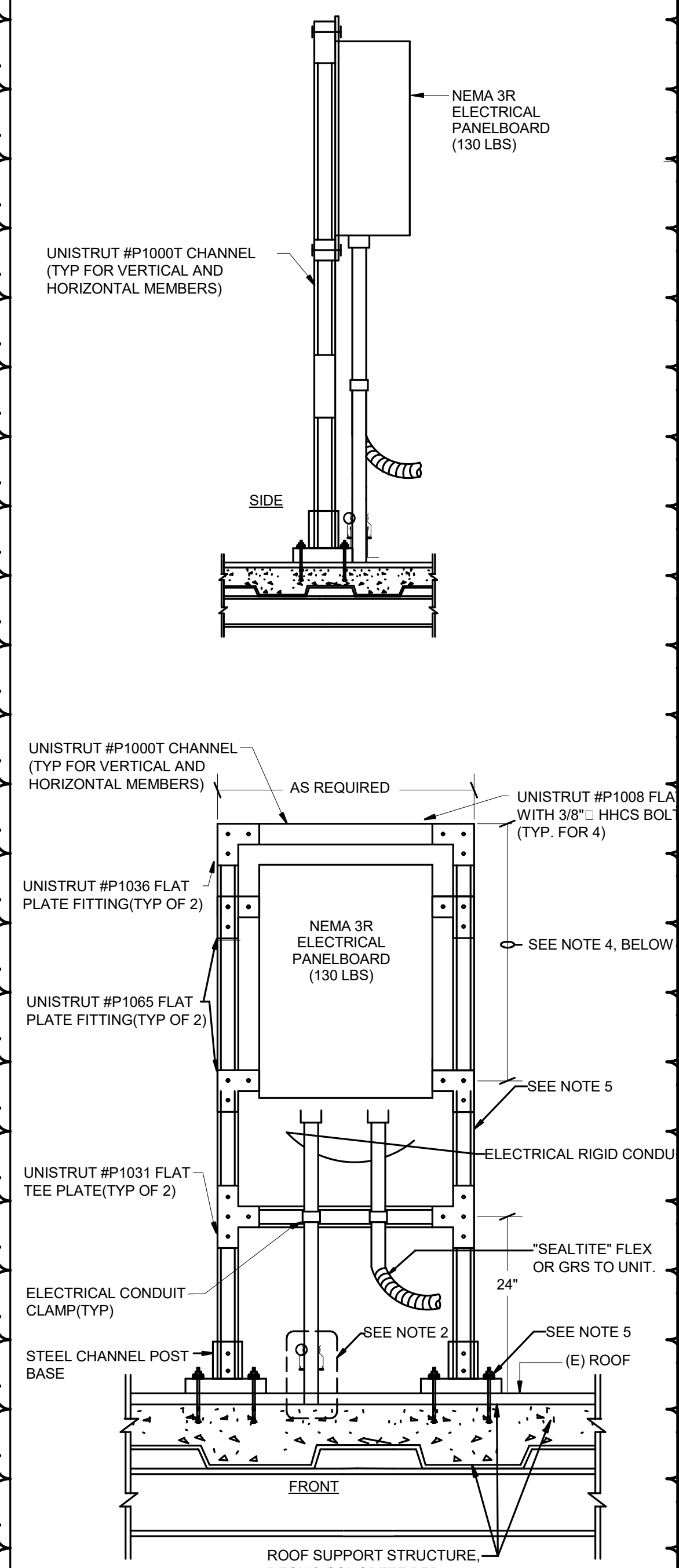
DATE: 08/25/20 11:49 AM
 DRAWN: M. GRAHAM
 CHECKED: M. GRAHAM
 PROJECT: PACIFICA HIGH SCHOOL HVAC ADDITION

GENERAL NOTES

1. PROVIDE PIPE FLASHINGS FOR ALL ELECTRICAL ROOF PENETRATIONS REQUIRED AND COORDINATE ALL WORK WITH ROOFING CONTRACTOR FOR A WATERPROOF INSTALLATION. REFER TO DETAIL THIS SHEET.
2. ALL CONDUIT SERVING ROOF MOUNTED HVAC EQUIPMENT, OFFICE MAINTENANCE RECEPTACLES, DUCT TYPE SMOKE DETECTORS, ETC. SHALL BE ROUTED IN CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.
3. COATINGS: APPLY MARINE COATING BY CERTIFIED LICENSED APPLICATOR. THE COATING PRODUCT MANUFACTURER SHALL BE ABLE TO DOCUMENT A CLASS 5B RESULT ON A CROSS HATCH ADHESION TEST (ASTM D5339) AND THE TESTING FOR A MINIMUM 4000 HOURS IN BOTH SALT SPRAY (ASTM B117) AND ACID SALT SPRAY (ASTM G85) TEST. THE TOTAL DRY FILM THICKNESS OF THE COATING SHALL BE 1MIL. THE COATING SHALL PROVIDE INHERENT PROTECTION AGAINST ULTRAVIOLET RADIATION AND HAVE A DRY TEMPERATURE RESISTANCE FROM 4°F TO 302°F. THE FOLLOWING COMPONENTS SHALL BE COATED: ELECTRICAL DISCONNECT SWITCH, J-BOX'S AND PANELBOARDS MOUNTED IN ROOF.
4. REFER TO DETAIL 9 SHEET MP4.3 FOR FURTHER INFORMATION.

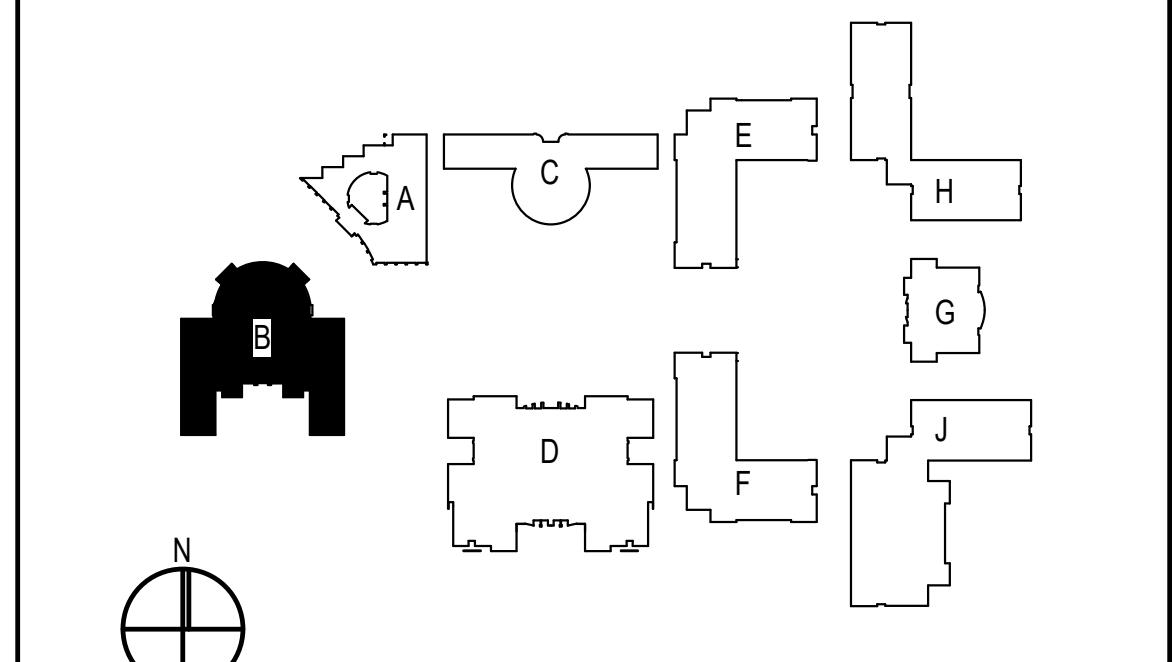
KEYED NOTES

1. PROVIDE 34°C O(S) TO RESPECTIVE DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION ON MECHANICAL PLANS.
2. DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING HV UNIT. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.
3. UNISTRUT MOUNTED PANELS. REFER TO DETAIL 2 SHEET EB3.1

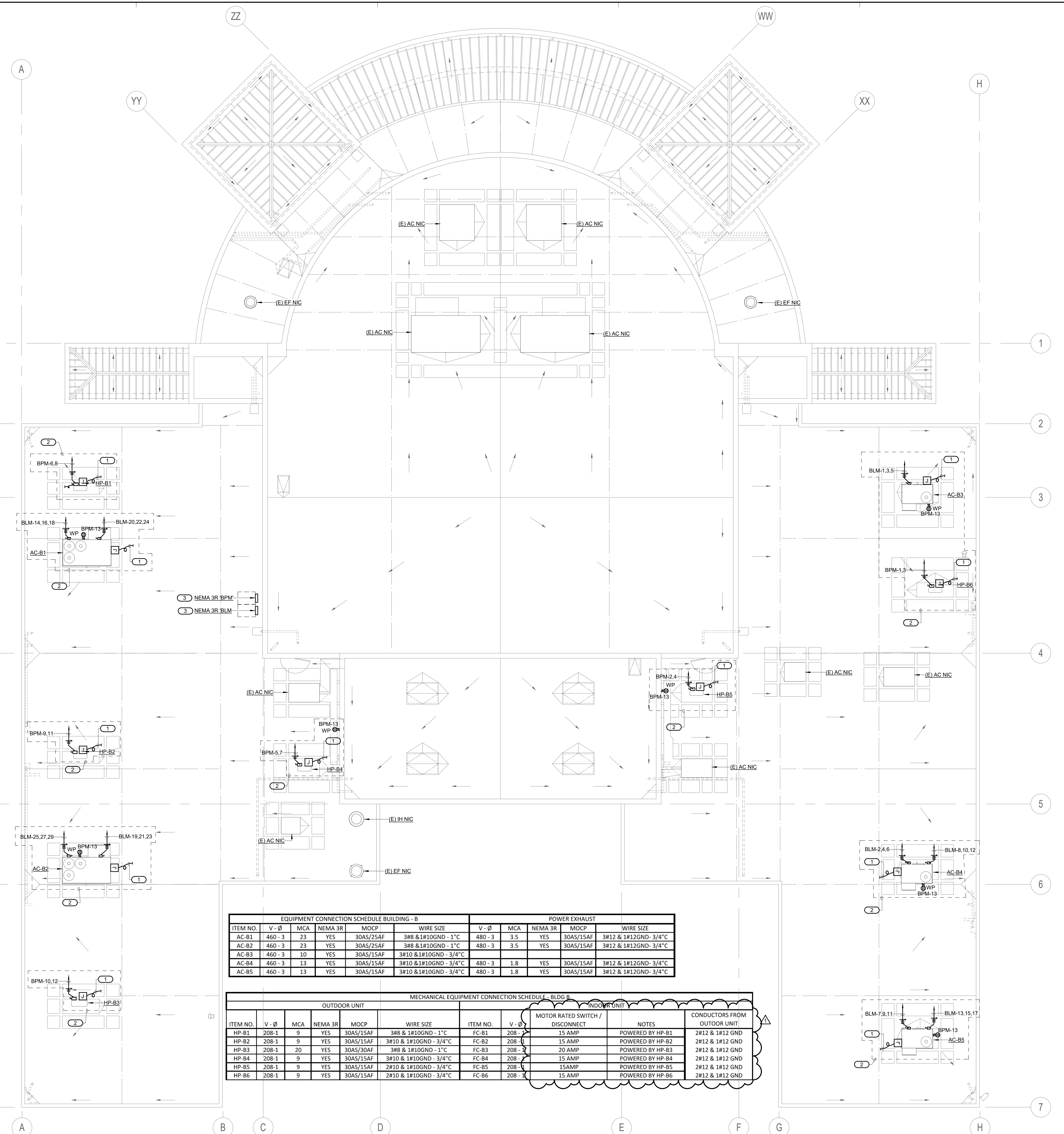


- NOTES:
1. PROVIDE 5/8 HILTI KB-TZ W/ 3-1/8 EMBED ESR - 1917. STEEL WASHER OVER (TYP OF 4) PRE-DRILL CONCRETE FOR DROP IN ANCHOR.
 2. REFERENCE CONDUIT PENETRATIONS FOR FURTHER INFORMATION.
 3. PROVIDE/INSTALL ALL UNISTRUT NUTS, STUD NUTS, SCREWS, WASHERS, LOCK WASHERS, ETC., AS REQUIRED FOR MOUNTING OF ALL UNISTRUT CHANNELS AND PLATES.
 4. HEIGHT AS REQUIRED, VERIFY HEIGHT WITH EQUIPMENT MANUFACTURER.

ELECTRICAL PANEL MOUNTING DETAIL N.T.S. 2



SITE KEY PLAN



EQUIPMENT CONNECTION SCHEDULE BUILDING - B						POWER EXHAUST					
ITEM NO.	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	
AC-B1	460 - 3	23	YES	30AS/25AF	3#8 & 1#10GND - 1" C	480 - 3	3.5	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	
AC-B2	460 - 3	23	YES	30AS/25AF	3#8 & 1#10GND - 1" C	480 - 3	3.5	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	
AC-B3	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C						
AC-B4	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	
AC-B5	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4" C	

MECHANICAL EQUIPMENT CONNECTION SCHEDULE - BLDG B											
OUTDOOR UNIT						INDOOR UNIT			CONDUCTORS FROM OUTDOOR UNIT		
ITEM NO.	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	ITEM NO.	V - Ø	NOTES			
HP-B1	208-1	9	YES	30AS/15AF	3#8 & 1#10GND - 1" C	FC-B1	208-1	15 AMP POWERED BY HP-B1	2#12 & 1#12 GND		
HP-B2	208-1	9	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	FC-B2	208-1	15 AMP POWERED BY HP-B2	2#12 & 1#12 GND		
HP-B3	208-1	20	YES	30AS/30AF	3#8 & 1#10GND - 1" C	FC-B3	208-1	20 AMP POWERED BY HP-B3	2#12 & 1#12 GND		
HP-B4	208-1	9	YES	30AS/15AF	3#10 & 1#10GND - 3/4" C	FC-B4	208-1	15 AMP POWERED BY HP-B4	2#12 & 1#12 GND		
HP-B5	208-1	9	YES	30AS/15AF	2#10 & 1#10GND - 3/4" C	FC-B5	208-1	15AMP POWERED BY HP-B5	2#12 & 1#12 GND		
HP-B6	208-1	9	YES	30AS/15AF	2#10 & 1#10GND - 3/4" C	FC-B6	208-1	15 AMP POWERED BY HP-B6	2#12 & 1#12 GND		

BUILDING B REMODEL ROOF PLAN 1/8" = 1'-0" 1

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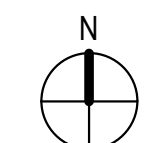
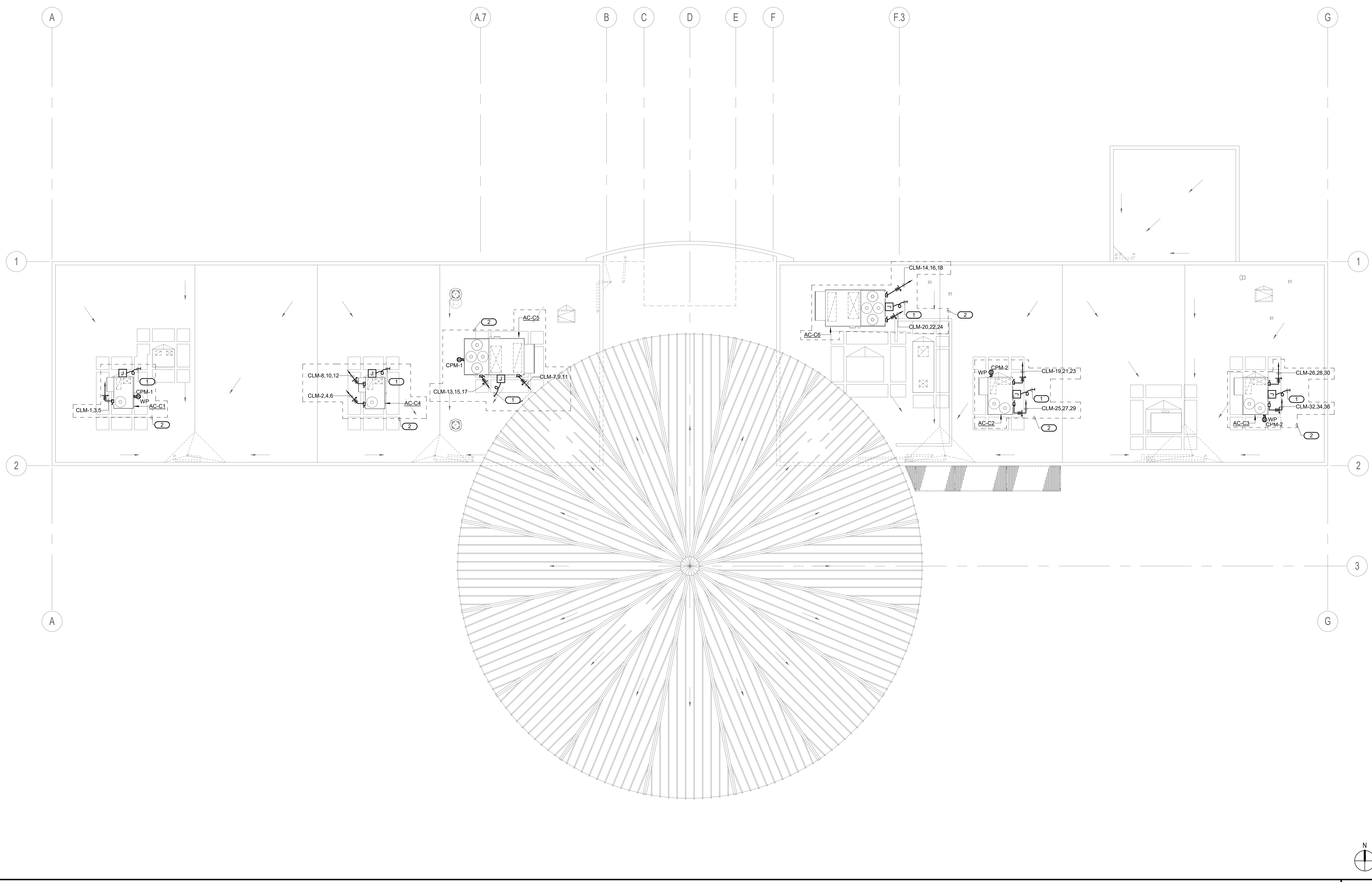
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NO	DATE	BY	DESCRIPTION
1	08/25/20		Addendum 1
REVISIONS			

DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE: 1/8" = 1'-0"
PROJECT NUMBER: Project Number	

BUILDING B REMODEL ROOF PLAN

DRAWING NUMBER: **EB3.1**



BUILDING C REMODEL ROOF PLAN 1/8" = 1'-0" 1

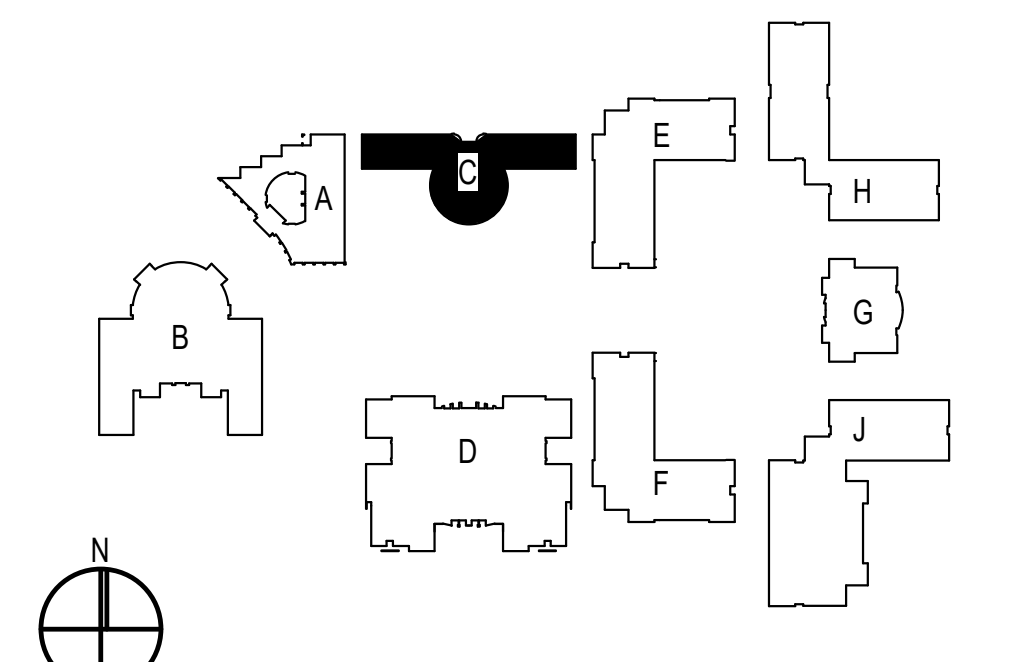
EQUIPMENT CONNECTION SCHEDULE BUILDING - C						POWER EXHAUST				
ITEM NO.	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE
AC-C1	460 - 3	11	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C					
AC-C2	460 - 3	20	YES	30AS/25AF	3#8 & 1#10GND - 1"C	480 - 3	2.4	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C
AC-C3	460 - 3	20	YES	30AS/25AF	3#8 & 1#10GND - 1"C	480 - 3	2.4	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C
AC-C4	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C
AC-C5	460 - 3	43.1	YES	60AS/50AF	3#6 & 1#10GND - 1 1/4"C	480 - 3	5	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C
AC-C6	460 - 3	43.1	YES	60AS/50AF	3#6 & 1#10GND - 1 1/4"C	480 - 3	5	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C

KEYED NOTES

- PROVIDE 3/4" O.D. (S) TO RESPECTIVE DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION ON MECHANICAL PLANS.
- DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING HV UNIT. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.
- UNI-STRUT MOUNTED PANELS. REFER TO DETAIL 2 SHEET EB3.1

GENERAL NOTES

- PROVIDE PIPE FLASHINGS FOR ALL ELECTRICAL ROOF PENETRATIONS REQUIRED AND COORDINATE ALL WORK WITH ROOFING CONTRACTOR FOR A WATERPROOF INSTALLATION. REFER TO DETAIL THIS SHEET.
- ALL CONDUIT SERVING ROOF MOUNTED HVAC EQUIPMENT, GFCI MAINTENANCE RECEPTACLES, DUCT TYPE SMOKE DETECTORS, ETC. SHALL BE ROUTED IN CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.
- COATINGS: APPLY MARINE COATING BY CERTIFIED LICENSED APPLICATOR. THE COATING PRODUCT MANUFACTURER SHALL BE ABLE TO DOCUMENT A CLASS 50 RESULT ON A CROSS HATCH ADHESION TEST (ASTM D5339) AND THE TESTING FOR A MINIMUM 4000 HOURS IN BOTH SALT SPRAY (ASTM B117) AND ACID SALT SPRAY (ASTM G85) TEST. THE TOTAL DRY FILM THICKNESS OF THE COATING SHALL BE MIL. THE COATING SHALL PROVIDE INHERENT PROTECTION AGAINST ULTRA-VIOLET RADIATION AND HAVE A DRY TEMPERATURE RESISTANCE FROM -4°F TO 302°F. THE FOLLOWING COMPONENTS SHALL BE COATED: ELECTRICAL DISCONNECT SWITCH, J-BOX'S AND PANELBOARDS MOUNTED IN ROOF.
- REFER TO DETAIL 9 SHEET MP4.3 FOR FURTHER INFORMATION.



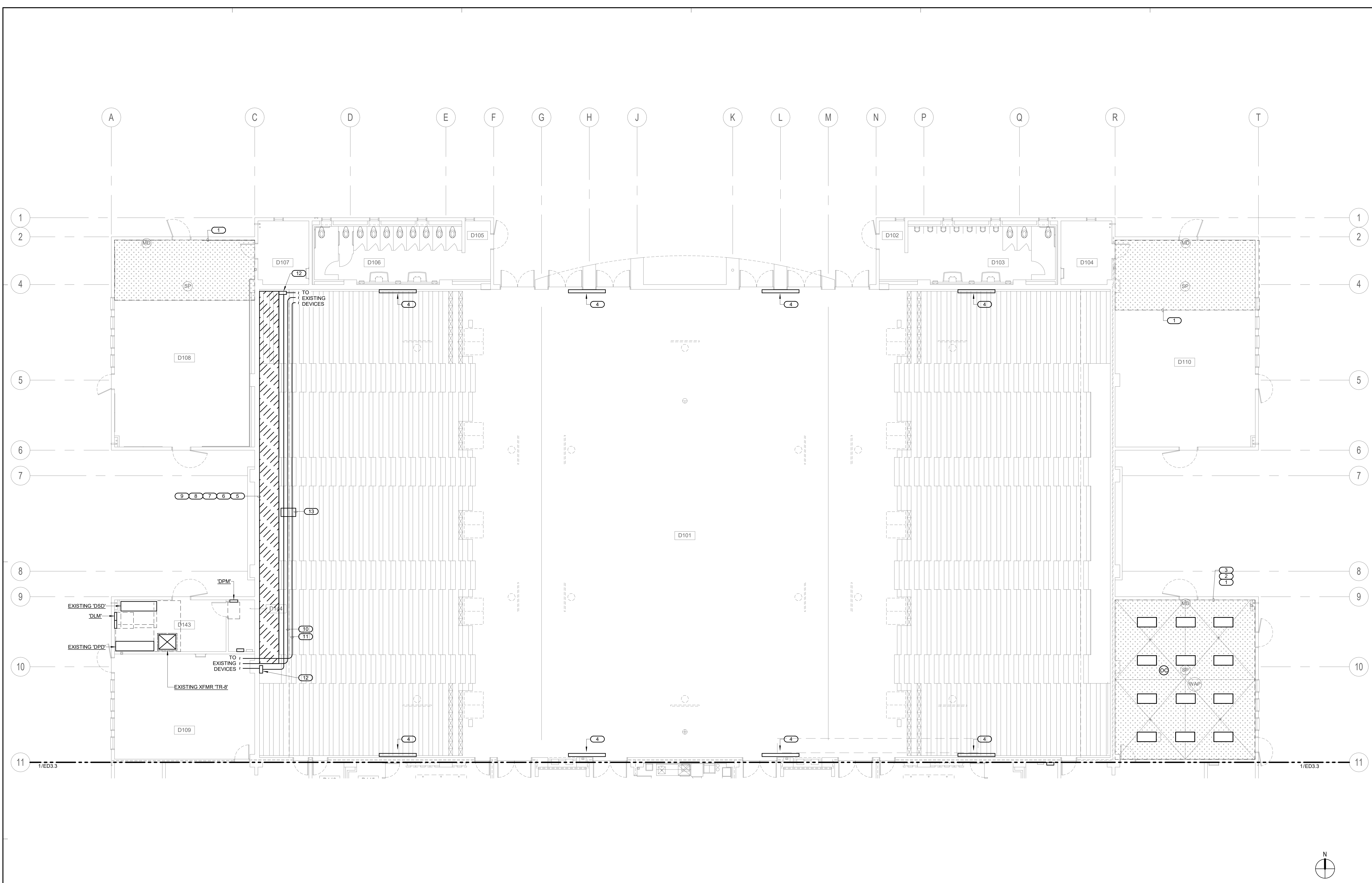
SITE KEY PLAN

NO	DATE	BY	DESCRIPTION
1	08/25/20		Addendum 1

DRAWN:	CHECKED:
Author	Checker

DATE:	Issue Date	SCALE:	1/8" = 1'-0"
PROJECT NUMBER:	Project Number		

BUILDING C REMODEL ROOF PLAN
DRAWING NUMBER: **EC3.1**

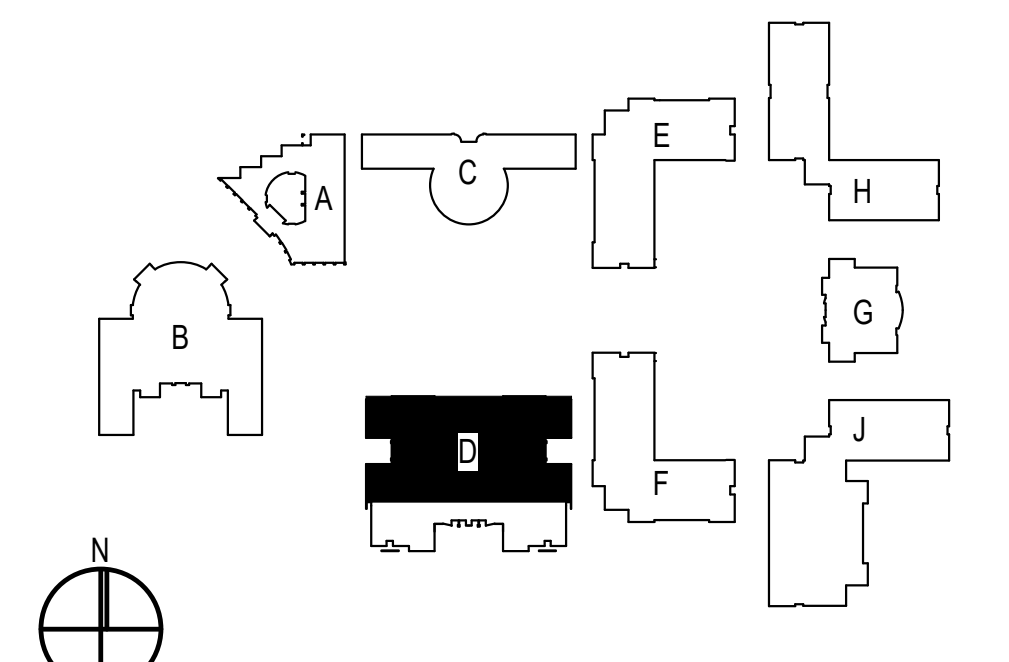


BUILDING D REMODEL FLOOR PLAN - AREA 1 1/8" = 1'-0" 1

KEYED NOTES

- TECHNOLOGY LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR, FROM TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHT FIXTURE AFFECTED DURING REMOVAL/RE-INSTALLATION OF CEILING.
 - REMOVE LIGHT FIXTURE AND SALVAGE FOR FUTURE RE-INSTALLATION.
 - REMOVE POWER TO FIXTURES BACK TO JUNCTION BOX AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM/MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX. MOUNT JUNCTION BOX ON AREA NOT AFFECTED FOR MAINTAINING WORKING CLEARANCE.
 - RE-INSTALL LIGHT FIXTURE WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF LIGHT FIXTURE SHALL BE PERFORMED AND LIGHT FIXTURE SHALL BE FULLY OPERABLE.
- DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING EQUIPMENT. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL.
- DISCONNECT AND REMOVE FIRE ALARM WIRES BACK TO SOURCE OR NEAREST POINT PRACTICAL TO MAINTAIN ELECTRICAL CONTINUITY OF REMAINING DEVICES.
- DISCONNECT AND REMOVE DATA WIRES BACK TO SOURCE OR NEAREST POINT PRACTICAL TO MAINTAIN CONTINUITY OF REMAINING DEVICES.
- DISCONNECT AND REMOVE CIRCUITING BACK TO SOURCE OR NEAREST POINT PRACTICAL TO MAINTAIN ELECTRICAL CONTINUITY OF REMAINING DEVICES. EXTEND CONDUIT AND CONDUCTORS AS NECESSARY TO MAINTAIN CIRCUIT INTEGRITY.
- REMOVE POWER, FIRE ALARM AND DATA WIRES TO MAKE ROOM FOR NEW HVAC.
- ELECTRICAL CONTRACTOR SHALL DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL MATERIAL WHICH WILL NOT BE REUSED. UNUSED CONDUITS SHALL BE CUT OFF AND PLUGGED FLUSH WITH SURFACES. EXISTING MATERIAL WHICH IS NOT TO BE REUSED OR IS NOT REQUIRED TO BE RETAINED BY OWNER SHALL BE REMOVED FROM SITE.
- PROVIDE NEW FIRE ALARM WIRES IN KIND AS NECESSARY TO MAINTAIN CONTINUITY OF REMAINING DEVICES.
- PROVIDE NEW DATA WIRES IN KIND AS NECESSARY TO MAINTAIN CONTINUITY OF REMAINING DEVICES.
- PROVIDE NEW PULLBOX, SIZE OF PULLBOX PER NEC. SPLICE WIRES AT PULLBOX WITH INSULATED LUGS AND PROVIDE NEW CONDUCTORS AND CONDUIT IN KIND.
- RE-ROUTE WITH NEW CONDUITS AND WIRES. SIZE AND QUANTITY IN-KIND. PROVIDE NECESSARY CONDUIT SUPPORT.

