Detailed Audiovisual System Package for Orange and Rockland Utilities Spring Valley Operations Center New Office

Documentation Release

Sales Representative: Riley Swing

Design Engineer: John Kessler

Version 1.0 - 2/19/2025

Pursuant to the Statement of Work attached herein the following preliminary documentation will provide a starting point for further design details (See preliminary drawing sets also)

Preliminary drawing sets show required infrastructure, electrical, and data requirements for AV
The IVCi design team requires DWG or DXF drawing files
Further discussion around Test Room architecture and all requirements must be scheduled along with requirements for President's Office, other Executive Offices, and Custom Conference Room/s

Confirm Con Edison has designated Matt Reyes as Con Edison contact to IVCi(?)

Preliminary Medium Conference Equipment

Quantity	Manufacturer	Part Number	Description
1	C2G	C2G10454	6ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
1	C2G	CG54172	3m USB 3.0 AM-AM CBL BLK
2	C2G	C2G10455	10ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
1	C2G	C2G10454	6ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
2	Chief	TS525TU	Large THINSTALL Dual Swing Arm Wall Display Mount
1	Crestron	HD-TXU-4KZ-211-CHGR	DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable with Device Charging
1	Crestron	HD-RXU-4KZ-101-E	DM® Essentials 4K60 4:4:4 Receiver for HDMI®, USB 2.0, and Ethernet Signal Extension over CATx Cable
1	HP Poly	A4MA7AA#ABA	Poly X72 AVB wTC10K US/CA
1	IVCi	IVCi CMP	Cabling and Miscellaneous Parts
1	Lightware	13740032	Superspeed Type-A to USB Type-C cable 2m long USB3.1 Gen1 5Gbps
1	Lightware	13740032	Superspeed Type-A to USB Type-C cable 2m long USB3.1 Gen1 5Gbps
1	Middle Atlantic	PDX-215C-SP	15A 2 OUT SERIES SURGE COMPACT
2	Sony	FW75BZ30L	75" 3840x2160 4K 440nit,24/7 display
2	Windy City	IVCI-DISPLAY-MT-KIT	Display Mounting Kit

Preliminary Large Conference Equipment

Quantity	Manufacturer	Part Number	Description
2	Sony	FW85BZ30L	85" 3840x2160 4K 440nit,24/7 display
2	Chief	PAC501B	LFP in Wall
2	Chief	PNRIWUB	PNRIW with PSBUB
2	C2G	C2G10455	10ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
2	Crestron	HD-RXC-4KZ-101	DM® Essentials 4K60 4:4:4 Receiver for HDMI®, RS-232, and IR Signal Extension over CATx Cable
2	Middle Atlantic	PDX-215C-SP	15A 2 OUT SERIES SURGE COMPACT
2	Shure	MXA910W-S	Ceiling Array Microphone, Square, White, 24 inch
2	Shure Inc.	MXWANI8	Shure - 8 Channel Audio Network Interface
1	QSC	CORE 110f-v1	Unified Core with 24 local audio I/O channels, 128x128 total network I/O channels with 8x8 Software-based Dante license included, USB AV bridging, dual LAN ports, POTS and VoIP telephony, no GPIO, 16 next-generation AEC processors, 1RU.
1	Netgear	NG-GS516TP	IT Network Switch
1	Crestron	AMP-X1200	X-Series Amplifier, 200 W
10	SoundTube	CM82-EZ-II-WH	8" 2-way In Ceiling Speaker in White

Quantity	Manufacturer	Part Number	Description
1	Crestron	HD-TXU-4KZ-211-CHGR	DM® Essentials 4K60 4:4:4 Transmitter and 2x1 Auto-Switcher for HDMI®, USB-C® DisplayPort™, and USB 2.0 Signal Extension over CATx Cable with Device Charging
1	Crestron	HD-RXU-4KZ-101-E	DM® Essentials 4K60 4:4:4 Receiver for HDMI® and USB 2.0 Signal Extension over CAT6 Cable, Black
1	C2G	C2G10455	10ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
1	C2G	CG54172	3m USB 3.0 AM-AM CBL BLK
1	Lightware	13740033	Superspeed Type-A to USB Type-C cable 3m long USB3.1 Gen1 5Gbps
1	HP Poly	83Z50AA#ABA	Poly G7500 VCS US/CA
1	HP Poly	875J5AA#AC3	Poly TC10 WHT
2	Crestron	HD-TXC-4KZ-101	DM® Essentials 4K60 4:4:4 Transmitter for HDMI®, RS-232, and IR Signal Extension over CATx Cable
3	C2G	C2G10454	6ft 8K HDMI Cable with Ethernet - Performance Series Ultra High
1	Lightware	13740032	Superspeed Type-A to USB Type-C cable 2m long USB3.1 Gen1 5Gbps
1	Extron	26-723-06	USB-C® to USB-A 5 Gbps Cable, 6' (1.8 m)
1	HP Poly	9W1A6AA#AC3	Poly E60 SCMR
2	Middle Atlantic	CFR-16-18	16 SPACE,CABINET FRAME RACK,18"DEEP
1	SurgeX	SX-1115-RT	SurgeX 1Ru, 9 Outlet, 15 A, W/Remote
1	IVCi	IVCi RP	Rack Parts
1	IVCi	IVCi CMP	Cabling and Miscellaneous Parts

IVCi, LLC Advanced Technical Services Statement of Work (SOW)

This Statement of Work (SOW) is being entered into and between **IVCi, LLC** and Con Edison**.** The SOW outlined herein defines deliverables which shall be provided by IVCi, LLC. Customer services not specifically indicated in this agreement are outside the scope of this project.

This document, along with any associated appendices, will be deemed the master agreement, and all terms to this agreement are limited to the scope defined within. Additional, separate, SOWs may be attached as addendums to this master document. This SOW shall supersede all other prior written or verbal communication.

Summary

This document, along with any associated appendices, will be deemed the master agreement, and all terms to this agreement are limited to the scope defined within. Additional, separate, SOWs may be attached as addendums to this master document. This SOW shall supersede all other prior written or verbal communication.

Project Scope

Orange and Rockland Utilities Spring Valley Operations Center New Office Addition

Introduction

Orange and Rockland Utilities (ORU) is constructing a new 3-story, ~48,000 square foot office addition to their Spring Valley Operations Center (SVOC). The addition will feature conference rooms, a training room, executive offices, and a boardroom.

Purpose

Create a comprehensive construction package for all audio-visual requirements, which will be incorporated into Architect Engineer (AE) designs before a general construction bid.

Scope of Work

Assessment –

Collaborate with stakeholders to evaluate room requirements, technology expectations, and gather additional information needed for design development such as AE drawings, cut sheets, finishes, lighting, and shading.

Concept
Create concept designs, renderings, schedule, and budget estimates for stakeholder evaluation.

Detailed Design
Create a constructible design package, including construction and schematic drawings, system design and layout, equipment selection and specification, requirements for networking, power, heat loads, racking spaces, as-built requirements, training, and warranty requirements.

IVCi, LLC's Detailed Audiovisual System Design Program starts with a Needs Assessment**/**Information Gathering phase. During this phase, an IVCi Engineer will visit the end user's location and/or via videoconference and meet with personnel to determine the business drivers and end user perceptions regarding the AV of today and goals for the future.

During this phase, IVCi design team will also meet with various technical teams and facilities to determine any environmental or infrastructure constraints that may exist.
Detailed Audiovisual System Design Program will begin utilizing information gathered Along with Rendering Design discussions around executive boardroom direction probe.

List of Rooms in Scope
Per 5593 - O&R New Exec Bldg Schematic Plans 1.29.25

1st Floor

(3) 10 Person Conference Room
(1) 30 Person Training Room

2nd Floor

(2) 20 Person Conference Room
(2) 10 Person Conference Room

3rd Floor

(1) 14 Person Executive Boardroom
(1) 20 Person Conference Room
(2) 10 Person Conference Room
President's Office

Design Phase

Design will incorporate all audiovisual requirements for visual conferencing technologies and

collaboration technologies.

All aspects of room design discussed during information gathering meetings along with recent systems formats utilized in the Edison Room will be incorporated.

- Infrastructure and power requirements related to audio, video, VTC, and control components

The project will follow a 4-phase approach:

1. Assessment Phase
   - ➢ Review workflow, room experience and technology expectations
2. Concept Design Phase
   - ➢ Room study

3 Engineering Phase
   - ➢ Development of Systems interconnectivity, technical review

4. Drawing Phase
   - ➢ Design Development through to Construction Drawings

Milestones

Detailed Design will include but not limited to Audio, Video, Control, Collaboration Technology, IT requirements, Table Technologies, Furniture Requirements and Infrastructure Requirements

Dates are estimated and subject to change. Schedule will be updated as part of project management.

Milestone Number	Milestone Name	Milestone Deliverable Description	Date Due
Design I	Concept Development	Facility plan concepts for audio visual technology, locations and provisions. Information discovery	7 days
Design II	Facilities Plans	Drawing Development release of facilities coordination sketches per approved concept, initial heat estimates and electrical requirements.	14 days
Design III	Systems Design	Detailed Design of systems integration, including switching scaling, source allocation	21 days
Design IV	System Flow Diagram 90%	Drawing Development release of system flow design showing interconnects of all rack and room equipment	28 days
Design V	Kit of Parts	Generation of a Bill of materials with BTU and costing information	30 days
Design VI	Construction Document Set	CD revisions and adjustments	35 days

Project Completion

IVCi, LLC and SunEdison will finalize deliverables and achieve acceptance by:

- Completion of all service tasks and IVCi, LLC responsibilities listed above.
- In coordination with the IVCi, LLC project manager and the customer, obtain work order sign-off signature from Con Edison.
- After onsite visit, handoff of *16th Floor Boardroom Detailed Audiovisual System Design documents and construction drawings* to customer designated contact.

IVCi, LLC Responsibilities

- Provide one (1) remote resources for con Edison location, as defined in *Appendix A.*
- Obtain site location contact information, hours of operation, and special site accommodations including, but not limited to, special security entitlements.

Con Edison System Responsibilities

- Assign appropriate personnel to receive documentation and materials provided by IVCI, LLC.
- Provide an authorized point of contact for signature and receipt of work order fulfillment document.
- Con Edison shall have five (5) business days from receipt to review and accept/reject in writing the validation documentation provided by IVCi, LLC. ○ If Con Edison does not provide such written notice prior to the end of the five (5) business day review period, such deliverable shall be deemed complete and project accepted.
- Provide access to all required personnel (management, technical, and end users) for on-site interviews.

Assumptions

This Statement of Work and associated appendices were prepared based, in part, on the following assumptions. The Parties agree that any changes in the assumptions may result in adjustment of the overall length and level of effort regarding the project. As a consequence, overall pricing to the customer may be affected. Any modifications shall be managed by the change controls described in this statement.

- This SOW defines exclusively the scope of the services that IVCi, LLC shall provide to Con Edison .
- Purchase, maintenance or support, beyond what is defined herein, of any product shall not be covered under this document.
- In the event IVCi, LLC is required to provide third party materials under this SOW, then the customer shall be responsible for any maintenance and/or warranty obligations related to those items.
- A delay in obtaining a signed SOW may cause a delay in the project schedule.
- IVCi, LLC will require a schedule extension of up to 30 days for any personnel change requests made by the customer.
- Designated IVCi, LLC PM hours are to be performed as a remote service only. If onsite PM visit is required, then on-site rates will be billed accordingly.
- Con Edison expressly understands and agrees that the services shall take place and complete within ninety (90) calendar days from issuing a purchase order (PO).
- Unless otherwise stated, all documentation will be provided to customer in Adobe Acrobat format (.PDF).
- In the event of changes, the customer will inform IVCi, LLC in writing of the requested change. If equipment change leads to service requirements with a different level of effort then IVCi, LLC will adjust pricing as necessary and submit it to the customer. Upon signed receipt and approval of pricing change by customer, an addendum will be made to this SOW reflecting service changes.
- The services and pricing provided hereunder, unless otherwise noted, shall be performed during "normal business hours", defined as, Monday through Friday 8:30 a.m. to 5:30 p.m., local time, excluding designated IVCi, LLC holidays. Non-union labor is assumed, unless specifically stated otherwise.

Services not covered under this SOW

- The following items are not within our scope of work for this project:
  - General or specialty lighting, architectural acoustics, computer networks, telephone PBX systems, and security/access control systems; including closed-circuit television systems.
  - While specifically excluding these items from our scope, we recognize and fully anticipate detailed coordination on many of these topics as today's Audio-Visual System both interface with and control many of these other sub-systems. Support or replacement of product that is altered, modified, mishandled, destroyed or damaged by natural causes or damaged due to a negligent or willful act or omission by the customer or a third party contracted by the customer.
  - Services to resolve any issues arising from customer contractors, service providers or problems beyond IVCi, LLC's control.
  - Service or configuration which lies outside of vendor or IVCi support model.

Appendix A

A.1 Customer Location(s)

Customer Locations	Notes
Orange and Rockland Utilities 390 West Route 59, Spring Valley, NY 10977	Each visit consists of no more than one business day**.**

Contractor Point of Origin

IVCi
601 Old Willets Path #100
Hauppauge, NY
11788

If additional visits are required other than provided in this Contract, Con Edison shall reimburse Contractor for the actual documented cost incurred by Contractor for transportation to and from Point of Origin and the Services location and any other required travel pre-approved by Con Edison . Unless previously agreed in writing by Con Edison Representative, the cost of air transportation travel shall not exceed the lowest available economy class fare by the most direct route to the Area of Operations from the Point of Origin (or another place pre-approved by Con Edison Representative). Contractor shall not be compensated for the time spent travelling to the Services location from personnel residences or from any other Point of Origin

A.2 Terms and Conditions

1. Room Drawings

IVCi requires electronic room drawings to assure proper implementation and documentation for installation and support of your audio visual system. Acceptable formats include AUTOCAD or Microsoft Visio that are drawn to scale. All other formats must be approved by IVCi Engineering. If these room drawings are not provided IVCi can produce room drawings billed at IVCi On-Site Engineer and CAD work rates.

2. Acceptance of Deliverables

Upon distribution, Con Edison shall have five (5) business days from receipt to review and accept/reject in writing the validation documentation provided by IVCi, LLC.

If Con Edison does not provide such written notice prior to the end of the five (5) business day review period, such deliverable shall be deemed complete and accepted.

3. Termination

Either party may terminate this agreement at any time by written notice of the other. Such notice is effective upon receipt. In the event of such termination, IVCi will be paid in accordance with this agreement for the services rendered prior to the effective date of notice of termination.

4. General

This agreement constitutes the entire agreement between parties with respect to the subject matter hereof and supersedes all prior agreements, whether oral or written, between parties with respect to such subject matter. This agreement may only be modified by written agreement of UBM and IVCi and is binding upon their respective successors and assigns. This contract is governed by the laws of the State of New York.

A.3 IVCi's Standard Labor Rates

Senior Design Engineer	$ 150 / hr.
Systems Design Engineer	$ 150 / hr.
Crestron Programmer On-Site	$ 150 / hr.
Crestron Programmer Off-Site	$ 150 / hr.
Project Manager	$ 175 / hr.
On Site Training	$ 125 / hr.
Video Conference Training	$ 100 / hr.
On Site Technician	$ 150 / hr.
Fabrication	$ 100 / hr.
CAD Drafting	$ 100 / hr.

AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION ✦ = NOT ISSUED ⊘ = DELETED

	DRAWING #	DESCRIPTION	ROOM	NO.	1	2	3	4	5	6	7	8	9	10
				ISSUE	PRELIMINARY									
				DATE	03-27-26									
1	AV.CO	Audiovisual Coversheet	Large Conference	●										
2	AV.CO	Audiovisual Drawing Log	Large Conference	●										
3	AV.CO	Scope of Responsibilities	Large Conference	●										
4	AV.201.00	Audiovisual Facility Plans and Elevations	Large Conference	●										
5	AV.301.00	Audiovisual Electrical Plans and Elevations	Large Conference	●										
6	AV.302.00	Audiovisual Electrical Riser Diagram	Large Conference	●										
7	AV.401.00	Audiovisual Flow Diagram	Large Conference	✦										
8	AV.402.00	Audiovisual Flow Diagram	Large Conference	✦										
9	AV.501.00	Audiovisual Details	Large Conference	●										
10	AV.502.00	Audiovisual Details	Large Conference	●										
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AUDIOVISUAL NOTES

AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to IVCi for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by IVCi, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to IVCi AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
E.Q. - Equal Distant

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9.
The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher:
while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred.
Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting.
Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas.
Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

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1	PRELIMINARY	3-31-25	JK
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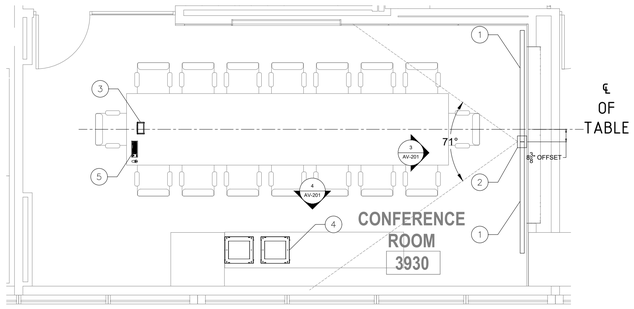
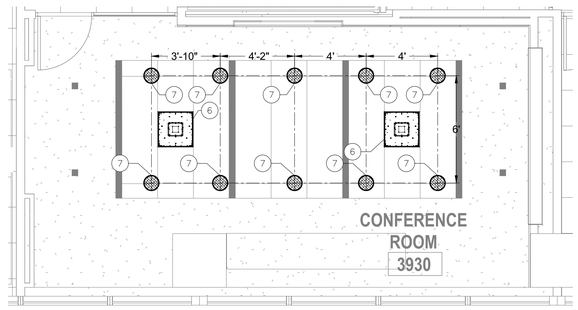
Drawing Title:
AUDIOVISUAL
DRAWING COVER

Job Number:
94159

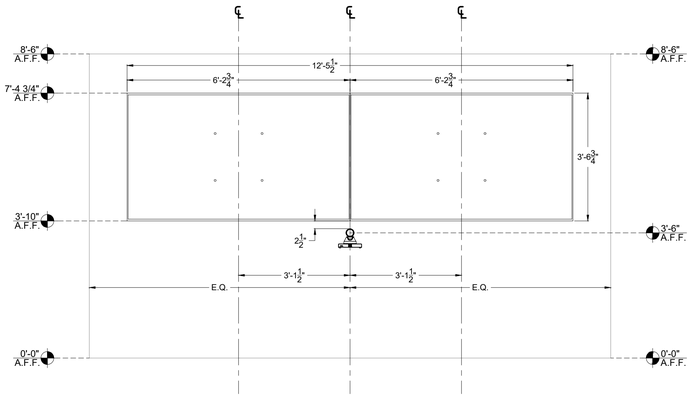
Sheet Number:
AV-CO



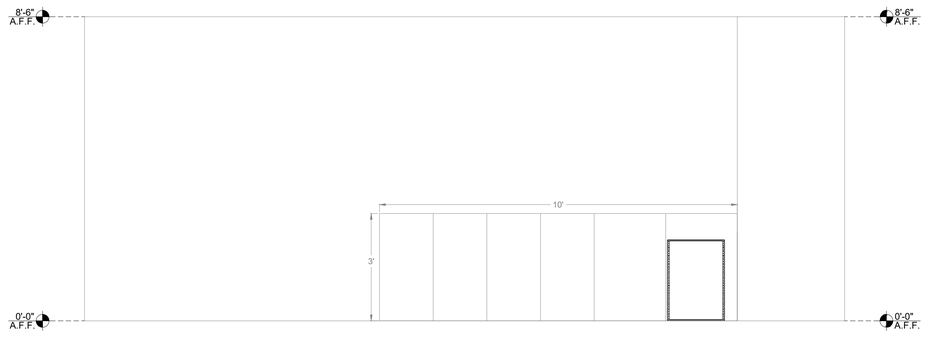
1 | VIEW : FACILITY PLAN | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/4" = 1'-0"



2 | VIEW : FACILITY CEILING PLAN | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE:



3 | VIEW : FACILITY ELEVATION | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/2" = 1'-0"



4 | VIEW : FACILITY ELEVATION | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

1. 85" FLAT PANEL DISPLAY - TYPICAL OF 2 WITH CODEC MOUNTED IN THE WALL BOX
2. CAMERA
3. TOUCH PANEL
4. O.F.E. AV EQUIPMENT RACK
5. O.F.E. WIRELESS KEYBOARD / MOUSE
6. CEILING MICROPHONE - TYPICAL OF 2
7. O.F.E. CEILING SPEAKER - TYPICAL OF 10

GENERAL NOTES

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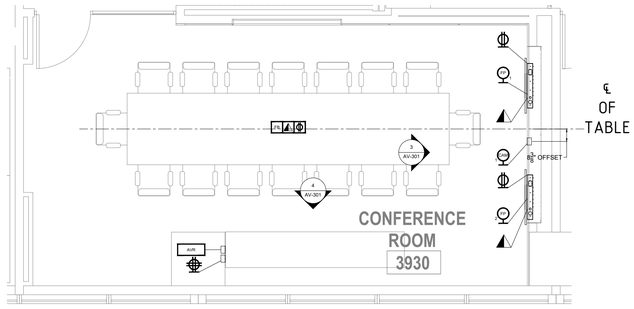
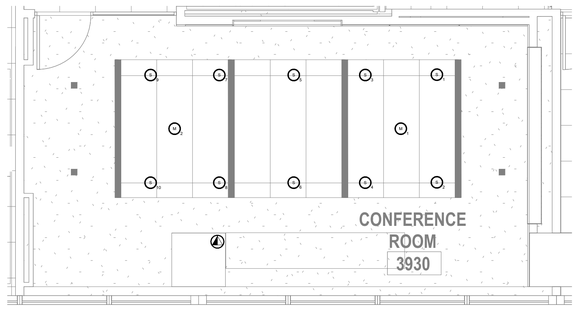
Drawing Title: AUDIOVISUAL FACILITY DRAWINGS