REMOVAL & RE-INSTALLATION OF CEILING. REFERENCE ARCHITECTURAL DRAWINGS FOR DETAILED PROCEDURE.



SITE KEY PLAN

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 03-31-21
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 REGISTERED PROFESSIONAL ENGINEER
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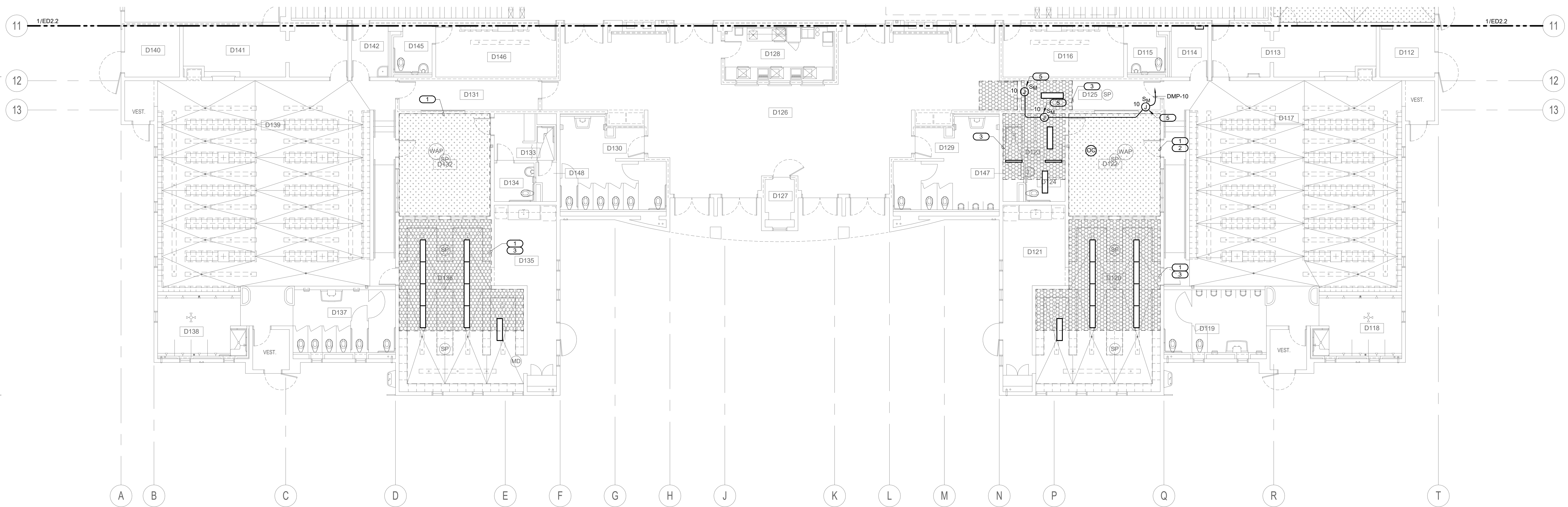
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**BUILDING D REMODEL
 FLOOR PLAN - AREA 1**

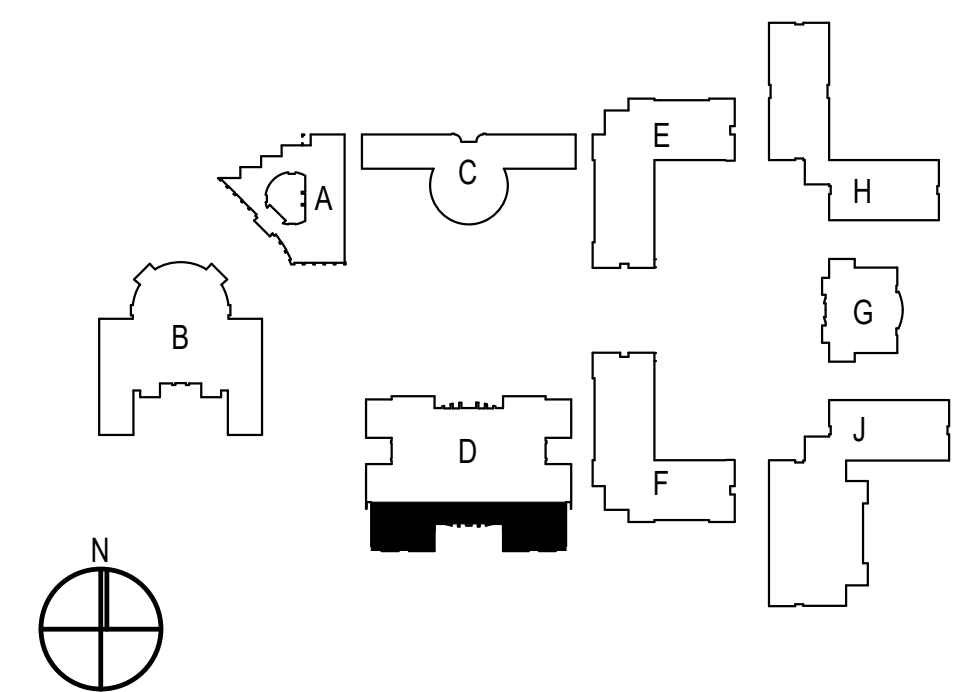
DRAWING NUMBER: **ED2.2**



BUILDING D REMODEL FLOOR PLAN - AREA 2 1/8" = 1'-0" 1

KEYED NOTES

- TECHNOLOGY/LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR, FROM TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHT FIXTURE AFFECTED DURING REMOVAL/RE-INSTALLATION OF CEILING.
 - REMOVE LIGHT FIXTURE AND SALVAGE FOR FUTURE RE-INSTALLATION.
 - REMOVE POWER TO FIXTURES BACK TO JUNCTION BOX AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM/MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX. MOUNT JUNCTION BOX ON AREA NOT AFFECTED FOR MAINTAINING WORKING CLEARANCE.
 - RE-INSTALL LIGHT FIXTURE WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF LIGHT FIXTURE SHALL BE PERFORMED AND LIGHT FIXTURE SHALL BE FULLY OPERABLE.
- PROVIDE POWER FOR FIRE SMOKE DAMPER. REFERENCE FIRE ALARM DRAWINGS FOR EXACT LOCATION. PROVIDE MOTOR RATED SWITCH FOR DICONNECT MEANS.



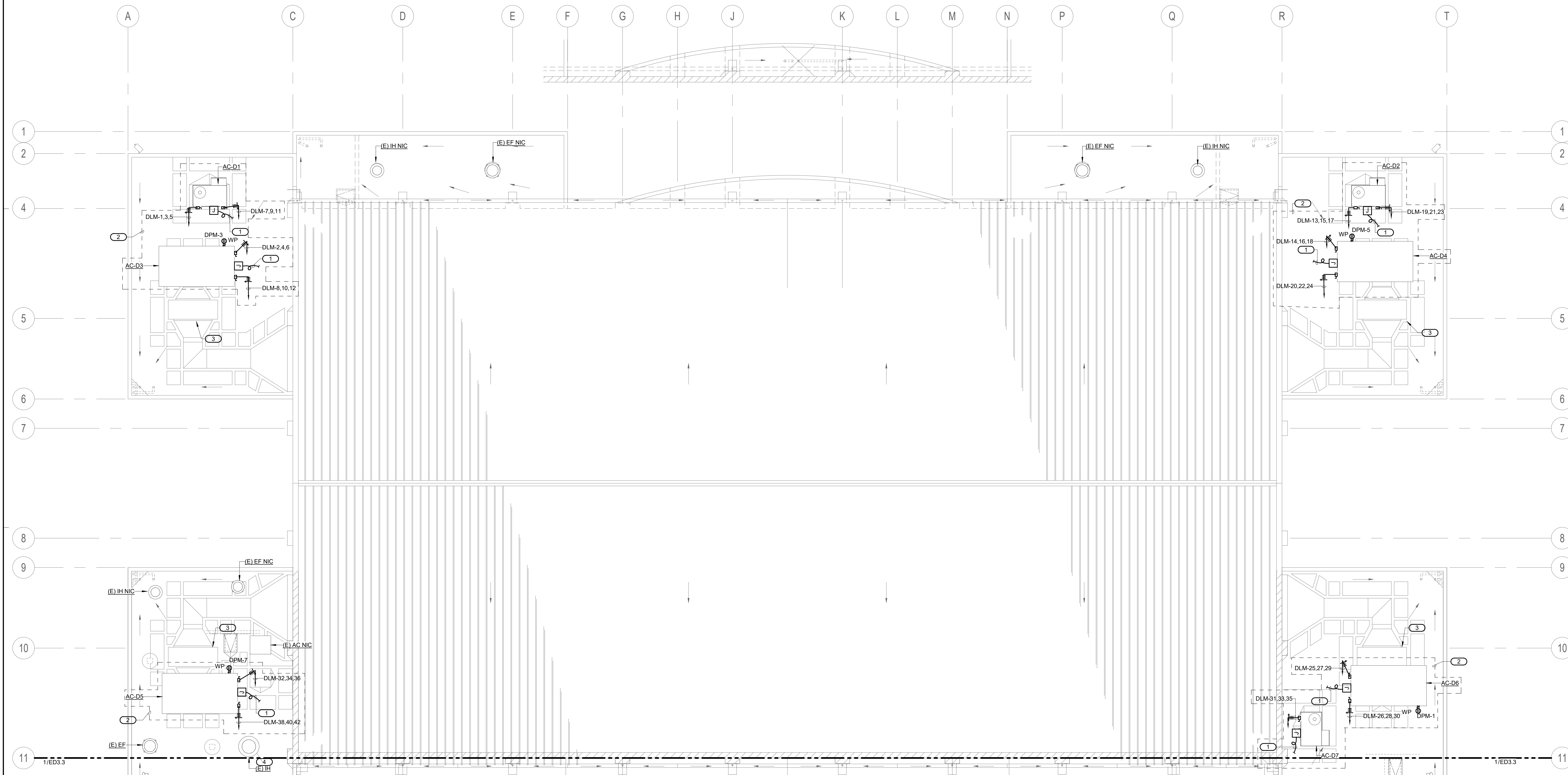
SITE KEY PLAN

NO	DATE	BY	DESCRIPTION
1	08/25/20		Addendum 1
REVISIONS			

DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE: As indicated
PROJECT NUMBER: Project Number	

BUILDING D REMODEL FLOOR PLAN - AREA 2

DRAWING NUMBER: **ED2.3**



BUILDING D REMODEL ROOF PLAN - AREA 1 1/8" = 1'-0" 1

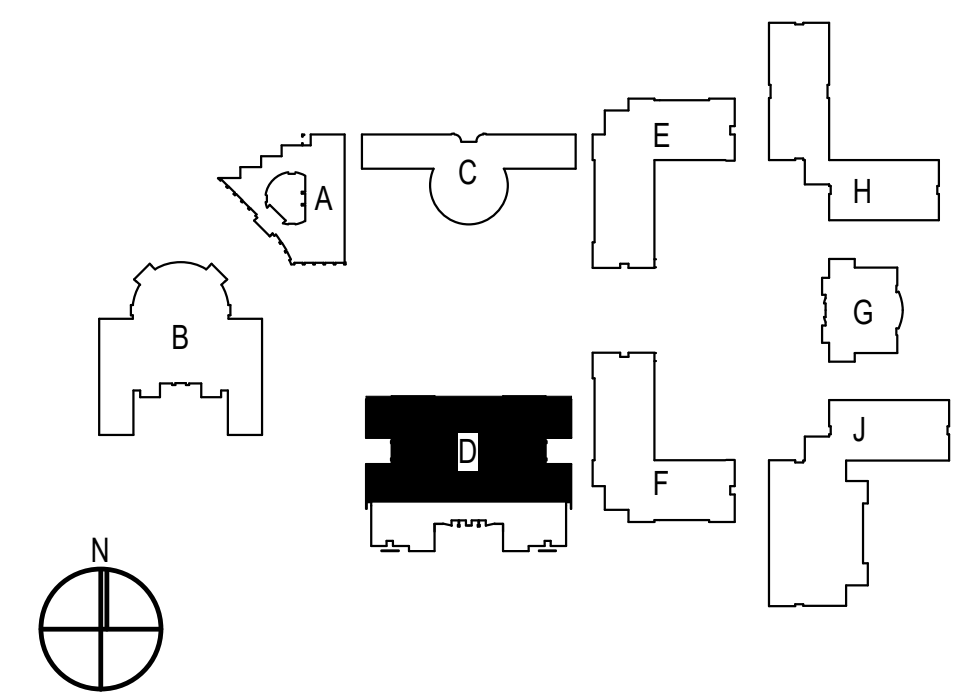
EQUIPMENT CONNECTION SCHEDULE BUILDING - D						POWER EXHAUST					
ITEM NO.	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	V - Ø	MCA	NEMA 3R	MOCP	WIRE SIZE	
AC-D1	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D2	460 - 3	13	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D3	460 - 3	51	YES	60AS/60AF	3#4 & 1#10GND - 1 1/4"C	480 - 3	8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D4	460 - 3	51	YES	60AS/60AF	3#4 & 1#10GND - 1 1/4"C	480 - 3	8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D5	460 - 3	51	YES	60AS/60AF	3#4 & 1#10GND - 1 1/4"C	480 - 3	8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D6	460 - 3	51	YES	60AS/60AF	3#4 & 1#10GND - 1 1/4"C	480 - 3	8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D7	460 - 3	11	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C	480 - 3	8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D8	460 - 3	20	YES	30AS/25AF	3#8 & 1#10GND - 3/4"C	480 - 3	2.4	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D9	208 - 1	19.4	YES	30AS/30AF	3#8 & 1#10GND - 3/4"C						
AC-D10	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C						
AC-D11	460 - 3	25	YES	30AS/30AF	3#8 & 1#10GND - 3/4"C	480 - 3	1.8	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	
AC-D12	208 - 1	19.4	YES	30AS/30AF	3#8 & 1#10GND - 3/4"C						
AC-D13	460 - 3	10	YES	30AS/15AF	3#10 & 1#10GND - 3/4"C						
AC-D14	460 - 3	20	YES	30AS/25AF	3#8 & 1#10GND - 3/4"C	480 - 3	2.4	YES	30AS/15AF	3#12 & 1#12GND - 3/4"C	

KEYED NOTES

- PROVIDE 3/4" O (S) TO RESPECTIVE DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION ON MECHANICAL PLANS.
- DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING HV UNIT. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.
- DEMO EXISTING EXHAUST FAN. REFERENCE MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
- REMOVE AND RECONNECT EXHAUST FAN BEING RELOCATED. EXTEND CONDUCTORS AS NECESSARY.

GENERAL NOTES

- PROVIDE PIPE FLASHINGS FOR ALL ELECTRICAL ROOF PENETRATIONS REQUIRED AND COORDINATE ALL WORK WITH ROOFING CONTRACTOR FOR A WATERPROOF INSTALLATION. REFER TO DETAIL THIS SHEET.
- ALL CONDUIT SERVING ROOF MOUNTED HVAC EQUIPMENT, GFCI MAINTENANCE RECEPTACLES, DUCT TYPE SMOKE DETECTORS, ETC. SHALL BE ROUTED IN CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.
- COATINGS: APPLY MARINE COATING BY CERTIFIED LICENSED APPLICATOR. THE COATING PRODUCT MANUFACTURER SHALL BE ABLE TO DOCUMENT A CLASS 56 RESULT ON A CROSS HATCH ADHESION TEST (ASTM D5339) AND THE TESTING FOR A MINIMUM 4000 HOURS IN BOTH SALT SPRAY (ASTM B117) AND ACID SALT SPRAY (ASTM G85) TEST. THE TOTAL DRY FILM THICKNESS OF THE COATING SHALL BE 1MIL. THE COATING SHALL PROVIDE INHERENT PROTECTION AGAINST ULTRAVIOLET RADIATION AND HAVE A DRY TEMPERATURE RESISTANCE FROM -4°F TO 302°F. THE FOLLOWING COMPONENTS SHALL BE COATED: ELECTRICAL DISCONNECT SWITCH, J-BOX'S AND PANELBOARDS MOUNTED IN ROOF.
- REFER TO DETAIL 9 SHEET MP4.3 FOR FURTHER INFORMATION.



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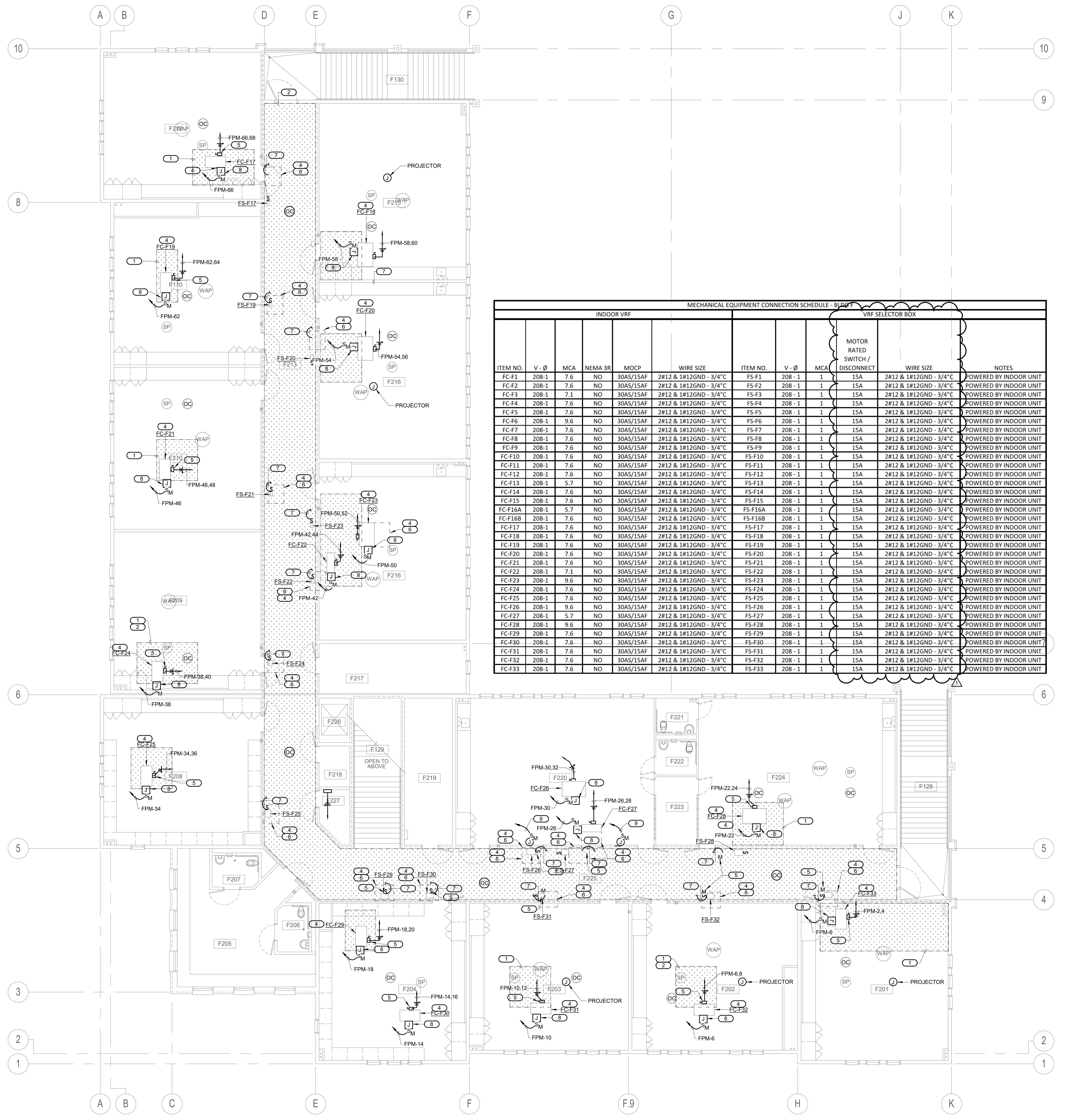
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REVISIONS			
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PROJECT NUMBER:	Project Number		

BUILDING D REMODEL
ROOF PLAN - AREA 1

DRAWING NUMBER: **ED3.2**



MECHANICAL EQUIPMENT CONNECTION SCHEDULE - BLDG F											
INDOOR VRF						VRF SELECTOR BOX					
ITEM NO.	V-Ø	MCA	NEMA 3R	MOCF	WIRE SIZE	ITEM NO.	V-Ø	MCA	MOTOR RATED SWITCH / DISCONNECT	WIRE SIZE	NOTES
FC-F1	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F1	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F2	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F2	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F3	208-1	7.1	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F3	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F4	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F4	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F5	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F5	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F6	208-1	9.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F6	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F7	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F7	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F8	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F8	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F9	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F9	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F10	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F10	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F11	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F11	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F12	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F12	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F13	208-1	5.7	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F13	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F14	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F14	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F15	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F15	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F16A	208-1	5.7	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F16A	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F16B	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F16B	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F17	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F17	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F18	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F18	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F19	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F19	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F20	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F20	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F21	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F21	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F22	208-1	7.1	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F22	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F23	208-1	9.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F23	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F24	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F24	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F25	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F25	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F26	208-1	9.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F26	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F27	208-1	5.7	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F27	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F28	208-1	9.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F28	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F29	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F29	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F30	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F30	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F31	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F31	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F32	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F32	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT
FC-F33	208-1	7.6	NO	30AS/15AF	2#12 & 1#12GND - 3/4"C	FS-F33	208-1	1	15A	2#12 & 1#12GND - 3/4"C	POWERED BY INDOOR UNIT

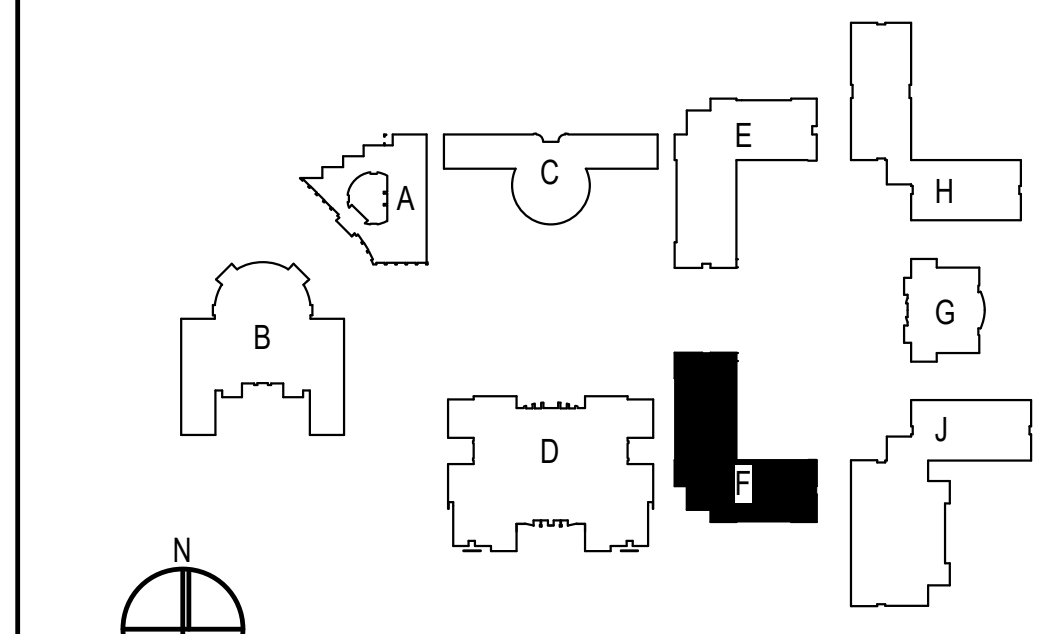
KEYED NOTES

- TECHNOLOGY LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR FROM TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- PROJECTOR AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE RECEPTACLE POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, 4S RING/COVER, ROD/STEM MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - RE-INSTALL POWER OUTLET WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF OUTLET SHALL BE PERFORMED AND OUTLET SHALL BE FULLY OPERABLE.
- PROJECTOR AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE RECEPTACLE POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, 4S RING/COVER, ROD/STEM MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - RE-INSTALL POWER OUTLET WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF OUTLET SHALL BE PERFORMED AND OUTLET SHALL BE FULLY OPERABLE.
- PROCEED WITH THE FOLLOWING INDICATIONS PRIOR MECHANICAL EQUIPMENT INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS FOR IDENTIFICATION OF CONFLICTING CONDUITS. INTERCEPT CONFLICTING CONDUIT AND REROUTE. PROVIDE A JUNCTION BOX ON EACH END OF CONDUIT TO BE REROUTED. EACH JUNCTION BOX AND CONDUIT SHALL BE PROPERLY INSTALLED AND STRAPPED TO BUILDING INFRASTRUCTURE.
 - FOR ELECTRICAL CONDUIT PROVIDE NEW CONDUCTORS FROM NEW JUNCTION BOXES AND SPLICE CONDUCTORS TO BE EXTENDED. MATCH EXISTING CONDUCTORS TO BE SPLICED.
 - FOR FIRE ALARM CONDUIT PROVIDE NEW FIRE ALARM CABLES FROM THE NEAREST TERMINAL STRIP OR DEVICE WITH LANDING TERMINAL.
 - FOR TECHNOLOGY LOW VOLTAGE CONDUIT PROVIDE THE NECESSARY CONNECTION BOXES FOR EXTENDING CAT TYPE CABLE.
- INSTALL DISCONNECT ON OR NEXT TO MECHANICAL UNIT. DISCONNECT SHALL HAVE THREE FEET CLEARANCE IN FRONT FOR SERVICE CLEARANCE.
- PROVIDE CLEARANCE FOR MECHANICAL UNIT. ANY CONDUIT SHALL BE REROUTED ACCORDINGLY.
- INTERCONNECT WITH ASSOCIATED INDOOR UNIT. REFER TO MECHANICAL WIRING DIAGRAMS.
- PROVIDE POWER FOR CONDENSATE PUMP. PROVIDE MOTOR RATED SWITCH TO EACH PUMP. VERIFY NEUTRAL CONDUCTOR IS PROVIDED.
- PROVIDE POWER FOR FIRE SMOKE DAMPER. POWER FROM SPARE CIRCUIT OF EXISTING PANEL. PROVIDE MOTOR RATED SWITCH. REFERENCE FIRE ALARM / MECHANICAL DRAWINGS FOR EXACT LOCATION.

GENERAL NOTES

- DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING VAV UNITS BEING DEMO. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.

REMOVAL & RE-INSTALLATION OF CEILING. REFERENCE ARCHITECTURAL DRAWINGS FOR DETAILED PROCEDURE.



BUILDING F REMODEL SECOND FLOOR PLAN 1/8" = 1'-0" 1

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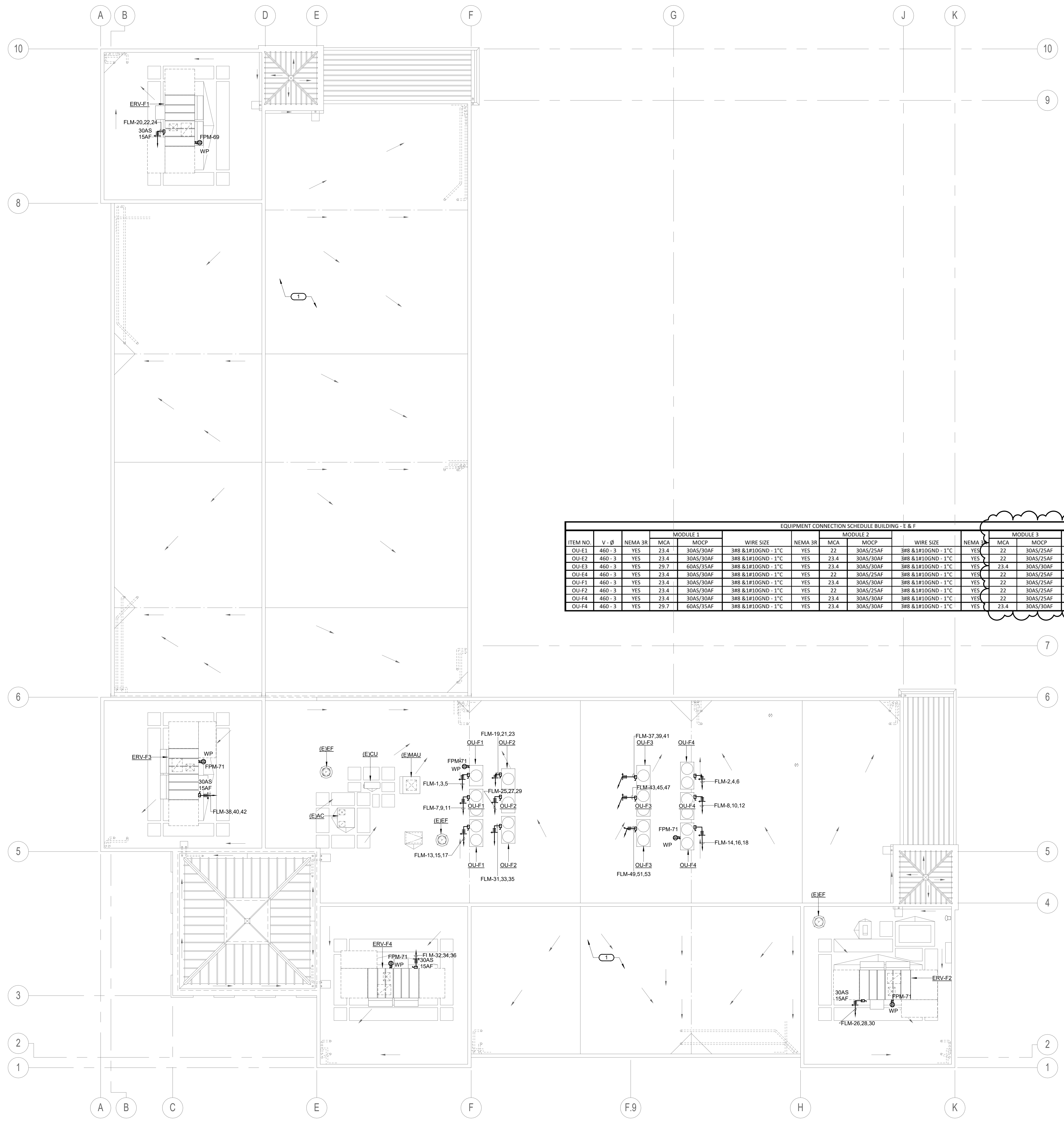
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BUILDING F REMODEL SECOND FLOOR PLAN

DRAWING NUMBER: **EF2.3**



EQUIPMENT CONNECTION SCHEDULE BUILDING - E & F

ITEM NO.	V - Ø	NEMA 3R	MODULE 1		WIRE SIZE	NEMA 3R	MODULE 2		WIRE SIZE	NEMA 3R	MODULE 3		WIRE SIZE
			MCA	MOCP			MCA	MOCP			MCA	MOCP	
OU-E1	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-E2	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-E3	460-3	YES	29.7	60AS/35AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C
OU-E4	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-F1	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-F2	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-F4	460-3	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	22	30AS/25AF	3#8 & 1#10GND - 1°C
OU-F4	460-3	YES	29.7	60AS/35AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C	YES	23.4	30AS/30AF	3#8 & 1#10GND - 1°C

GENERAL NOTES

- PROVIDE PIPE FLASHINGS FOR ALL ELECTRICAL ROOF PENETRATIONS REQUIRED AND COORDINATE ALL WORK WITH ROOFING CONTRACTOR FOR A WATERPROOF INSTALLATION. REFER TO DETAIL THIS SHEET.
- ALL CONDUIT SERVING ROOF MOUNTED HVAC EQUIPMENT, GFI MAINTENANCE RECEPTACLES, DUCT TYPE SMOKE DETECTORS, ETC. SHALL BE ROUTED IN CEILING SPACE. CONDUIT SHALL PENETRATE ROOF AT EQUIPMENT LOCATIONS ONLY. NO CONDUIT SHALL BE INSTALLED HORIZONTALLY ACROSS ROOF SURFACE.
- COATINGS: APPLY MARINE COATING BY CERTIFIED LICENSED APPLICATOR. THE COATING PRODUCT MANUFACTURER SHALL BE ABLE TO DOCUMENT A CLASS 58 RESULT ON A CROSS HATCH ADHESION TEST (ASTM D5339) AND THE TESTING FOR A MINIMUM 4000 HOURS IN BOTH SALT SPRAY (ASTM B117) AND ACID SALT SPRAY (ASTM G85) TEST. THE TOTAL DRY FILM THICKNESS OF THE COATING SHALL BE 10ML. THE COATING SHALL PROVIDE INHERENT PROTECTION AGAINST ULTRAVIOLET RADIATION AND HAVE A DRY TEMPERATURE RESISTANCE FROM -4°F TO 302°F. THE FOLLOWING COMPONENTS SHALL BE COATED: ELECTRICAL DISCONNECT SWITCH, J-BOX'S AND PANELBOARDS MOUNTED IN ROOF.

KEYED NOTES

- DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS TO EXISTING AIR HANDLE UNITS 4 TOTAL AND BOILERS ON ROOF. REMOVE CONDUIT AND WIRE BACK TO SERVING PANEL. REFER TO MECHANICAL DEMO PLAN FOR ADDITIONAL INFORMATION.

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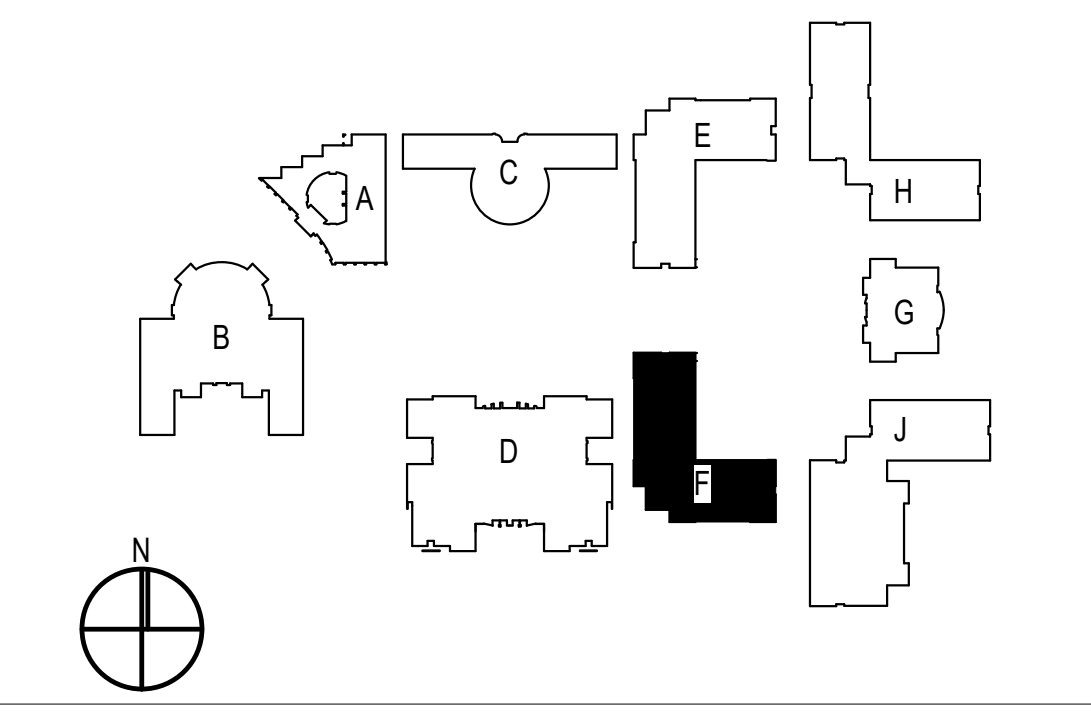
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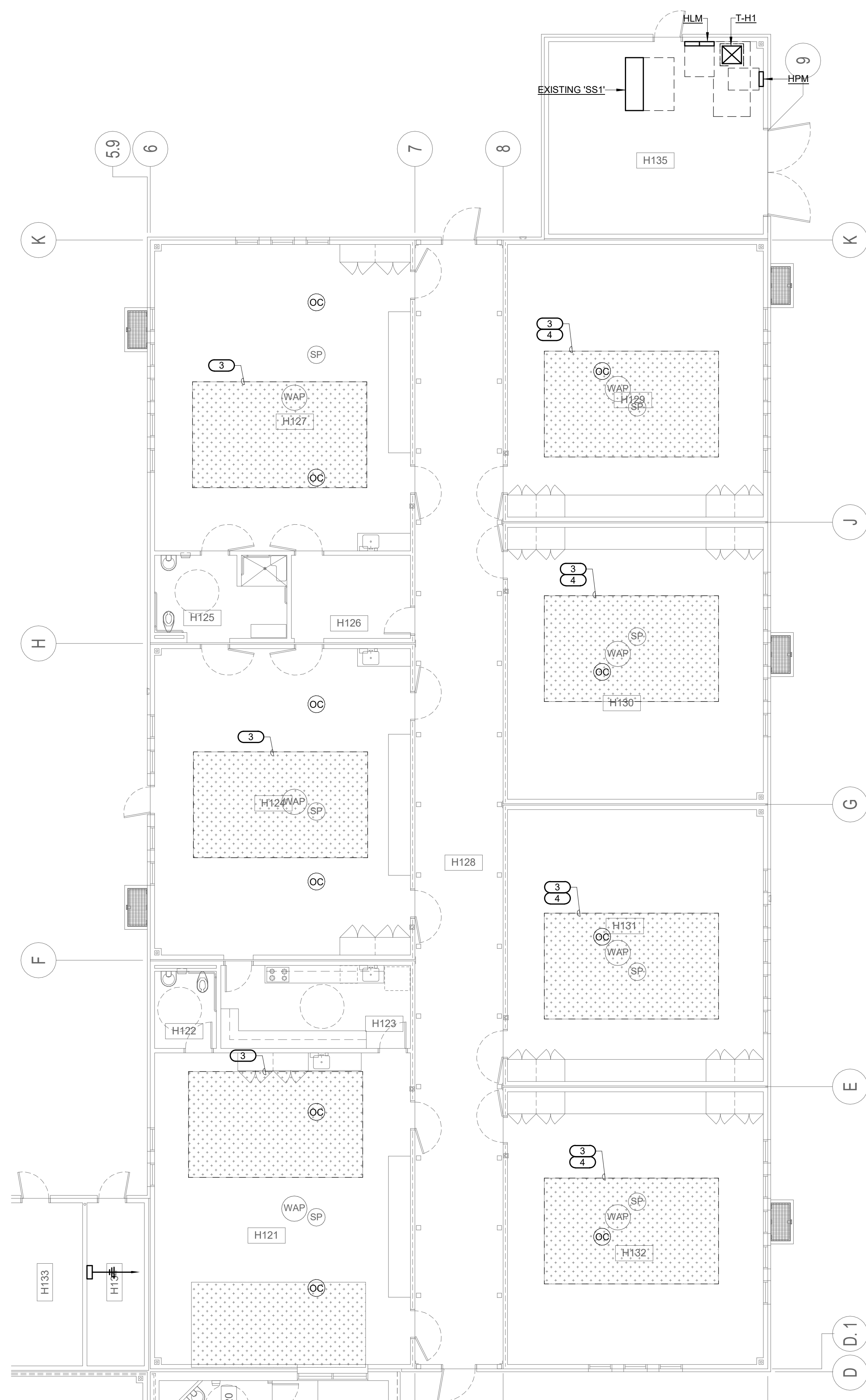
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**BUILDING F REMODEL
 ROOF PLAN**

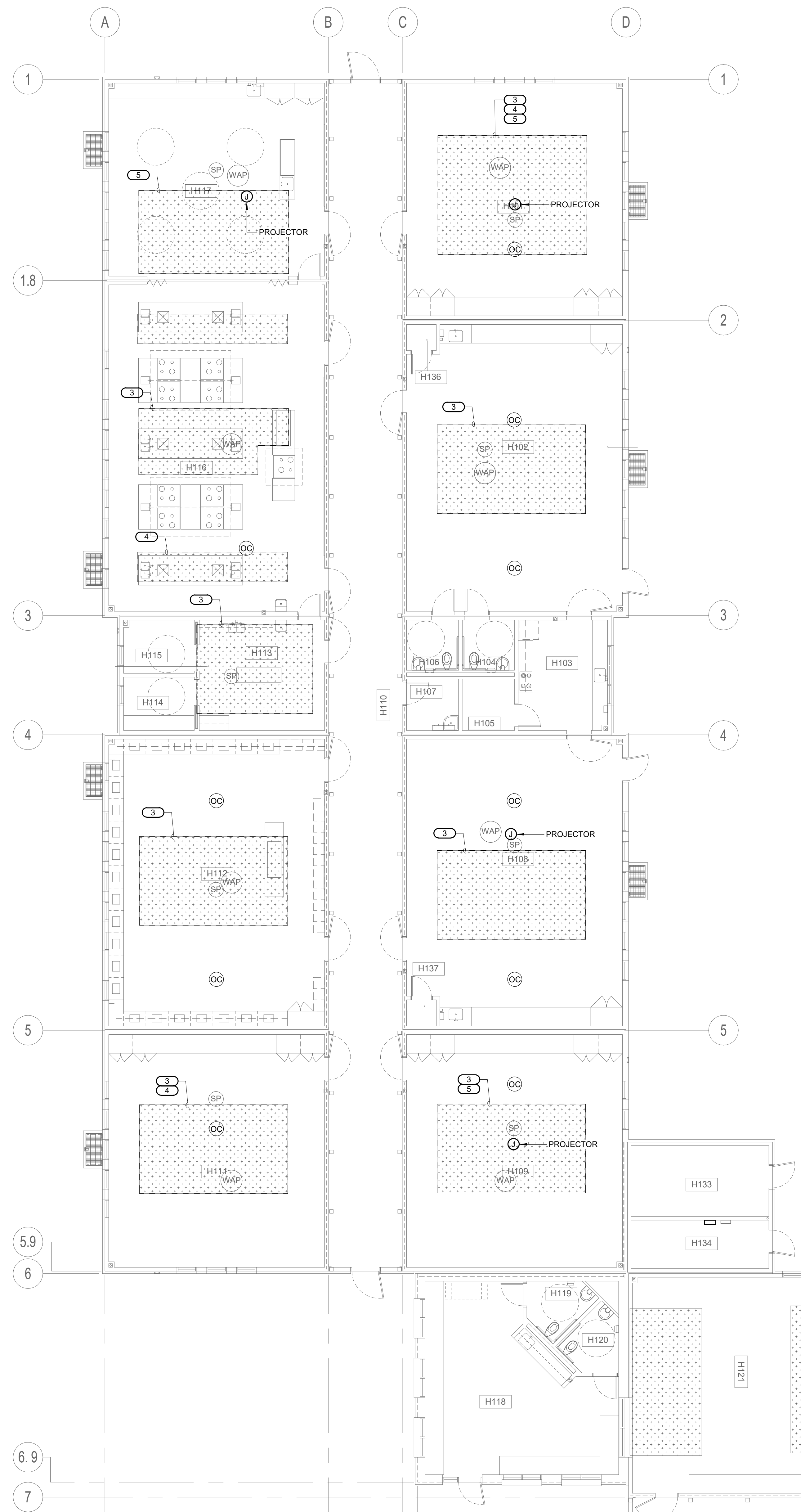
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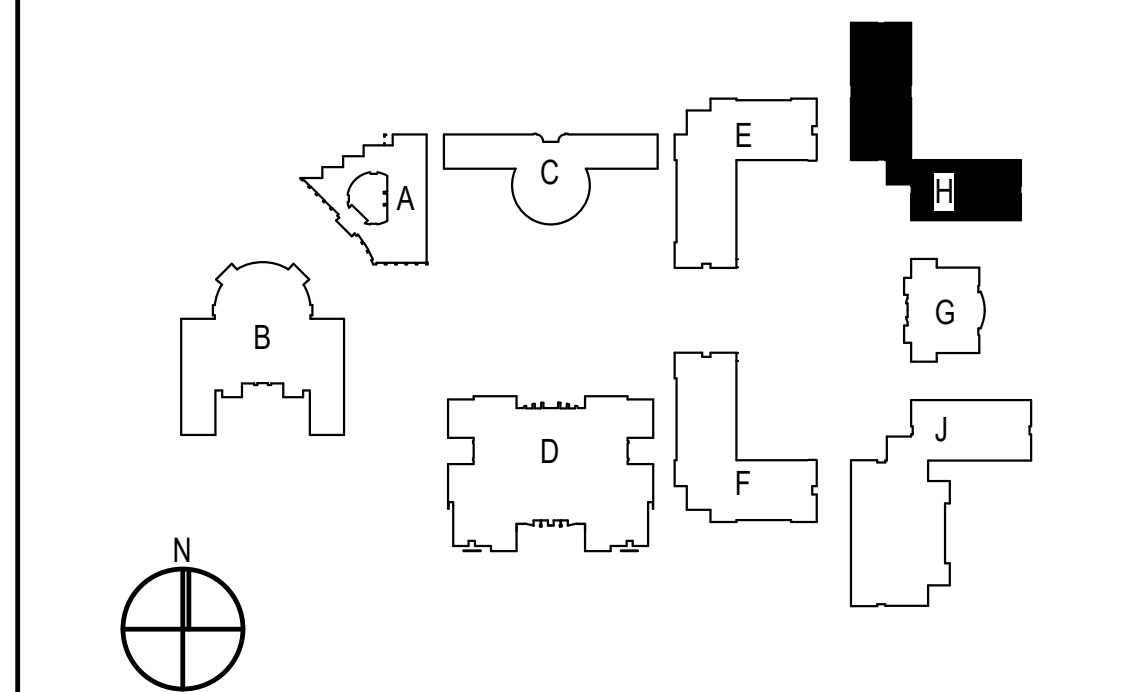
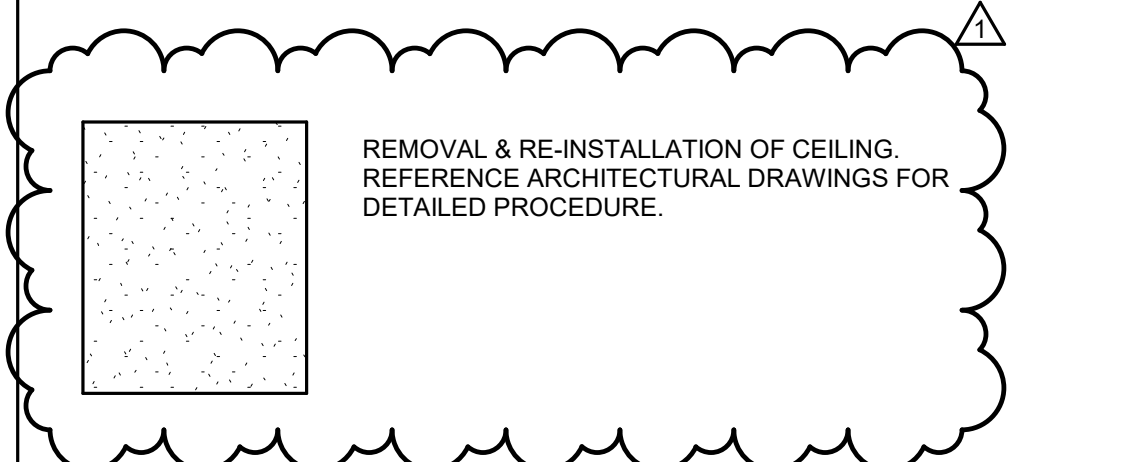


BUILDING H REMODEL FLOOR PLAN - AREA 2 1/8" = 1'-0" 2



BUILDING H REMODEL FLOOR PLAN - AREA 1 1/8" = 1'-0" 1

- KEYED NOTES**
- NOT USED
 - PROVIDE DEDICATED 120V CIRCUIT POWER SOURCE TO NEAREST AVAILABLE CIRCUIT. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING FIRE ALARM TO CIRCUIT ID.
 - TECHNOLOGY/LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
 - LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR FROM TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
 - PROJECTOR AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE RECEPTACLE POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (AS BOX, & 4S RING/COVER, ROD/STEM/MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - RE-INSTALL POWER OUTLET WITH MOUNTING EQUIPMENT BACK ON THE SAME CEILING LOCATION.
 - PROPER RE-INSTALLATION OF OUTLET SHALL BE PERFORMED AND OUTLET SHALL BE FULLY OPERABLE.



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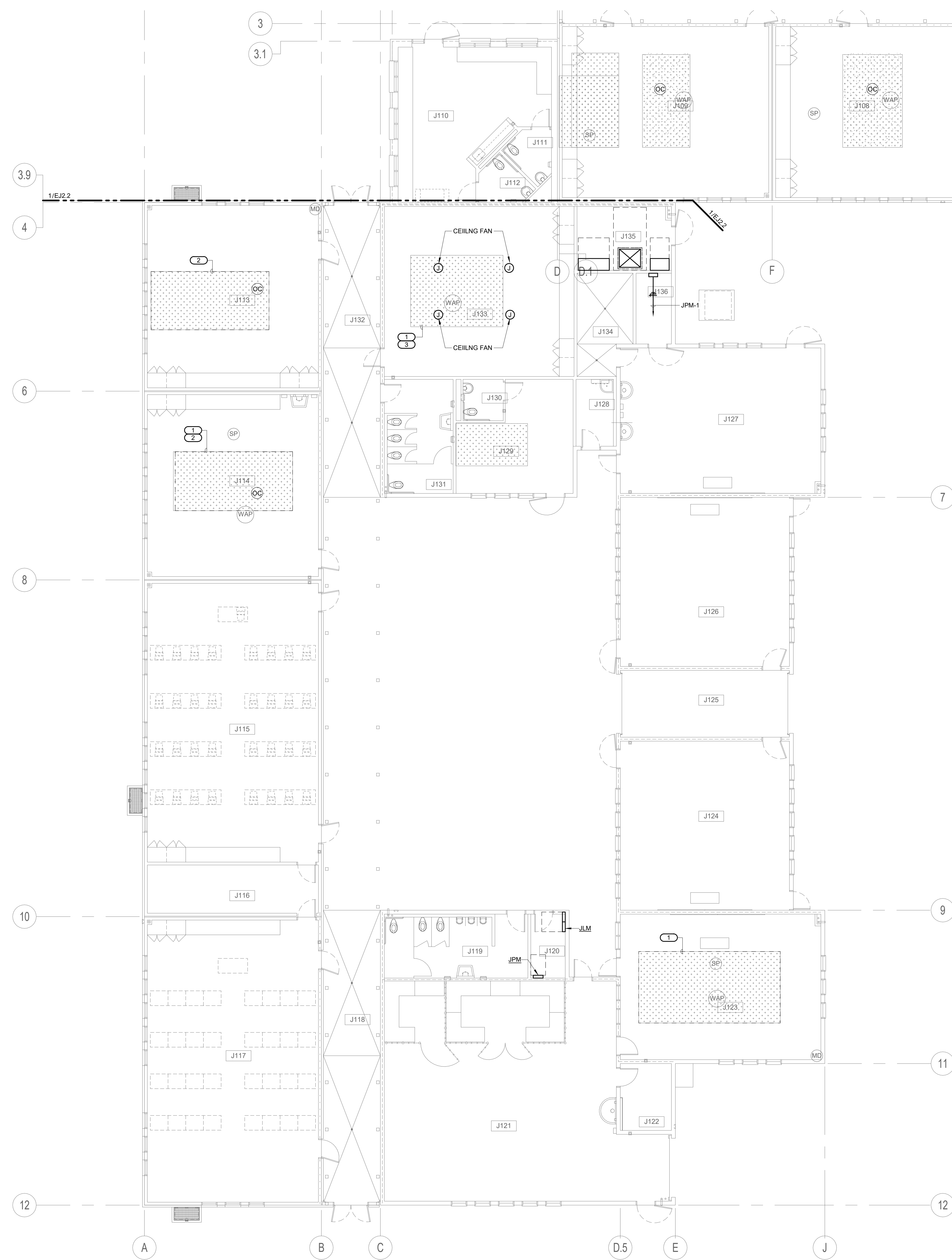
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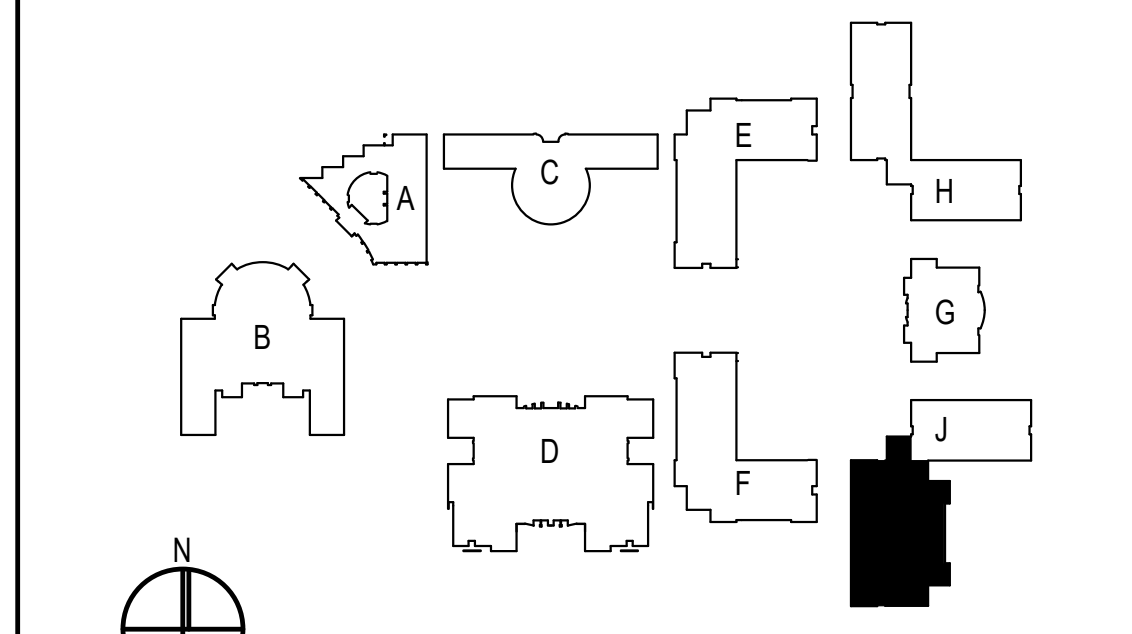
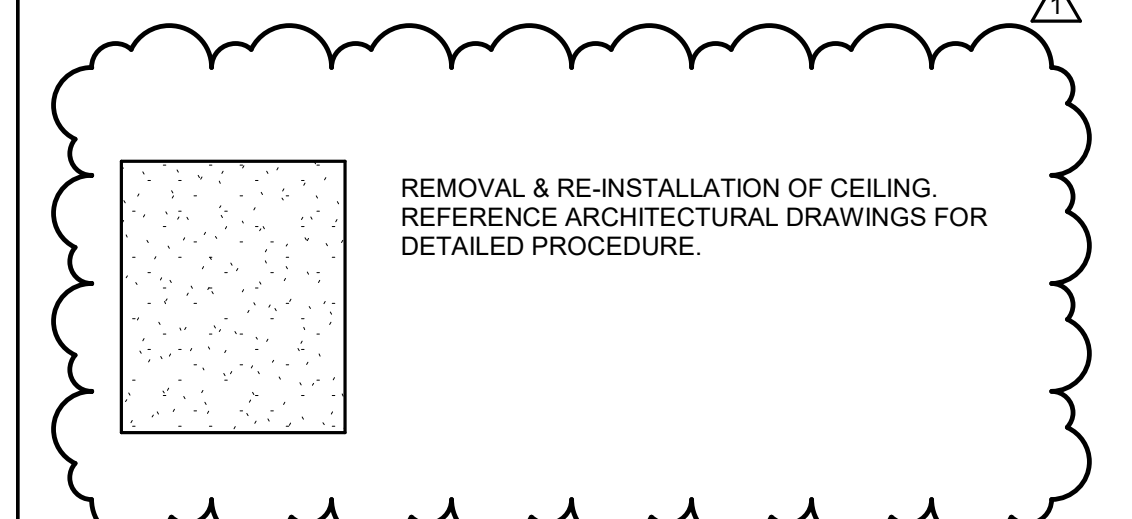
BUILDING H REMODEL FLOOR PLAN

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KEYED NOTES

- TECHNOLOGY/LOW VOLTAGE DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE WAP, MOTION DETECTOR, PROJECTOR, AND/OR SPEAKER FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP CAT-6 CABLE/SPEAKER CABLE ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- LIGHTING DEVICES AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE OCCUPANCY SENSOR, LIGHT SENSOR FROM TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) IF ANY FOR RE-INSTALLATION PURPOSES.
 - KEEP LOW VOLTAGE CABLE ON JUNCTION BOX IF ANY AND SUPPORT ON NON AFFECTED GRID IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- PROJECTOR AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE RECEPTACLE POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM/MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - PROPER RE-INSTALLATION OF OUTLET SHALL BE PERFORMED AND OUTLET SHALL BE FULLY OPERABLE.
- CEILING FAN AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE CONDUCTORS POWERING PROJECTOR (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (4S BOX, & 4S RING/COVER, ROD/STEM/MOUNT BRACKET) FOR RE-INSTALLATION PURPOSES. CAP CONDUCTORS IN JUNCTION BOX.
 - RE-INSTALL CEILING FAN BACK ON THE SAME CEILING LOCATION.



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**BUILDING J REMODEL
 FLOOR PLAN - AREA B**

DRAWING NUMBER: **EJ2.3**

FIRE ALARM NOTES

- THIS IS A COMPLETE AUTOMATIC FIRE ALARM SYSTEM PLAN SUBMITTAL PER 2019 CFC 907.2.3 AND 2013 CBC 907.2.3.
- THE NEW FIRE ALARM SYSTEM EXTENSION IS CONFIGURED TO A FULLY AUTOMATIC SYSTEM, AS IS THE EXISTING INSTALLATION.
- THE FIRE ALARM SYSTEM INDICATED ON THESE DRAWINGS IS APPROVED BY CALIFORNIA STATE FIRE MARSHAL AND SHALL BE INSTALLED AS DESCRIBED ON THESE DRAWINGS AND AS NOTED IN THE SPECIFICATIONS. ANY CHANGES TO THESE PLANS, I.E. DELETION, RELOCATION OR ADDING OF DEVICES SHALL BE RESUBMITTED TO THE STATE FIRE MARSHAL FOR APPROVAL.
- INSTALLATION OF FIRE ALARM SYSTEM MAY START AFTER IMEG RECEIVES THESE APPROVED DRAWINGS. A O.R. SHALL STAMP AND SIGN ALL DRAWINGS.
- ALL WIRING AND INITIATING DEVICES SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION (F/PANEL TO SUPERVISE ALL CIRCUITS AND INITIATING DEVICES).
- WIRING SHALL NOT BE LOOPED THROUGH DEVICES; WIRE MUST BE CUT FOR IN AND FOR OUT.
- ALL WIRING TO BE IN CONDUIT.
- ALL TERMINATIONS IN JUNCTION BOXES, PULL BOXES AND TERMINAL CABINETS SHALL BE ON PRE-MOUNTED TERMINAL BLOCKS. DO NOT USE WIRE NUTS FOR SPlicing. DO NOT SPlice WIRES IN ANY BOXES.
- ALL CONDUIT SIZES INDICATED IN DRAWINGS ARE MINIMUM CONTRACTOR TO ADJUST SIZE FOR FIELD CONDITIONS BUT SHALL NOT BE SMALLER THAN 3/4 INCH.
- ALL FIRE ALARM WIRING MUST TEST FREE OF OPENS, SHORTS AND GROUNDS.
- FIRE ALARM DRAWINGS ARE SCHEMATIC IN NATURE ONLY. CONTRACTOR TO ROUTE CONDUIT AS FIELD CONDITIONS INDICATE.
- CONDUIT AND JUNCTION/BACK BOXES ARE NOT TO BE USED FOR UNRELATED WIRING.
- THE SYSTEM SHALL CONFORM TO TITLES 19 AND 24 AS APPLICABLE TO THIS PROJECT.
- UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF, AND IN A MANNER ACCEPTABLE TO, THE ENFORCING AGENCY.
- THE CONTRACTOR SHALL REPROGRAM AND CERTIFY ADDRESSABLE FIRE ALARM CONTROL PANEL TO ACCOMMODATE ADDITIONAL DEVICES.
- FIRE ALARM SYSTEM SHALL BE INSTALLED BY FACTORY AUTHORIZED REPRESENTATIVE.
- CONDUCTOR LENGTHS AND DEVICE QUANTITIES ARE SHOWN SOLELY FOR CALCULATION PURPOSES ONLY, AND SHALL NOT BE USED FOR BID TAKE-OFF.
- THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF CALIFORNIA ELECTRICAL CODE. INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY DSA-ORS. UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE FIRE AUTHORITY HAVING JURISDICTION.
- PENETRATIONS OF PIPES, CONDUITS, ETC., IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TEST ASSEMBLY ACCEPTABLE TO DSA-ORS.
- ALL FIRE ALARM AND COMMUNICATIONS WIRES AND CABLES SHALL BE ONE CONTINUOUS LENGTH FROM A BUILDING TERMINAL CABINET TO ANOTHER BUILDING TERMINAL CABINET OR JUNCTION BOX. ABSOLUTELY NO SUBGRADE SPLICES WILL BE PERMITTED. PROVIDE TERMINAL BLOCKS WITH MOUNTING IN TERMINAL CABINETS ONLY AS REQUIRED.
- EVERY ALARM SIGNALING DEVICE INSTALLED SHALL BE OF THE SAME BASIC TYPE (BELLS, HORNS, CHIMES, SPEAKERS, ETC.) AS ALL OTHER SIGNALING DEVICES IN THE FACILITY. (EXCEPTION: ANY SIGNALING DEVICES REQUIRED FOR THE DEAF OR HEARING IMPAIRED PER 2019 NFPA 72).
- INSULATED CONDUCTORS USED IN WET LOCATIONS SHALL BE (1) LEAD-COVERED, (2) TYPES RHW, TW, THW, THHW, THWN, XHHW, OR (3) OF A TYPE LISTED FOR USE IN WET LOCATIONS. CABLES OF ONE OR MORE CONDUCTORS USED IN WET LOCATIONS SHALL BE OF A TYPE LISTED FOR USE IN WET LOCATIONS. CONDUCTORS USED FOR DIRECT BURIAL APPLICATIONS SHALL BE OF A TYPE LISTED FOR SUCH USE. (PER 2019 CEC ARTICLE 310).
- THE FIRE ALARM DEVICE SUPPLIER SHALL FURNISH ALL SURFACE MOUNT ENCLOSURES FOR PULLSTATIONS AND SKIRTS FOR ALL VISUAL AND AUDIO VISUAL DEVICES TO CONCEAL AS BACK BOXES.
- AFTER THE SYSTEM IS COMPLETED, ALL ADDRESSABLE DEVICES SHALL BE PROGRAMMED AT THE FACP ACCORDING TO THE ACTUAL BUILDING ROOM NUMBER. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE SCHOOL DISTRICT TO OBTAIN ACCURATE ROOM NUMBER INFORMATION.
- POWER SERVICES SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING & LOCKING DEVICE AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
- PROVIDE CALIFORNIA TEMPORAL, THREE-TONE DISTINCTIVE FIRE ALARM SOUND. (2019 CFC SEC. 907.6.2.1.3 & 2019 NFPA 72 SEC. 18.4.2.1)
- AUDIBLE FIRE ALARM SOUND LEVEL SHALL BE AT LEAST 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS (2019 NFPA 72 SEC. 18.4.3.1) (i.e. CLASSROOM AVERAGE AMBIENT ROOM NOISE IS45dBA PLUS 15dBA EQUAL = 60dBA MINIMUM ALARM TONE REQUIRED)