Job Number: 94159

Sheet Number: AV-201



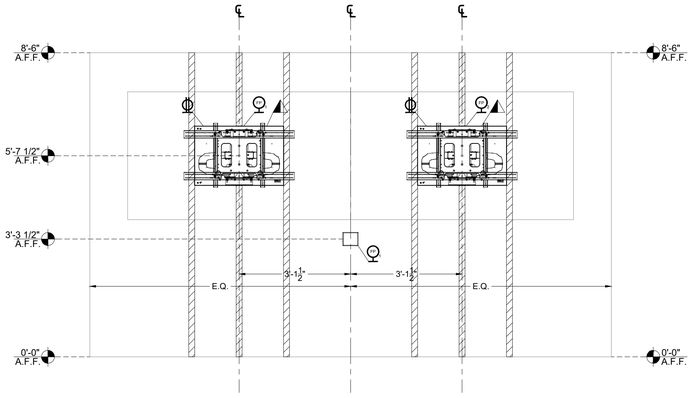
1 | VIEW : ELECTRICAL PLAN | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/4" = 1'-0"



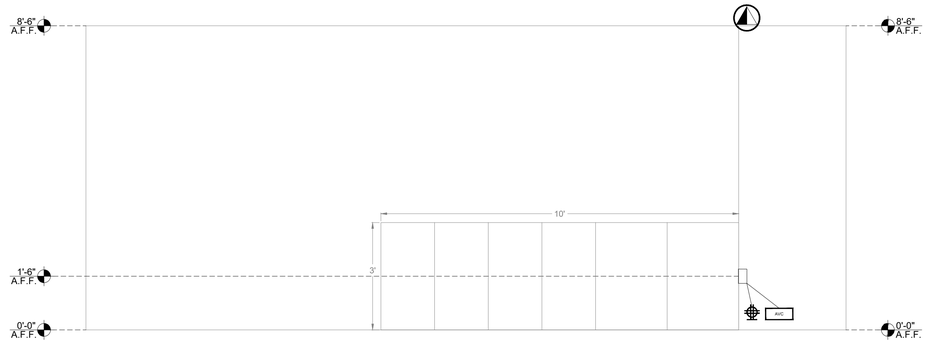
2 | VIEW : ELECTRICAL CEILING PLAN | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/4" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR NUMBER OF DATA LINES)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- FP 1 — FLAT PANEL DISPLAY - WALL MOUNTED - WALL BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 — CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- AVC — AV CREDENZA - WIRING TROUGH - 2 GANG BOX. BOX TO BE FLUSH MOUNTED IN WALL
- FB — AV FLOOR BOX - FSR FL-500 SERIES
- M 1 — MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 — SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS



3 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/2" = 1'-0"



4 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: LARGE CONFERENCE | NOTES: Conference Rooms 203, 204, 326 | SCALE: 1/2" = 1'-0"

GENERAL NOTES

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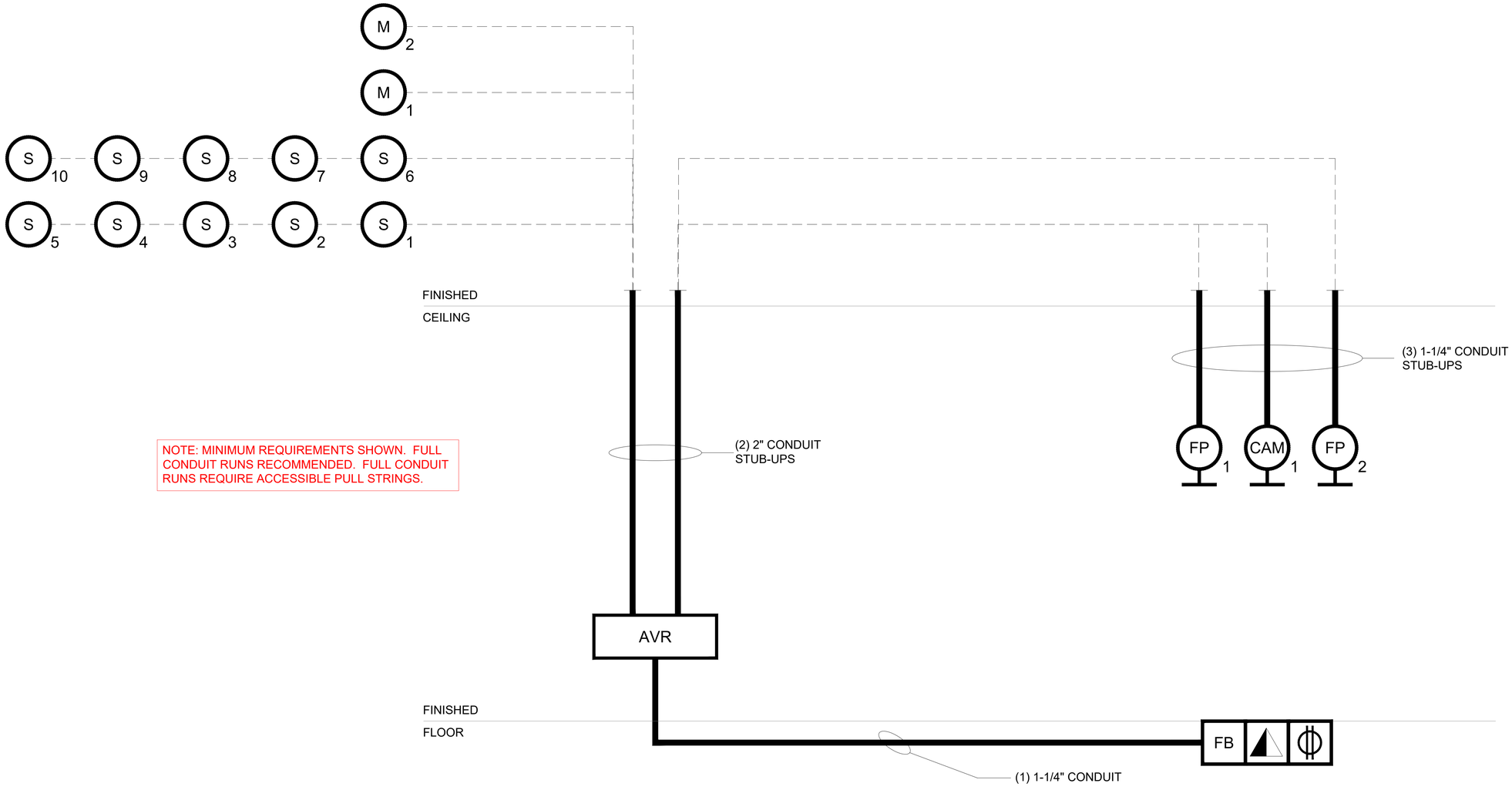
Drawing Title: AUDIOVISUAL ELECTRICAL DRAWINGS

Job Number: 94159

Sheet Number: AV-301



NOTE: MINIMUM REQUIREMENTS SHOWN. FULL CONDUIT RUNS RECOMMENDED. FULL CONDUIT RUNS REQUIRE ACCESSIBLE PULL STRINGS.

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR NUMBER OF DATA LINES)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - WALL BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- AVC AV CREDENZA - WIRING TROUGH - 2 GANG BOX. BOX TO BE FLUSH MOUNTED IN WALL
- FB AV FLOOR BOX - FSR FL-500 SERIES
- M 1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS

GENERAL NOTES

1 | VIEW : ELECTRICAL RISER DIAGRAM | ROOM NAME: LARGE CONFERENCE | NOTES: | SCALE: N.T.S.

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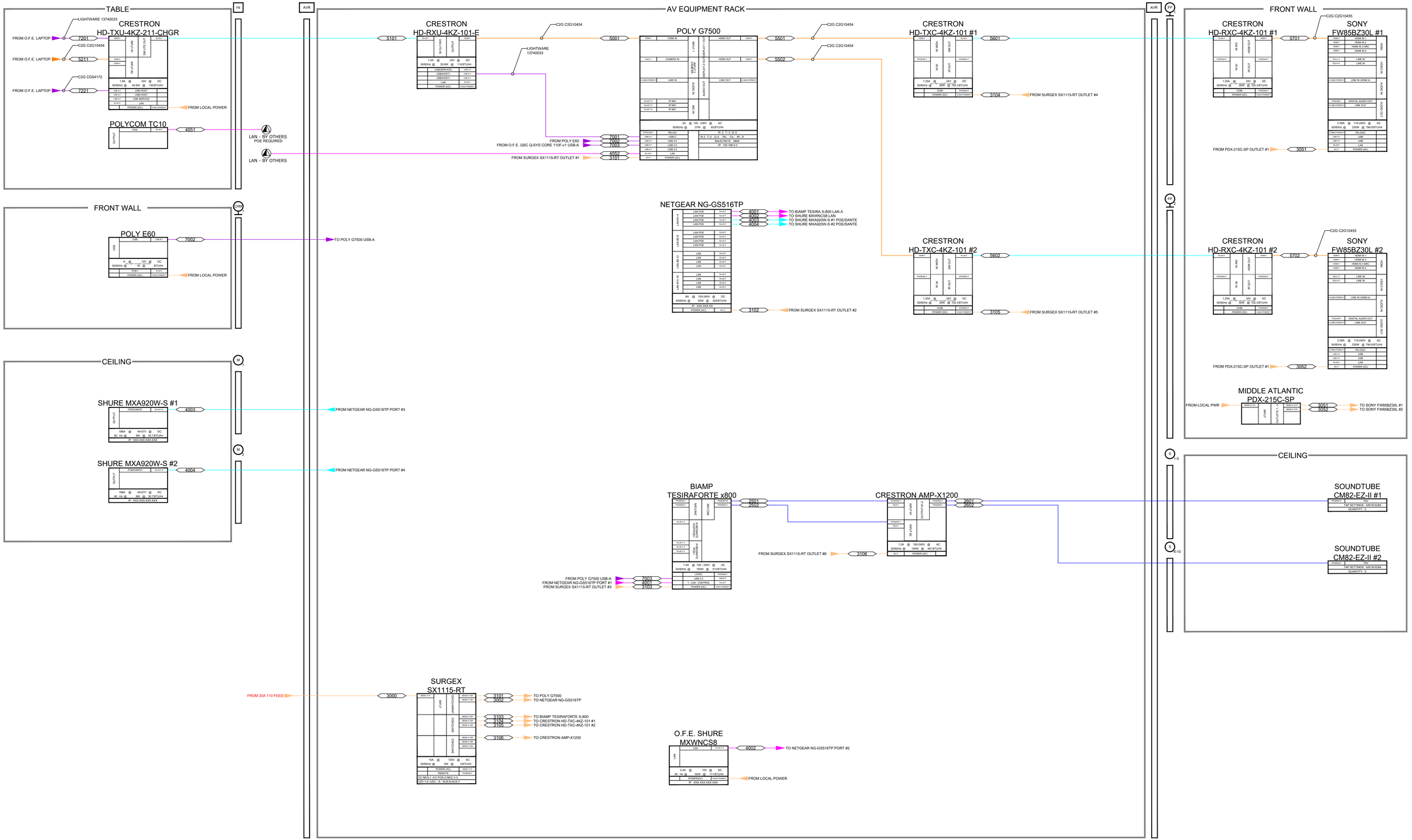
Drawing Title: AUDIOVISUAL ELECTRICAL DRAWINGS

Job Number: 94159

Sheet Number: AV-302



IVCi Linetypes and Wire Number Legend								
Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC SIGNAL	COLOR - #5	<1000> SERIES	CAT5 SHIELDED DANTE OR AVB	COLOR - #4	<4000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES
AUDIO SIGNAL	COLOR - #5	<2000> SERIES	COMPONENT / VGA VIDEO SIGNAL	COLOR - #1	<5000> SERIES	COMPOSITE/ 3G/HD/SDI VIDEO SIGNAL	COLOR - #3	<5000> SERIES
POWER	COLOR - #31	<3000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
CAT5 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	CAT5 SHIELDED	COLOR - #4	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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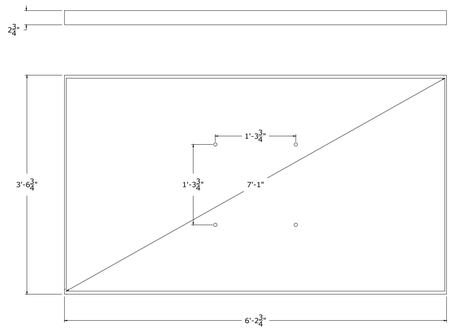
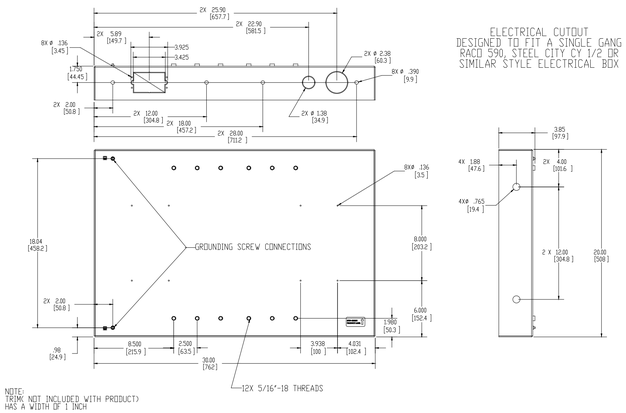
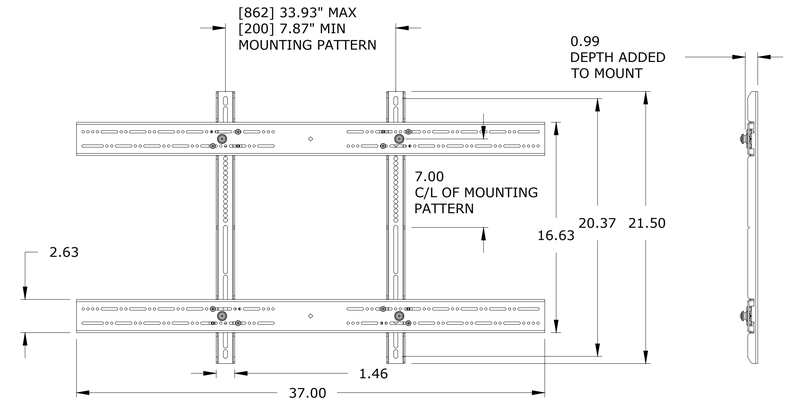
Drawing Title:
AUDIOVISUAL
FLOW DRAWINGS

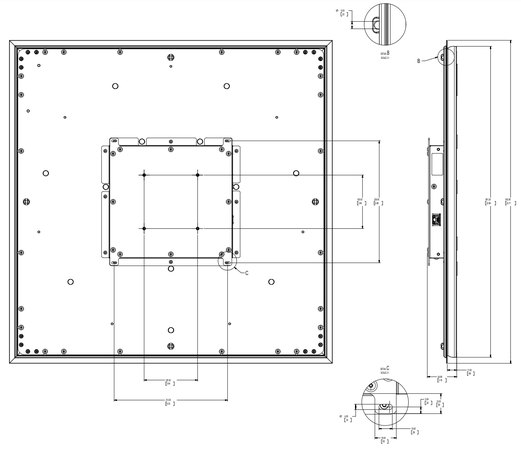
Job Number:
94159

Sheet Number:
AV-401









1	DESCRIPTION: 85" DISPLAY ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: FW85BZ30L MANUFACTURER: SONY

2	DESCRIPTION: IN-WALL BOX ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: PAC501B MANUFACTURER: CHIEF

3	DESCRIPTION: DISPLAY MOUNT ADAPTER ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: PSBUB MANUFACTURER: CHIEF

4	DESCRIPTION: MICROPHONE ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: MXA920W-S MANUFACTURER: SHURE

5	DESCRIPTION: DISPLAY MOUNT ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: PNRIWUB MANUFACTURER: CHIEF

6	DESCRIPTION: CAMERA ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: POLY E60 MANUFACTURER: HP POLY

How to install

1. Drill two holes in the wall or ceiling as indicated on the drawing.
Horizontal distance : 162 mm.

Image 4-1
Mounting holes

2. Insert a plug in each hole (if needed, depends on the wall or ceiling type) and drive in 2 screws. Do not drive in the screws completely.
Note: *Mounting screws and plugs are not included in the CSE-200 box . The type of screws and plugs depend on the type of wall (stone, wood, plasterboard, ...) you are mounting the Base Unit to. Make sure the head of the screw is not larger than the hole in the bottom plate of the Base Unit (< 6.5 mm).*
3. Hook the Base Unit on both screw heads and slide the Base Unit downwards until it is fixed.

7	DESCRIPTION: WIRELESS PRESENTATION SYSTEM ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: CSE-200 MANUFACTURER: BARCO

NOTE: DIMENSION FORMAT SHOWN INCHES [MM]

NAME	OVERALL HEIGHT "A"	RACKING HEIGHT "B"	NO. OF SPACES
CFR-16-XX	28.94 [735]	28.00 [711]	16
CFR-15-XX	27.19 [690]	26.25 [667]	15
CFR-14-XX	25.43 [646]	24.50 [622]	14
CFR-13-XX	23.69 [602]	22.75 [578]	13
CFR-12-XX	21.94 [557]	21.00 [533]	12
CFR-11-XX	20.19 [513]	19.25 [489]	11
CFR-10-XX	18.44 [468]	17.50 [445]	10
CFR-9-XX	16.69 [424]	15.75 [400]	9
CFR-8-XX	14.94 [379]	14.00 [356]	8

Note: Replace "XX" suffix with desired depth (16", 18", 20" OR 23")

8	DESCRIPTION: AV RACK ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: CFR-15 MANUFACTURER: MIDDLE ATLANTIC

9	DESCRIPTION: TOUCH PANEL ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: TC8 MANUFACTURER: POLYCOM

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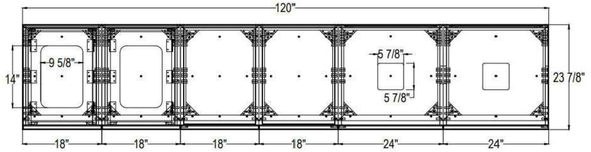
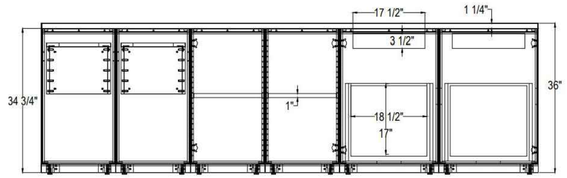
Drawing Title:
AUDIOVISUAL
DETAILS

Job Number:
94159

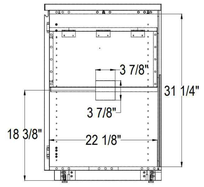
Sheet Number:
AV-501



PLAN VIEW



ELEVATION



SIDE

1	DESCRIPTION: CREDENZA ROOM NAME: LARGE CONFERENCE	NOTES:	MODEL NUMBER: 120" AKA CREDENZA MANUFACTURER: BERNHARDT

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Drawing Title: AUDIOVISUAL DETAILS

Job Number: 94159

Sheet Number: AV-502

AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION ✦ = NOT ISSUED ⊘ = DELETED

NO.	DATE	ISSUE
1	03-13-25	ISSUED FOR REVIEW
2	/ /	
3	/ /	
4	/ /	
5	/ /	
6	/ /	
7	/ /	
8	/ /	
9	/ /	
10	/ /	

	DRAWING #	DESCRIPTION	ROOM										
1	AV-CO	Audiovisual Coversheet, Scope of Responsibilities	UNION SQUARE	●									
2	AV-201	Audiovisual Facility Plans and Elevations	UNION SQUARE	●									
3	AV-301	Audiovisual Electrical Plans and Elevations	UNION SQUARE	●									
4	AV-302	Audiovisual Electrical Riser Diagram	UNION SQUARE	●									
5	AV-401	Audiovisual Flow Diagram	UNION SQUARE	✦									
6	AV-501	Audiovisual Details	UNION SQUARE	●									
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AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to IVCi for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by IVCi, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to IVCi AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

AUDIOVISUAL NOTES (IF APPLICABLE)

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
EQ - Equal Distance
VIF - Verify in Field
TBD - To be Determined

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9. The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher: while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred. Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting. Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas. Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

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CON EDISON
MEDIUM CONFERENCE ROOMS
SVOC ANNEX
SPRING VALLEY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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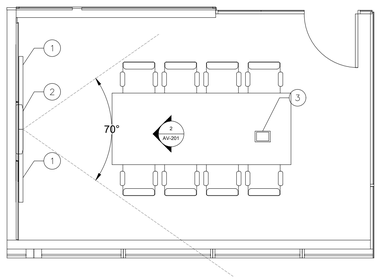
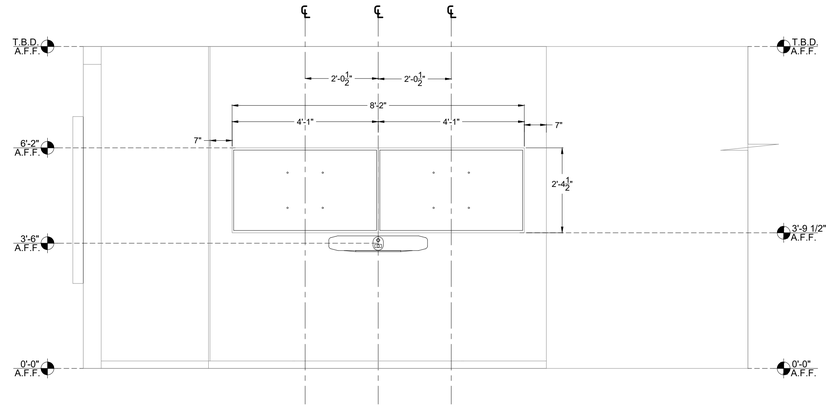
Drawing Title:
AUDIOVISUAL
DRAWING COVER

Job Number: 94159

Sheet Number: AV-CO



1 | VIEW : FACILITY PLAN | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/4" = 1'-0"



2 | VIEW : FACILITY ELEVATION | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