- STROBES SHALL FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND NOR BE LESS THAN ONE FLASH EVERY SECOND. (2019 NFPA 72 SEC. 18.5.3.1)
- FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE.
- FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" TO THE INSPECTOR OF RECORD (IOR)/DSA AFTER COMPLETION OF OPERATION ACCEPTANCE TEST. (2019 NFPA 72 SEC. 7.5.6 & 2019 CFC 901.6.2)
- UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED, NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.
- THE INSTALLING CONTRACTOR SHALL PROVIDE A STATEMENT OF COMPLIANCE ALONG WITH THE REQUEST FOR ACCEPTANCE TESTING PER 2019 NFPA-72.
- OCCUPANCY OF THE BUILDINGS IS PROHIBITED UNTIL THE FIRE ALARM SYSTEM IS COMPLETED, TESTED, AND APPROVED PER 2019 NFPA 72.
- SMOKE DETECTORS SHALL BE TESTED PER THE METHOD SHOWN IN 2019 CFC.
- REACCEPTANCE TESTING SHALL BE PERFORMED AS REQUIRED BY 2019 NFPA 72.
- ALL BACKUP BATTERIES FOR FIRE ALARM SYSTEM EQUIPMENT SHALL BE VISUALLY CHECKED FOR DATE OF INSTALLATION. ALL BATTERIES OVER 5 YEARS OLD SHALL BE REPLACED WITH NEW BATTERIES OF THE SAME MANUFACTURER, TYPE, AND AMP-HOUR RATING.
- FIRE ALARM SYSTEMS SHALL BE SUPERVISED BY AN APPROVED UL LISTED CENTRAL STATION, OR REMOTE STATION (UL)X MONITORING COMPANY (IUS) (2019 CFC 907.2.3.5, 907.5.3.)
- A SINGLE FAULT ON A PATHWAY CONNECTED TO THE ADDRESSABLE DEVICES SHALL NOT CAUSE THE LOSS OF MORE THAN 50 ADDRESSABLE DEVICES (2019 NFPA 72 SECTION 23.6.1)
- THE DISTRICT SHALL RETAIN RECORD DRAWINGS ON THE PREMISES FOR A MINIMUM OF 3 YEARS, IN A DEDICATED FIRE ALARM RECORD DOCUMENT CABINET IN ACCORDANCE WITH NFPA 72, 7.7.2.
 - EVERY NEW FIRE ALARM SYSTEM SHALL PROVIDE A DOCUMENTATION CABINET, INSTALLED AT THE SYSTEM CONTROL PANEL OR OTHER APPROVED LOCATION.
 - THE DOCUMENTATION CABINET SHALL BE PROMINENTLY LABELED, "SYSTEM RECORD DOCUMENTS".
 - ALL RECORDED AND TESTING DOCUMENTATION SHALL BE STORED IN THE CABINET.
 - CONTENTS SHALL BE ACCESSIBLE BY AUTHORIZED PERSONNEL ONLY.
 - WHERE CABINET IS INSTALLED IN A LOCATION OTHER THAN THE SYSTEM CONTROL UNIT, ITS LOCATION SHALL BE IDENTIFIED AT THE SYSTEM CONTROL UNIT.
- SYSTEM DOCUMENTS AS APPLICABLE:
 - RECORD DRAWINGS/AS-BUILTS
 - EQUIPMENT CUT SHEETS & CA SFM LISTINGS
 - ALTERNATIVE MEANS AND METHODS
 - PERFORMANCE BASED DESIGN DOCUMENTATION (NFPA 72, 7.3.7)
 - SYSTEM RECORDED OF COMPLETION & ANY SUPPLEMENTAL INSPECTION AND TESTING DOCUMENTATION (NFPA 72, 7.8.2)
 - EMERGENCY RESPONSE PLAN (NFPA 72, 7.3.8)
 - EVALUATION DOCUMENTATION (NFPA 72, 7.3.9)
 - SOFTWARE & FIRMWARE CONTROL DOCUMENTATION (NFPA 72, 23.2.2)
- EXTRA DEVICES
 - DUE TO UNFORESEEN CONDITION, THE FOLLOWING EXTRA DEVICES SHALL BE INCLUDED IN THE CONTRACTORS BID:
 - CO DETECTORS 15 EACH
 - SMOKE DETECTORS 10 EACH
 - FOR BID PURPOSES, ALLOW TWENTY (20) FEET OF CONDUIT AND ITS SUPPORT SYSTEM TO INCLUDE FITTINGS, WIRES AND LABOR FOR EACH OF THE DEVICES LISTED ABOVE.
- EXISTING FIRE ALARM SYSTEM SHALL REMAIN OPERATIONAL UNTIL THE NEW FIRE ALARM SYSTEM IS INSTALLED AND TESTED BY THE SCHOOL DISTRICT. OTHERWISE 24-HOURS FIRE WATCH SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR, PER CFC SECTION 901.4.

FIRE ALARM SYMBOL LIST

SYMBOL	MFG	PART NO.	DESCRIPTION	REMARKS	CSFM LISTING NO.
[FACP-A]	SIMPLEX	4010	EXISTING FIRE ALARM CONTROL PANEL A #155946	PROVIDE WITH BATTERY CABINET SIZED PER BATTERIES SHOWN PROVIDE WITH FLUSH CABINET.	-
[FACP-A]	SILENT KNIGHT	6820EVS	FIRE ALARM CONTROL PANEL WITH EMERGENCY EVACUATION DIGITAL ALARM COMMUNICATOR TRANSMITTER, UDCAT AND IPDACT2	PROVIDE ALL THE REQUIRED COMPONENTS/MODULES FOR MONITORING AND CABLING BETWEEN THE (E) FACP AND THE NEW MAIN FIRE ALARM CONTROL PANEL.	7165-0559-0500
[DCC]	SILENT KNIGHT	HWF2-COM	DIGITAL CELLULAR COMMUNICATOR		7300-1645-0511
[FAA]	SILENT KNIGHT	6860	FIRE ALARM REMOTE ANNUNCIATOR		7165-0559-0500
[RPS]	SILENT KNIGHT	5496 6A	REMOTE POWER SUPPLY		7300-1645-0171
[FATC]	-	-	FIRE ALARM TERMINAL CABINET	24"x36"x6"	-
[FADC]	SPACE AGE	-	FIRE ALARM DOCUMENT CABINET	24"x18"x10"	-
[SYSTEM SENSORS]	CO1224TR B200S-WH	-	CARBON MONOXIDE DETECTOR SOUNDER DETECTOR BASE		5278-1653-0219 7300-1653-0213
[SK-DUCT]	SILENT KNIGHT	SK-DUCT	DUCT SMOKE DETECTOR WITH REMOTE LIGHTS AND TOGGLE SWITCH FOR DAMPERS	WITH FCP-951, SAMPLING TUBE AND REMOTE LIGHT INDICATOR OR LABELING ON CEILING TO IDENTIFY LOCATION OF CONCEALED DUCT DETECTOR DEVICES.	3242-0559-0162
[SK-CONTROL]	SILENT KNIGHT	SK-CONTROL	CONTROL MODULE		7300-0559-0155
[SK-RELAY]	SILENT KNIGHT	SK-RELAY	RELAY MODULE		7300-0559-0155
[SK-MONITOR]	SILENT KNIGHT	SK-MONITOR	MONITOR MODULE		7300-0559-0155
[FIRE DAMPER SMOKE DAMPER]	-	-	FIRE DAMPER SMOKE DAMPER		-
[WESTPENN]	-	-	FIRE ALARM CONDUIT RUN, 3/4" C. MIN. UNLESS INDICATED OTHERWISE IN THE DWGS. REFER TO DWGS. & SPECS. REQUIRED WIRING.		7160-0859-0103 7160-0859-0102 7161-0859-0101
[END OF LINE RESISTOR "COLR"]	-	-	END OF LINE RESISTOR "COLR"		-

FIRE ALARM WIRE DESIGNATION CHART

SYMBOL	DESCRIPTION	NUMBER OF CONDUCTORS	SIZE	TYPE
D	SIGNALING LINE CIRCUIT (SLC) - ABOVE GRADE	UNSHIELDED PAIR	#16	WEST PENN #0990
DD	SIGNALING LINE CIRCUIT (SLC) - BELOW GRADE	AQUA SEAL TWISTED UNSHIELDED PAIR	#16	WEST PENN #A0C225
SS	VOICE EVAC. CIRCUIT - BELOW GRADE	AQUA SEAL TWISTED SHIELDED PAIR	#16	WEST PENN #A0C224
P	24 POWER	TWO	#16	TH-N/THWN
T	COMMUNICATION CABLING	TWO	#18	CAT 5

NOTE: 1. SYMBOL INDICATES QTY & I.D. OF CIRCUIT. I.E. 2N2, INDICATES (2) #212 CI CABLE FOR N CIRCUIT 2.
2. ALL CONDUIT USED FOR FIRE ALARM SHALL BE 3/4" MINIMUM ABOVE GRADE AND 1" MINIMUM BELOW GRADE UNLESS NOTED OTHERWISE.
3. ALL WIRINGS USED IN UNDERGROUND CONDUITS SHALL BE LISTED FOR WET AREA APPLICATION, IN ACCORDANCE WITH CEC 760.

SEQUENCE OF OPERATION

	BUILDING POWER FAILURE	CO DETECTOR	OPEN SHORT OR GROUND	DUCT DETECTOR
ANNUNCIATE AT FIRE CONTROL PANEL (ALARM)	NO	NO	YES	YES
ANNUNCIATE AT FIRE CONTROL PANEL (SUPERVISION)	NO	YES	NO	NO
ANNUNCIATE AT FIRE CONTROL PANEL (TROUBLE)	YES	NO	NO	NO
SOUND CONTROL PANEL TROUBLE BUZZER	NO	NO	YES	YES
ACTIVATE AUDIBLE ALARM SIGNALS (UNTIL SILENCE)	NO	NO	NO	NO
ACTIVATE VISUAL ALARM SIGNALS (UNTIL RESET)	NO	NO	NO	NO
ACTIVATE EMERGENCY VOICE SYSTEM SIGNALS (UNTIL RESET)	NO	NO	NO	NO
REPORT TO CENTRAL STATION	YES	YES	NO	YES
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (ALARM)	NO	NO	YES	YES
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (SUPERVISION)	NO	YES	NO	NO
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (TROUBLE)	YES	NO	NO	NO
CLOSE FIRE-SMOKE DAMPERS	NO	NO	NO	YES
SHUTDOWN HVAC UNIT	NO	NO	NO	YES
SOUND LOCAL ALARM	NO	YES	NO	NO

SCOPE OF WORK

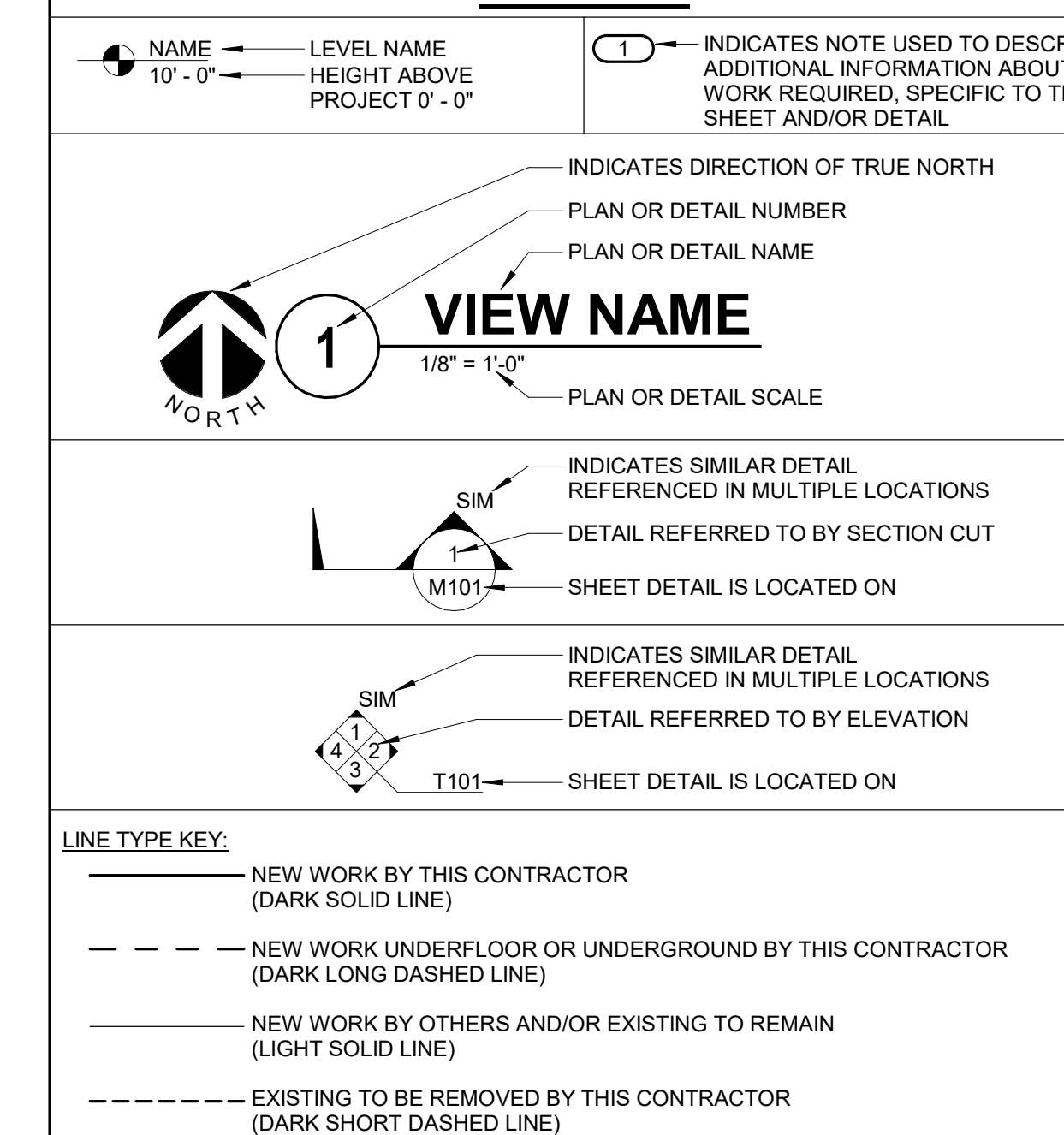
THE SCOPE OF THE WORK AS STATED BELOW IS FOR DSA PLAN REVIEW PURPOSE ONLY AND DOES NOT CONSTITUTE A DETAILED AND FULL EXPLANATION OF THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

- REMOVE EXISTING HEAT REPAIR UNITS AND MISCELLANEOUS HEATING EQUIPMENT, AND REPLACE WITH NEW AIR CONDITIONING UNITS FOR BUILDINGS A,B,C,D,E,F,G,H AND J. REMOVE EXISTING ROOF CURBS AND REPLACE WITH NEW ROOF CURBS. REMOVE PORTIONS OF ROOF TO ADD ADDITIONAL BEAMS TO SUPPORT NEW ROOF CURBS.
- PATCH BACK ROOFING MATERIAL AS REQUIRED.
- ADD NEW FIRE ALARM DEVICES AS REQUIRED. CO/SMOKE DETECTORS WHERE GAS BURNING UNIT OCCURS, DUCT DETECTOR FOR HVAC UNIT SHUTDOWN OVER 2000 CFM, AND FIRE SMOKE DAMPERS.

ELECTRICAL SHEET INDEX

FA0.1	COVERSHEET
FA0.2	CALCULATIONS AND RISER DIAGRAMS
FA1.1	SITE PLAN
FA2.1	BUILDING A REMODEL FLOOR PLAN
FA2.2	BUILDING B REMODEL FLOOR PLAN
FA2.3	BUILDING C REMODEL FLOOR PLAN
FA2.4	BUILDING D REMODEL FLOOR PLAN - AREA 1
FA2.5	BUILDING E REMODEL FLOOR PLAN - AREA 2
FA2.6	BUILDING E REMODEL SECOND FLOOR PLAN
FA2.7	BUILDING F REMODEL FIRST FLOOR PLAN
FA2.8	BUILDING F REMODEL SECOND FLOOR PLAN
FA2.9	BUILDING G REMODEL FLOOR PLAN - AREA 1
FA2.10	BUILDING H REMODEL FLOOR PLAN - AREA 2
FA2.11	BUILDING J REMODEL FLOOR PLAN - AREA A
FA2.12	BUILDING J REMODEL FLOOR PLAN - AREA B
FA3.1	DETAILS
GRAND TOTAL: 17	

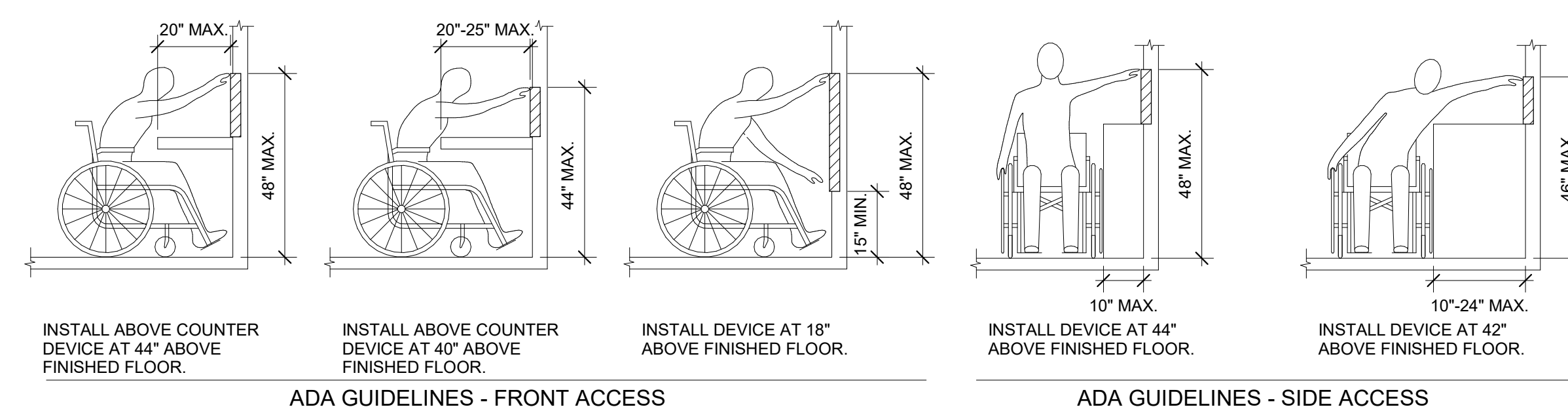
VIEW KEY



APPLICABLE CODES

- 2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 1
- 2019 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2 (2018 INTERNATIONAL BUILDING CODE (IBC) W/CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA ELECTRICAL CODE (CEC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3 (2017 NATIONAL ELECTRICAL CODE (NEC) W/CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA MECHANICAL CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4 (2018 UNIFORM MECHANICAL CODE (UMC) W/CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA PLUMBING CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5 (2018 UNIFORM PLUMBING CODE (UPC) W/CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6
- 2019 CALIFORNIA FIRE CODE (FCF) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9 (2018 INTERNATIONAL FIRE CODE (IFC) W/CALIFORNIA AMENDMENTS)
- 2019 CALIFORNIA REFERENCED STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12
- AMERICANS WITH DISABILITIES ACT (ADA) TITLE II - ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG) 1990 STATE FIRE MARSHAL REGULATIONS AND AMENDMENTS TO-DATE
- CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, CALIFORNIA STATE ACCESSIBILITY STANDARDS CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19

- STANDARDS:**
- NFPA 13 AUTOMATIC SPRINKLER SYSTEMS (2019)
 - NFPA 14 STANDPIPE SYSTEMS (2019)
 - NFPA 17 DRY CHEMICAL EXTINGUISHING SYSTEMS (2017)
 - NFPA 17a WET CHEMICAL SYSTEMS (2017)
 - NFPA 20 STATIONARY PUMPS (2019)
 - NFPA 22 WATER TANKS FOR PRIVATE FIRE PROTECTION (2018)
 - NFPA 24 PRIVATE FIRE MAINS (2019)
 - NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (2019)
 - NFPA 80 FIRE DOORS AND OTHER OPENING PROTECTIVES (2019)
 - NFPA 92 STANDARD FOR SMOKE CONTROL SYSTEMS (2018)



ADA STANDARDS FOR ACCESSIBLE DESIGN

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NO	DATE	BY	DESCRIPTION
1	08/25/20		Addendum 1
REVISIONS			

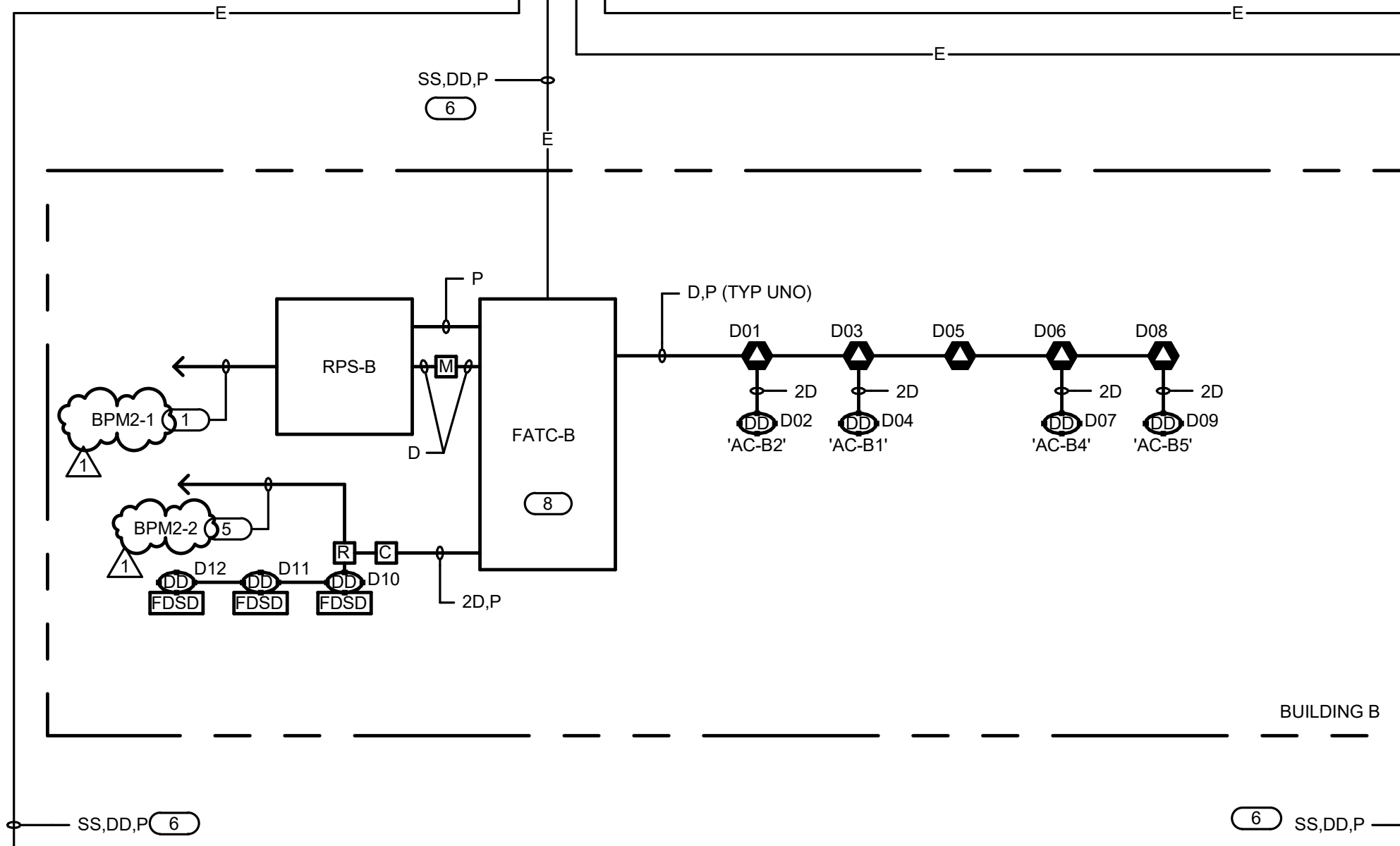
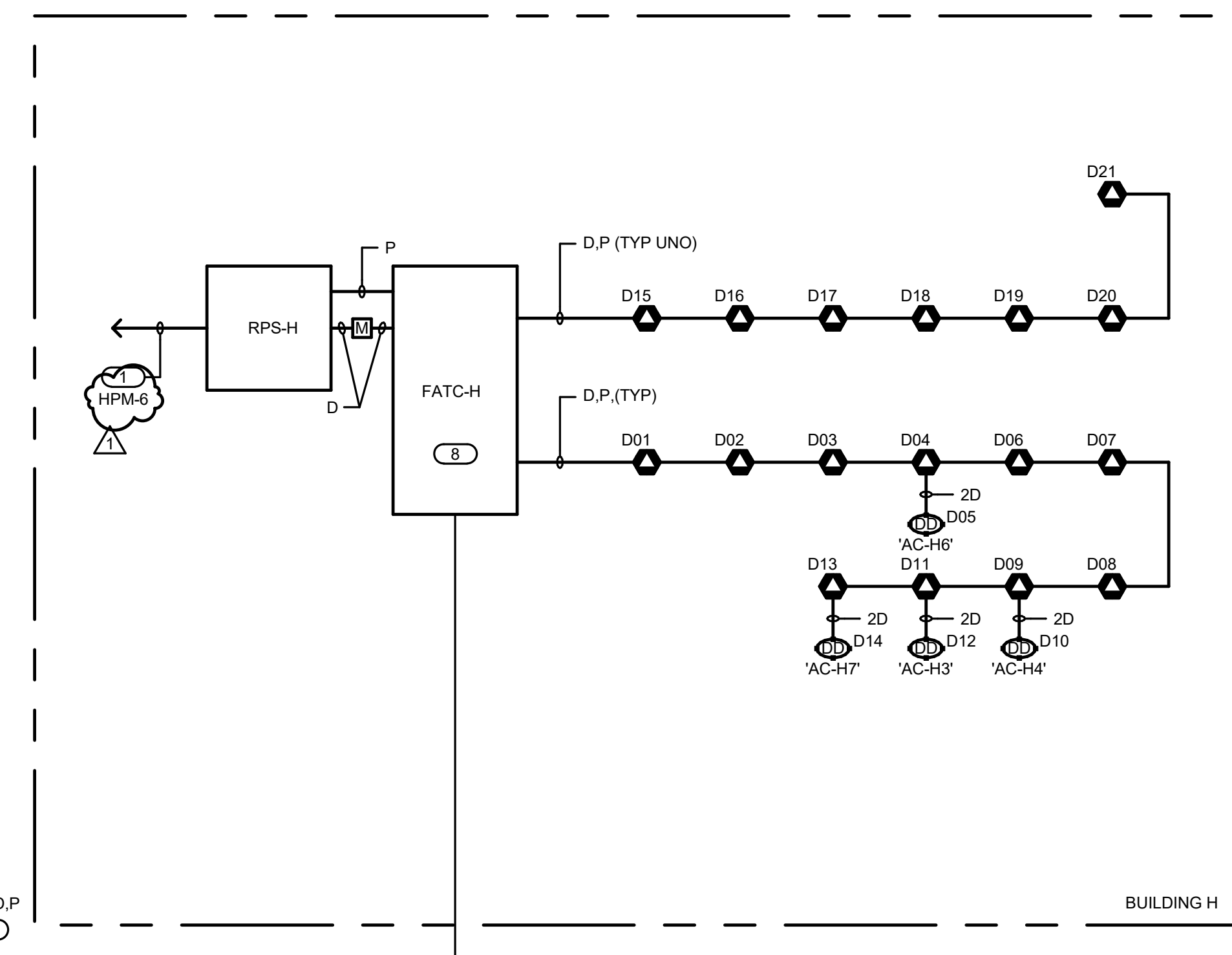
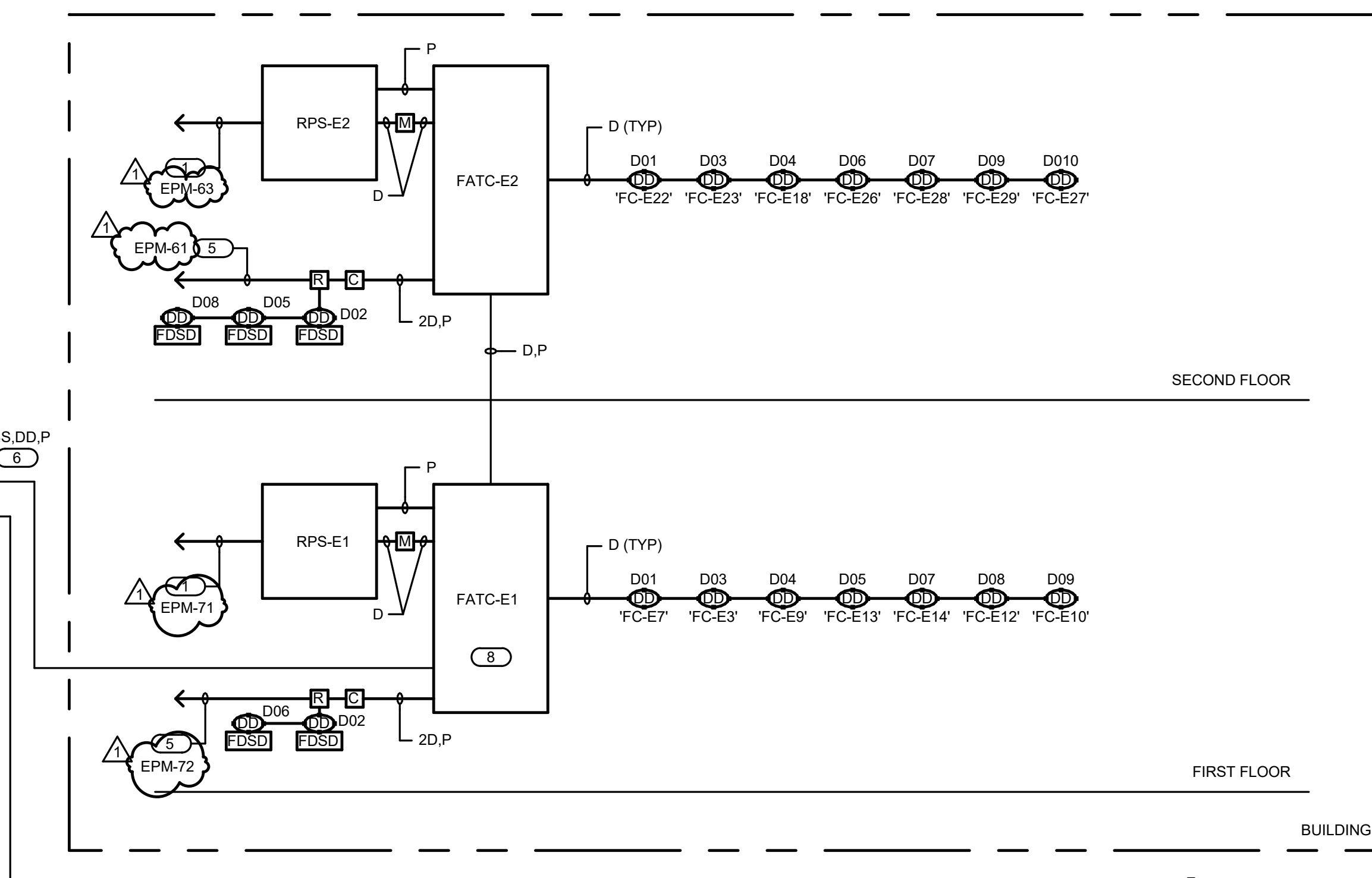
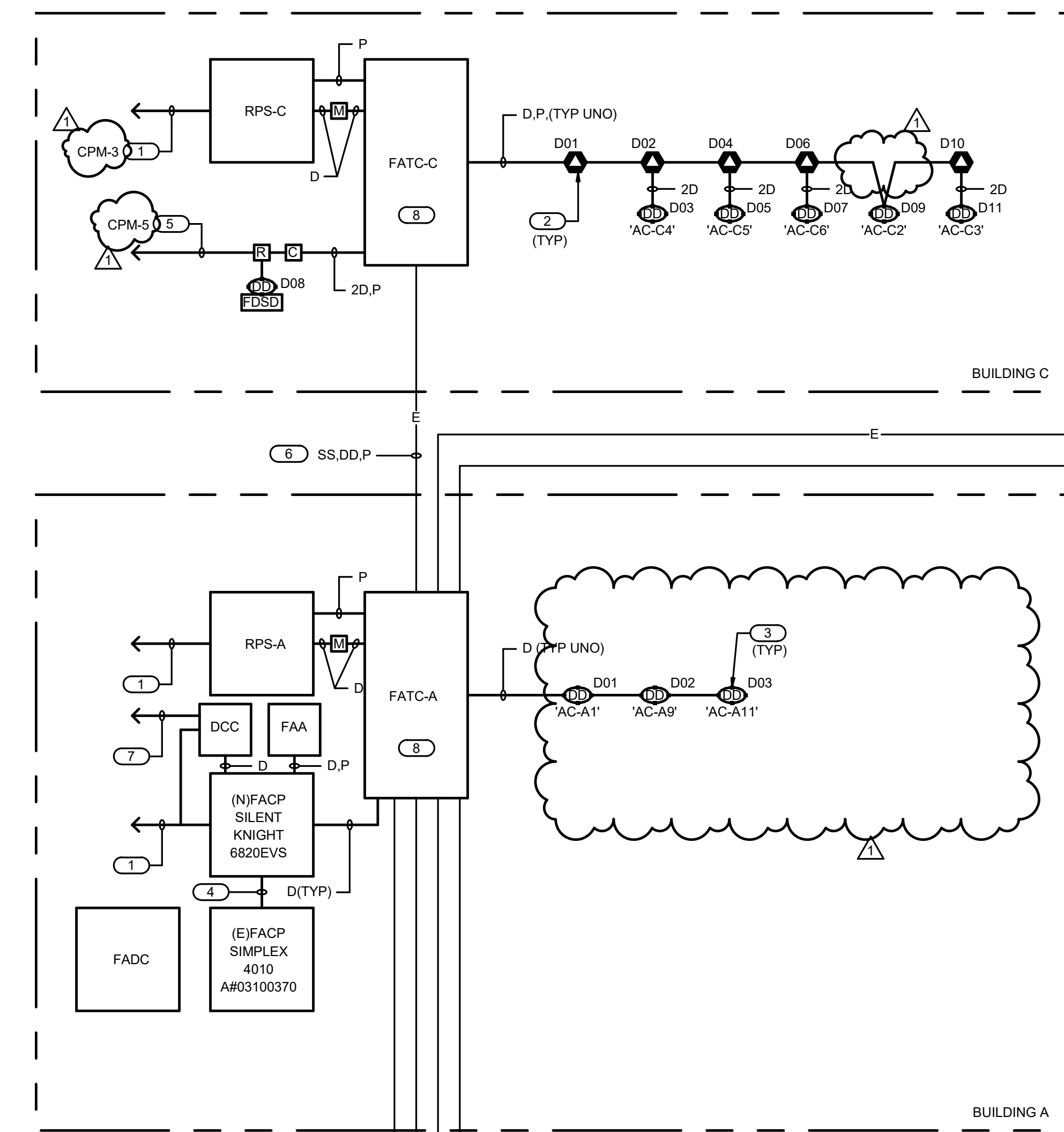
DRAWN: Author	CHECKED: Checker
DATE: Issue Date	SCALE: As indicated
PROJECT NUMBER: Project Number	

COVERSHEET

DRAWING NUMBER: **FA0.1**

KEYED NOTES

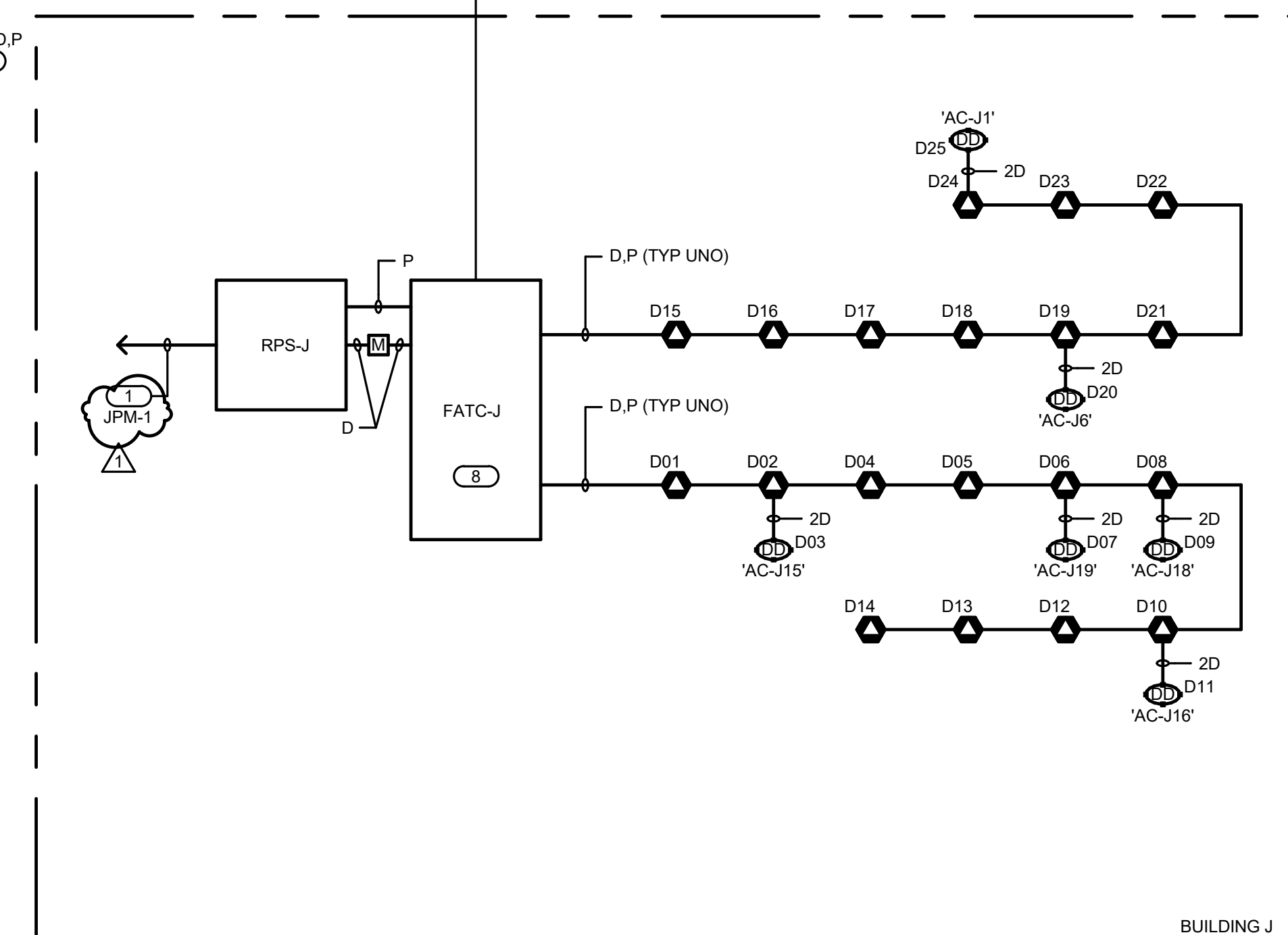
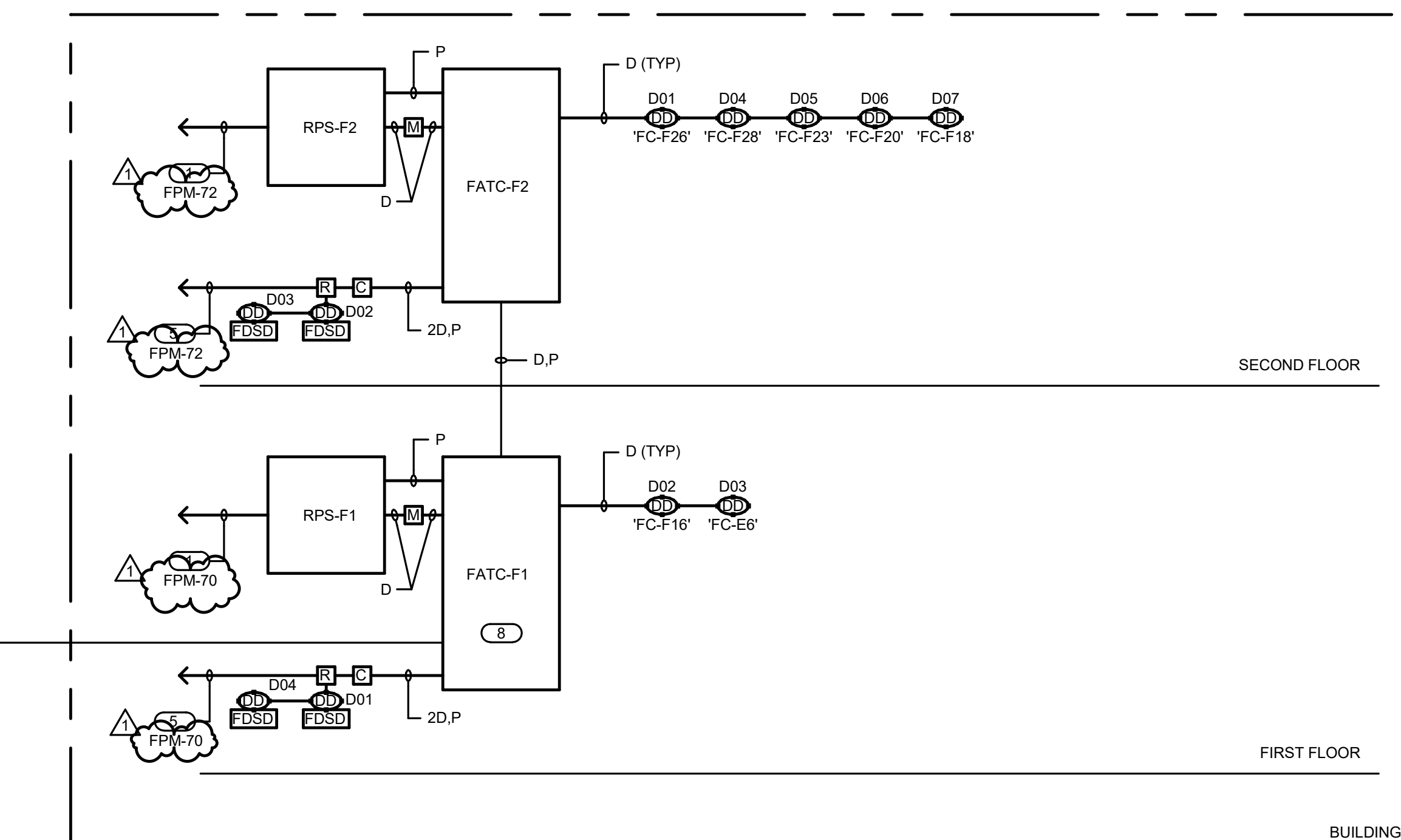
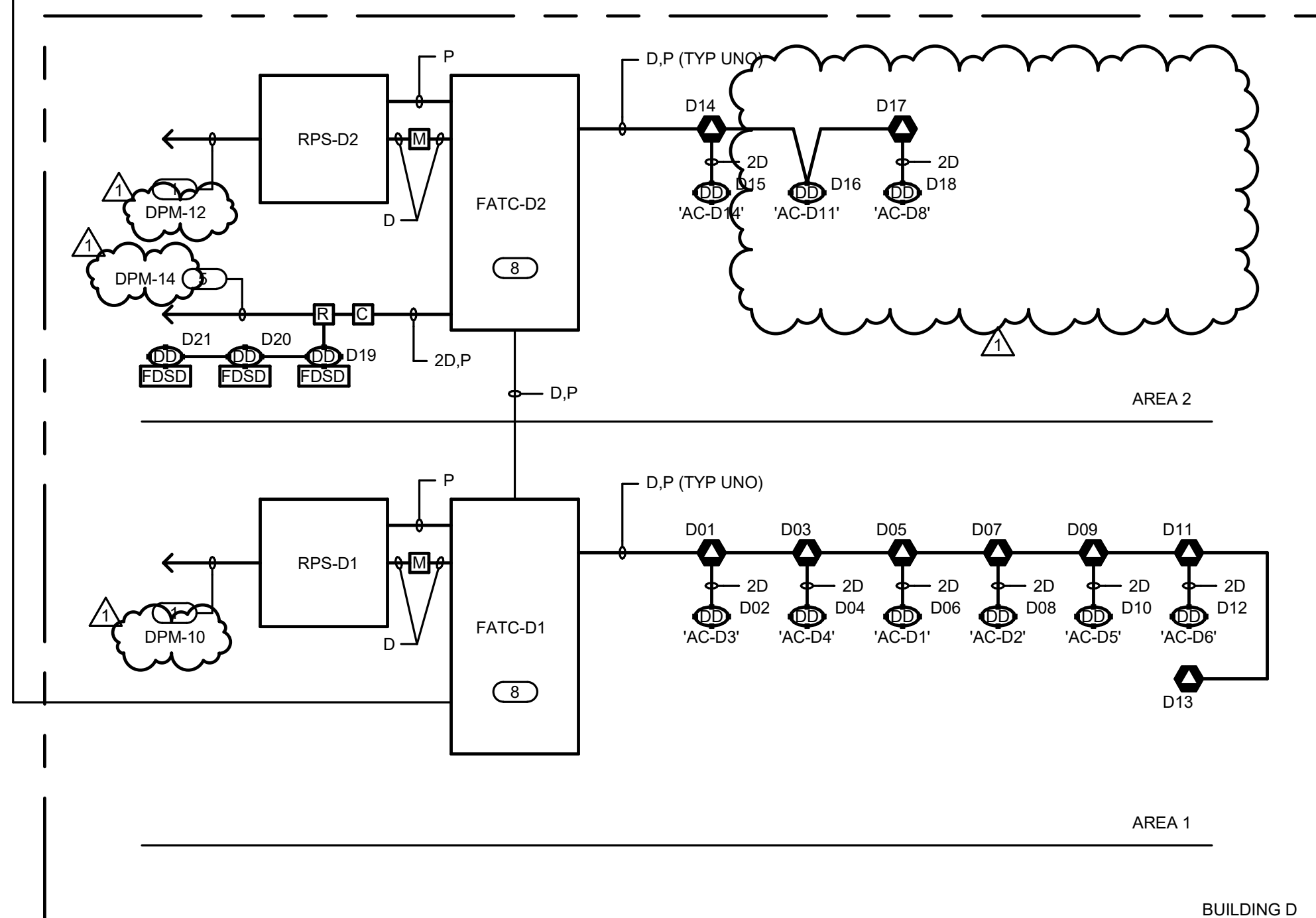
- TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM TO CIRCUIT ID. REFER TO FLOOR PLANS FOR CIRCUIT ASSIGNMENTS.
- PROVIDE NEW UL AND CSM LISTED, CARBON MONOXIDE DEVICE FOR UNIT WHERE NATURAL GAS BURNING APPLIANCE IS UTILIZED.
- REMOVE AND REPLACE IN KIND AS SHOWN. LOCATED IN THE SUPPLY DUCT FOR REMOVAL OF EXISTING FACP AND REPROGRAM EXISTING FACP FOR REMOVAL OF EXISTING DEVICE ACCORDINGLY.
- PROVIDE ALL THE REQUIRED COMPONENTS AND MODULES FOR MONITORING BETWEEN THE EXISTING FIRE ALARM CONTROL PANEL AND THE NEW FACP.
- REMOVE AND REPLACE IN KIND AS SHOWN. LOCATED IN THE SUPPLY DUCT FOR REMOVAL OF EXISTING FACP AND REPROGRAM EXISTING FACP FOR REMOVAL OF EXISTING DEVICE ACCORDINGLY.
- RUN 120V CIRCUIT FOR FIRE SMOKE DAMPER VIA RELAY MODULE FOR DAMPER CLOSURE. EXISTING CONDUIT WITH NEW FA WIRES. TO NEW FACP VIA EXISTING UG PULLBOXES. REFER TO SITE PLAN.
- PROVIDE DATA LINE AND ACTIVATED CELLULAR LINE. COORDINATE WITH OWNER.
- PROVIDE 12 FEET OF COIL SPEAKER WIRE FOR FUTURE USE.



BATTERY CALCULATION FOR FIRE ALARM CONTROL PANEL AND REMOTE POWER SUPPLIES

DESCRIPTION	FACP				RPS-A				RPS-B				RPS-C				RPS-D1				RPS-D2							
	QTY	SUPERVISORY CURRENT UNIT	TOTAL	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	TOTAL	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	TOTAL	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	TOTAL	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	TOTAL	ALARM CURRENT UNIT	TOTAL			
FACPVCCP	1	0.120000	0.120000	0.120000	0.120000																							
DIGITAL CELLULAR COMMUNICATOR	1	0.020000	0.020000	0.020000	0.020000																							
FIRE ALARM ANNUNCIATOR	1	0.020000	0.020000	0.020000	0.020000																							
REMOTE POWER SUPPLY	1	0.010000	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	0.010000			
CO DETECTOR	73	0.000000	0.000000	0.002000	0.146000	11	0.000000	0.000000	0.002000	0.022000	5	0.000000	0.000000	0.002000	0.010000	6	0.000000	0.000000	0.002000	0.010000	7	0.000000	0.000000	0.002000	0.014000			
DUCT DETECTOR	67	0.000750	0.005250	0.010000	0.670000																							
MONITOR MODULE	10	0.002400	0.002400	0.002400	0.002400																							
CONTROL RELAY MODULE	80	0.000375	0.030000	0.006500	0.520000																							
RELAY MODULE	8	0.000375	0.003000	0.006500	0.052000																							
TOTAL			0.246 A	1.560 A	1.560 A			0.010 A	0.032 A	0.032 A			0.010 A	0.016 A	0.020 A	0.020 A			0.010 A	0.010 A	0.022 A	0.022 A			0.010 A	0.010 A	0.024 A	0.024 A
			x 24 H	x 0.25 H	x 0.25 H			x 24 H	x 0.25 H	x 0.25 H			x 24 H	x 0.25 H	x 0.25 H				x 24 H	x 0.25 H	x 0.25 H				x 24 H	x 0.25 H	x 0.25 H	
			5.896 AH	3.990 AH	3.990 AH			0.240 AH	0.008 AH	0.008 AH			0.240 AH	0.005 AH	0.005 AH				0.240 AH	0.006 AH	0.006 AH				0.240 AH	0.006 AH	0.006 AH	
				5.896 AH, STANDBY					0.240 AH, STANDBY					0.240 AH, STANDBY					0.240 AH, STANDBY							0.240 AH, STANDBY		
				0.390 AH, ALARM					0.008 AH, ALARM					0.005 AH, ALARM					0.005 AH, ALARM							0.006 AH, ALARM		
				6.286 AH, TOTAL					0.248 AH, TOTAL					0.245 AH, TOTAL					0.246 AH, TOTAL							0.246 AH, TOTAL		
				26 AH, BATTERY CAPACITY					7 AH, BATTERY CAPACITY					7 AH, BATTERY CAPACITY					7 AH, BATTERY CAPACITY							7 AH, BATTERY CAPACITY		
				19.714 AH, SPARE CAPACITY					6.752 AH, SPARE CAPACITY					6.755 AH, SPARE CAPACITY					6.754 AH, SPARE CAPACITY							6.754 AH, SPARE CAPACITY		

RPS-E1				RPS-E2				RPS-F1				RPS-F2				RPS-H				RPS-J					
QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL	QTY	SUPERVISORY CURRENT UNIT	ALARM CURRENT UNIT	TOTAL		
1	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	1	0.010000	0.010000	0.010000	17	0.000000	0.000000	0.002000	0.034000	20	0.000000	0.000000	0.002000	0.040000
			0.010 A				0.010 A				0.010 A				0.010 A				0.044 A					0.050 A	
			x 24 H				x 24 H				x 24 H				x 24 H				x 24 H					x 24 H	
			0.240 AH				0.240 AH				0.240 AH				0.240 AH				0.111 AH					0.103 AH	
				0.240 AH, STANDBY			0.240 AH, STANDBY				0.240 AH, STANDBY				0.240 AH, STANDBY				0.240 AH, STANDBY					0.240 AH, STANDBY	
				0.003 AH, ALARM			0.003 AH, ALARM				0.003 AH, ALARM				0.003 AH, ALARM				0.011 AH, ALARM					0.013 AH, ALARM	
				0.243 AH, TOTAL			0.243 AH, TOTAL				0.243 AH, TOTAL				0.243 AH, TOTAL				0.251 AH, TOTAL					0.253 AH, TOTAL	
				7 AH, BATTERY CAPACITY			7 AH, BATTERY CAPACITY				7 AH, BATTERY CAPACITY				7 AH, BATTERY CAPACITY				7 AH, BATTERY CAPACITY					7 AH, BATTERY CAPACITY	
				6.758 AH, SPARE CAPACITY			6.758 AH, SPARE CAPACITY				6.758 AH, SPARE CAPACITY				6.749 AH, SPARE CAPACITY				6.748 AH, SPARE CAPACITY					6.748 AH, SPARE CAPACITY	



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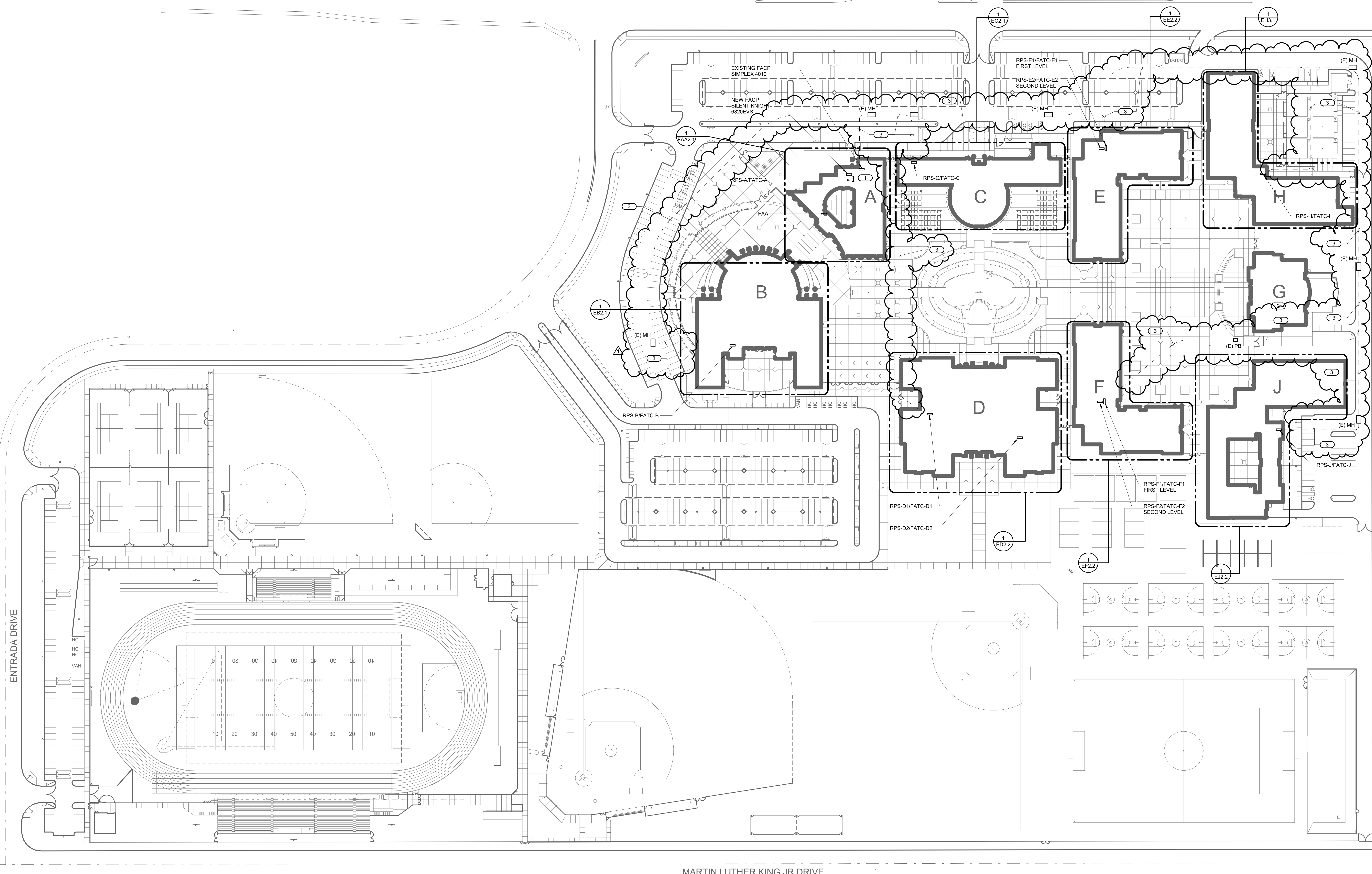
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PROJECT NUMBER: Project Number			

CALCULATIONS AND RISER DIAGRAMS
DRAWING NUMBER: **FA0.2**

KEYED NOTES

1. PROVIDE ALL THE REQUIRED MODULES/COMPONENTS AND PROGRAMMING/NETWORKING FOR INNERCONNECT (OR CROSS-TRIP) BETWEEN THE EXISTING AND NEW FIRE ALARM CONTROL PANELS (FACP).
2. BUILDING NOT PART OF THIS PERMIT.
3. EXISTING CONDUIT TO NEW FACP VIA FATC. PULL EXISTING FIRE ALARM WIRES/CABLES. REINSTALL THE EXISTING FA WIRES/CABLES INCLUDING THE NEW FA WIRES/CABLES.

EAST GONZALES ROAD

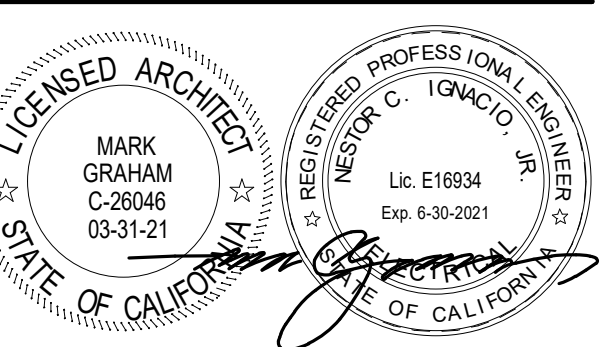


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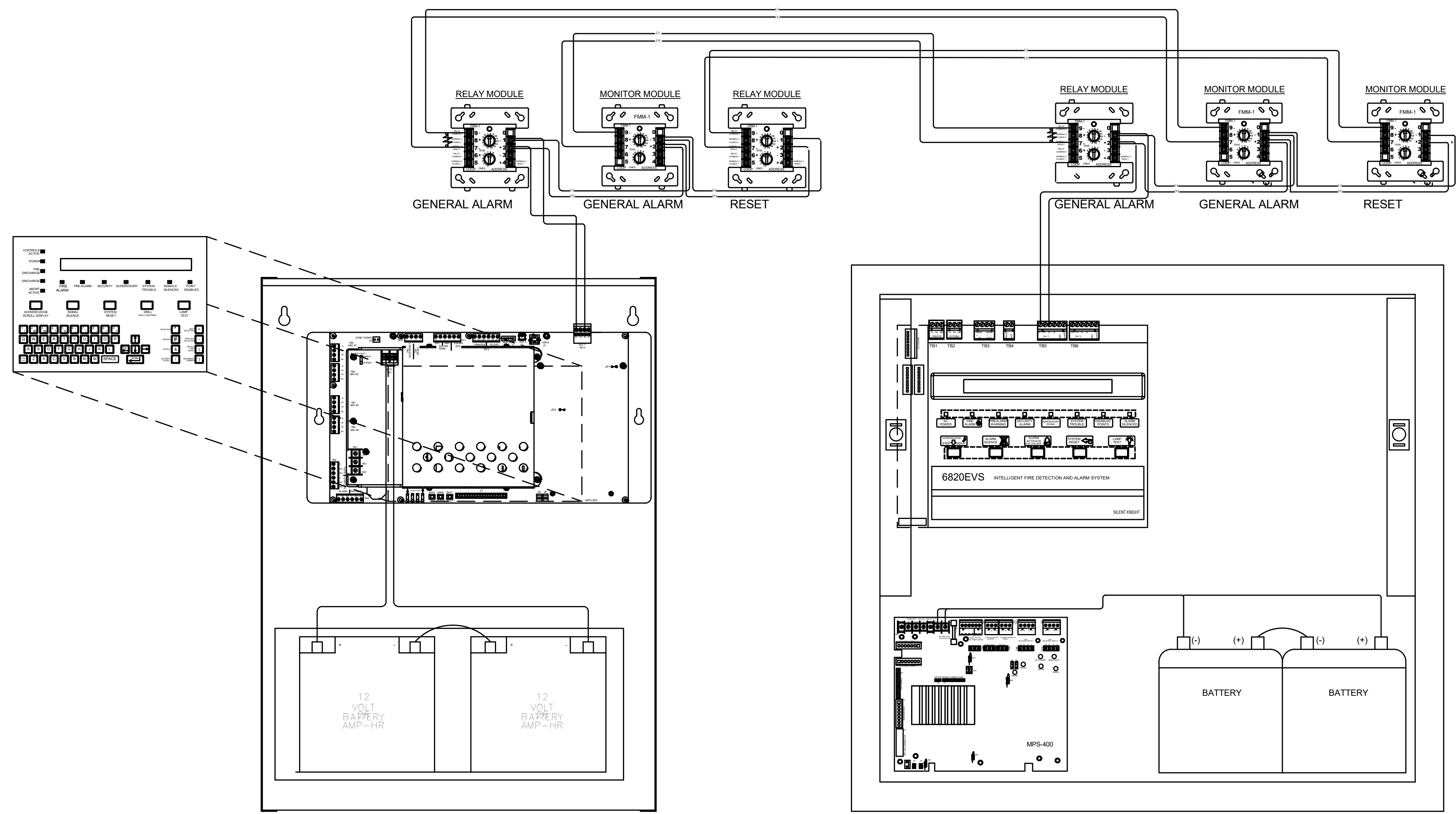
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PROJECT NUMBER: Project Number