1. 55" FLAT PANEL DISPLAY
2. AV BAR
3. TOUCH PANEL

GENERAL NOTES

1. PROJECT MANAGER TO VERIFY EXACT ROOM LAYOUT

ADA NOTES

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1	ISSUED FOR REVIEW	3-31-25	JK
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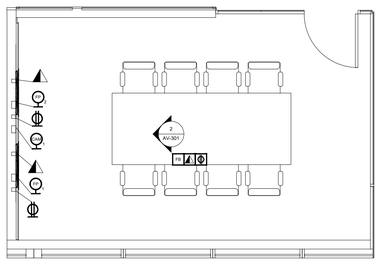
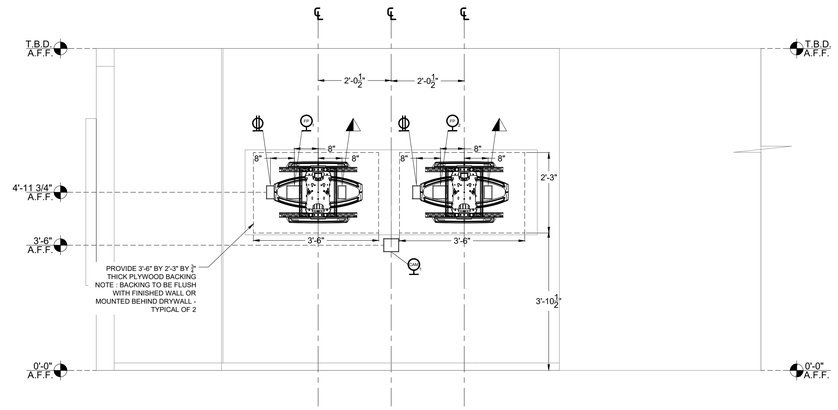
Drawing Title:
AUDIOVISUAL
FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-201



1 | VIEW : ELECTRICAL PLAN | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/4" = 1'-0"



2 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- 20
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 — FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 — CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- FB — AV FLOOR BOX

GENERAL NOTES

ADA NOTES

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CON EDISON
MEDIUM CONFERENCE ROOMS
SVOC ANNEX
SPRING VALLEY, NEW YORK

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1	ISSUED FOR REVIEW	3-31-25	JK
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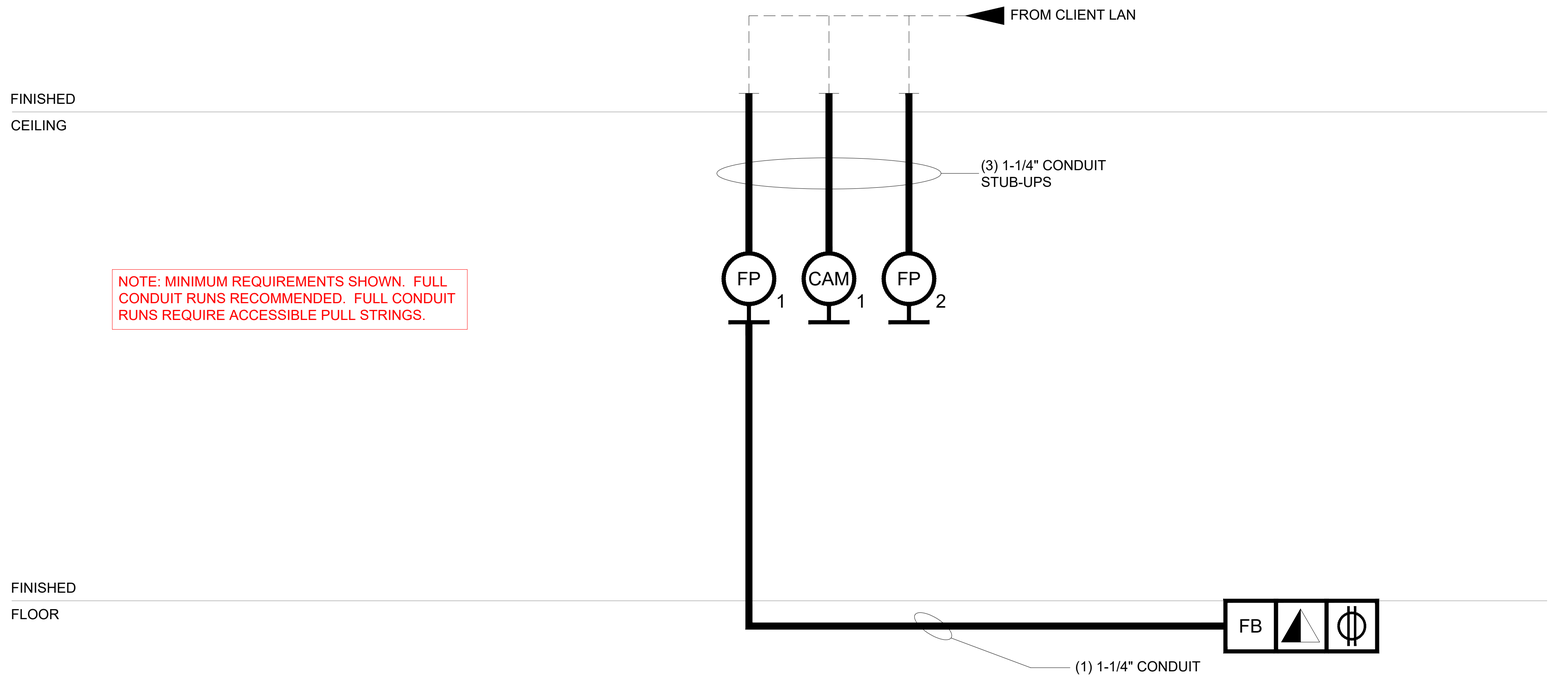
Drawing Title: AUDIOVISUAL ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-301



NOTE: MINIMUM REQUIREMENTS SHOWN. FULL CONDUIT RUNS RECOMMENDED. FULL CONDUIT RUNS REQUIRE ACCESSIBLE PULL STRINGS.

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- FB AV FLOOR BOX

GENERAL NOTES

ADA NOTES

1 | VIEW : ELECTRICAL RISER DIAGRAM | ROOM NAME: UNION SQUARE | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: N.T.S.

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1	ISSUED FOR REVIEW	3-31-25	JK
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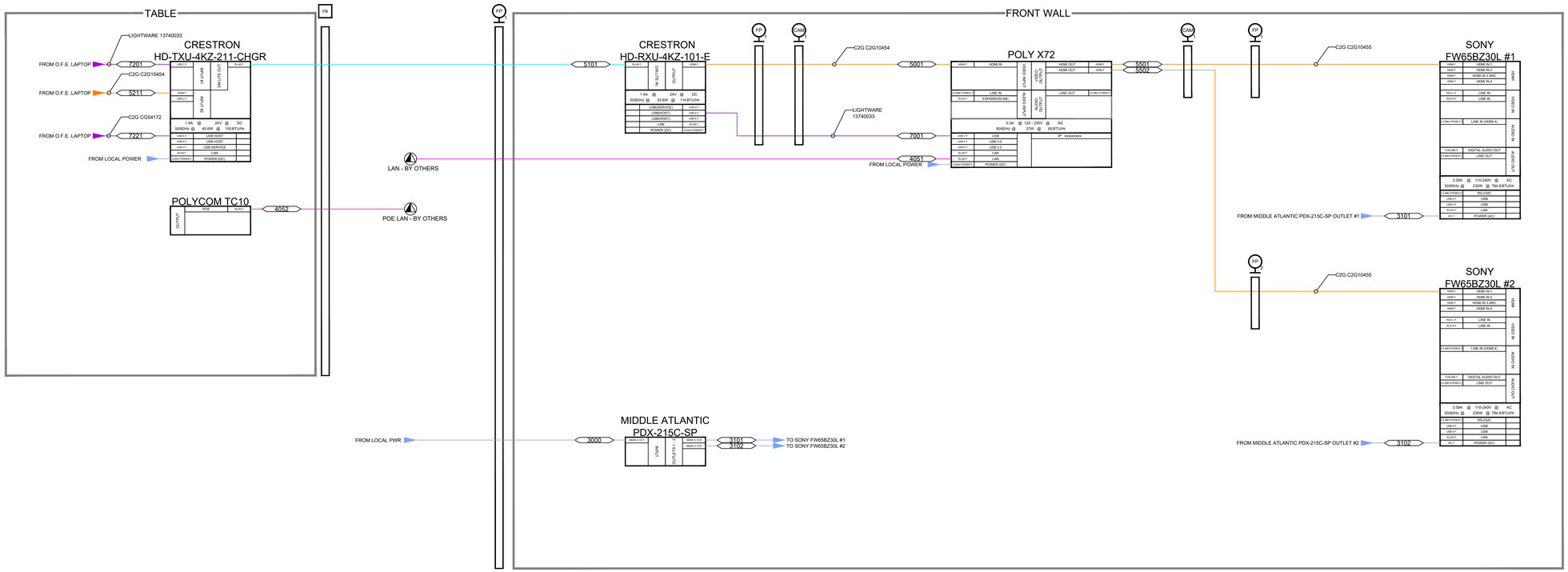
Drawing Title:
AUDIOVISUAL
ELECTRICAL RISER DIAGRAM

Job Number: 94159

Sheet Number: AV-302



IVCi Linetypes and Wire Number Legend

Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC/LINE SIGNAL	COLOR - #5	<1000> SERIES - MIC <2000> SERIES - LINE	CAT6 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	COMPONENT / VGA/3G/SDI VIDEO SIGNAL	COLOR - #1	<5000> SERIES
WIRELESS RF SIGNAL	COLOR - #3	<1000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
SPEAKER / LOW VOLTAGE PWR	COLOR - #221	<2000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	CRESNET	COLOR - #31	<6000> SERIES
PROPRIETARY POWER	COLOR - #161	<3000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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SPRING VALLEY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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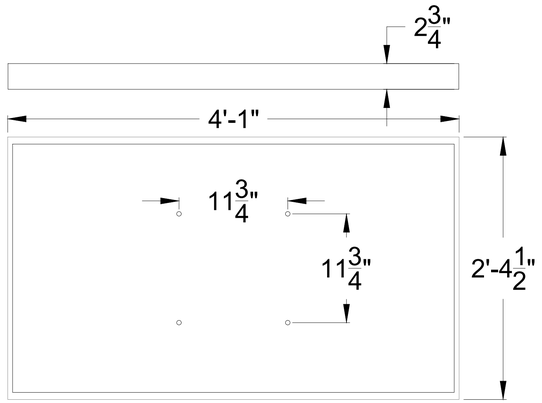
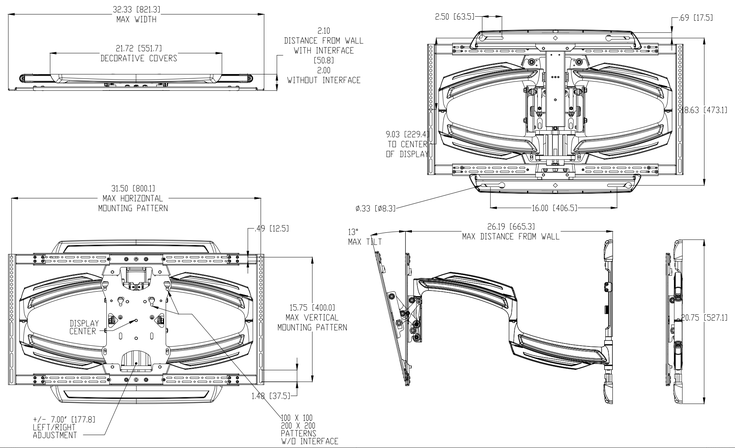
Drawing Title:
AUDIOVISUAL
FLOW DIAGRAM

Job Number: 94159

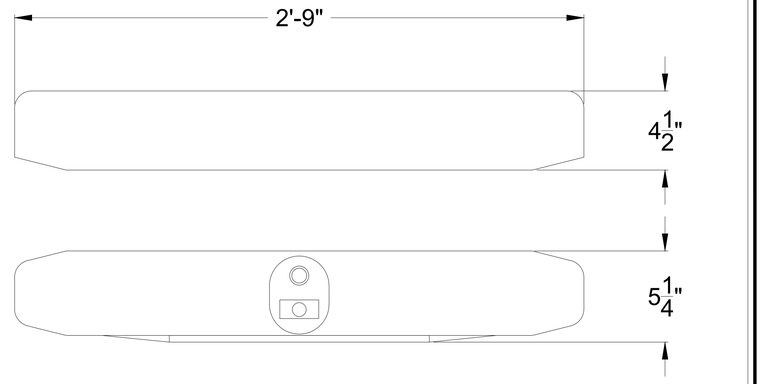
Sheet Number: AV-401



1	DESCRIPTION: 55" FLAT PANEL	NOTES:	MODEL NUMBER: FW55BZ30L
	ROOM NAME: UNION SQUARE		MANUFACTURER: SONY



2	DESCRIPTION: DISPLAY MOUNT	NOTES:	MODEL NUMBER: TS525TU
	ROOM NAME: UNION SQUARE		MANUFACTURER: CHIEF



3	DESCRIPTION: AV BAR	NOTES:	MODEL NUMBER: X72
	ROOM NAME: UNION SQUARE		MANUFACTURER: POLY

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1	ISSUED FOR REVIEW	3-31-25	JK
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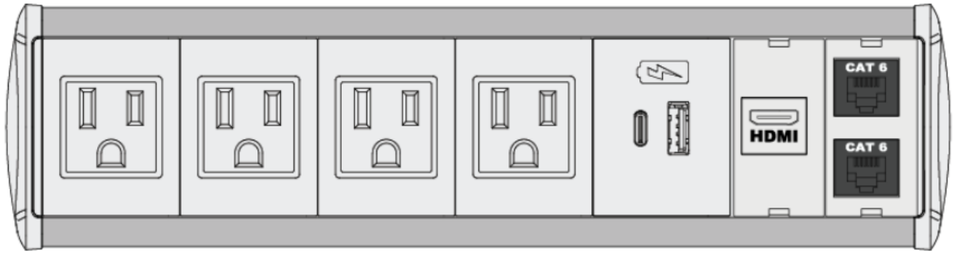
Drawing Title:
AUDIOVISUAL
DETAILS

Job Number: 94159

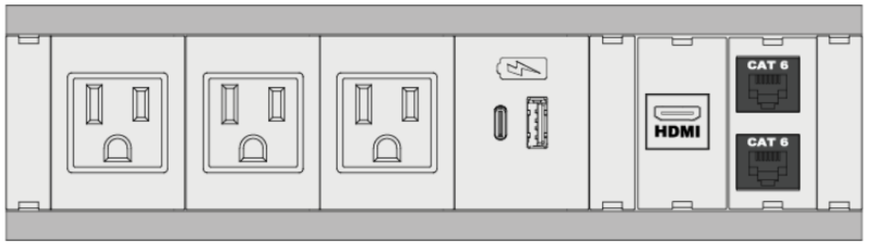
Sheet Number: AV-501

HUDDLE AND CONFERENCE ROOMS



Quantity	Part Number	Description
1	SYM-CL-4AC-1CC-2SS-CCC-WHT-6	Symphony Clamp-On Table Box w/ 4 AC outlets, 1 Dual Combination Charger (USB Type-C and USB Type-A), 2 Snap-In kits, Aluminum housing - 6' cord
1	SS-HDMI-W PassThru	White HDMI Pass Through
2	SS-RJCAT6-B PassThru	Black RJ-45 CAT6 Pass Through

MULTIPURPOSE ROOM



Quantity	Part Number	Description
1	SYM-IN-3AC-1CC-2SS-CCC-WHT-9.5	Symphony In-Table Table Box w/ 3 AC outlets, 1 Dual Combination Charger (USB Type-C and USB Type-A), 2 Snap-In kits, Aluminum housing - 9.5' cord
1	SS-HDMI-W PassThru	White HDMI Pass Through
2	SS-RJCAT6-B PassThru	Black RJ-45 CAT6 Pass Through

REVISION NOTES

REV: 1 DATE: - REVISED BY: -
REV: 2 DATE: - REVISED BY: -
REV: 3 DATE: - REVISED BY: -
REV: 4 DATE: - REVISED BY: -
REV: 5 DATE: - REVISED BY: -
REV: 6 DATE: - REVISED BY: -
REV: 7 DATE: - REVISED BY: -
REV: 8 DATE: - REVISED BY: -
REV: 9 DATE: - REVISED BY: -
REV: 10 DATE: - REVISED BY: -

DEPARTMENT:

conEdison
4 Irving Place
New York, N.Y. 10003
Tel: 212-460-4600 Fax: 212-982-7816

IT Communications & Site Design (IT-CISD)

NETWORK ENGINEER:
NETWORK ENG. TEL No.
PROJECT MANAGER -
PROJECT MGR. TEL No. -

SITE LOCATION:
B140 – Third Ave. Yard

WORK DESCRIPTION:
Attachment 05 – Table Box Drawings

JOB NUMBER:
DRAWN BY: Danny Herrera
SCALE: N.T.S.
DATE: 10/04/2024
REVISION No. REV
FILE NAME: Attachment 01 - 3rd Ave 1st Floor Drop
DRAWING TYPE: - Locations
SHEET: 1 OF 1

LOCATION

Office Address	
Location Site Code (MDS)	
Floor & Room Number	
Local Contact	
Phone Number	
E-Mail	

CODEC #1

Codec Make/Model	
IP Address	
MAC Address	
SIP	
Codec Name	
Email (One-Touch Dial)	
Serial Number	
Poly or Teams Mode	
Software Version	
Certificate Installed (Y/N)	
Certificate Expiration Date	
Certificate Common Name	

TOUCH PANEL #1

Touch Panel Make/Model	
IP Address	
MAC Address	
Serial Number	
Software Version	
Certificate Installed (Y/N)	
Certificate Common Name	
Room Environment (Y/N)	
Favorite “Poly Bridge” (Y/N)	
802.1x enabled (Y/N)	

CAMERA #1

Camera Make/Model	
IP Address	
MAC Address	
Serial Number	
Software Version	

CODEC #2

Codec Make/Model	
IP Address	
MAC Address	
SIP	
Codec Name	
Email (One-Touch Dial)	
Serial Number	
Poly or Teams Mode	
Software Version	
Certificate Installed (Y/N)	
Certificate Expiration Date	
Certificate Common Name	

TOUCH PANEL #1

Touch Panel Make/Model	
IP Address	
MAC Address	
Serial Number	
Software Version	
Certificate Installed (Y/N)	
Certificate Common Name	
Room Environment (Y/N)	
Favorite “Poly Bridge” (Y/N)	
802.1x enabled (Y/N)	

CAMERA #2

Camera Make/Model	
IP Address	
MAC Address	
Serial Number	
Software Version	

CUCM – VoIP

Sign-in Address (aka Phone Number)	
User Name	
Registrar Server	

Use the following for additional AV equipment installed in the same room

Product Make & Model	
IP Address	
Serial Number	
MAC Address	
Certificate Installed (Y/N)	
Certificate Common Name	
Certificate Expiration Date	

Product Make & Model	
IP Address	
Serial Number	
MAC Address	
Certificate Installed (Y/N)	
Certificate Common Name	
Certificate Expiration Date	

Product Make & Model	
IP Address	
Serial Number	
MAC Address	
Certificate Installed (Y/N)	
Certificate Common Name	
Certificate Expiration Date	

Product Make & Model	
IP Address	
Serial Number	
MAC Address	
Certificate Installed (Y/N)	
Certificate Common Name	
Certificate Expiration Date	

Product Make & Model	
IP Address	
Serial Number	
MAC Address	
Certificate Installed (Y/N)	
Certificate Common Name	
Certificate Expiration Date	

Installation Verification Checklist

	Structural Installation	Expected Results	Responsibility IT – CISD "Name"	Confirmed By IT – CIM "Name"
1	Verify shipment delivery is correct for site installation	Correct equipment is onsite and ready for installation		
2	Verify all structural components are in place (e.g. monitor wall mounts) *(if applicable for this site installation*)	Monitors are ready to be installed correctly, securely and safe		
3	Verify cart/pole installation components are installed correctly and in a position to not tip over (*if applicable for this site installation)*	Cart or pole base unit is put together correctly and such a manner that is safe for installation		
4	Equipment is clean and without blemish and in new condition ready for use	Equipment arrived and installed without cosmetic or functional error		
	Equipment Installation and Setup	**Expected Results**	**Responsibility IT – CISD "Name"**	**Confirmed By IT – CIM "Name"**
5	Verify that all equipment interfaces work properly	Successfully log into all equipment via LAN interface and remote connections as well as call out on LAN.		
6	Verify that all logins work properly.	Successfully log into all equipment using equipment login IDs.		
7	Verify license status for all software components	License & serial number will be correct. Test license will pass test.		
8	Verify hardware and firmware on all modules and equipment is up to date with recommended release(s)	Proper versions of hardware & firmware are installed		
9	Verify that time and time zone is set correctly on server(s) with daylight savings time adjustments automatic, including use of NTP settings if appropriate	Date & time is correct for time zone & daylight savings time.		
11	Verify ceiling mounted microphones and/or speakers are properly placed (*if applicable for this site installation)*	Microphones and speakers ready for connection		
12	Verify the room view	Verify that the camera(s) have a good view of the participants in the room. There should be no obstacles blocking the camera view		

13	Verify that the system runs clean without major or minor alarms	No unexplained alarms will be present.		

	Management and Monitoring Configuration and Setup	**Expected Results**	**Responsibility IT – CISD "Name"**	**Actual Results IT – CIM "Name"**
14	Verify LENS management configured properly for remote monitoring, and monitoring systems are connected with the video equipment	Alarms will be generated when equipment has a fault, and Alarm clears when fault is corrected		
15	Verify remote control and remote software/firmware upgrade operation on all upgradeable equipment	Successfully remote-control equipment with ability to upgrade software components		
	Feature and Functionality Testing	**Expected Results**	**Responsibility IT – CISD "Name"**	**Actual Results IT – CIM "Name"**
16	Connect to a scheduled meeting by pressing the JOIN button.	Successful connections		
17	Content sharing via • Converter • In-room PC (if applicable) PC joined users	Successful share content in the conference from all sources. Verify all users can see content		
18	Demonstrate microphone level checks (e.g. mute, un-mute, directional, quality, clarity)	Visual queue denoting 'mute' status and proper interruption of audio from conference room on other side of the connection		
19	Demonstrate audio functionality and speaker quality (e.g. mute, un-mute, directional, quality, clarity)	Individual speaker tests and proper audio channel configuration for spatial sound		
21	Demonstrate video functionality and quality (e.g. mute, un-mute)	Visual queue denotes that the video is "muted". Video returns upon unmuting		
21	Ensure camera angles and room coverage is appropriate for conference setup types (e.g. multipoint and point to point)	All participants and seats in the room are covered for the appropriate camera pre-sets		
22	External Attendee	Verify non-ConEd participants can join the conference		
23	Document all inventory components for model, version, and serial number and share with support desk and Customer)	Video equipment inventory detail documented and shared with Avaya and Customer		

24	Audio call to a participant; Participant calling in via audio-only	inbound and outbound test calls are successful		
	LENS Management and Services	**Expected Results**	**Responsibility IT – CISD "Name"**	**Actual Results IT – CIM "Name"**
24	Verify new system is in LENS and calendaring system and available for reservations	Schedule and verify room is available		
25	Verify remote audio functionality and speaker quality	Sound is coming from the proper speakers in relation to the remote microphones (e.g. monitor side matches microphone and speaker set)		
26	Verify conference scheduling is working properly	Any change to the room schedule is reflected in the room reservation system		
27	Verify conflict test to prevent overlapping scheduled meetings	Two overlapping meetings (including setup times) cause declined invite email.		