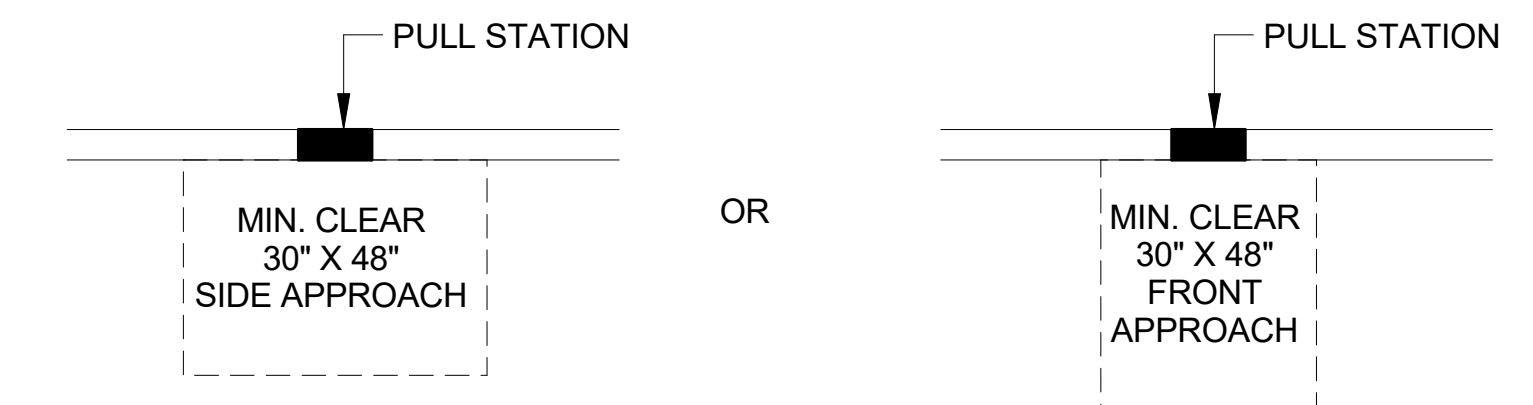
SITE PLAN

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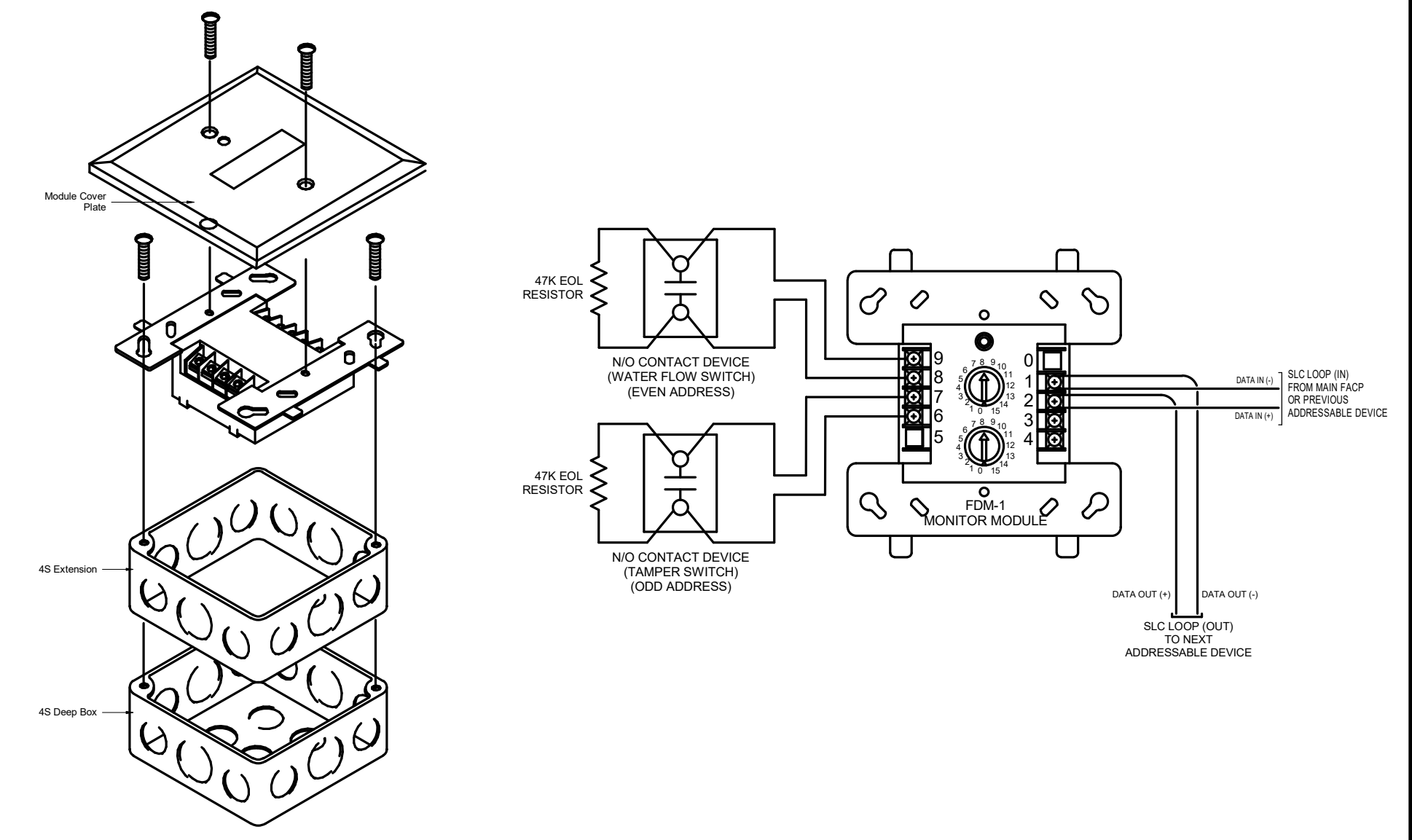
EXISTING FACP (SIMPLEX)

NEW FACP (SILENT KNIGHT)



CLEAR SPACE REQUIREMENTS AT FIRE ALARM PULL STATION

NTS 1

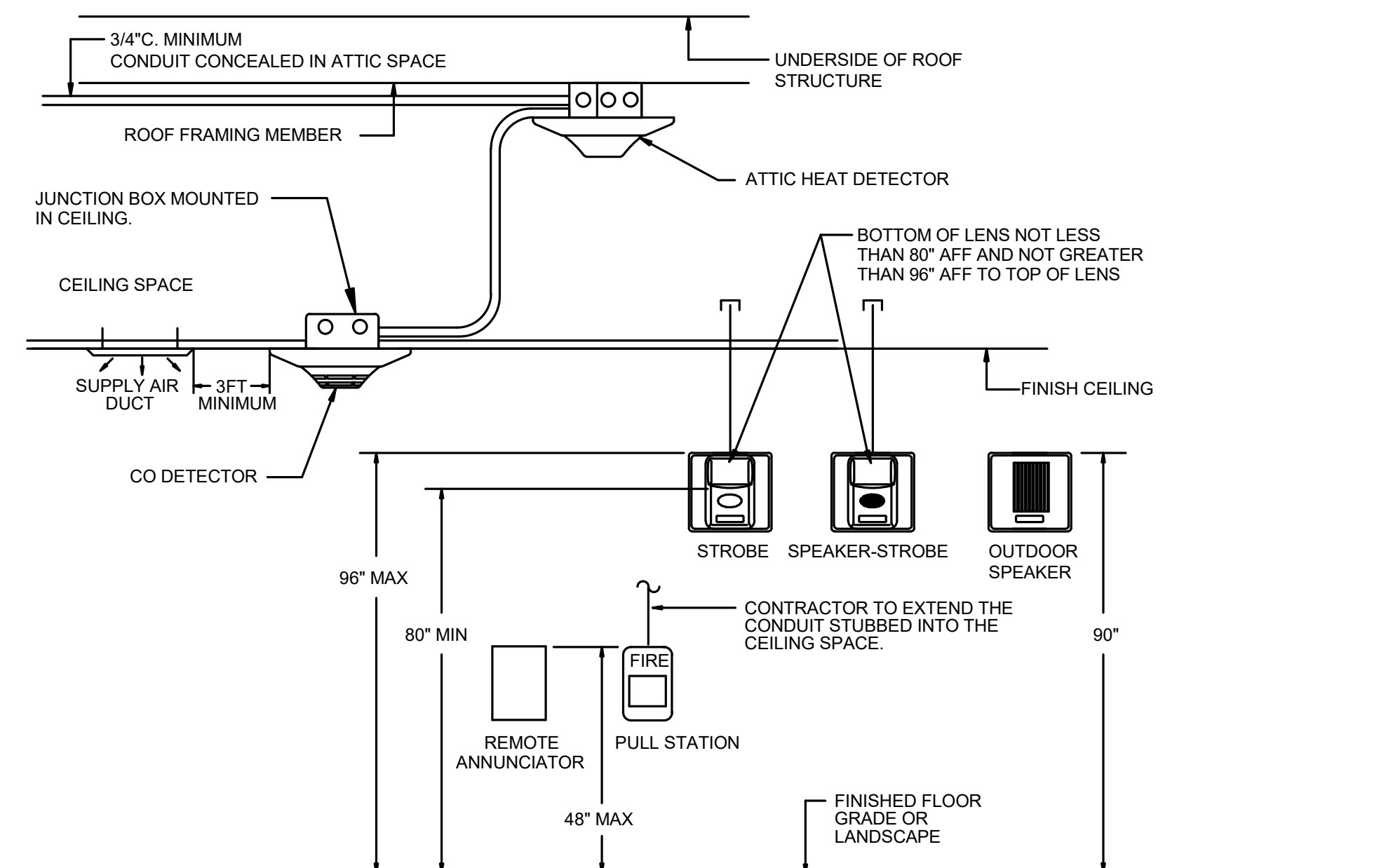


MONITOR MODULE WIRING DETAIL

NTS 2

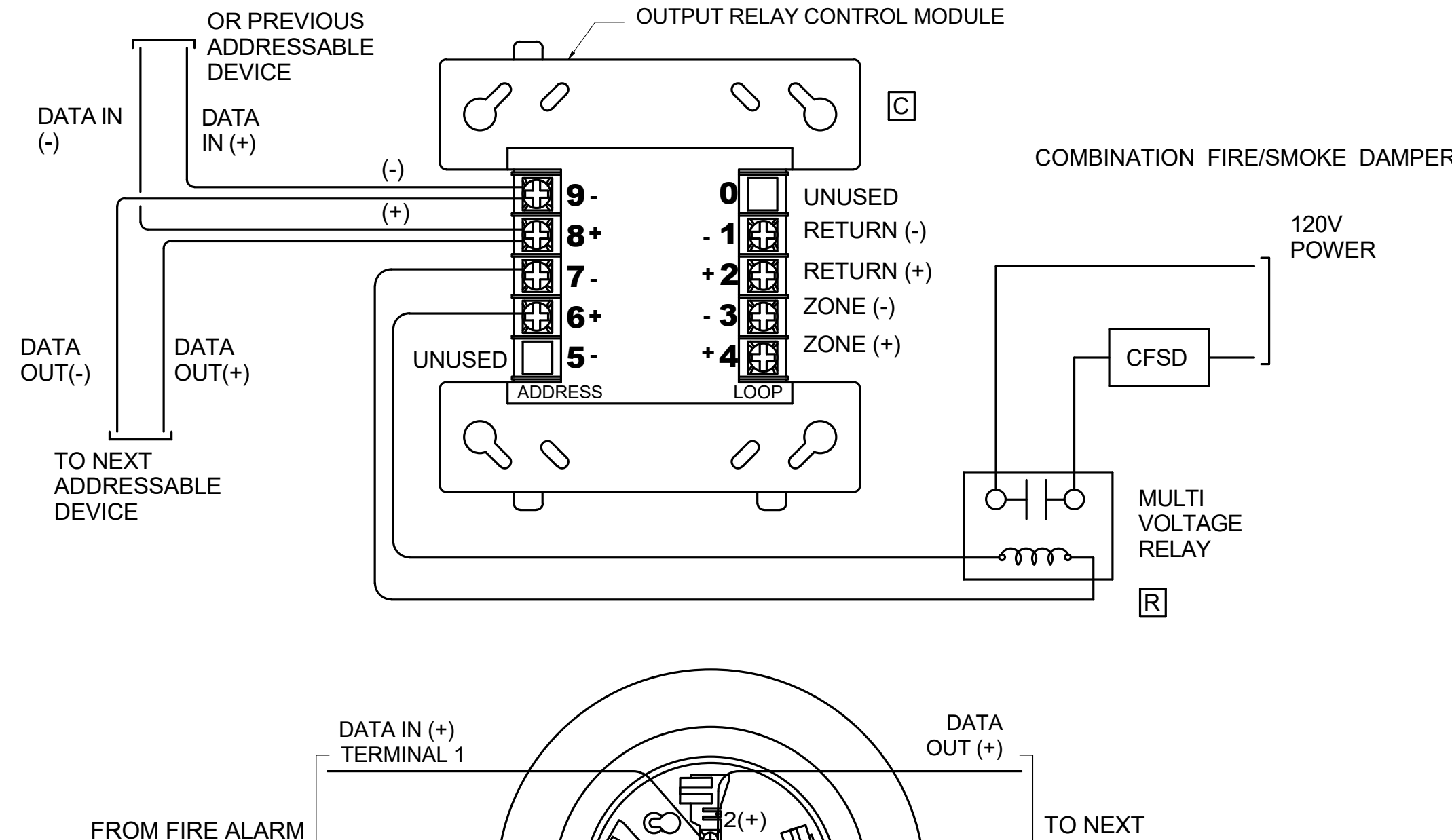
INTERCONNECTING BETWEEN FIRE ALARM CONTROL PANEL DETAIL

NTS 5



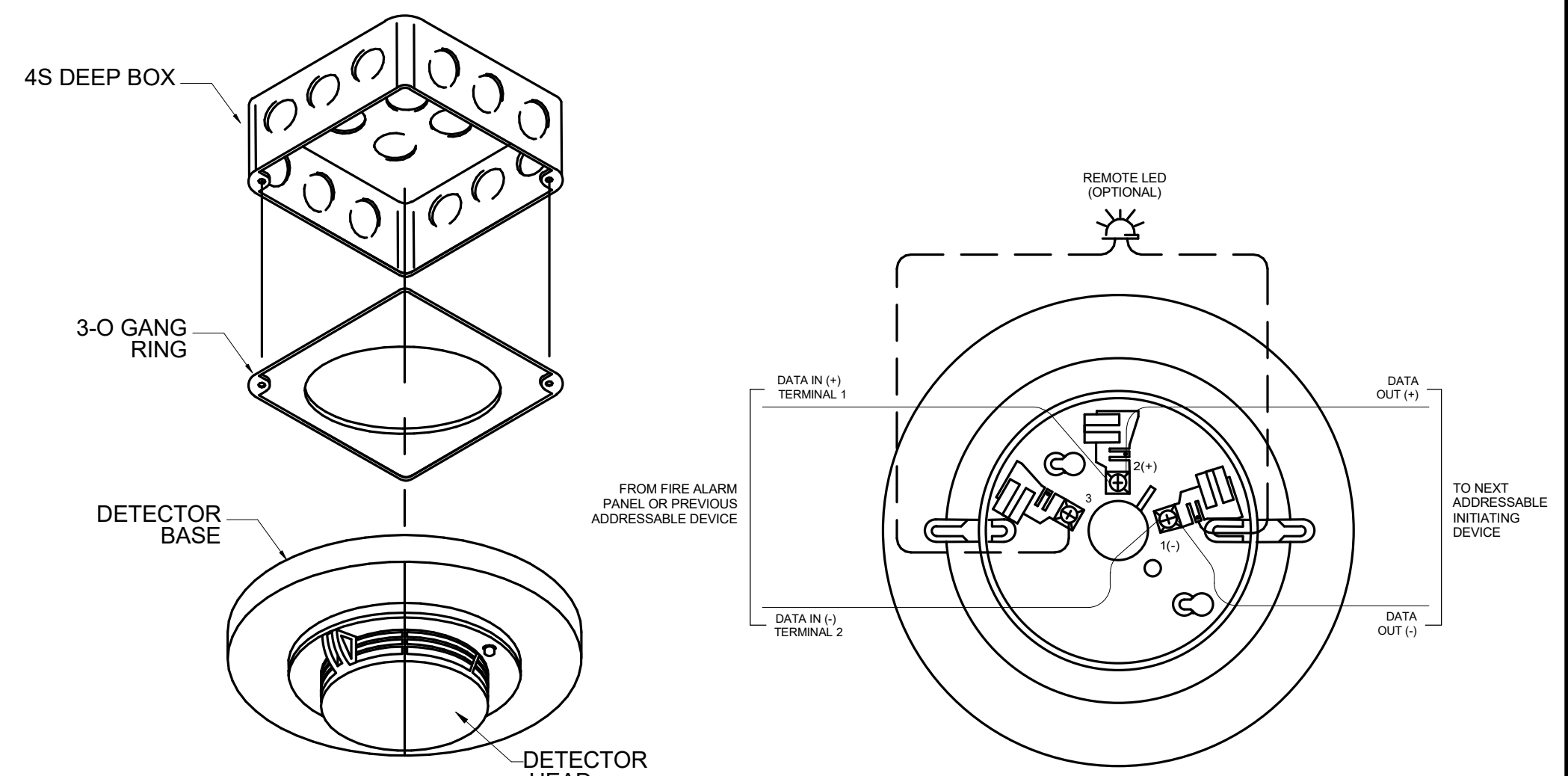
FIRE ALARM DEVICE ELEVATION

NTS 7



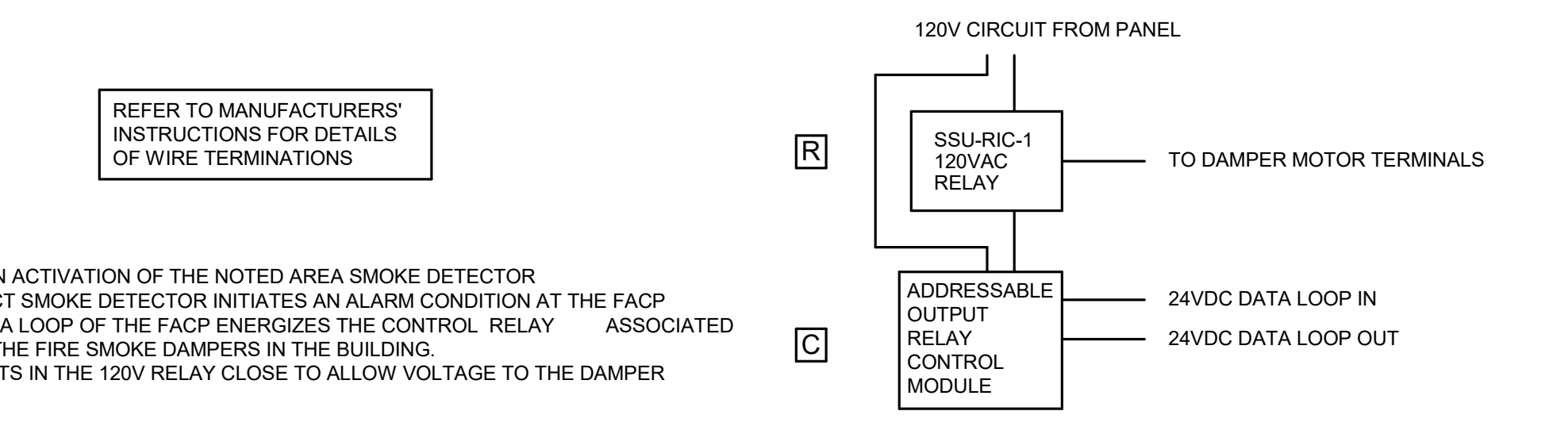
TYPICAL FIRE ALARM DEVICE WIRING DETAIL

NTS 6



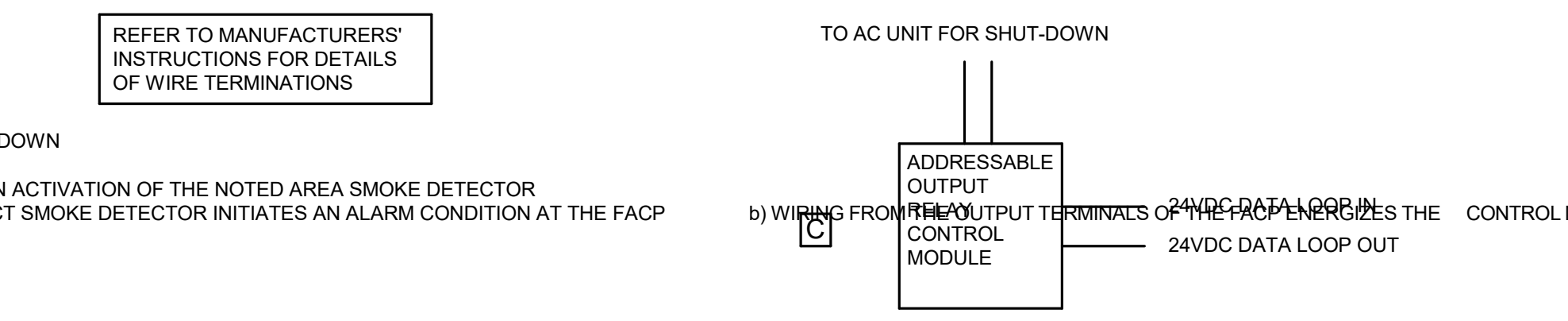
SMOKE/HEAT DETECTOR BASE WIRING DETAIL

NTS 3



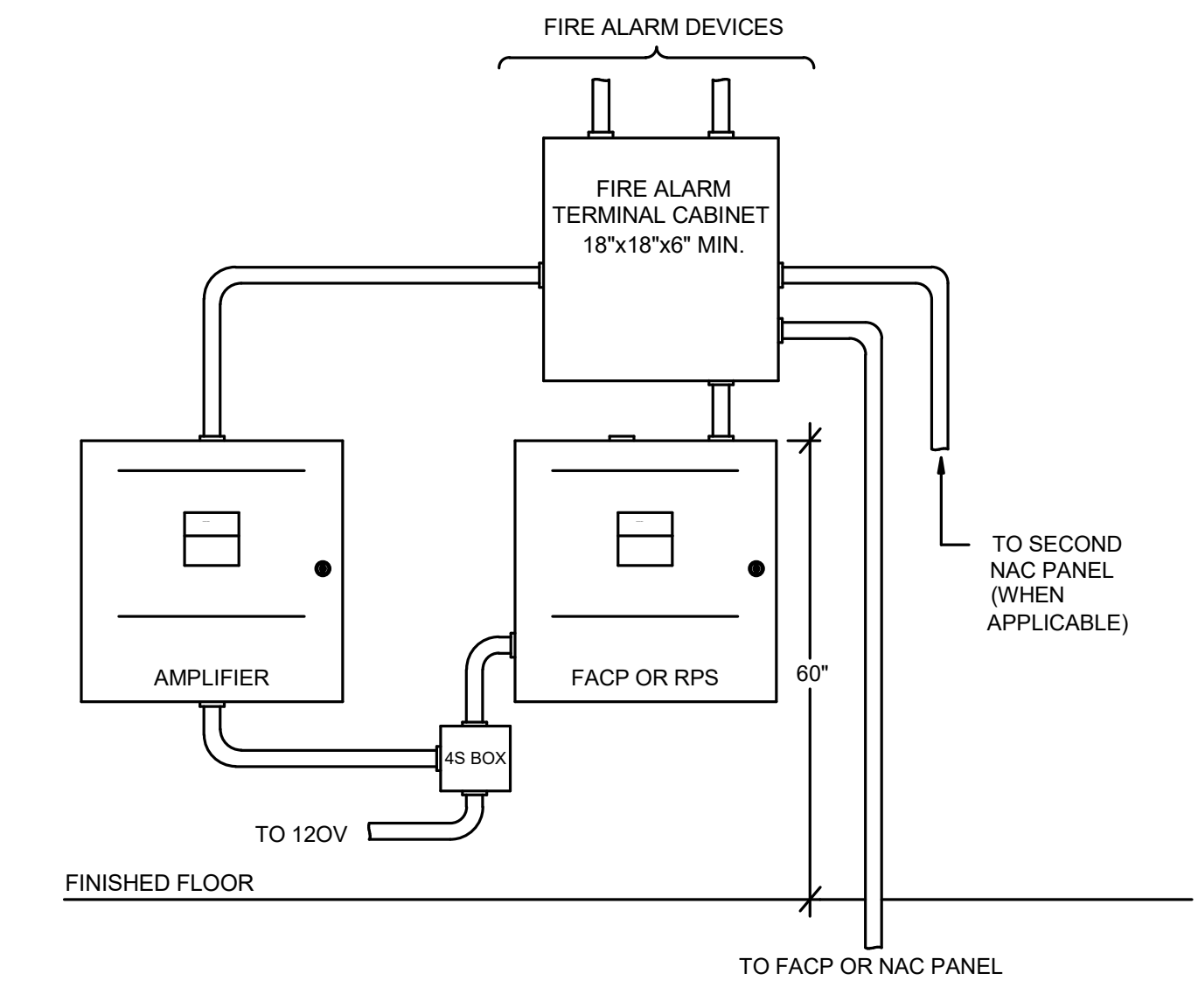
FIRE-SMOKE DAMPER OPERATION

NTS 8



HVAC SHUTDOWN

NTS 9



TYPICAL POWER SUPPLY LAYOUT

NTS 4

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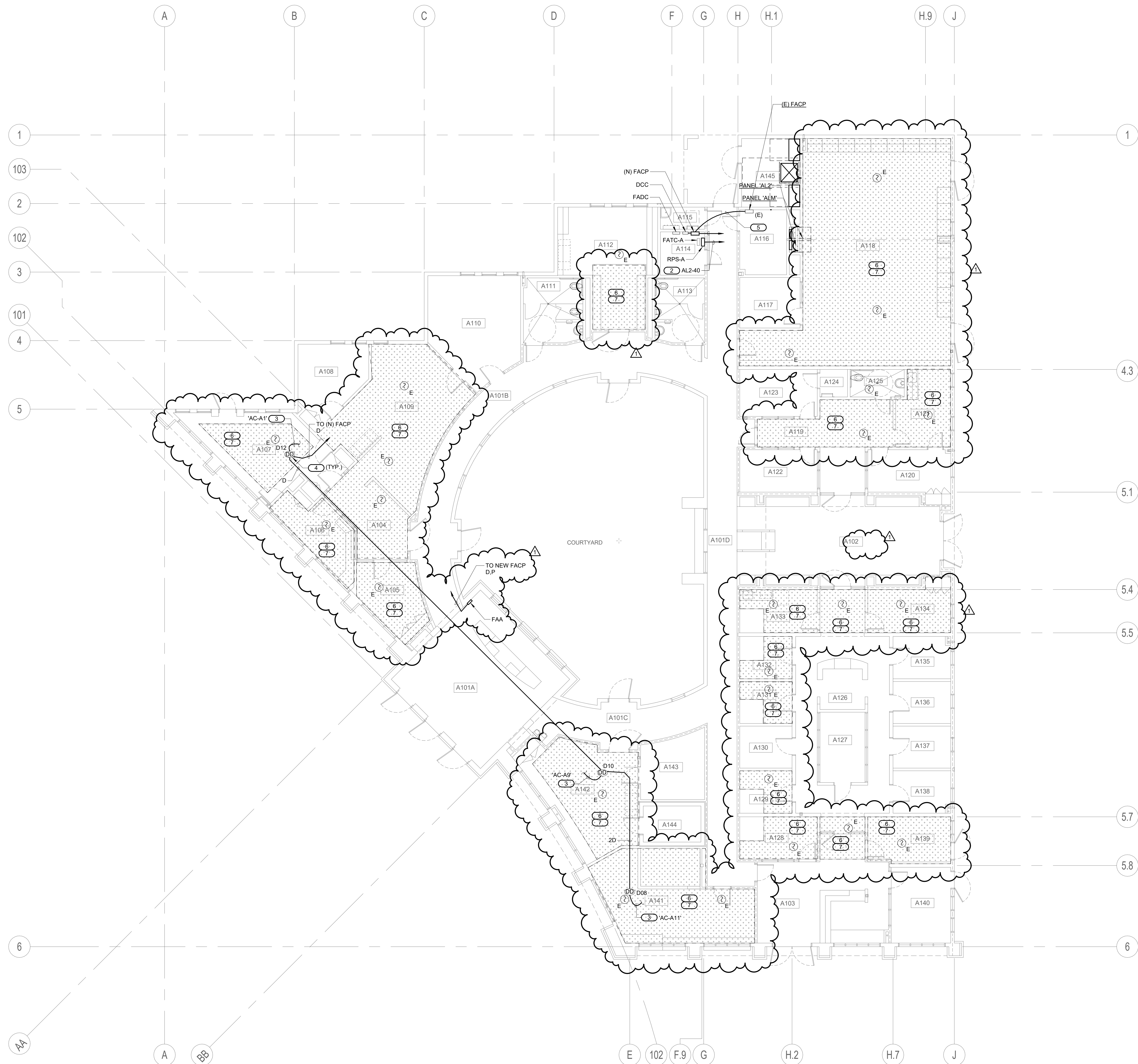
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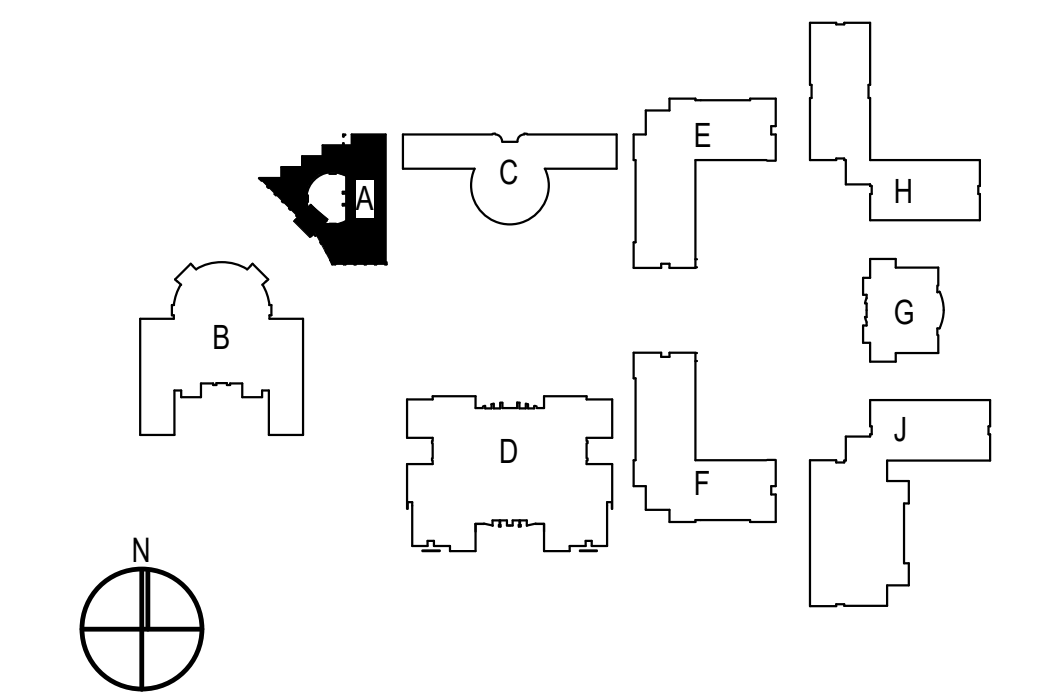
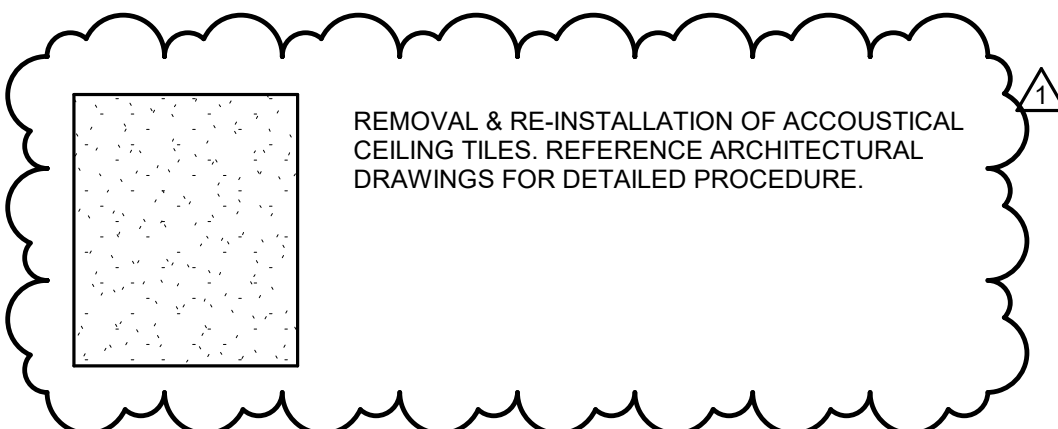
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KEYED NOTES

1. NOT USED.
2. TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM TO CIRCUIT 10".
3. TO HVAC UNIT FOR SHUT-DOWN.
4. REMOVE AND REPLACE WIRE AND SHOW LOCATION IN THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
5. PROVIDE ALL THE REQUIRED MODULES/COMPONENTS AND PROGRAMMING NETWORKING FOR INNERCONNECT (OR CROSS-TRIP) BETWEEN THE EXISTING AND NEW FIRE ALARM CONTROL PANELS.
6. FIRE ALARM DEVICE AFFECTED DURING REMOVAL-REINSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (1-BAR HANGER, 4S BOX, & 4S RING COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON-AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
7. PROCEED WITH THE FOLLOWING INDICATIONS PRIOR MECHANICAL EQUIPMENT INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS FOR IDENTIFICATION OF CONFLICTING CONDUITS. INTERCEPT CONFLICTING CONDUIT AND REROUTE. PROVIDE A JUNCTION BOX ON EACH END OF CONDUIT TO BE REROUTED. EACH JUNCTION BOX AND CONDUIT SHALL BE PROPERLY INSTALLED AND STRAPPED TO BUILDING INFRASTRUCTURE.
 - FOR FIRE ALARM CONDUIT PROVIDE NEW FIRE ALARM CABLES FROM THE NEAREST TERMINAL STRIP OR DEVICE WITH LANDING TERMINAL.