ISSUES LIST

#	Issue Description	Resolution Steps	Status By CISD	Confirmation By IT - CIM
1				
2				

Final verification to be completed by IT - CISD sign-off.

Cameras

☐	Verify video and tilt, pan and zoom

Audio

☐	Verify audio in a conference (mic and speakers)

Content Share

☐	Verify laptop input works

Collaboration/Peripherals Test

Pass	Failed	
Content via content device on center table		
☐	☐	While In call; remote and local monitors show content
☐	☐	While not In call; local monitors show content

Environment Overview

☐	All wiring, inside and outside of equipment stand, straightened, wire tied and labeled

Required Document Uploads (URL: TBD)

☐	Wiring schematic showing all components installed within room to include IP, switch, wall drops, etc.
☐	As-built documents
☐	Uploaded final room picture

User Training

☐	Reviewed in-room QR Code / User Guide
☐	How to change Volume / Camera / Mute
☐	How to use the Favorite button
☐	JOIN button and manually joining a conference
☐	How to report an issue using Service Now and Service Desk
☐	How to request a new room build or equipment change using Service Now

Signatures

_____

Project Manager

_____

Department Manager (Band 3L or higher)

_____

Installer (A/V vendor / Build Team)

_____

IT-CIM (Run Team)

SYMPHONY Collection

Symphony Clamp-On and Under-Table Boxes

FSR
Metal Products Group

NEW! combination USB charging port.

SYM-CL-2AC-1CA-1SS-AWW

Symphony Clamp-on with 1CC charger

SYM-UT-2AC-1CA-1SS-AWW

DESCRIPTION

Symphony Table Boxes bring elegant form to function. The gentle curved shapes allow for CAT6, 6a or 7 along with AV cables to bulkhead AV connections while maintaining aesthetics in modern interiors. The system provides an attractive user interface while solid construction throughout ensures reliable performance in demanding environments.

Both "Clamp-On" or "Under-Table" styles are offered for table, shelf, or chair mounting.

There are eight stock models available with pre-loaded popular connectors selected to satisfy many typical applications. (See ordering table)

On "Assemble to order" units, a very flexible ordering system allows for choice of housing extrusion color, end cap color, and connector insert color. The customer can specify up to five AC outlets, USB charging ports, and low voltage openings that receive FSR Simple Solutions and Hubbell™ keystone style snap in connectors. (See ordering table).

FSR's Symphony combination USB charging port incorporates power management integrated circuitry to communicate via todays' and legacy protocols to determine the charging requirements for your devices. The built in overload protected, auto-recovery power supply, provides the fastest charging based on the available power to one or both ports.

FEATURES

- *Elegant Aluminum Design*
- *No hardware visible to user*
- *Compact size*
- *Rated for commercial use*
- *Designed for 2 to 5 Outlets*
- *Up to 2-Dual USB Chargers with full 5V 10W charging capability on each charging port*
- *Up to 2-Dual combination charging ports (USB Type-C and USB Type-A)*
- *Sized to fit Cat-6 and larger cables*
- *Sized to fit HDMI Bulkheads and cables*
- *Multiple color combinations to choose from*
- *Available in Clamp-On or Under-Table styles*
- *Non-marring C-Clamp table attachment with swivel screw tightener*
- *Knurled knob for easy toolless clamping (Clamp models)*

APPLICATIONS

- *Desks*
- *Boardroom Tables*
- *Lecterns*
- *Control Consoles*
- *Lab Tables*
- *Classrooms*
- *Work Tables*
- *Huddle Areas*
- *Multipurpose Rooms*

FSR Inc.

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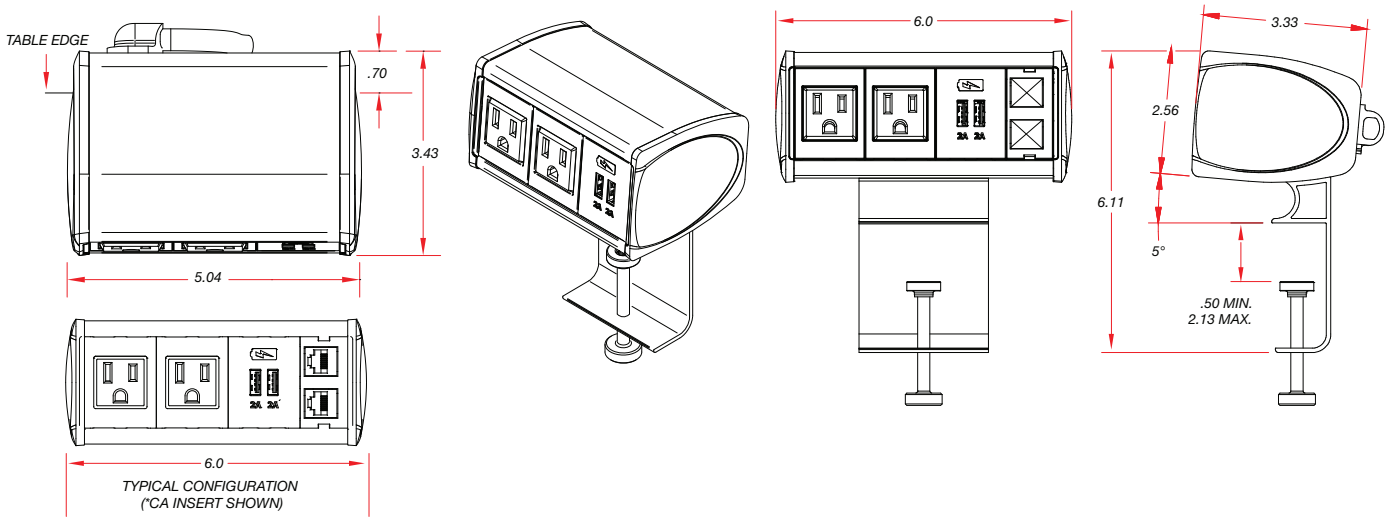
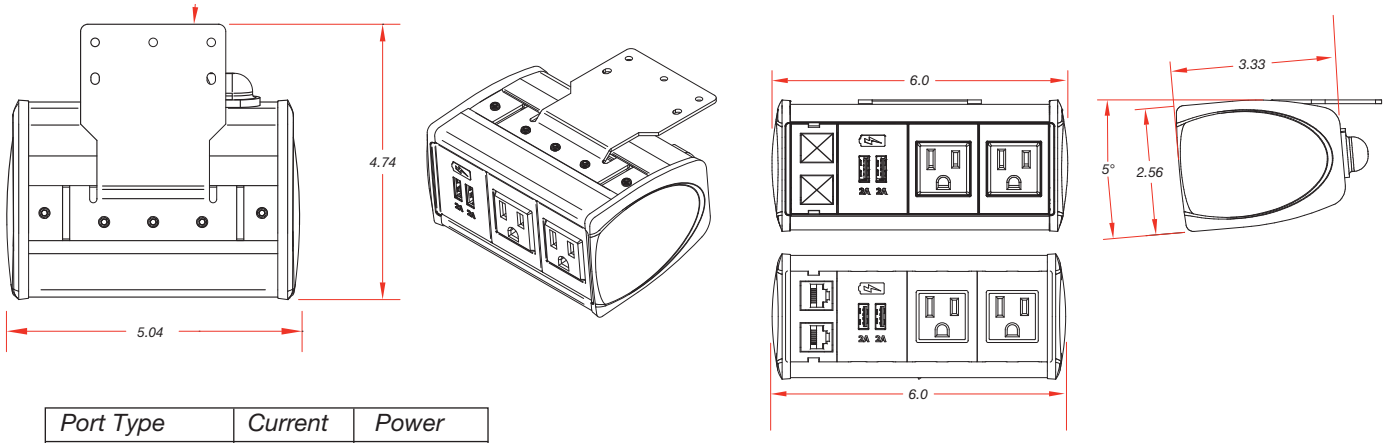
Web: www.fsrinc.com · E-mail: sales@fsrinc.com
Order Desk: 1-800-332-FSR1

SYM-CL CLAMP-ON MODEL DIMENSIONS



Port Type	Current	Power
USB-A Device	2 Amps	10 Watts
USB-C Device	3 Amps	15 Watts

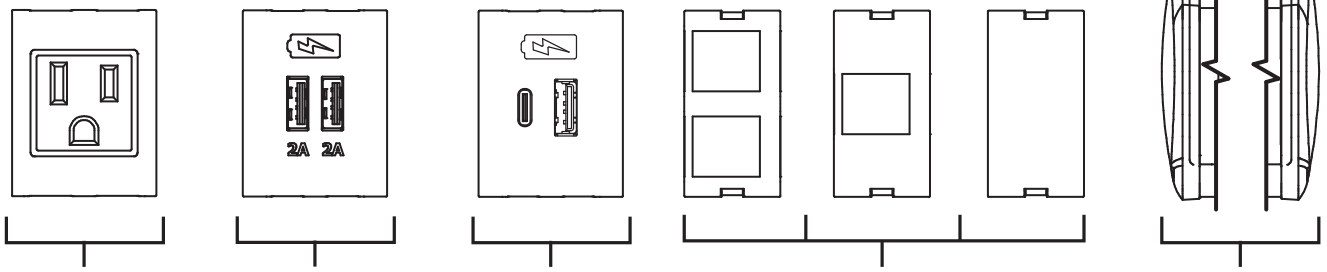
SYM-UT UNDER-TABLE MODEL DIMENSIONS



Port Type	Current	Power
USB-A Device	2 Amps	10 Watts
USB-C Device	3 Amps	15 Watts

CALCULATING BOX LENGTH

For Calculating Approximate Length of any Symphony Clamp-On or Under-Table Box Assembly:



"AC" Inserts

Add 1.5" for each AC Insert
Minimum: 2
Maximum: 5

"CA" Inserts

Add 1.5" for each Dual USB Insert
Minimum: 0
Maximum: 2

"CC" Shown

Add 1.5" for each Dual USB Insert
Minimum: 0
Maximum: 2

"SS" Insert Kit

Add 1" for a Single, Dual or Blank Insert
Minimum: 0

End Caps

Add 0.5" for the two end caps

Assemble to Order Model Number Key

SYM - xx - [ ][ ] - x CA/CC - xxxxxx - A - x - x - xc

Select Mounting Type:
CL= Clamp-On
UT=Under-Table

Select # of AC Outlets:
Two to five outlets may be selected: 2AC, 3AC, 4AC, 5AC

Select # of USB Chargers: *Up to two: 1CA or 2CA 1CC or 2CC*

Select Housing Color:
A = Aluminum
**RD= Red*
**YL = Yellow*
**BL = Blue*
**GR = Green*
**BK = Black*

Select # of Snap-in Insert Kits*:
(1SS, 2SS, 3SS, etc..for the first three digits)

Select number and type of VGA or XLR inserts if required:
(1VGA, 1XLR etc...for the second three digits.)

** Each SS kit includes one blank, single and dual Keystone Insert*

Select Insert Color:
B= Black
W= White

Select End Cap Color:
B= Black
W= White

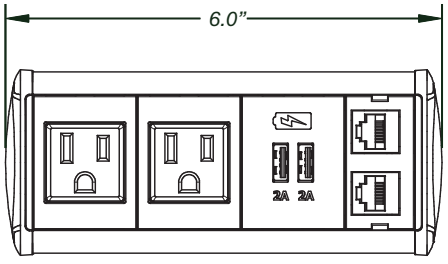
Select Cord AC Length:
6' = Blank
9'6" = 9

**Line cord color will be matched to end cap color*

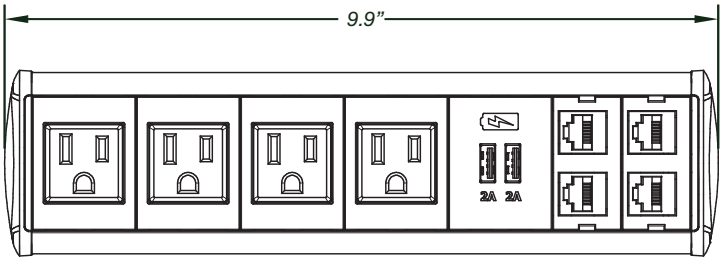
**Pertains to ordering Symphony POP's Table Boxes*

No hardware visible to user

Examples:



Model: SYM-CL-2AC-1CA-1SS



Model: SYM-CL-4AC-1CA-2SS

ORDERING INFORMATION

Add a POP of Color See LIT1793

Stock Units

Item	Model Number	Description
18125	SYM-CL-2AC1CA-ABB	Clamp-On Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger in an Aluminum Housing with Black End Caps and Inserts
18126	SYM-CL-2AC1CA-AWW	Clamp-On Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger in an Aluminum Housing with White End Caps and Inserts
18127	SYM-CL-2AC1CA1SS-ABB	Clamp-On Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger, Keystone Connector Kit in Aluminum Housing with Black End Caps & Inserts
18128	SYM-CL-2AC1CA1SS-AWW	Clamp-On Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger, Keystone Connector Kit in Aluminum Housing with White End Caps & Inserts
18636	SYM-CL-2AC1CC-ABB	Clamp-On Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger , Aluminum Housing, Black End Cap, Black Inserts
18637	SYM-CL-2AC1CC-AWW	Clamp-On Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, Aluminum housing, White end cap, White inserts
18638	SYM-CL-2AC1CC1SS-ABB	Clamp-On Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, 1 Snap-In kit, Aluminum housing, Black end cap, Black inserts
18639	SYM-CL-2AC1CC1SS-AWW	Clamp-On Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, 1 Snap-In kit, Aluminum housing, White end cap, White inserts
18343	SYM-UT-2AC1CA-ABB	Under-table Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger in Aluminum Housing with Black End Caps & Inserts
18344	SYM-UT-2AC1CA-AWW	Under-table Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger in Aluminum Housing with White End Caps & Inserts
18345	SYM-UT-2AC1CA1SS-ABB	Under-table Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger Keystone Connector Kit in Aluminum Housing with Black End Caps & Inserts
18346	SYM-UT-2AC1CA1SS-AWW	Under-table Symphony Table Box with 2 Outlets, 1 Dual USB-A Charger, Keystone Connector Kit in Aluminum Housing with White End Caps & Inserts
18640	SYM-UT-2AC1CC-ABB	Under-Table Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, Aluminum Housing, Black End Cap, Black Inserts
18641	SYM-UT-2AC1CC-AWW	Under-Table Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, Aluminum housing, White end cap, White inserts
18642	SYM-UT-2AC1CC1SS-ABB	Under-Table Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charger, 1 Snap-In kit, Aluminum housing, Black end cap, Black inserts
18643	SYM-UT-2AC1CC1SS-AWW	Under-Table Symphony Table Box with 2 AC outlets, 1 Dual USB-A/USB-C Charge, 1 Snap-In kit, Aluminum housing, White end cap, White inserts

CL and UT Keystone Snap-In connectors for Symphony

Item	Description
18130	SS-CAT5e-W SYM PUNCH DOWN CAT-5e JACK 1000BASE-T – WHITE
18131	SS-CAT5e-B SYM PUNCH DOWN CAT-5e JACK 1000BASE-T – BLACK
18132	SS-CAT6-W SYM PUNCH DOWN CAT-6 JACK 10GbE – WHITE
18133	SS-CAT6-B SYM PUNCH DOWN CAT-6 JACK 10GbE – BLACK
18129	SS-HDMI-W SYM AND TBL BOX WHITE PASS-THRU – WHITE
17288	SS-HDMI-B SYM AND TBL BOX BLACK PASS-THRU – BLACK
17624	SS-SCAT6A CAT6A SHIELDED SNAP IN CONNECTOR – CHROME
17205	SS-USBA-B USB PASS THRU SNAP IN CONNECTOR – BLACK
25991	SS-RJ45-B PASS THRU SNAP-IN BLACK CONNECTOR CAT 5E
16820	SS-RJCAT6-B PASS THRU SNAP-IN BLACK RJ-45 CAT 6 CONNECTOR
18347	SS-USB-C-CHRG Universal Charging Port, Snap-In module style, compatible with USB-C® devices, with Power Supply
18348	SS-USB-C-CHRG-NPS Universal Charging Port, Snap-In module style, compatible without USB-C® devices, No Power Supply
26968	6' FEMALE HD-15 CHASSIS MOUNT TO MALE CABLE
36131	1/8" OR 3.5mm HEADPHONE JACK TO 3-PIN SCREW TERMINAL PC ASSEMBLY
31004	HUBBELL .5U BLANK BLACK INSERT
31005	HUBBELL 1U BLANK BLACK INSERT
31006	HUBBELL 1U 1 KEYSTONE BLACK INSERT
31007	HUBBELL 1U 2 KEYSTONE BLACK INSERT
31013	HUBBELL 1.5U VGA & 1.5mm JACK BLACK INSERT
31014	HUBBELL 1.5U XLR OPENING BLACK INSERT
31008	HUBBELL .5U BLANK WHITE INSERT
31009	HUBBELL 1U BLANK WHITE INSERT
31010	HUBBELL 1U 1 KEYSTONE WHITE INSERT
31011	HUBBELL 1U 2 KEYSTONE WHITE INSERT
31012	HUBBELL 1.5U XLR OPENING WHITE INSERT
31015	HUBBELL 1.5U VGA & 1.5mm JACK WHITE INSERT

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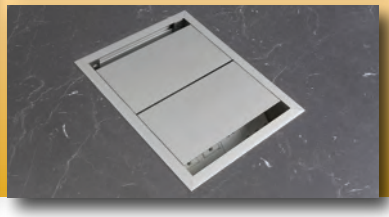
Web: www.fsrinc.com · E-mail: sales@fsrinc.com

Symphony In-Table Boxes

FSR
Metal Products Group



DESCRIPTION

Symphony Table Boxes bring elegant form to technology. The Symphony In-Table or Dual In-Table models provide an attractive user interface. Solid construction throughout ensures reliable performance in demanding environments.

A wide variety of models allow convenient access to network CATx cables, mobile device charging, AV cables and AC power.

The standard models can be ordered with up to four AC outlets, two USB charging ports, and two low voltage openings that receive FSR Simple Solutions and Hubbell™ keystone style snap in connectors. (See ordering table).

Custom builds are available containing up to five AC power receptacles, two dual USB chargers and any low voltage connector configuration. Now available FSR's Symphony combination USB charging port incorporates power management integrated circuitry to communicate via todays' and legacy protocols to determine the charging requirements for your devices. The built in overload protected, auto-recovery power supply, provides the fastest charging based on the available power to one or both ports.

The "DIN" models are dual door boxes that allow users access to the connector ports on either side of the table.

The access doors on the units can be closed when not in use leaving a sleek uncluttered work surface.

Both "Clamp-On" or "Under-Table" styles are offered for table, shelf or chair mounting as well as custom configurations. See LIT1723 SYM Series for details.

FEATURES

- *Elegant Design*
- *Compact Size*
- *Toolless Drop-In Installation*
- *Top-Side Installation of Data and A/V Inserts*
- *Designed for 2 to 5 AC Outlets*
- *Up to 2-Dual USB Chargers with full 5V 10W charging capability on each charging port*
- *Up to 2-Dual combination charging ports (USB Type-C and USB Type-A)*
- *Sized for Cat-6 and Larger Cables*
- *Sized to fit HDMI, VGA Bulkheads and Cables*

APPLICATIONS

- *Desks*
- *Boardroom Tables*
- *Lecterns*
- *Control Consoles*
- *Lab Tables*
- *Classrooms*
- *Work Tables*
- *Huddle Areas*
- *Multipurpose Rooms*

1CC Combination USB charging port now available.

FSR Inc.

244 Bergen Boulevard, Woodland Park, NJ 07424
Phone: 973.998.2300 · Fax: 973.785.4207
Web: www.fsrinc.com · E-mail: sales@fsrinc.com
Order Desk: 1-800-332-FSR1

SYM-IN & DIN ORDERING INFORMATION

Single Side Table Box, SYM-IN

Table Box Frame A

Overall 6.3" x 5.43"
Cutout 6-1/16" x 5" ±1/16"

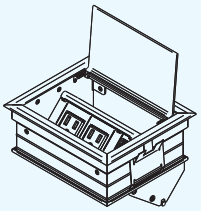


Table Box Frame B

Overall 7.73" x 5.43"
Cutout 7-7/16" x 5" ±1/16"

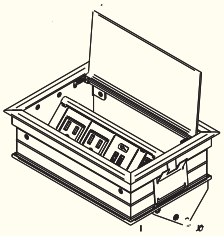


Table Box Frame C

Overall 8.69" x 5.43"
Cutout 8-7/16" x 5" ±1/16"

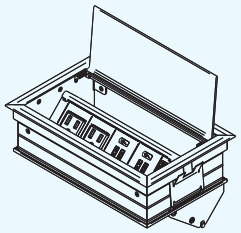
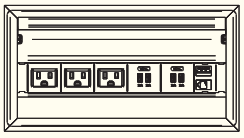
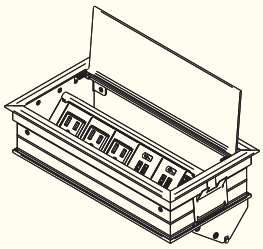
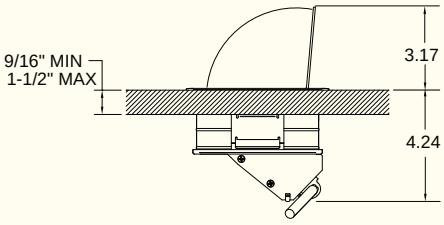


Table Box Frame D

Overall 10.12" x 5.43"
Cutout 9-7/8" x 5" ±1/16"

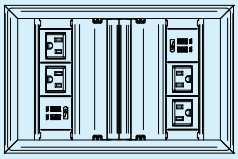


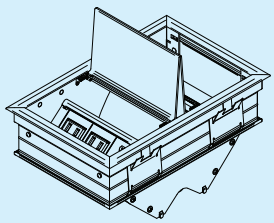




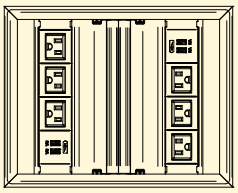
Dual Sided Table Box, SYM-DIN

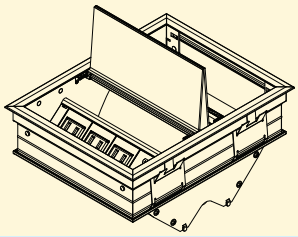
Overall 6.3" x 9.76"
Cutout 6-1/16" x 9-5/16" ±1/16"



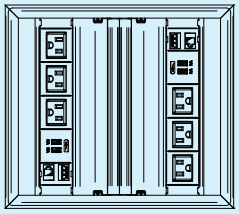


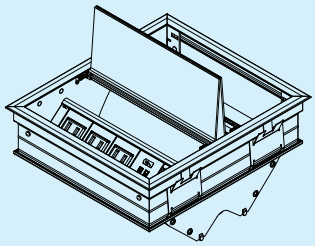
Overall 7.73" x 9.76"
Cutout 7-7/16" x 9-5/16" ±1/16"



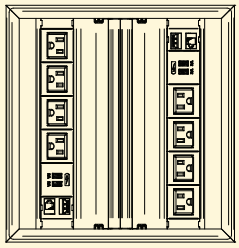


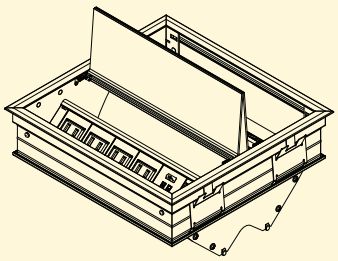
Overall 8.69" x 9.76"
Cutout 8-7/16" x 9-5/16" ±1/16"

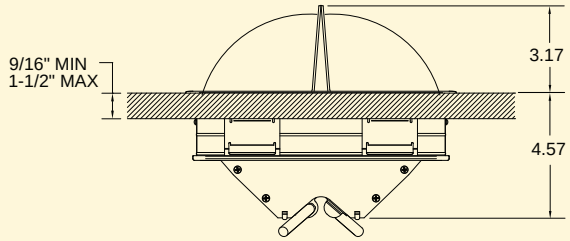




Overall 10.12" x 9.76"
Cutout 9-7/8" x 9-5/16" ±1/16"







Power Cord Options:

Add Suffix to Model Number

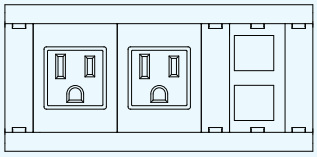
6' Black Cord, **Blank** or **-6B**
6' White Cord, **-6W**
9'6" Black Cord, **-9B**
9'6" White Cord, **-9W**

SYM-IN & DIN ORDERING INFORMATION

**Add 1CC in place of 1CA for Dual combination charger insert (USB Type-C and USB Type-A)*

Table Box Frame A Standard Model Numbers

SYM-(IN or DIN)-2AC-1SS-AW



SYM-(IN or DIN)-2AC-1CA-AW

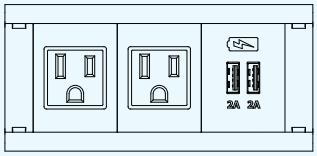


Table Box Frame B Standard Model Numbers

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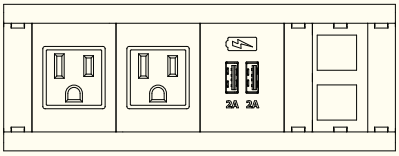

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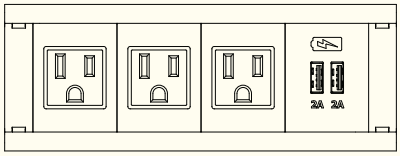

Table Box Frame C Standard Model Numbers

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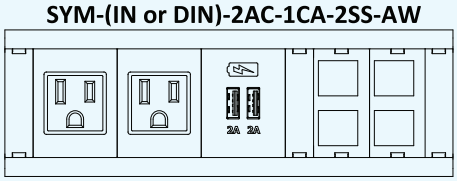

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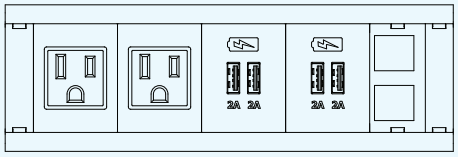

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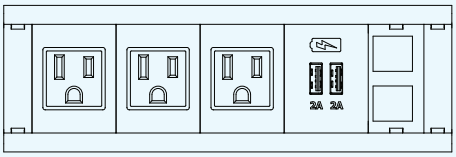

SYM-(IN or DIN)-2AC-1CA-1VGA-1SS-AW

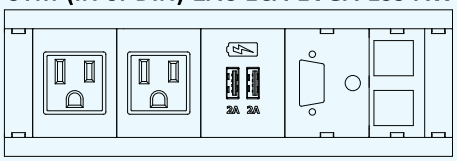

Table Box Frame D Standard Model Numbers

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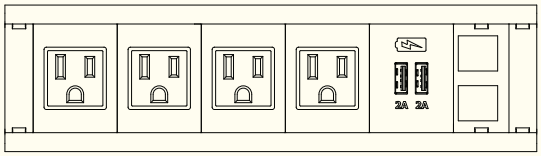

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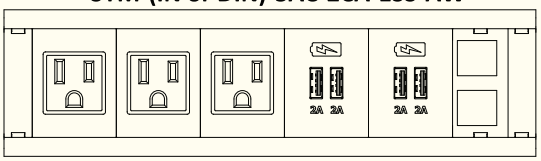

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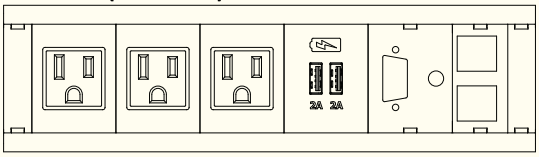

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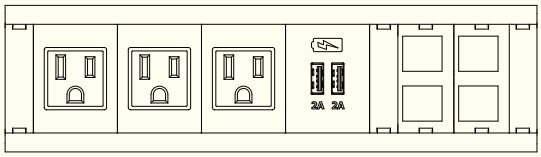

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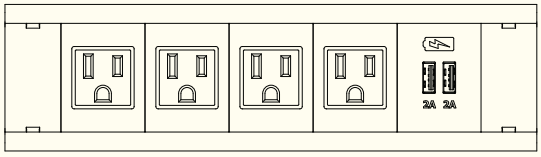

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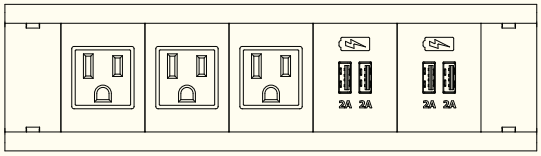
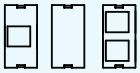


Denotes a Kit of 3 Provided Inserts, a Blank, Single and Dual Keystone



See Back Page for Keystone Connectors and VGA Interface Components

CONNECTORS/INSERTS

Item	Description
18130	SS-CAT5e-W SYM PUNCH DOWN CAT-5e 1000BASE-T KEYSTONE
18132	SS-CAT6-W SYM PUNCH DOWN CAT-6 10GbE KEYSTONE
18129	SS-HDMI-W SYM & TBL BOX WHITE PASS-THRU KEYSTONE
17624	SS-SCAT6A CAT6A SHIELDED SNAP-N KEYSTONE
17205	SS-USBA-B PASS THRU SNAP-IN KEYSTONE
25991	SS-RJ45-B PASS THRU SNAP-IN BLACK CAT 5E KEYSTONE
16820	SS-RJCAT6-B PASS THRU SNAP-IN BLACK RJ-45 CAT 6 CONNECTOR KEYSTONE
18347	SS-USB-C-CHRG Universal Charging Port, Snap-In module style, compatible with USB-C® devices, with Power Supply
18348	SS-USB-C-CHRG-NPS Universal Charging Port, Snap-In module style, compatible without USB-C® devices, No Power Supply
26968	6' FEMALE HD-15 CHASSIS MOUNT to MALE CABLE for VGA INSERT
36131	1/8" or 3.5MM HEADPHONE JACK to 3-PIN SCREW TERMINAL for VGA INSERT
31008	REPLACEMENT HUBBELL .5U BLANK WHITE INSERT
31009	REPLACEMENT HUBBELL 1U BLANK WHITE INSERT
31010	REPLACEMENT HUBBELL 1U 1 KEYSTONE WHITE INSERT
31011	REPLACEMENT HUBBELL 1U 2 KEYSTONE WHITE INSERT
31012	REPLACEMENT HUBBELL 1.5U XLR OPENING WHITE INSERT
31015	REPLACEMENT HUBBELL 1.5U VGA & 1.5MM JACK WHITE INSERT

In-Table

Clamp-On

Under-Table

SPECIFICATIONS

AC power input	125VAC 15A 60Hz
AC power output	15A maximum combined total current on all receptacles 15A maximum total current from each individual receptacle
USB Charging Ports output	1CA- 5V 10W from each port
Approvals	UL 962A, CSA C22.2 No. 308-18
Combination USB Ports Output	1CC-USB-A 2 Amps 10 Watts / USB-C 3 Amps 15 Watts

Specifications are subject to change without notice.

MADE IN THE USA GREEN

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AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION ✦ = NOT ISSUED ⊘ = DELETED

NO.	DATE	ISSUE
1	03-13-25	ISSUED FOR REVIEW
2	/ /	
3	/ /	
4	/ /	
5	/ /	
6	/ /	
7	/ /	
8	/ /	
9	/ /	
10	/ /	

	DRAWING #	DESCRIPTION	ROOM										
1	AV-CO	Audiovisual Coversheet, Scope of Responsibilities	UNION SQUARE	●									
2	AV-201	Audiovisual Facility Plans and Elevations	UNION SQUARE	●									
3	AV-301	Audiovisual Electrical Plans and Elevations	UNION SQUARE	●									
4	AV-302	Audiovisual Electrical Riser Diagram	UNION SQUARE	●									
5	AV-401	Audiovisual Flow Diagram	UNION SQUARE	✦									
6	AV-501	Audiovisual Details	UNION SQUARE	●									
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AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to IVCi for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by IVCi, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to IVCi AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

AUDIOVISUAL NOTES (IF APPLICABLE)

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
EQ - Equal Distance
VIF - Verify in Field
TBD - To be Determined

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9. The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher: while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred. Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting. Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas. Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

IVCi Collaborate Anywhere
CORPORATE OFFICE
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Hauppauge, New York 11788 USA

CON EDISON
MEDIUM CONFERENCE ROOMS
SVOC ANNEX
SPRING VALLEY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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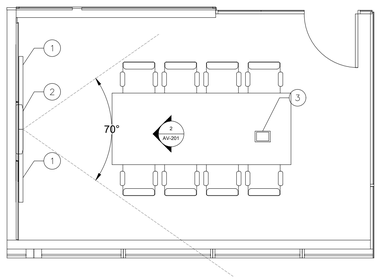
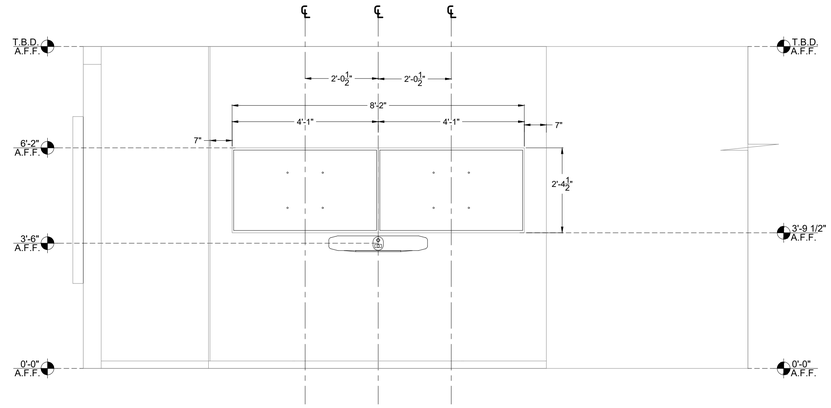
Drawing Title:
AUDIOVISUAL
DRAWING COVER

Job Number: 94159

Sheet Number: AV-CO



1 | VIEW : FACILITY PLAN | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/4" = 1'-0"



2 | VIEW : FACILITY ELEVATION | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

1. 55" FLAT PANEL DISPLAY
2. AV BAR
3. TOUCH PANEL

GENERAL NOTES

1. PROJECT MANAGER TO VERIFY EXACT ROOM LAYOUT

ADA NOTES

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Hauppauge, New York 11788 USA

CON EDISON
MEDIUM CONFERENCE ROOMS
SVOC ANNEX
SPRING VALLEY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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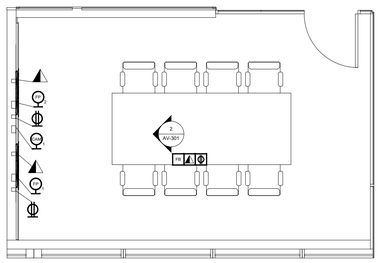
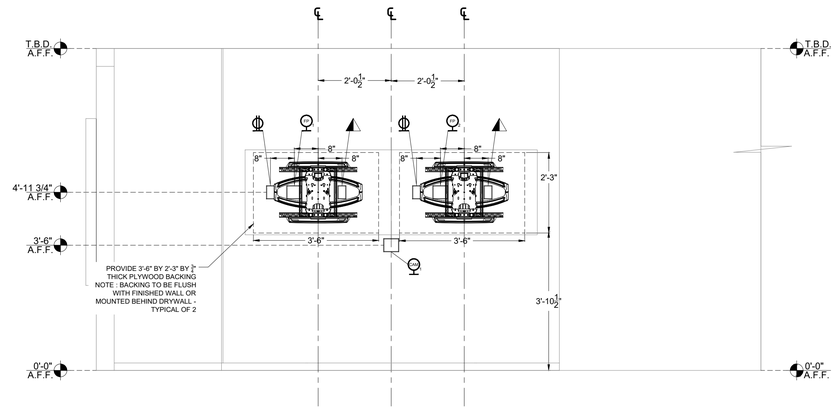
Drawing Title:
AUDIOVISUAL
FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-201



1 | VIEW : ELECTRICAL PLAN | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/4" = 1'-0"



2 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: MEDIUM CONFERENCE ROOMS | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- 20
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 — FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 — CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- FB — AV FLOOR BOX

GENERAL NOTES

ADA NOTES

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CON EDISON
MEDIUM CONFERENCE ROOMS
SVOC ANNEX
SPRING VALLEY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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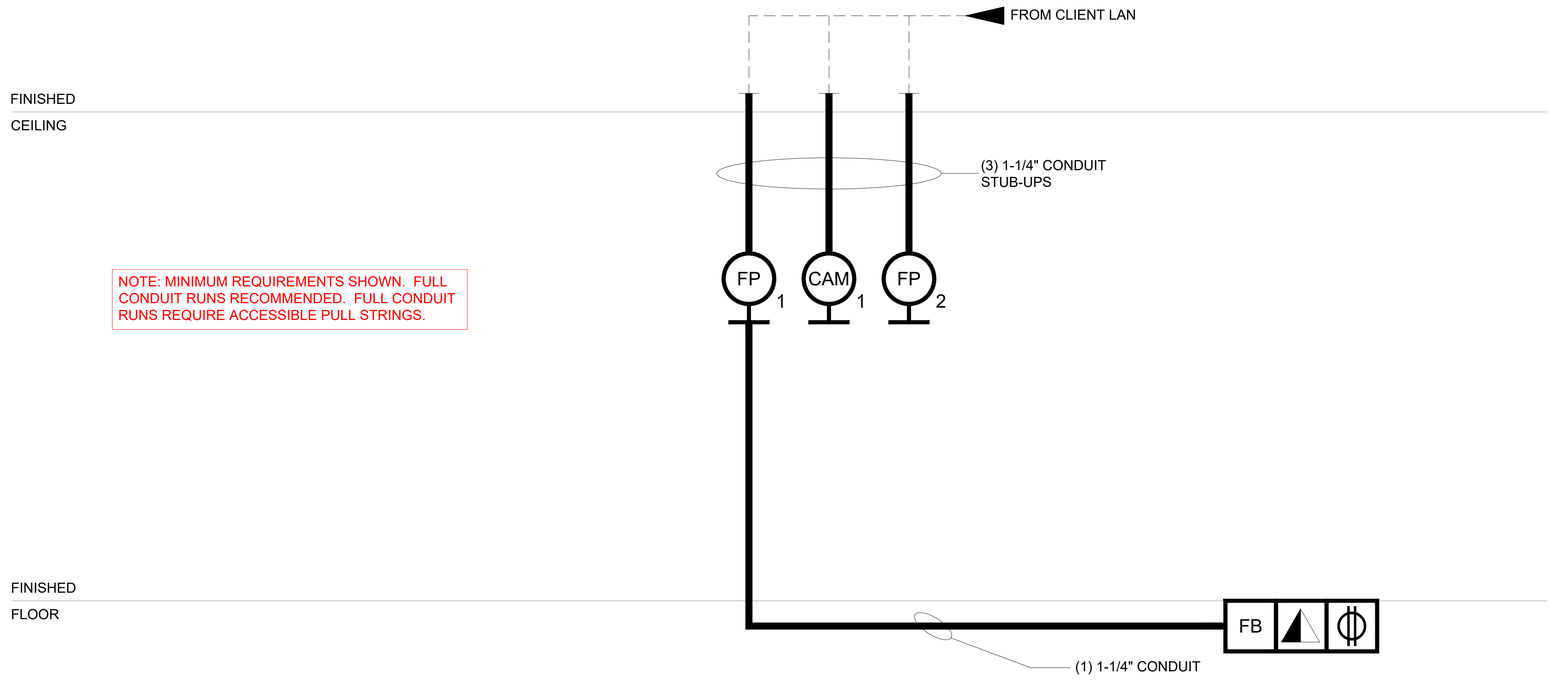
Drawing Title: AUDIOVISUAL ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-301



NOTE: MINIMUM REQUIREMENTS SHOWN. FULL CONDUIT RUNS RECOMMENDED. FULL CONDUIT RUNS REQUIRE ACCESSIBLE PULL STRINGS.

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- FB AV FLOOR BOX

GENERAL NOTES

ADA NOTES

1 | VIEW : ELECTRICAL RISER DIAGRAM | ROOM NAME: UNION SQUARE | NOTES: CONFERENCE ROOMS - 128, 129, 217, 218, 219, 338, 339 | SCALE: N.T.S.