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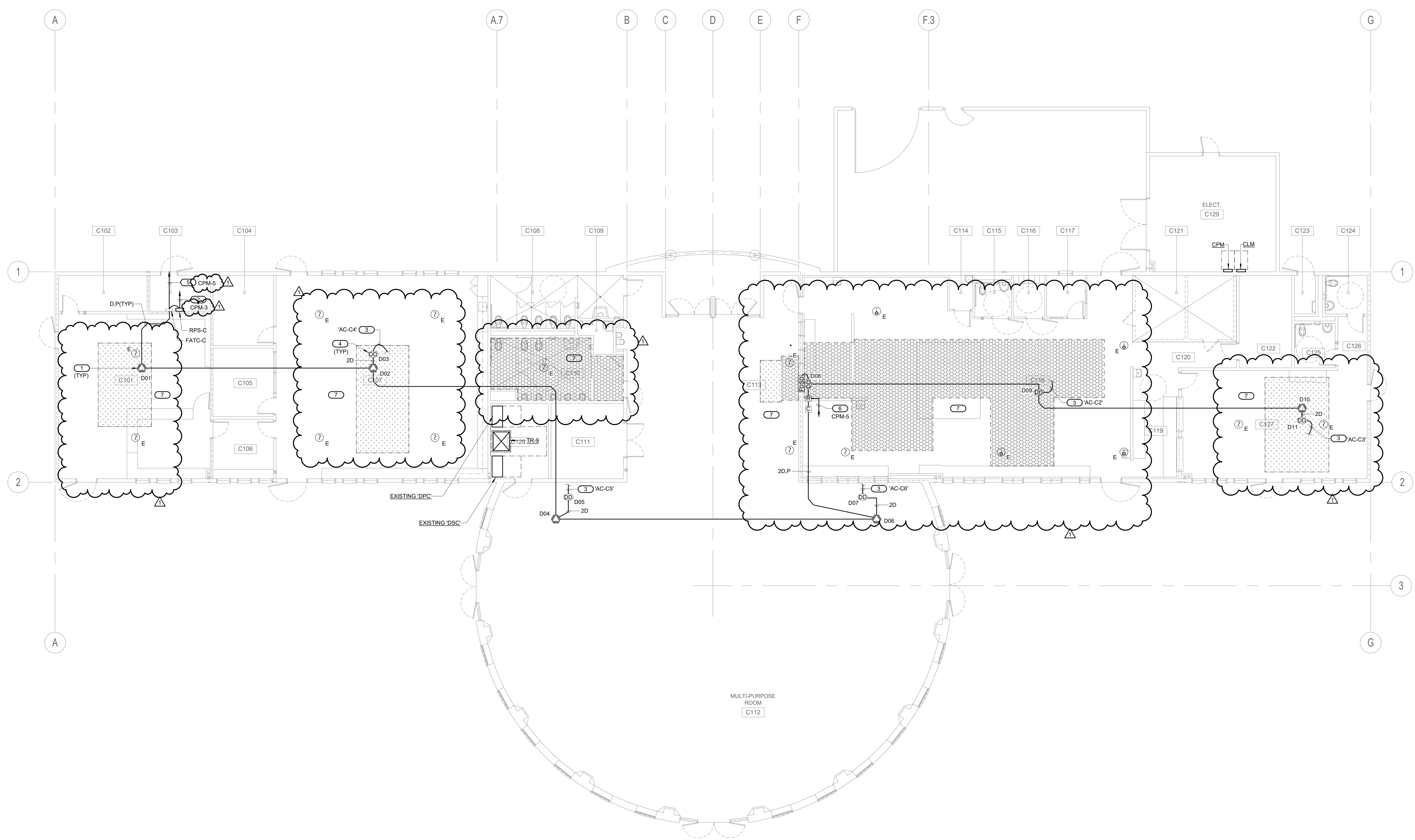
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**BUILDING A REMODEL
 FLOOR PLAN**

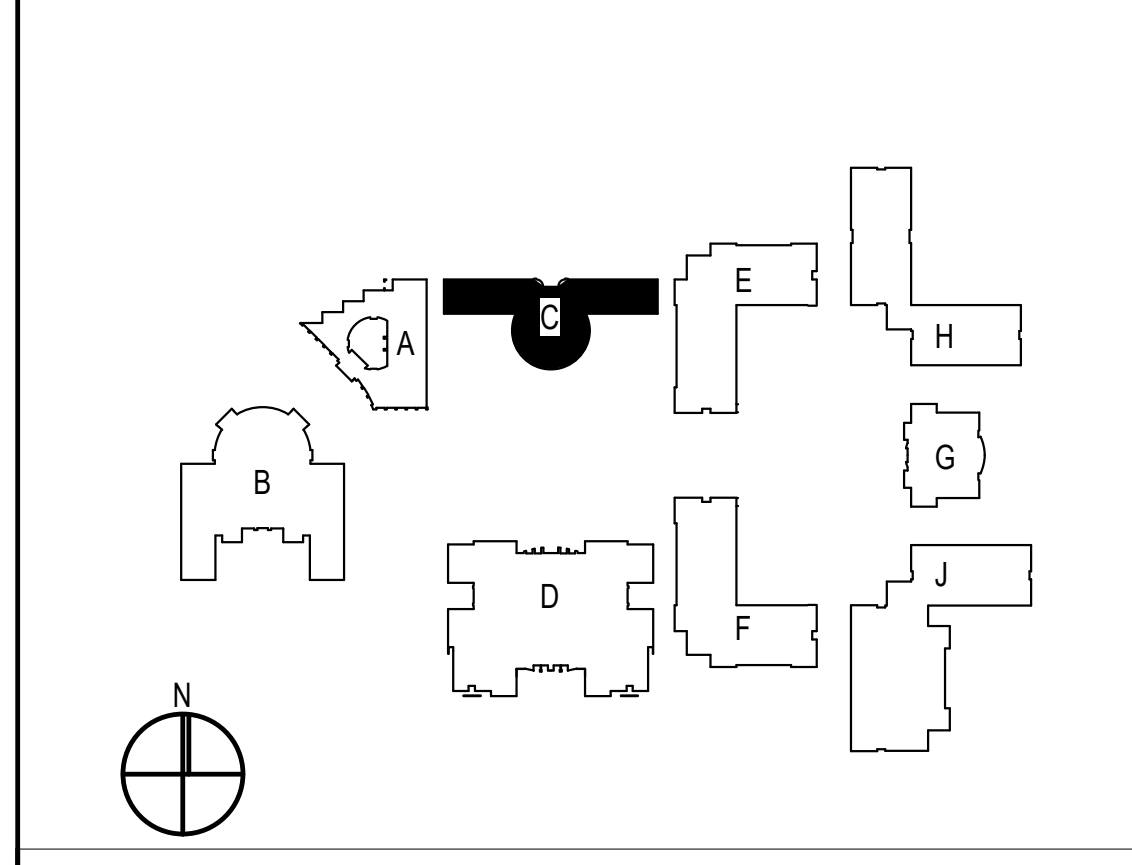
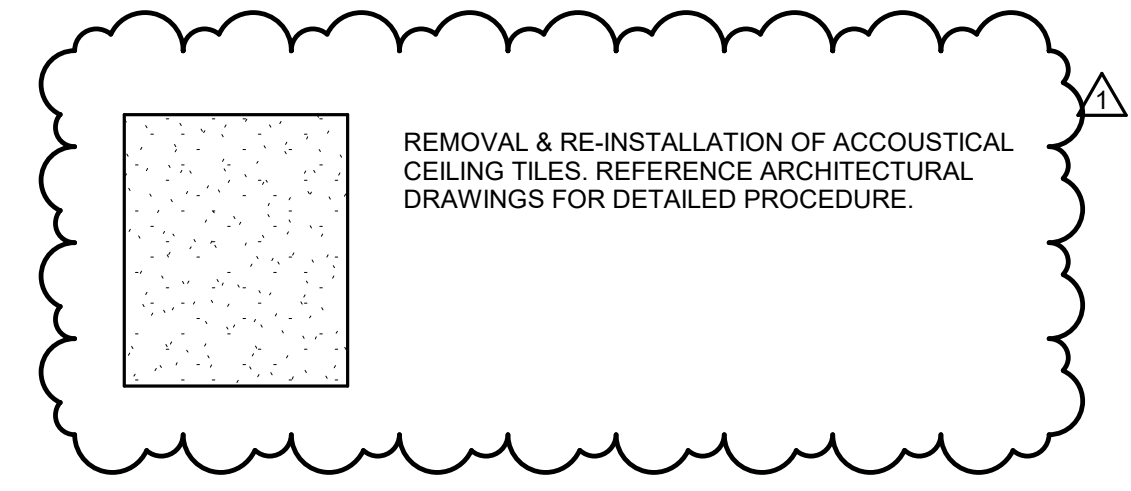
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KEYED NOTES

- PROVIDE NEW UL AND CSFM LISTED, CARBON MONOXIDE DEVICE FOR UNIT WHERE NATURAL GAS BURNING APPLIANCE IS UTILIZED.
- TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM TO CIRCUIT ID."
- REMOVE AND REPLACE IN KIND AS SHOWN. LOCATED IN THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
- TO (M) FACP LOCATED IN THE ADMIN BUILDING VIA FACP.
- RUN TO DEDICATED 120V CIRCUIT FOR FIRE SMOKE DAMPER VIA RELAY MODULE FOR DAMPER CLOSURE. LABEL RED TO CIRCUIT ID.
- FIRE ALARM DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.



BUILDING C REMODEL FIRST FLOOR PLAN - FIRE ALARM 1/8" = 1'-0" 1

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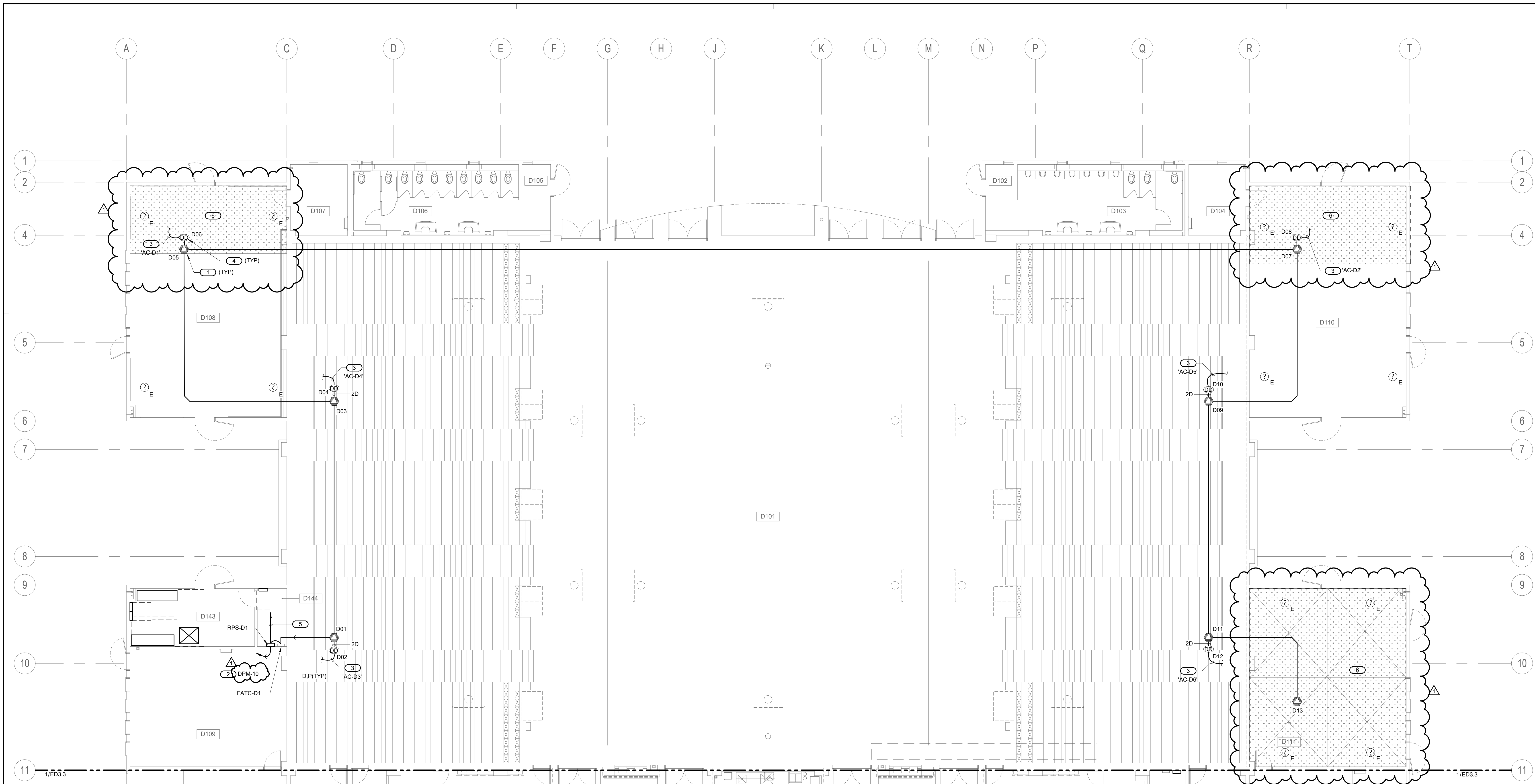
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**BUILDING C REMODEL
 FIRST FLOOR PLAN**

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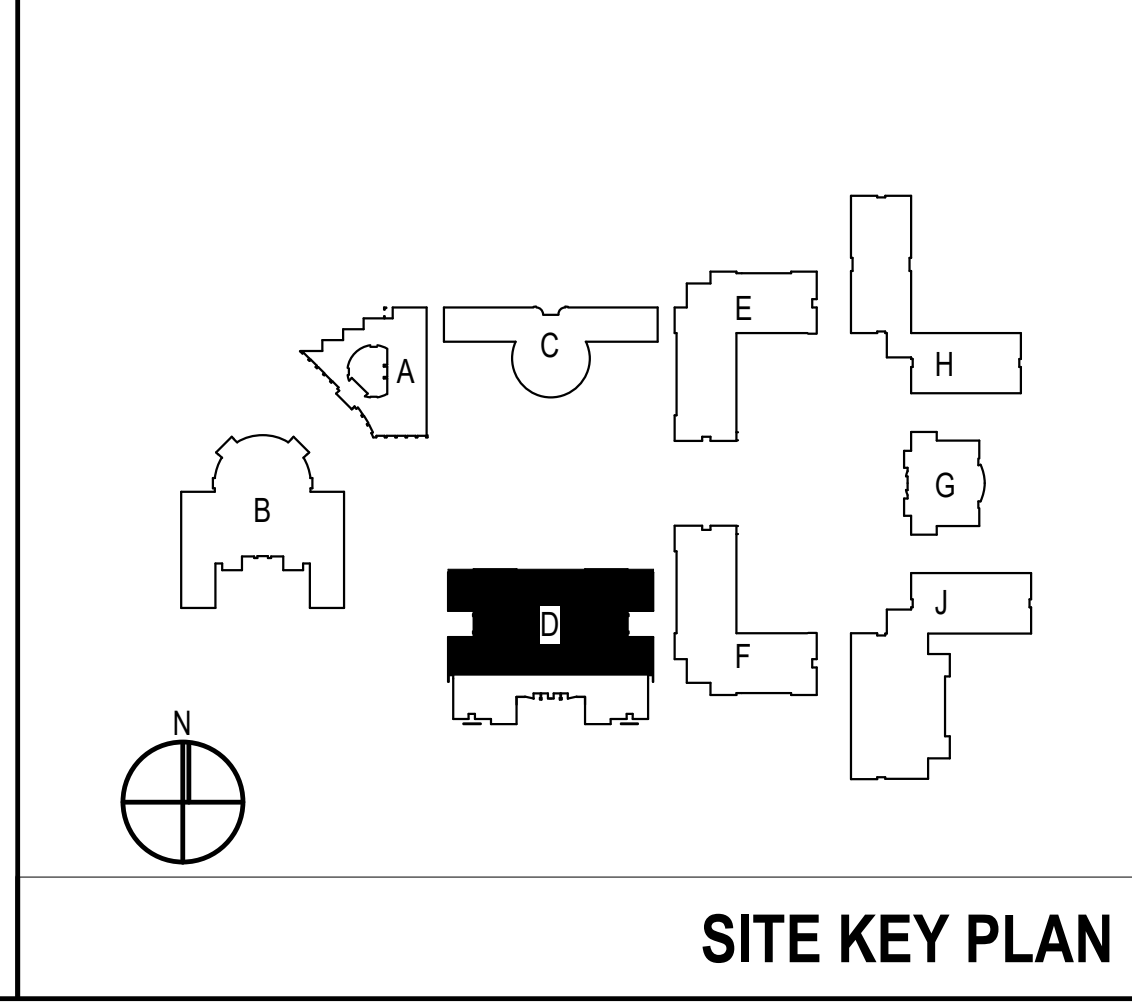
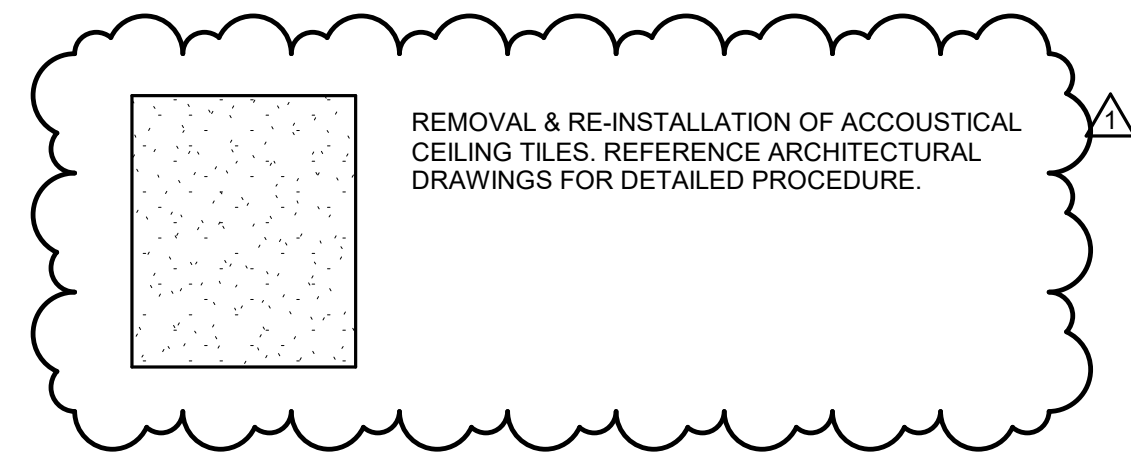
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**BUILDING D REMODEL
 FLOOR PLAN - AREA 1**

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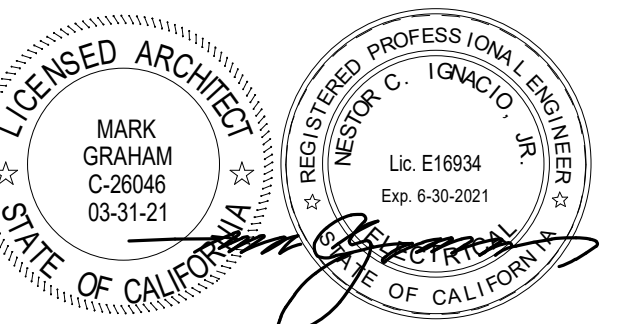
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- KEYED NOTES**
- PROVIDE NEW UL AND CSFM LISTED, CARBON MONOXIDE DEVICE FOR UNIT WHERE NATURAL GAS BURNING APPLIANCE IS UTILIZED.
 - TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING FIRE ALARM TO CIRCUIT ID.
 - TO HVAC UNIT FOR SHUT-DOWN.
 - REMOVE AND RE-INSTALL FIRE ALARM DEVICE FROM THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
 - REMOVE FIRE ALARM DEVICES FROM ACoustICAL CEILING.
 - FIRE ALARM DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACoustICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACoustICAL CEILING.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACoustICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.

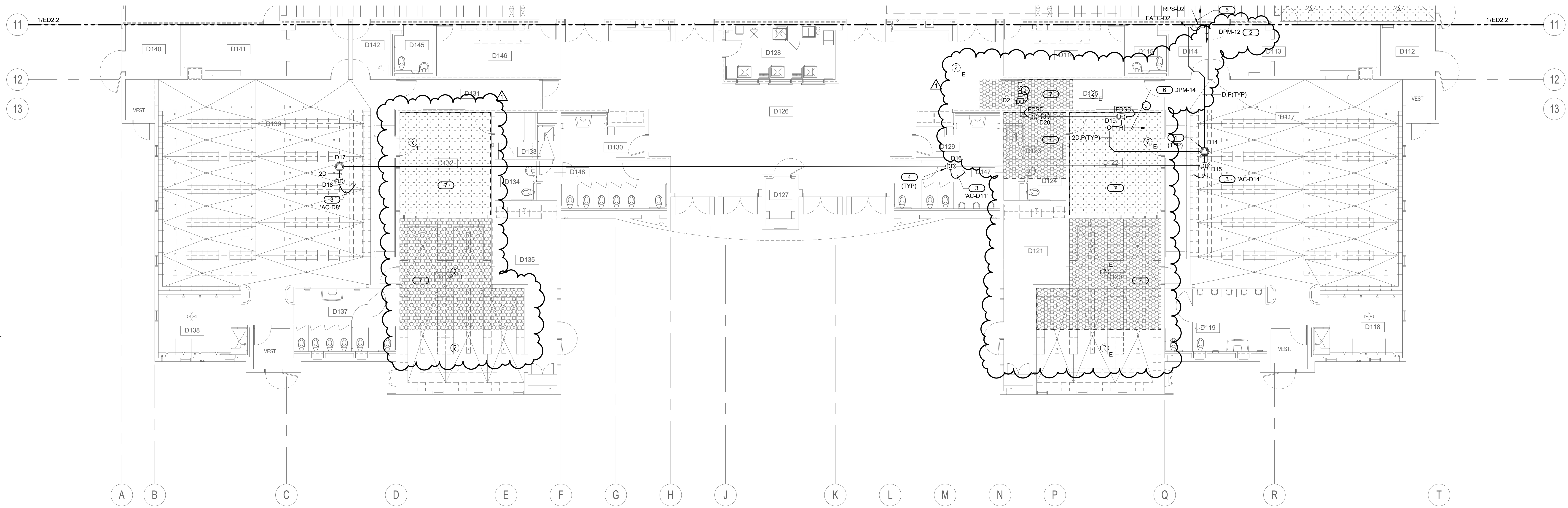


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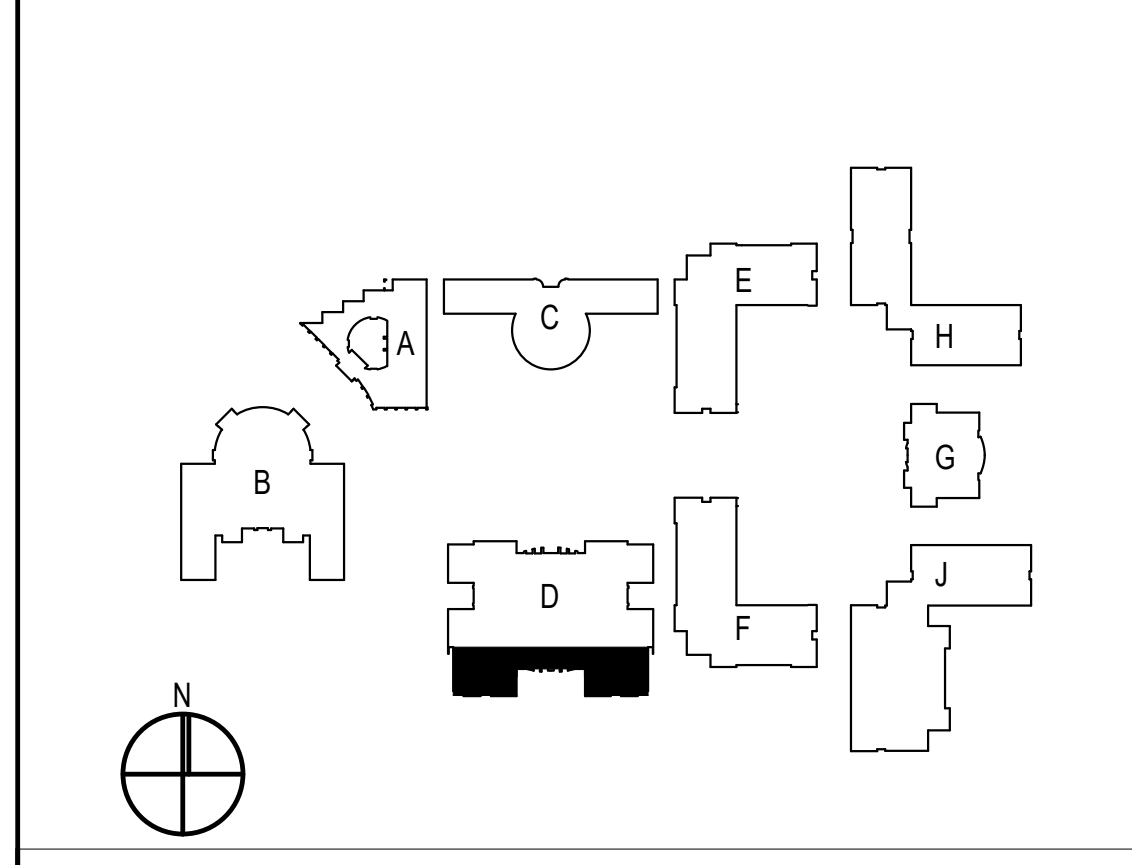
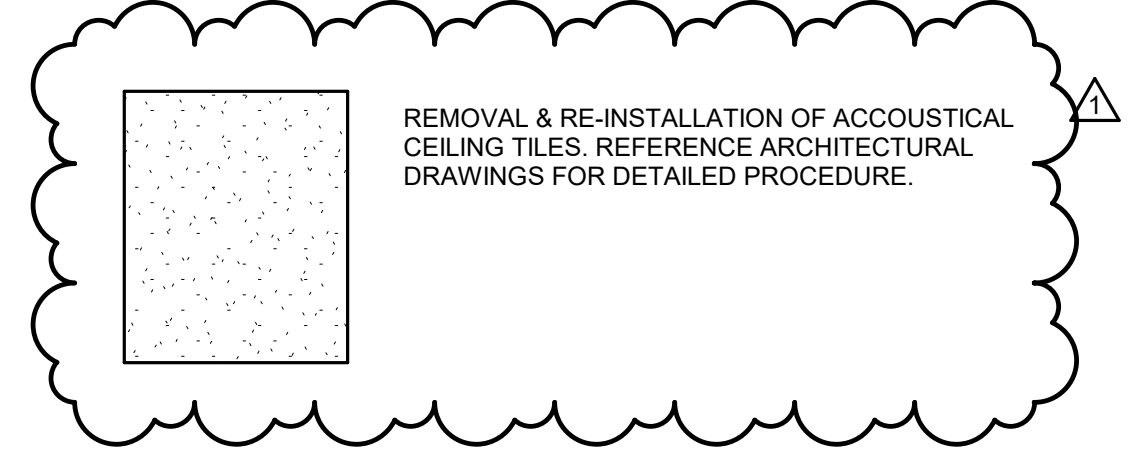
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BUILDING D REMODEL FLOOR PLAN - AREA 2 - FA 1/8" = 1'-0" 1

KEYED NOTES

1. PROVIDE NEW UL AND CSFM LISTED, CARBON MONOXIDE DEVICE FOR UNIT WHERE NATURAL GAS BURNING APPLIANCE IS UTILIZED.
2. TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM TO CIRCUIT ID."
3. TO HVAC UNIT FOR SHUT-DOWN.
4. REMOVE AND REPLACE IN KIND AS SHOWN. LOCATED IN THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
5. (N) FACP LOCATED IN THE ADMIN BUILDING W/ FATS.
6. RUN TO DEDICATED 120V CIRCUIT FOR FIRE SMOKE DAMPER VIA RELAY MODULE FOR DAMPER CLOSURE. LABEL RED TO CIRCUIT ID.
7. FIRE ALARM DEVICE AFFECTED DURING REMOVAL-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
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SITE KEY PLAN

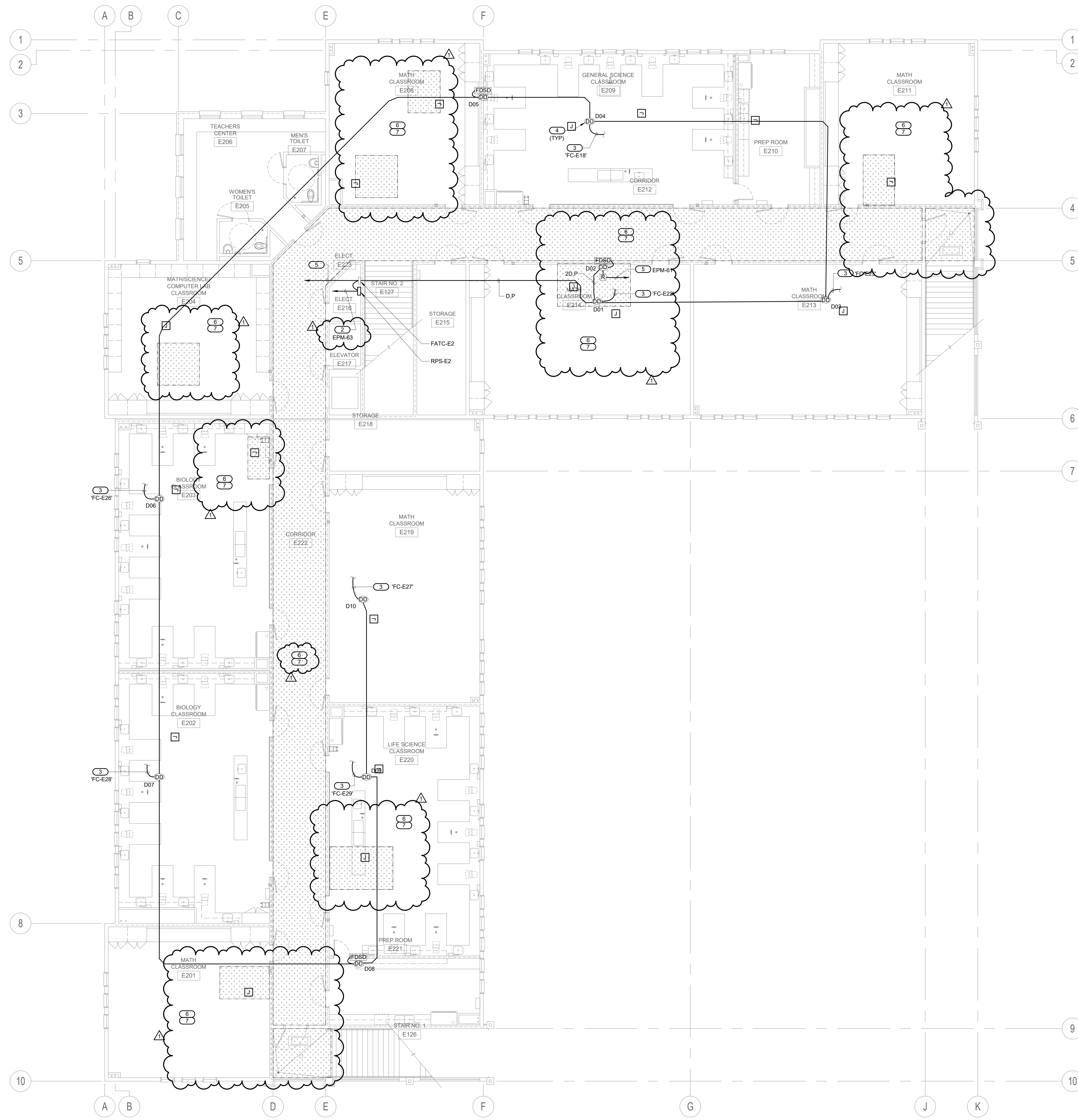
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BUILDING D REMODEL FLOOR PLAN - AREA 2