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#	Issuance	Date	ID
1	ISSUED FOR REVIEW	3-31-25	JK
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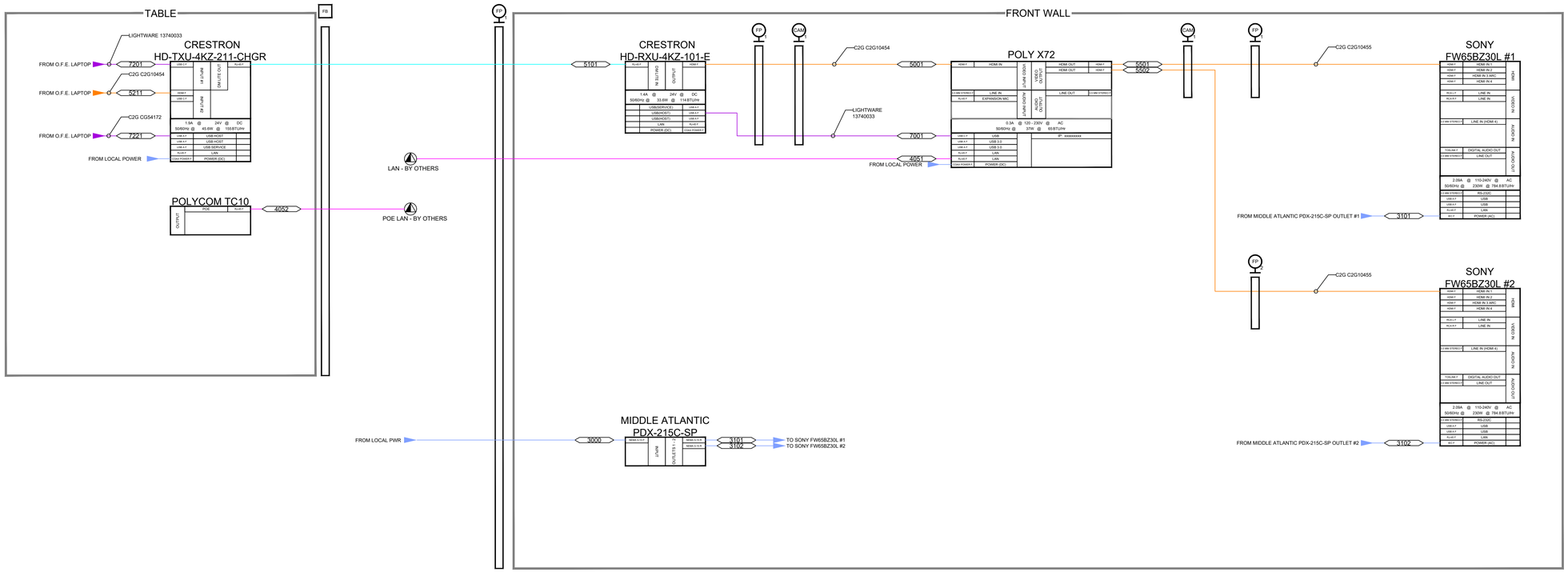
Drawing Title:
AUDIOVISUAL
ELECTRICAL RISER DIAGRAM

Job Number: 94159

Sheet Number: AV-302



IVCi Linetypes and Wire Number Legend

Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC/LINE SIGNAL	COLOR - #5	<1000> SERIES - MIC <2000> SERIES - LINE	CAT6 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	COMPONENT / VGA/3G/SDI VIDEO SIGNAL	COLOR - #1	<5000> SERIES
WIRELESS RF SIGNAL	COLOR - #3	<1000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
SPEAKER / LOW VOLTAGE PWR	COLOR - #221	<2000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	CRESNET	COLOR - #31	<6000> SERIES
PROPRIETARY POWER	COLOR - #161	<3000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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1	ISSUED FOR REVIEW	3-31-25	JK
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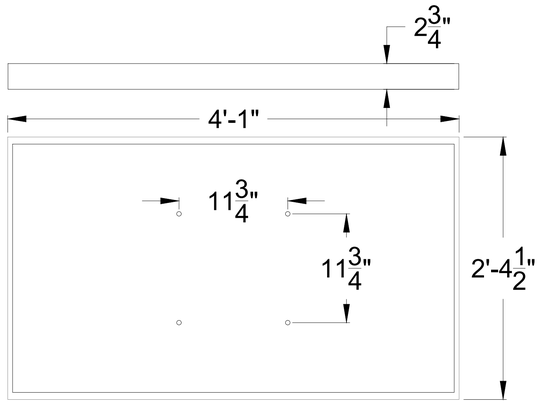
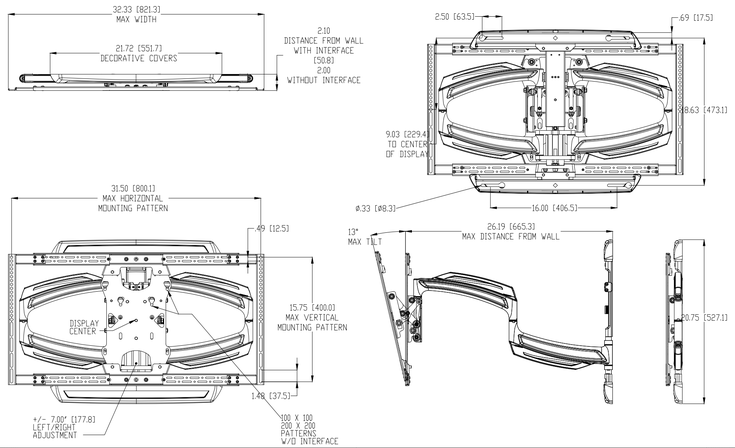
Drawing Title:
AUDIOVISUAL
FLOW DIAGRAM

Job Number: 94159

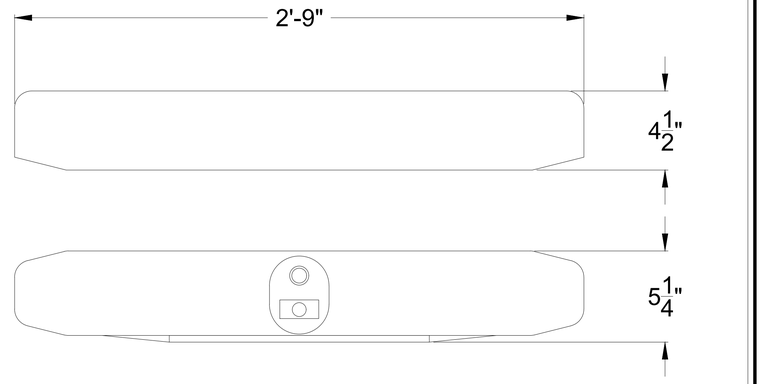
Sheet Number: AV-401



1	DESCRIPTION: 55" FLAT PANEL	NOTES:	MODEL NUMBER: FW55BZ30L
	ROOM NAME: UNION SQUARE		MANUFACTURER: SONY



2	DESCRIPTION: DISPLAY MOUNT	NOTES:	MODEL NUMBER: TS525TU
	ROOM NAME: UNION SQUARE		MANUFACTURER: CHIEF



3	DESCRIPTION: AV BAR	NOTES:	MODEL NUMBER: X72
	ROOM NAME: UNION SQUARE		MANUFACTURER: POLY

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1	ISSUED FOR REVIEW	3-31-25	JK
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Drawing Title:
AUDIOVISUAL
DETAILS

Job Number: 94159

Sheet Number: AV-501

AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION ✦ = NOT ISSUED ⊘ = DELETED

	DRAWING #	DESCRIPTION	ROOM	NO.	DATE	ISSUE
1	AV-CO	Audiovisual Coversheet, Scope of Responsibilities	NEW SVOC BOARDROOM	●	4-11-2025	ISSUED FOR REVIEW
2	AV-201	Audiovisual Facility Plans and Elevations	NEW SVOC BOARDROOM	●		
3	AV-202	Audiovisual Facility Plans and Elevations	NEW SVOC BOARDROOM	●		
4	AV-301	Audiovisual Electrical Plans and Elevations	NEW SVOC BOARDROOM	●		
5	AV-302	Audiovisual Electrical Plans and Elevations	NEW SVOC BOARDROOM	●		
6	AV-303	Audiovisual Electrical Riser Diagram	NEW SVOC BOARDROOM	●		
7	AV-401	Audiovisual Flow Diagram	NEW SVOC BOARDROOM	●		
8	AV-402	Audiovisual Flow Diagram	NEW SVOC BOARDROOM	●		
9	AV-403	Audiovisual Rack Elevation Diagram	NEW SVOC BOARDROOM	●		
10	AV-501	Audiovisual Details	NEW SVOC BOARDROOM	●		
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AUDIOVISUAL NOTES (IF APPLICABLE)

AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to IVCi for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by IVCi, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to IVCi AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
EQ - Equal Distance
VIF - Verify in Field
TBD - To be Determined

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9. The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher: while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred. Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting. Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas. Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

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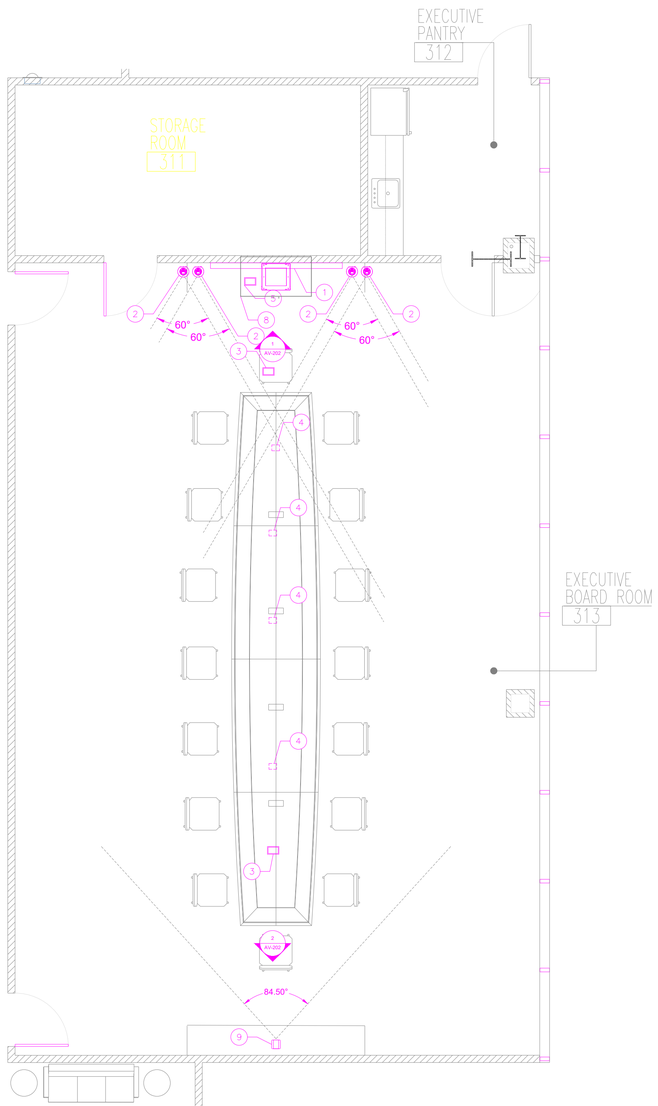
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL DRAWING COVER

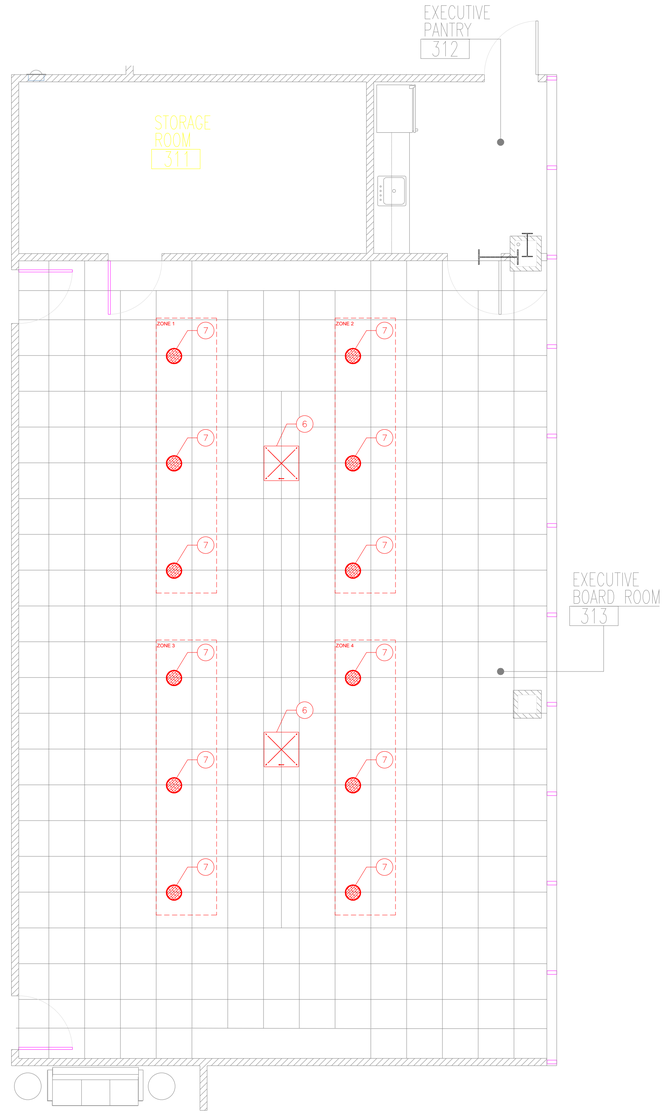
Job Number: 94159

Sheet Number: AV-CO



1

VIEW :	FACILITY PLAN	NOTES: -	SCALE:
ROOM NAME:	NEW BLUE HILL BOARDROOM		1/4" = 1'-0"



2

VIEW :	FACILITY CEILING PLAN	NOTES: -	SCALE:
ROOM NAME:	NEW BLUE HILL BOARDROOM		1/4" = 1'-0"

SYMBOLS LEGEND

1. 100" FLAT PANEL DISPLAY W/ RECEIVER MOUNTED BEHIND DISPLAY
2. CAMERA - TYPICAL OF 5
3. POLY 10" TOUCH PANEL ON TABLE - TYPICAL OF 2
4. TRANSMITTER MOUNTED UNDER THE TABLE - TYPICAL OF 4
5. EXTRON 10" TOUCH PANEL - CREDENZA TOP
6. CEILING MICROPHONE - TYPICAL OF 2
7. CEILING SPEAKER - TYPICAL OF 12
8. AV CREDENZA RACK
9. AVER CAMERA

GENERAL NOTES

ADA NOTES

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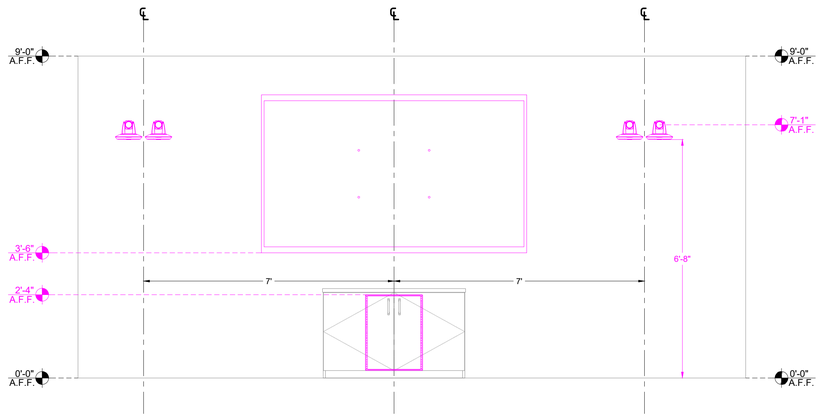
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

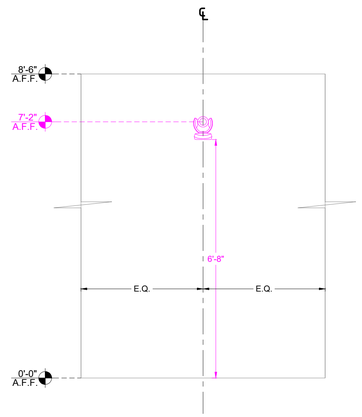
Drawing Title:
AUDIOVISUAL
FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-201



1	VIEW : FACILITY ELEVATION	NOTES: -	SCALE: 1/2" = 1'-0"
	ROOM NAME: NEW BLUE HILL BOARDROOM		



2	VIEW : FACILITY ELEVATION	NOTES: -	SCALE: 1/2" = 1'-0"
	ROOM NAME: NEW BLUE HILL BOARDROOM		

SYMBOLS LEGEND

1. 100" FLAT PANEL DISPLAY W/ RECEIVER MOUNTED BEHIND DISPLAY
2. CAMERA - TYPICAL OF 5
3. POLY 10" TOUCH PANEL ON TABLE - TYPICAL OF 2
4. TRANSMITTER MOUNTED UNDER THE TABLE - TYPICAL OF 4
5. EXTRON 10" TOUCH PANEL - CREDENZA TOP
6. CEILING MICROPHONE - TYPICAL OF 2
7. CEILING SPEAKER - TYPICAL OF 12
8. AV CREDENZA RACK
9. AVER CAMERA

GENERAL NOTES

ADA NOTES

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CORPORATE OFFICE
601 Old Willets Path
Hauppauge, New York 11788 USA

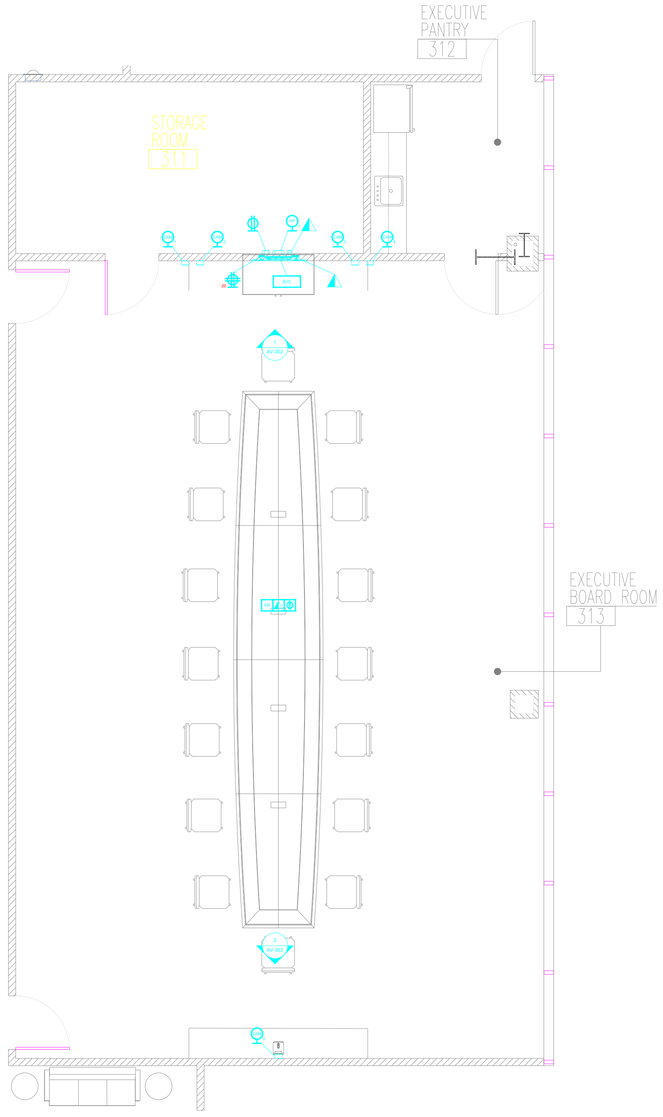
CON EDISON
NEW SVOC BOARDROOM
390 WEST RT. 59
SPRING VALLEY
ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

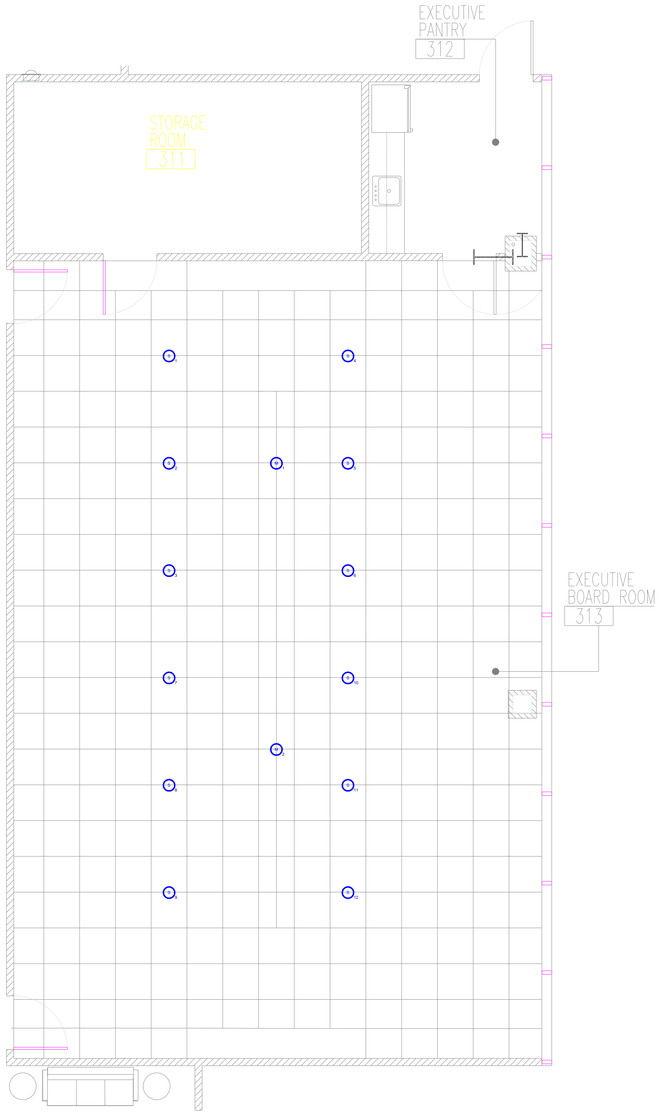
Drawing Title:
AUDIOVISUAL
FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-202



1 | VIEW : ELECTRICAL PLAN | ROOM NAME: NEW BLUE HILL BOARDROOM | NOTES: - | SCALE: 1/4" = 1'-0"



2 | VIEW : ELECTRICAL CEILING PLAN | ROOM NAME: NEW BLUE HILL BOARDROOM | NOTES: - | SCALE: 1/4" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- AVC AV CREDENZA - WIRING TROUGH - HOFFMAN TYPE 1 (4"x4"x AS REQUIRED") WITH KNOCKOUTS AND COVER. WIRING TROUGH COVER TO BE SUPPLIED WITH 2" GROMMETS (AMOUNT AS REQUIRED) FOR CABLE PASS THROUGH. BOX TO BE FLUSH MOUNTED IN WALL
- FB AV FLOOR BOX
- M 1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

ADA NOTES

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#	Issuance	Date	ID
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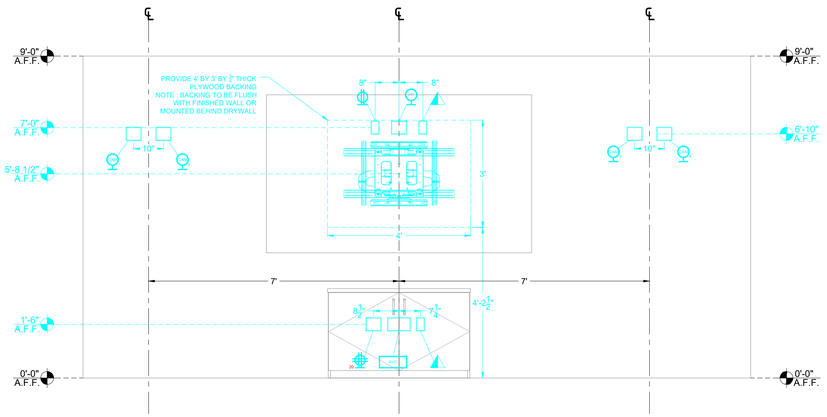
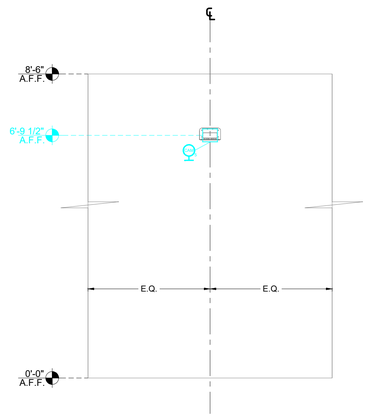
Drawing Title:
AUDIOVISUAL
ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-301



1 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: NEW BLUE HILL BOARDROOM | NOTES: - | SCALE: 1/2" = 1'-0"



2 | VIEW : ELECTRICAL ELEVATION | ROOM NAME: NEW BLUE HILL BOARDROOM | NOTES: - | SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
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- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
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- FB AV FLOOR BOX
- M 1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

ADA NOTES

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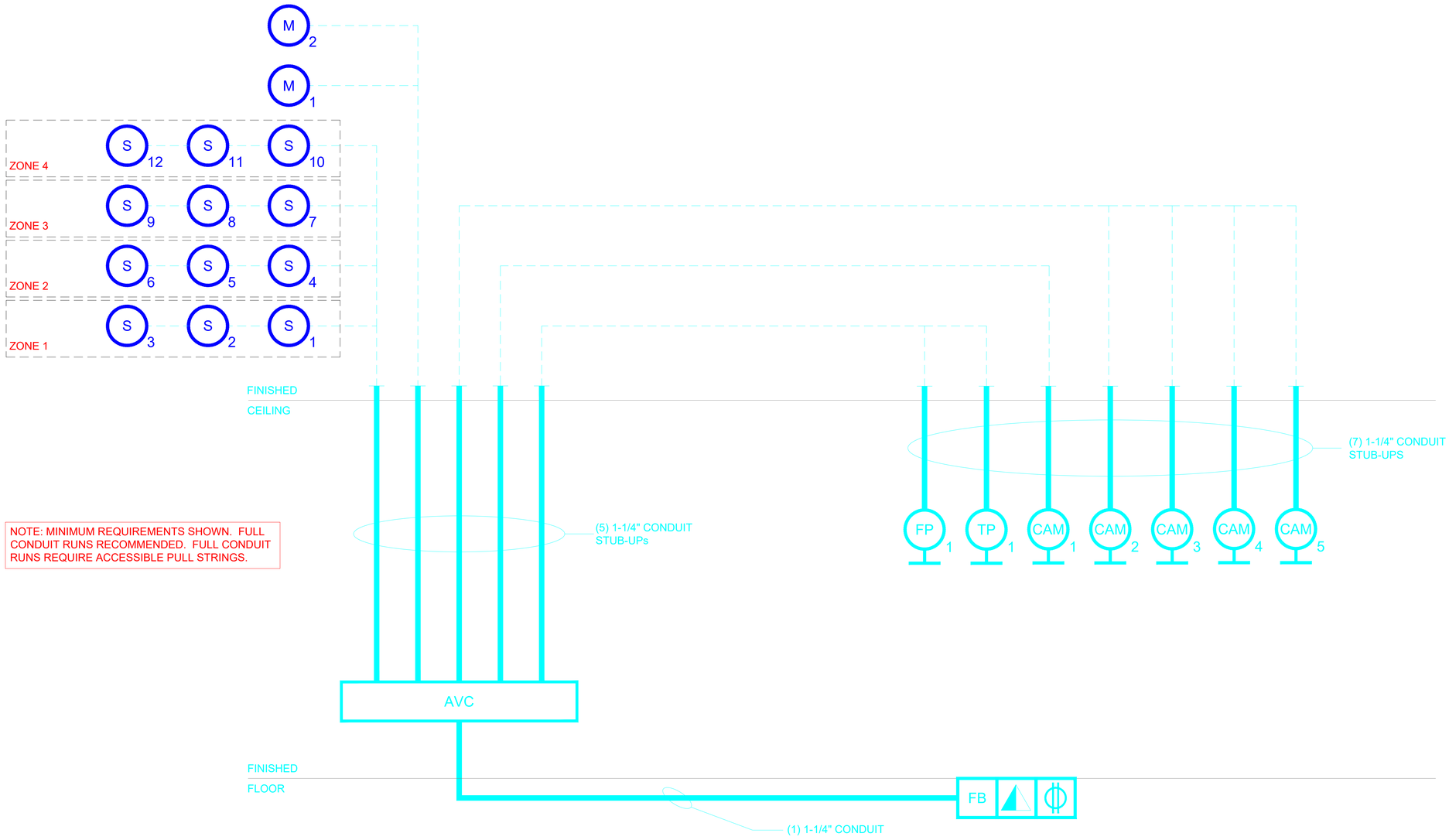
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-302



NOTE: MINIMUM REQUIREMENTS SHOWN. FULL CONDUIT RUNS RECOMMENDED. FULL CONDUIT RUNS REQUIRE ACCESSIBLE PULL STRINGS.

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
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- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP 1 FLAT PANEL DISPLAY - WALL MOUNTED - DOUBLE GANG ELECTRICAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- CAM 1 CAMERA - WALL MOUNTED - DOUBLE GANG JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
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- FB AV FLOOR BOX
- M 1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

ADA NOTES

1 | VIEW : ELECTRICAL RISER DIAGRAM | ROOM NAME: NEW BLUE HILL BOARDROOM | NOTES: - | SCALE: N.T.S.

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#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL ELECTRICAL RISER DIAGRAM

Job Number: 94159

Sheet Number: AV-303

CREDENZA TOP

FROM O.F.E. LAPTOP

UNDER TABLE

AV PRO AC-EX70-444-TNE #1

FROM O.F.E. LAPTOP 5103

AV PRO AC-EX70-444-TNE #2

FROM O.F.E. LAPTOP 5104

AV PRO AC-EX70-444-TNE #3

FROM O.F.E. LAPTOP 5105 — 5001 — TO AV PRO AC-AXION X INPUT #1 HDBT IN #1

AV PRO AC-EX70-444-TNE #4

FROM O.F.E. LAPTOP 5106 — 5002 — TO AV PRO AC-AXION X INPUT #1 HDBT IN #2

POLYCOM TC10 #1 — 4051 — POE LAN - BY OTHERS

POLYCOM TC10 #2 — 4052 — POE LAN - BY OTHERS

FB

LAN - BY OTHERS

AVC

LAN - BY OTHERS

LAN - BY OTHERS

FROM MIDDLE ATLANTIC PD-815SC-NS OUTLET #2 — 4054 / 3202

5101 — BARCO CX-50 — 5005 — TO AV PRO AC-AXION X INPUT #3 HDMI IN #1

FROM BIAMP EX-UBT #3 — 7001

FROM INOGENI 4KXUSB3 USB — 7013

FROM BIAMP TESIRAFORTE X400 AVB #3 — 4104 — BIAMP EX-UBT #3 — 7001 — TO BARCO CX-50 USB

FROM EXTRON IPCP PRO 255Q XI COM #1 — 6001

FROM CRESTRON CEN-SWPOE-16 PORT #7 — 4007

FROM JUICE GOOSE JG-RX100-20A OUTLET #2 — 3102

AV CREDENZA RACK

AV PRO AC-AXION X

FROM AV PRO AC-EX70-444-TNE #3 — 5001

FROM AV PRO AC-EX70-444-TNE #4 — 5002

5003

5004

FROM BARCO CX-50 HDMI OUT — 5005

FROM INOGENI 4KXUSB3 HDMI OUT — 5006

FROM POLY G7500 #1 DISPLAY OUT #1 — 5007

FROM POLY G7500 #2 DISPLAY OUT #1 — 5008

5501

5503 — TO SCT RC-SDA #1 HDMI IN

5504 — TO SCT RC-SDA #2 HDMI IN

5505 — TO POLY G7500 #1 HDMI IN

5506 — TO POLY G7500 #2 HDMI IN

2003 — TO BIAMP TESIRAFORTE X400 IN #1

2004 — TO BIAMP TESIRAFORTE X400 IN #2

FROM RDL ST-DA3 #1 OUT #1 — 2503

FROM RDL ST-DA3 #1 OUT #2 — 2504

FROM RDL ST-DA3 #2 OUT #1 — 2505

FROM RDL ST-DA3 #2 OUT #2 — 2506

QSC MP-A40V

1.6A @ 100 - 240V @ AC
50/60Hz @ 170W @ 600BTU/Hr

AMPLIFIER CALCULATED AT 1/8 POWER

FROM JUICE GOOSE JG-RX100-20A OUTLET #1 — 3101

POLY G7500 #1

FROM AV PRO AC-AXION X OUTPUT #4 HDMI OUT #1 — 5505 — 5007 — TO AV PRO AC-AXION X INPUT #4 HDMI IN #1

SCT RC-SDA #1

FROM AV PRO AC-AXION X OUTPUT #3 HDMI OUT #1 — 5503 — 5613

FROM JUICE GOOSE JG-RX100-20A OUTLET #5 — 3105

BIAMP EX-UBT #1

FROM BIAMP TESIRAFORTE X400 AVB #1 — 4102 — 7002

FROM MIDDLE ATLANTIC PD-815SC-NS OUTLET #3 — 4055 / 3203

POLY G7500 #2

FROM AV PRO AC-AXION X OUTPUT #4 HDMI OUT #2 — 5506 — 5008 — TO AV PRO AC-AXION X INPUT #4 HDMI IN #2

SCT RC-SDA #2

FROM AV PRO AC-AXION X OUTPUT #3 HDMI OUT #2 — 5514 — 5614

FROM MIDDLE ATLANTIC PD-815SC-NS OUTLET #5 — 3205

BIAMP EX-UBT #2

FROM BIAMP TESIRAFORTE X400 AVB #2 — 4103 — 7003

FROM MIDDLE ATLANTIC PD-815SC-NS OUTLET #4 — 4056 / 3204

FROM EXTRON IPCP PRO 255Q XI COM #2 — 6002

FROM LOCAL POWER

AVC

FP

FRONT WALL

SONY FW-100BZ40J

S L3

CEILING LEFT FRONT

SOUNDTUBE CM62-EZ-II — 2603

TAP SETTINGS:
QUANTITY: 3

S L4

CEILING RIGHT FRONT

SOUNDTUBE CM62-EZ-II — 2604

TAP SETTINGS:
QUANTITY: 3

S L9

CEILING LEFT REAR

SOUNDTUBE CM62-EZ-II — 2605

TAP SETTINGS:
QUANTITY: 3

S L10-12

CEILING RIGHT REAR

SOUNDTUBE CM62-EZ-II — 2607

TAP SETTINGS:
QUANTITY: 3

IVCi Linetypes and Wire Number Legend

Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC SIGNAL	COLOR - #5	<1000> SERIES	CAT6 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES
WIRELESS RF SIGNAL	COLOR - #3	<1000> SERIES	CAT6 SHIELDED DANTE OR AVB	COLOR - #4	<4000> SERIES	COMPONENT / VGA/3G/SDI VIDEO SIGNAL	COLOR - #1	<5000> SERIES
AUDIO SIGNAL	COLOR - #5	<2000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
POWER	COLOR - #31	<3000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL FLOW DIAGRAM

Job Number: 94159

Sheet Number: AV-401

IVCi Linetypes and Wire Number Legend								
Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC SIGNAL	COLOR - #5	<1000> SERIES	CAT6 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES
WIRELESS RF SIGNAL	COLOR - #3	<1000> SERIES	CAT6 SHIELDED DANTE OR AVB	COLOR - #4	<4000> SERIES	COMPONENT / VGA/3G/SDI VIDEO SIGNAL	COLOR - #1	<5000> SERIES
AUDIO SIGNAL	COLOR - #5	<2000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
POWER	COLOR - #31	<3000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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Drawing Title:
AUDIOVISUAL FLOW DIAGRAM

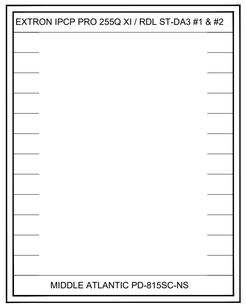
Job Number: 94159

Sheet Number: AV-402

TOTAL AMPERAGE - 9.96A
TOTAL BTU - 4364 BTU

RACK UNITS	HEIGHT INCHES
18	31.50
17	29.75
16	28.00
15	26.25
14	24.50
13	22.75
12	21.00
11	19.25
10	17.50
9	15.75
8	14.00
7	12.25
6	10.50
5	8.75
4	7.00
3	5.25
2	3.50
1	1.75

FRONT ELEVATION



REAR ELEVATION

HEIGHT INCHES	RACK UNITS
31.50	18
29.75	17
28.00	16
26.25	15
24.50	14
22.75	13
21.00	12
19.25	11
17.50	10
15.75	9
14.00	8
12.25	7
10.50	6
8.75	5
7.00	4
5.25	3
3.50	2
1.75	1

IVCi Linetypes and Wire Number Legend

Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC SIGNAL	COLOR - #5	<1000> SERIES	CAT6 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES
WIRELESS RF SIGNAL	COLOR - #3	<1000> SERIES	CAT6 SHIELDED DANTE OR AVB	COLOR - #4	<4000> SERIES	COMPONENT / VGA/3G/SDI VIDEO SIGNAL	COLOR - #1	<5000> SERIES
AUDIO SIGNAL	COLOR - #5	<2000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
POWER	COLOR - #31	<3000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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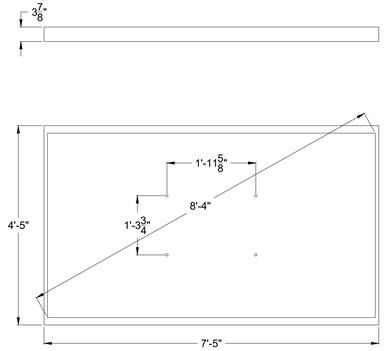
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

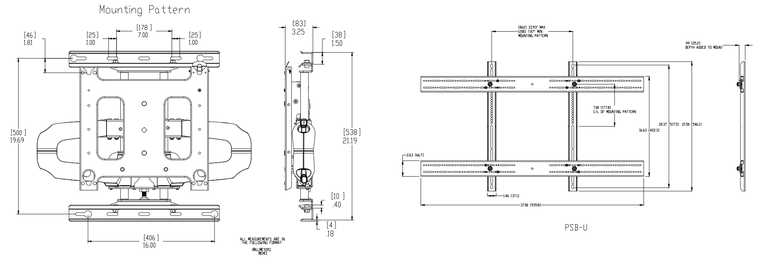
Drawing Title:
AUDIOVISUAL
RACK ELEVATION DIAGRAM

Job Number: 94159

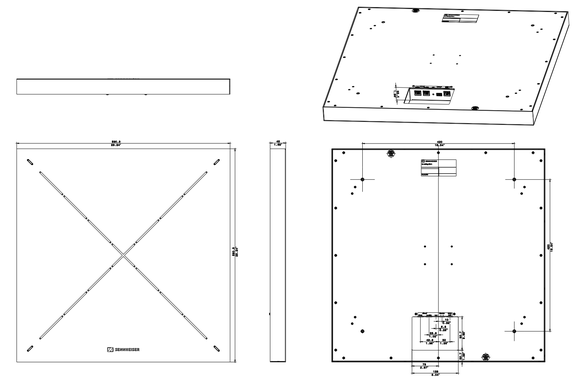
Sheet Number: AV-403



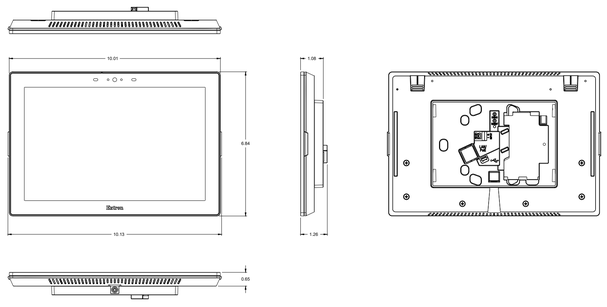
1 | DESCRIPTION: 100" DISPLAY | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: FW100BZ4U | MANUFACTURER: SONY



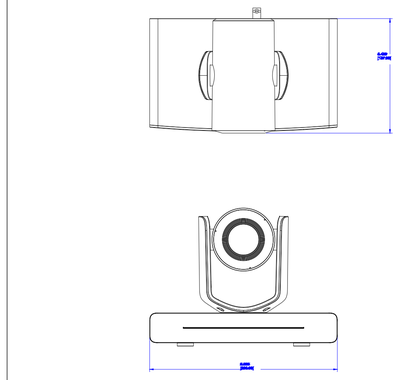
2 | DESCRIPTION: DISPLAY MOUNT | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: PMRUB | MANUFACTURER: CHIEF



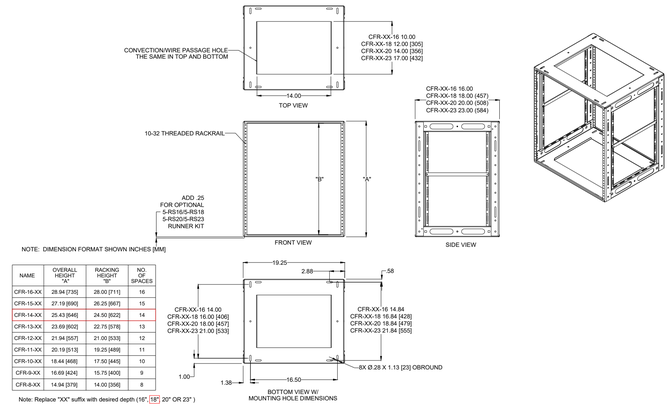
3 | DESCRIPTION: CEILING MICROPHONE | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: TCC2 | MANUFACTURER: SENNHEISER



5 | DESCRIPTION: 10" TOUCH PANEL | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: TLP Pro 1025M | MANUFACTURER: EXTRON



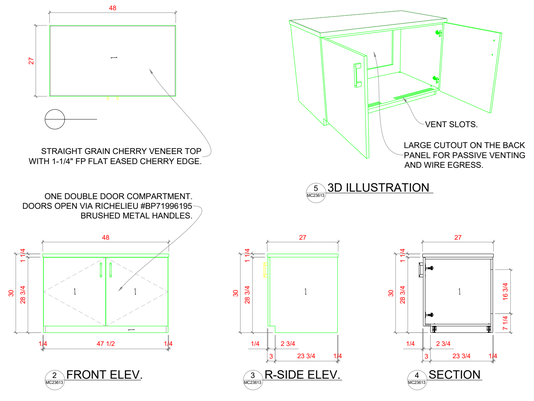
6 | DESCRIPTION: CAMERA | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: PTZ-UIP30 | MANUFACTURER: I BEYOND



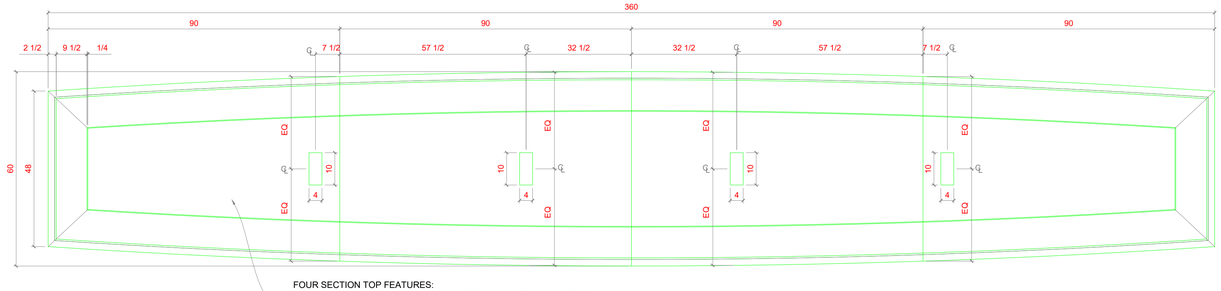
NAME	OVERALL HEIGHT [mm]	RACKING HEIGHT [mm]	NO. RACK SPACES
CFR-16-XX	28.94 [735]	28.00 [711]	16
CFR-15-XX	27.19 [690]	26.25 [667]	15
CFR-14-XX	25.43 [646]	24.50 [622]	14
CFR-13-XX	23.69 [602]	22.75 [578]	13
CFR-12-XX	21.94 [557]	21.00 [533]	12
CFR-11-XX	20.19 [513]	19.25 [489]	11
CFR-10-XX	18.44 [468]	17.50 [445]	10
CFR-9-XX	16.69 [424]	15.75 [400]	9
CFR-8-XX	14.94 [379]	14.00 [356]	8

Note: Replace "XX" suffix with desired depth (16", 18", 20" OR 23")

6 | DESCRIPTION: AV RACK | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: CFR-14-18 | MANUFACTURER: MIDDLE ATLANTIC



7 | DESCRIPTION: AV CREDENZA FURNITURE | ROOM NAME: NEW SVOC BOARDROOM | MODEL NUMBER: | MANUFACTURER:



FOUR SECTION TOP FEATURES:
* 2-1/2" DEEP X 1-1/4" THICK FR CHAMFERED SOLID CHERRY EDGE.
* 9-1/2" DEEP STRAIGHT GRAIN CHERRY VENEER BORDER.
* 1/4" WIDE APPLIED BLACK ACCENT LINE BETWEEN THE BORDER AND THE FIELD.
* FIELD OF ROBLE BURL VENEER.
* 4" X 10" RAW CUTOUT (4X) FOR CUSTOMER SUPPLIED AND INSTALLED EXTRON CABLE CUBBY 1202.