DRAWING NUMBER: **FAD2.2**

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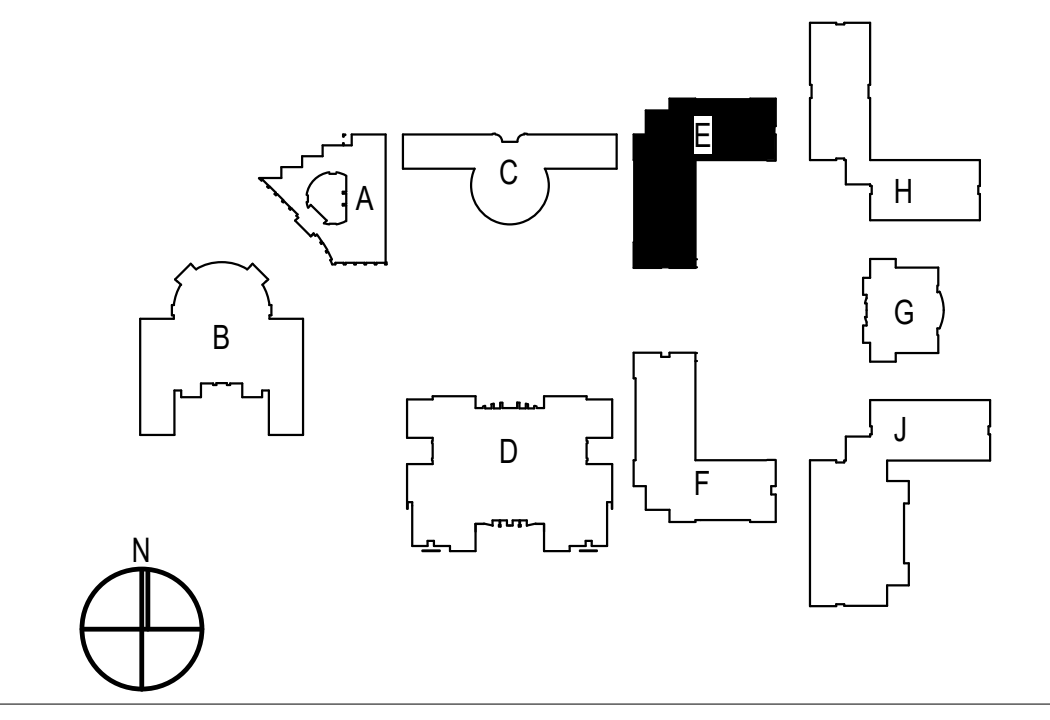


KEYED NOTES

- TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM" TO CIRCUIT ID.
- TO HVAC UNIT FOR SHUT-DOWN.
- REMOVE AND RE-PLACE (AND AS SHOWN) LOCATING THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
- NO GAS BURNING HVAC UNIT IN THIS BUILDING. CO DETECTOR NOT REQUIRED.
- RUN TO DEDICATED 120V CIRCUIT FOR FIRE SMOKE DAMPER VIA RING MAIN FOR WALKER IN CORRIDOR. LABEL EACH CONDUIT ID.
- FIRE ALARM DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (1-BAR HANGER, 4S BOX, & 4S RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON-AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
 - RE-INSTALL DEVICE ALONG WITH MOUNTING EQUIPMENT BACK ON EXISTING ACOUSTICAL CEILING.
 - PROPER RE-INSTALLATION OF DEVICE SHALL BE PERFORMED AND DEVICE SHALL BE FULLY OPERABLE.
- PROCEED WITH THE FOLLOWING INDICATIONS PRIOR MECHANICAL EQUIPMENT INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS FOR IDENTIFICATION OF CONFLICTING CONDUITS. INTERCEPT CONFLICTING CONDUIT AND REROUTE. PROVIDE A JUNCTION BOX ON EACH END OF CONDUIT TO BE REROUTED. EACH JUNCTION BOX AND CONDUIT SHALL BE PROPERLY INSTALLED AND STRAPPED TO BUILDING INFRASTRUCTURE.
 - FOR FIRE ALARM CONDUIT PROVIDE NEW FIRE ALARM CABLES FROM THE NEAREST TERMINAL STRIP OR DEVICE WITH LANDING TERMINAL.

NO GAS BURNING HVAC UNIT IN THIS BUILDING. CO DETECTOR NOT REQUIRED.

REMOVAL & RE-INSTALLATION OF ACOUSTICAL CEILING TILES. REFERENCE ARCHITECTURAL DRAWINGS FOR DETAILED PROCEDURE.



SITE KEY PLAN

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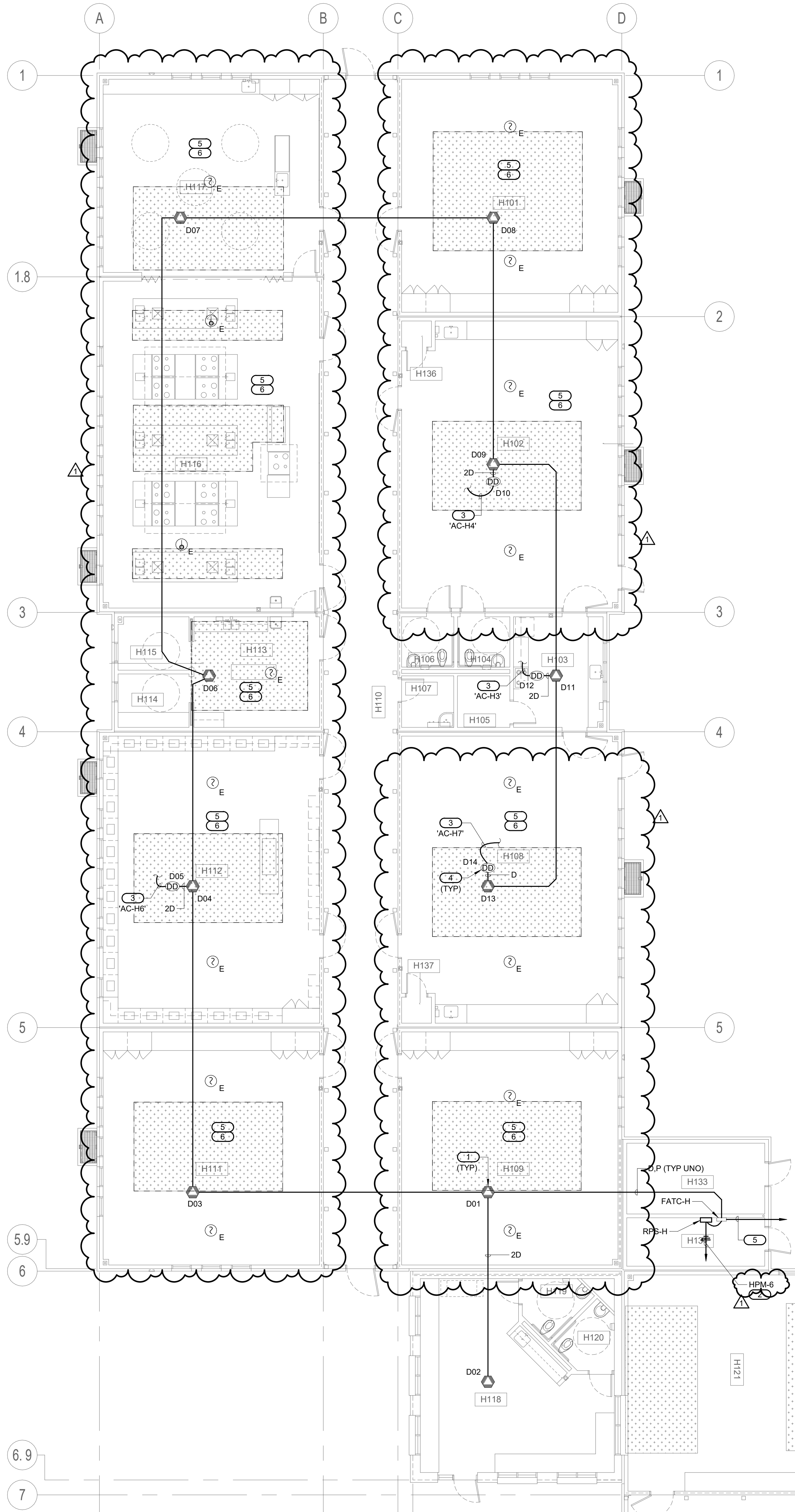
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1	08/25/20	ADDENDUM 1	
NO	DATE	BY	DESCRIPTION
REVISIONS			

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DATE: Issue Date	SCALE: As indicated
PROJECT NUMBER: Project Number	

**BUILDING E REMODEL
 SECOND FLOOR PLAN**

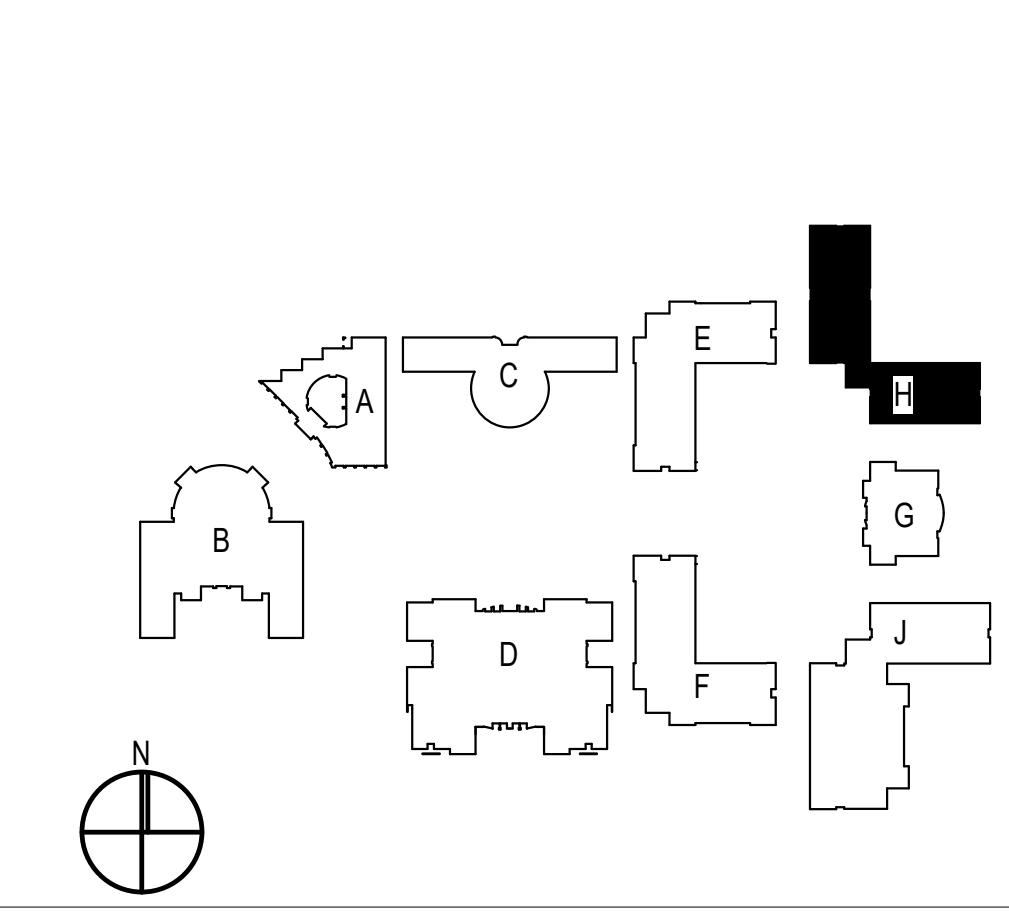
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KEYED NOTES

1. TO DEDICATED 120V CIRCUIT POWER SOURCE. PROVIDE "LOCK-ON" DEVICE TO BREAKER AND RED LABEL, INDICATING "FIRE ALARM" TO CIRCUIT ID.
2. TO HVAC UNIT FOR SHUT-DOWN.
3. REMOVE AND REPLACE IN KIND AS SHOWN. LOCATED IN THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
4. TO (N) FACP LOCATED IN THE ADMIN BUILDING VIA FATC.
5. FIRE ALARM DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, AS BOX, & AS RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON-AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
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6. PROCEED WITH THE FOLLOWING INDICATIONS PRIOR MECHANICAL EQUIPMENT INSTALLATION. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS FOR IDENTIFICATION OF CONFLICTING CONDUITS. INTERCEPT CONFLICTING CONDUIT AND REROUTE. PROVIDE A JUNCTION BOX ON EACH END OF CONDUIT TO BE REROUTED. EACH JUNCTION BOX AND CONDUIT SHALL BE PROPERLY INSTALLED AND STRAPPED TO BUILDING INFRASTRUCTURE.
 - FOR FIRE ALARM CONDUIT PROVIDE NEW FIRE ALARM CABLES FROM THE NEAREST TERMINAL STRIP OR DEVICE WITH LANDING TERMINAL.

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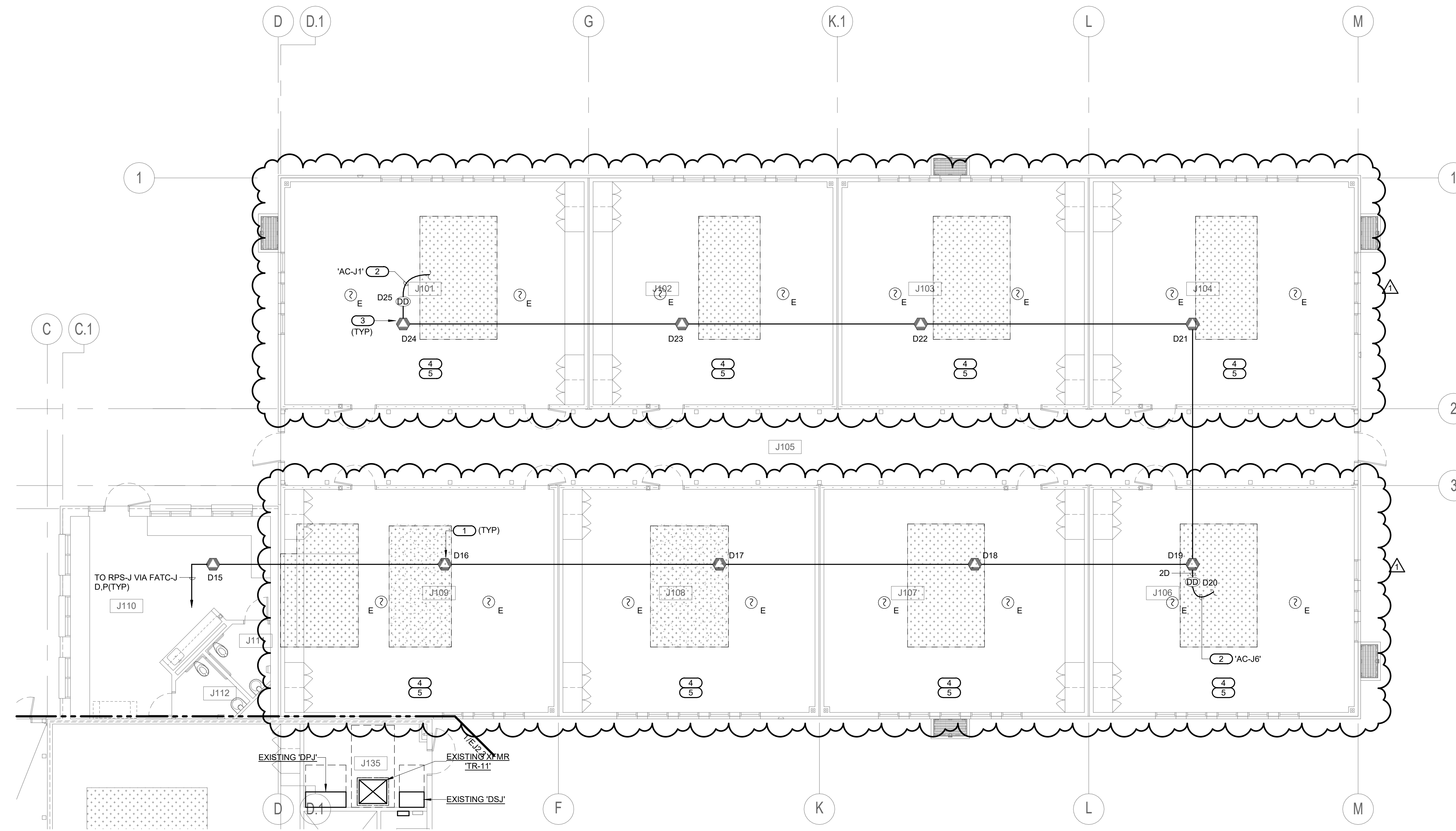
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**BUILDING H REMODEL
 FLOOR PLAN - AREA 1**

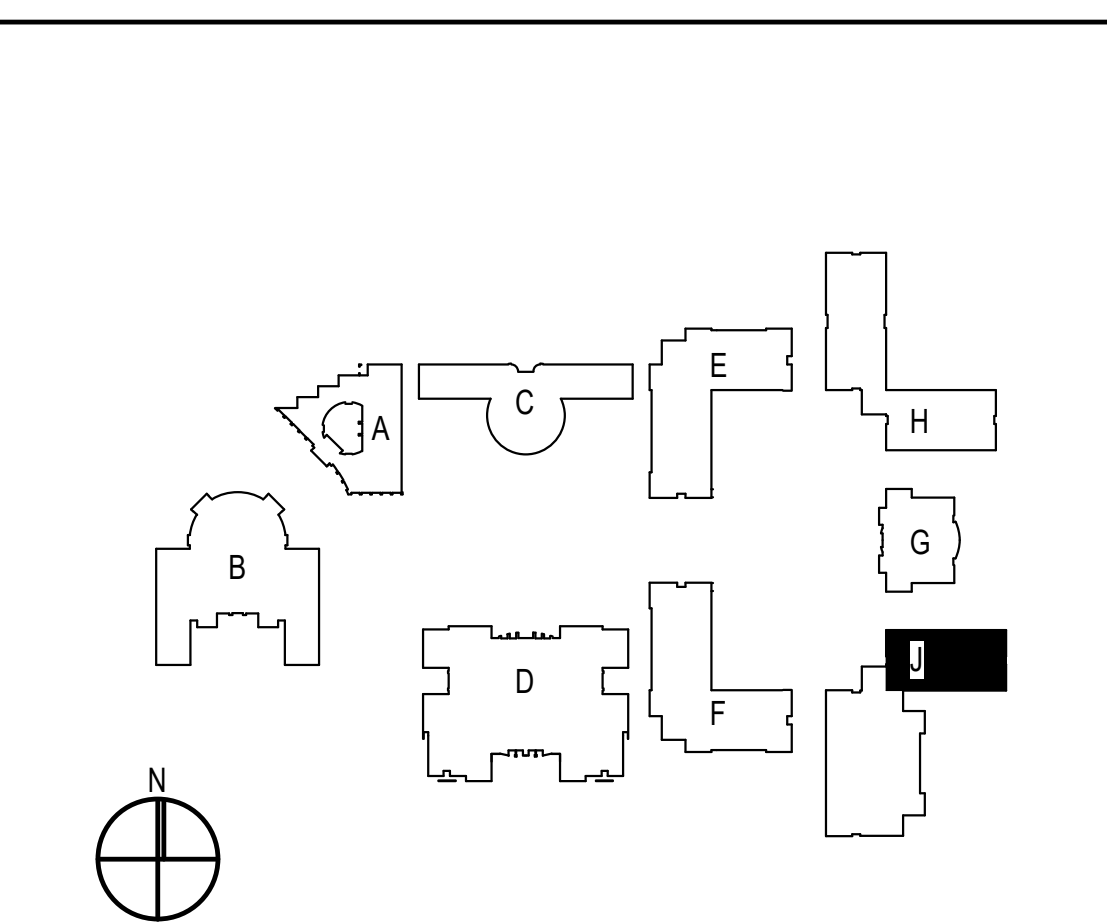
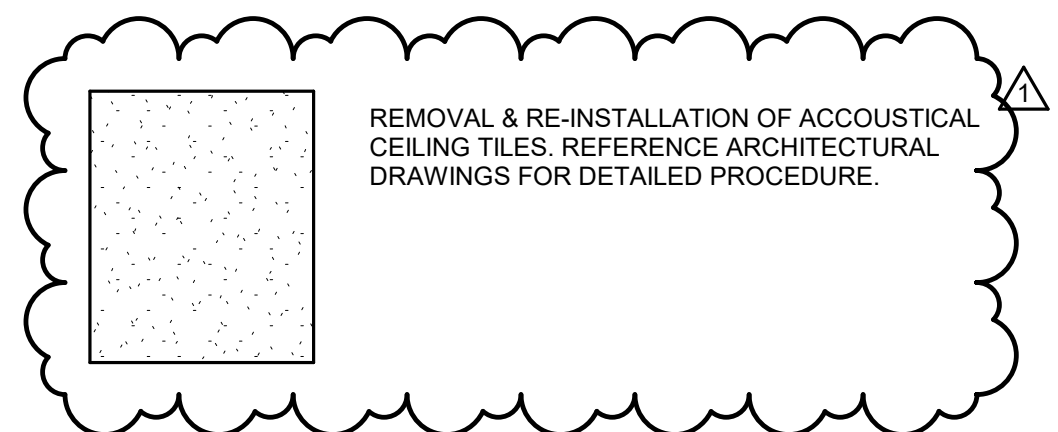
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KEYED NOTES

1. PROVIDE NEW UL AND CSFM LISTED, CARBON MONOXIDE DEVICE FOR UNIT WHERE NATURAL GAS BURNING APPLIANCE IS UTILIZED.
2. TO HVAC UNIT FOR SHUT-DOWN.
3. REMOVE AND REPLACE IN KIND AS SHOWN, LOCATED IN THE SUPPLY DUCT OF HVAC UNIT. DISCONNECT (E) WIRE LOOP FROM THE REMOVED DEVICE AND REPROGRAM (E) FACP DUE TO REMOVAL OF EXISTING DEVICES.
4. FIRE ALARM DEVICE AFFECTED DURING REMOVAL/RE-INSTALLATION OF ACOUSTICAL CEILING.
 - REMOVE FIRE DEVICES FROM ACOUSTICAL CEILING TILE.
 - IDENTIFY DEVICE (NO PERMANENT MARKINGS) AND IDENTIFY MOUNTING EQUIPMENT (T-BAR HANGER, 45 BOX, & 45 RING/COVER) FOR RE-INSTALLATION PURPOSES.
 - KEEP FIRE ALARM CABLE(S) ON JUNCTION BOX AND SUPPORT MOUNTING EQUIPMENT ON NON AFFECTED AREA IN ORDER TO MAINTAIN WORKING CLEARANCE DURING CONSTRUCTION.
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1	08/25/20	Addendum 1
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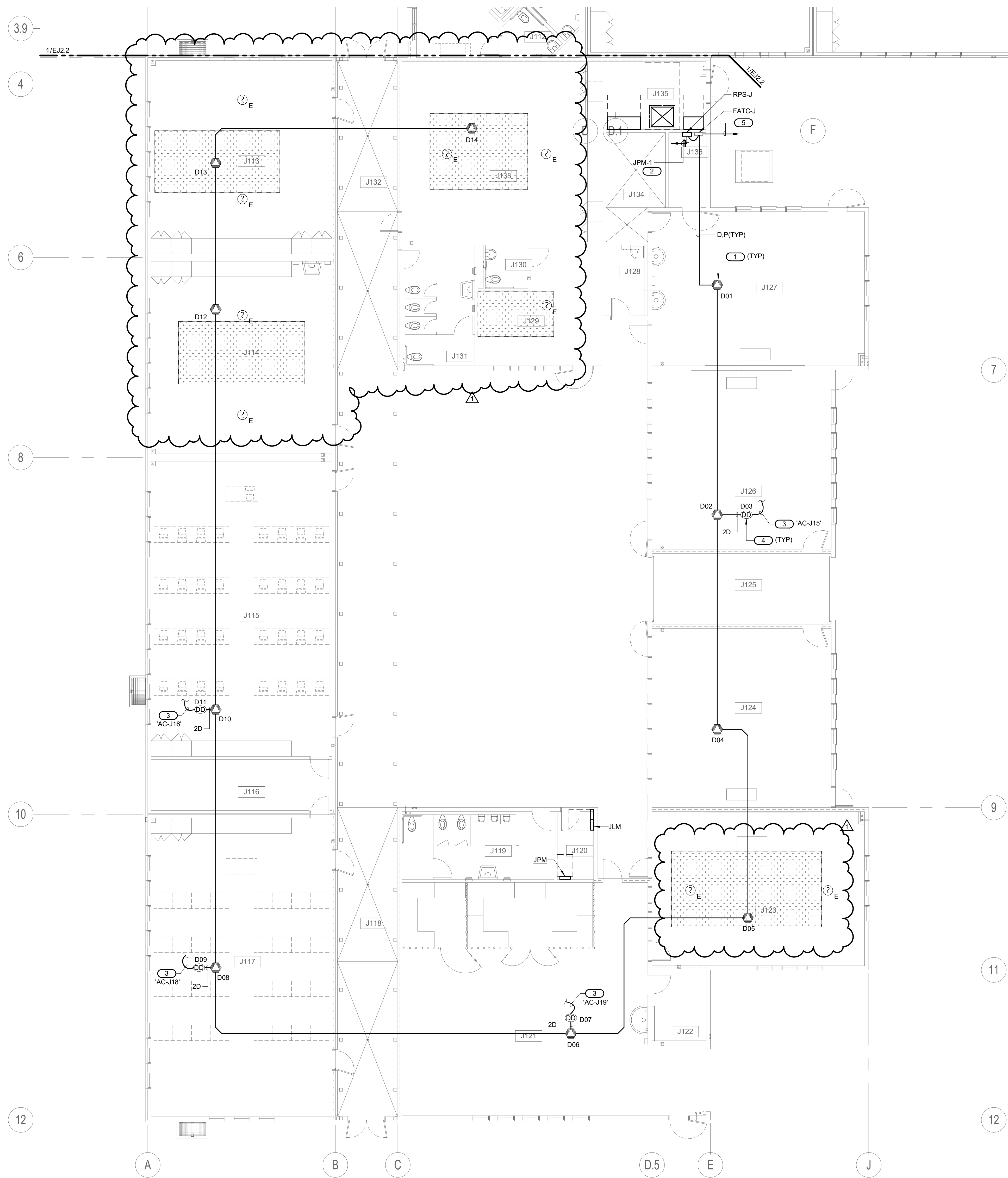
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**BUILDING J REMODEL
 FLOOR PLAN - AREA A**

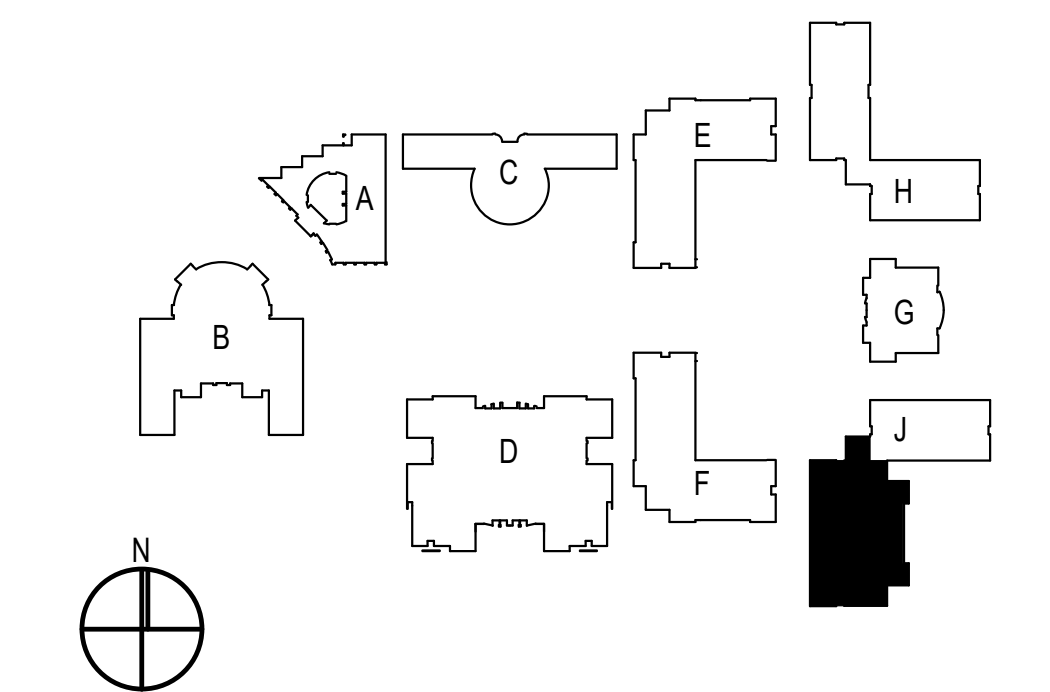
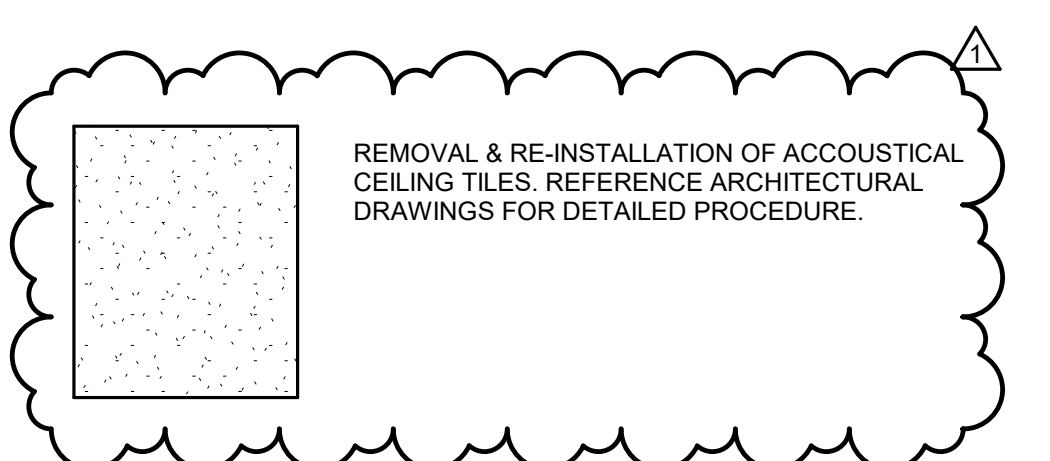
DRAWING NUMBER: **FAJ2.1**

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KEYED NOTES

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**BUILDING J REMODEL
 FLOOR PLAN - AREA B**

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