8 | DESCRIPTION: TABLE FURNITURE | ROOM NAME: NEW SVOC BOARDROOM | NOTES: | MODEL NUMBER: | MANUFACTURER:

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CON EDISON
NEW SVOC BOARDROOM
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SPRING VALLEY
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#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL DETAILS

Job Number: 94159

Sheet Number: AV-501

AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION + = NOT ISSUED ⦸ = DELETED

	DRAWING #	DESCRIPTION	ROOM	NO. 1	2	3	4	5	6	7	8	9	10
				ISSUE:	ISSUED FOR REVIEW	ISSUED FOR BID	—	—					
				DATE:	04-09-22	09-15-22	—	—					
1	AV-CO	Audiovisual Coversheet, Scope of Responsibilities	GOLDMAN CONF. ROOM	●	▲								
2	AV-201	Audiovisual Facility Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
3	AV-202	Audiovisual Facility Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
4	AV-203	Audiovisual Facility Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
5	AV-301	Audiovisual Electrical Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
6	AV-302	Audiovisual Electrical Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
7	AV-303	Audiovisual Electrical Plans and Elevations	GOLDMAN CONF. ROOM	●	▲								
8	AV-304	Audiovisual Electrical Riser Diagram	GOLDMAN CONF. ROOM	●	▲								
9	AV-401	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
10	AV-402	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
11	AV-403	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
12	AV-404	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
13	AV-405	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
14	AV-406	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
15	AV-407	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
16	AV-408	Audiovisual Flow Diagram	GOLDMAN CONF. ROOM	●	▲								
17	AV-409	Audiovisual Rack Elevation Diagram	GOLDMAN CONF. ROOM	●	▲								
18	AV-501	Audiovisual Details	GOLDMAN CONF. ROOM	●	▲								
19	AV-502	Audiovisual Details	GOLDMAN CONF. ROOM	●	▲								
20	AV-503	Audiovisual Details	GOLDMAN CONF. ROOM	●	▲								
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AUDIOVISUAL NOTES (IF APPLICABLE)

AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to AV Contractor for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by AV Contractor, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to AV Contractor AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
EQ - Equal Distance
VIF - Verify in Field
TBD - To be Determined

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9.
The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher:
while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred.
Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting. Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas.
Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

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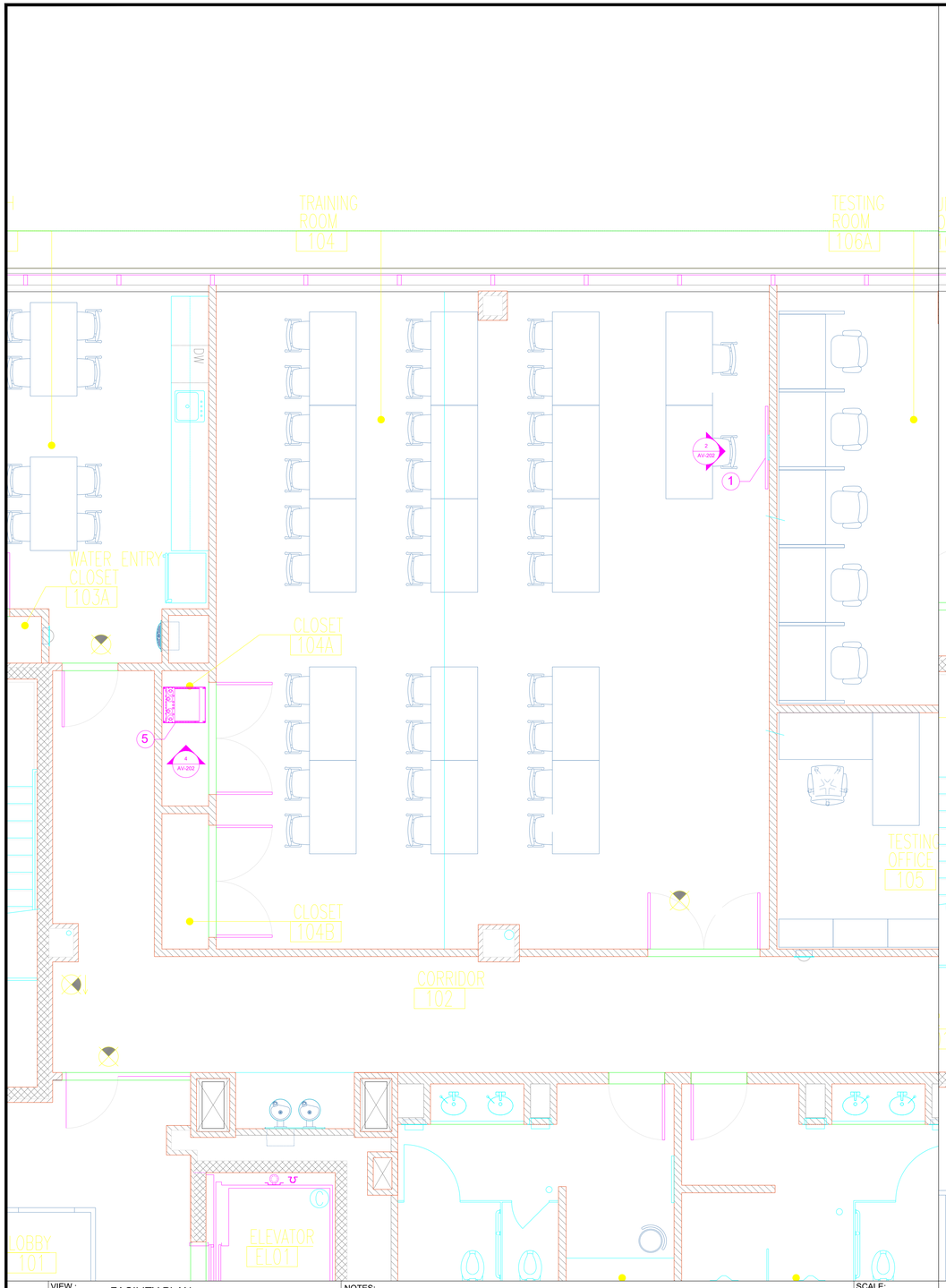
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

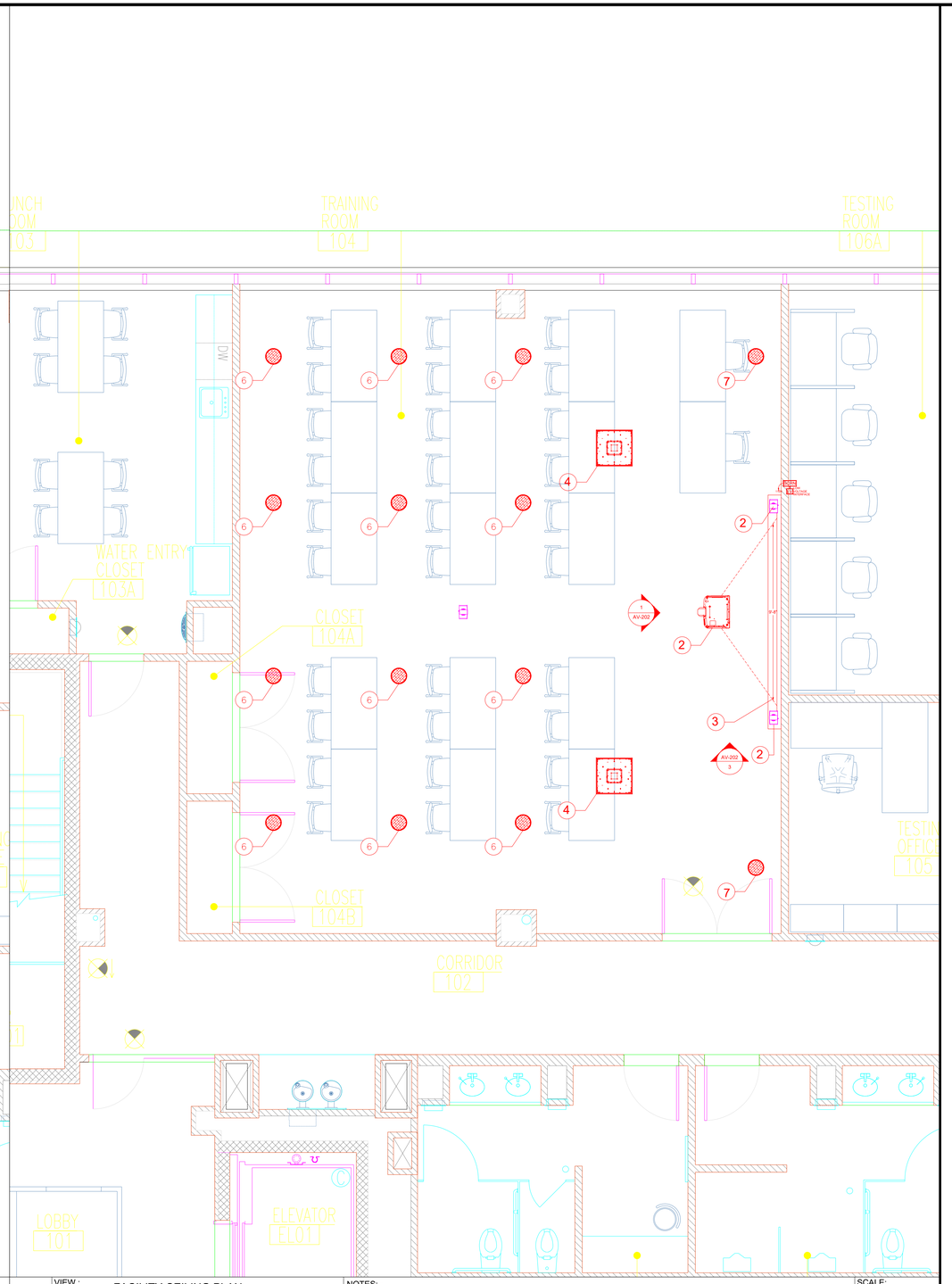
Drawing Title: AUDIOVISUAL DRAWING COVER

Job Number: 94159

Sheet Number: AV-CO



1 | VIEW : FACILITY PLAN | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - | SCALE: 75/256" = 1'-0"



2 | VIEW : FACILITY CEILING PLAN | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - | SCALE: 73/256" = 1'-0"

SYMBOLS LEGEND

1. 50" MICROSOFT SURFACE HUB3 DISPLAY
2. EPSON EB-PQ2010B PROJECTOR
3. 133" PROJECTION SCREEN
4. CEILING MICROPHONE - TYPICAL OF 6
5. AV EQUIPMENT RACK
6. CEILING SPEAKER - JBL CONTROL 47 - TYPICAL OF 12
7. CEILING SPEAKER - BOSE EM-90 - TYPICAL OF 2
8. TRACKING CAMERA - CEILING MOUNTED
9. CAMERA - WALL MOUNTED - TYPICAL OF 2
10. WIRELESS ACCESS POINT

GENERAL NOTES

1. PROJECT MANAGER TO VERIFY AV EQUIPMENT AT LECTERN

ADA NOTES

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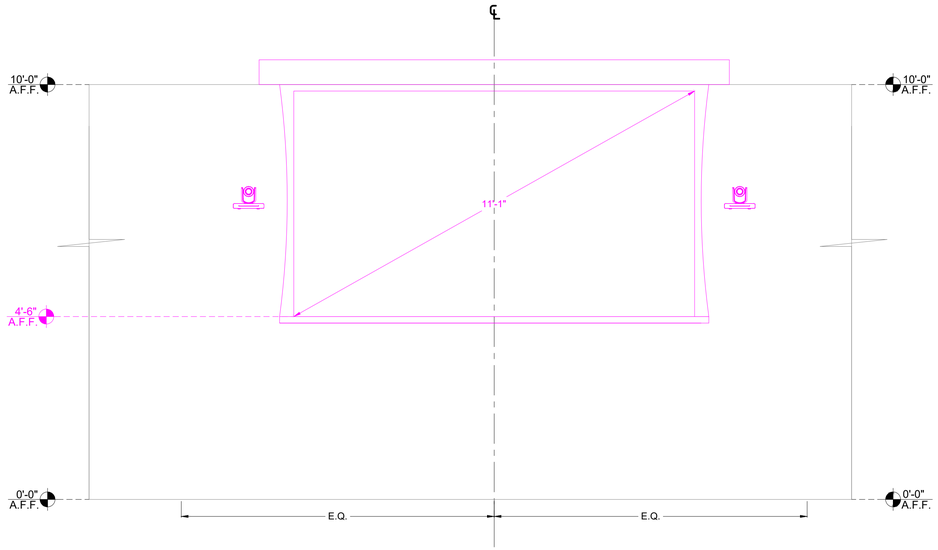
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

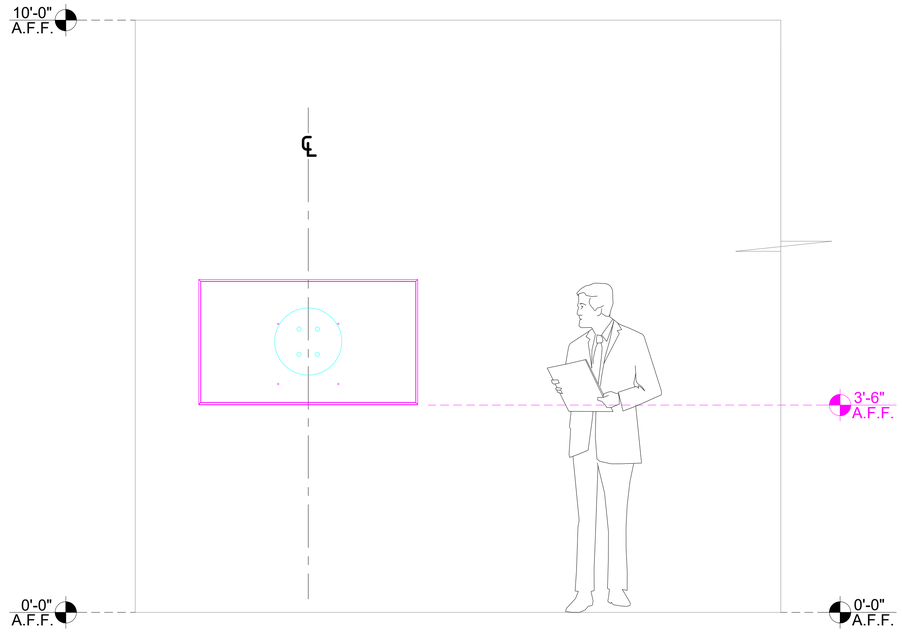
Drawing Title:
AUDIOVISUAL
FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-201



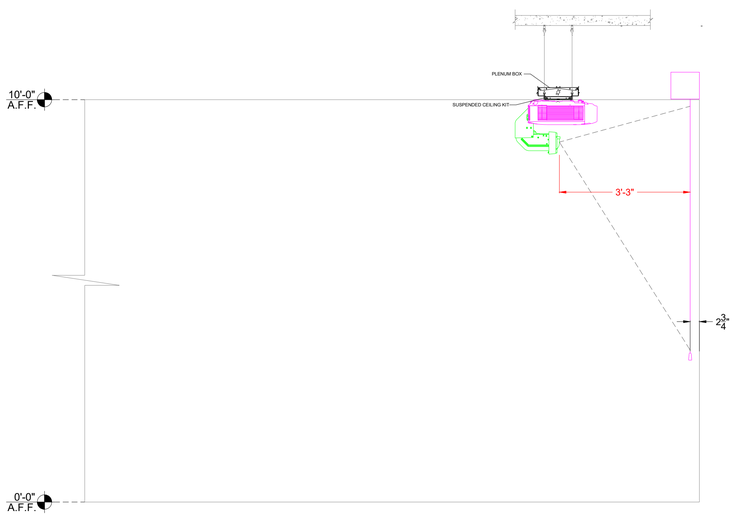
1 | VIEW : FACILITY ELEVATION | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - | SCALE: 37/64" = 1'-0"



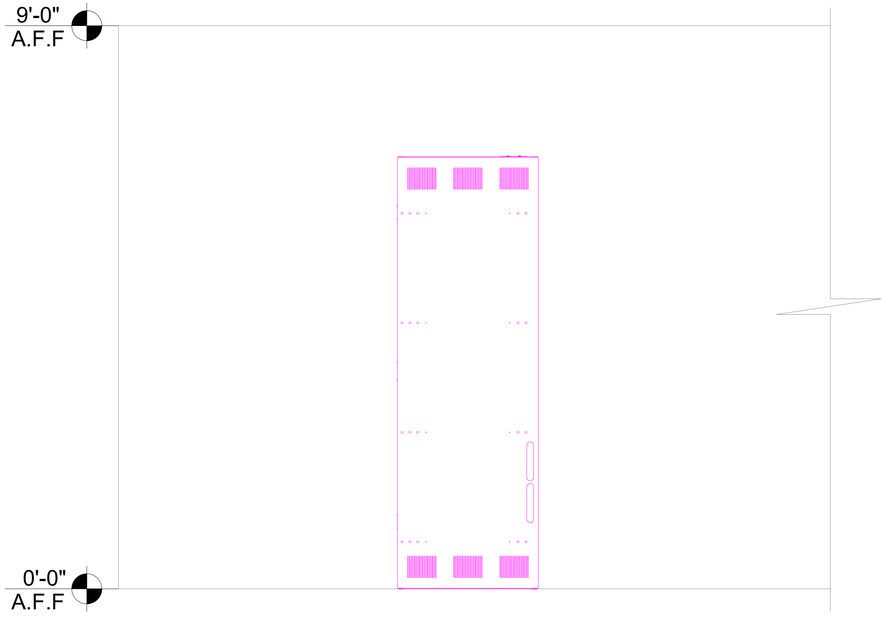
2 | VIEW : FACILITY ELEVATION | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - O.F.E. MICROSOFT SURFACE HUB3 | SCALE: ############

SYMBOLS LEGEND

1. 50" MICROSOFT SURFACE HUB3 DISPLAY
2. EPSON EB-PQ2010B PROJECTOR
3. 133" PROJECTION SCREEN
4. CEILING MICROPHONE - TYPICAL OF 6
5. AV EQUIPMENT RACK
6. CEILING SPEAKER - JBL CONTROL 47 - TYPICAL OF 12
7. CEILING SPEAKER - BOSE EM-90 - TYPICAL OF 2
8. TRACKING CAMERA - CEILING MOUNTED
9. CAMERA - WALL MOUNTED - TYPICAL OF 2
10. WIRELESS ACCESS POINT



3 | VIEW : FACILITY SECTION | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - | SCALE: 9/16" = 1'-0"



4 | VIEW : FACILITY ELEVATION | ROOM NAME: NEW SVOC TRAINING ROOM | NOTES: - | SCALE: 7/8" = 1'-0"

GENERAL NOTES

1. PROJECT MANAGER TO VERIFY AV EQUIPMENT AT LECTERN

ADA NOTES

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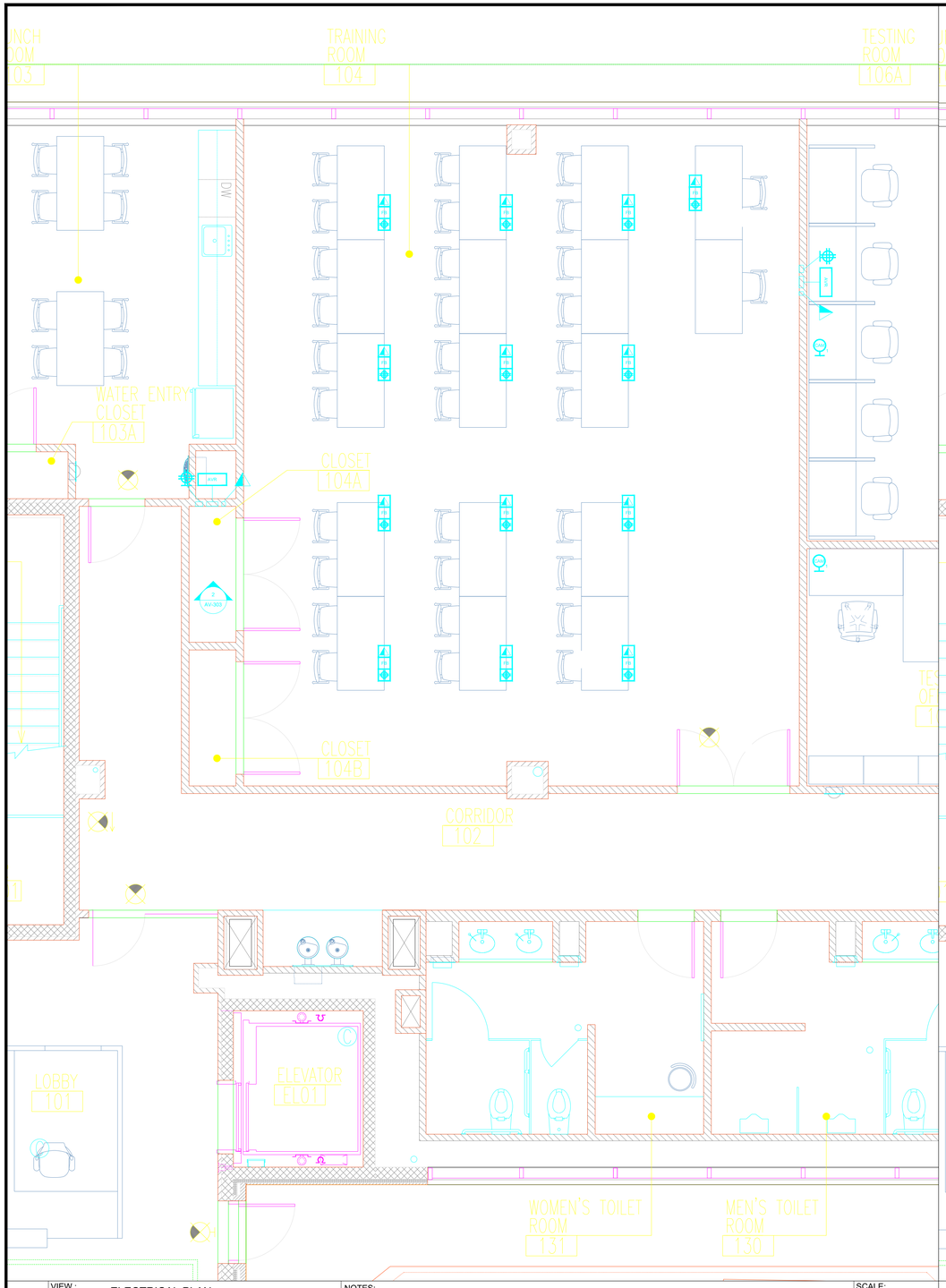
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

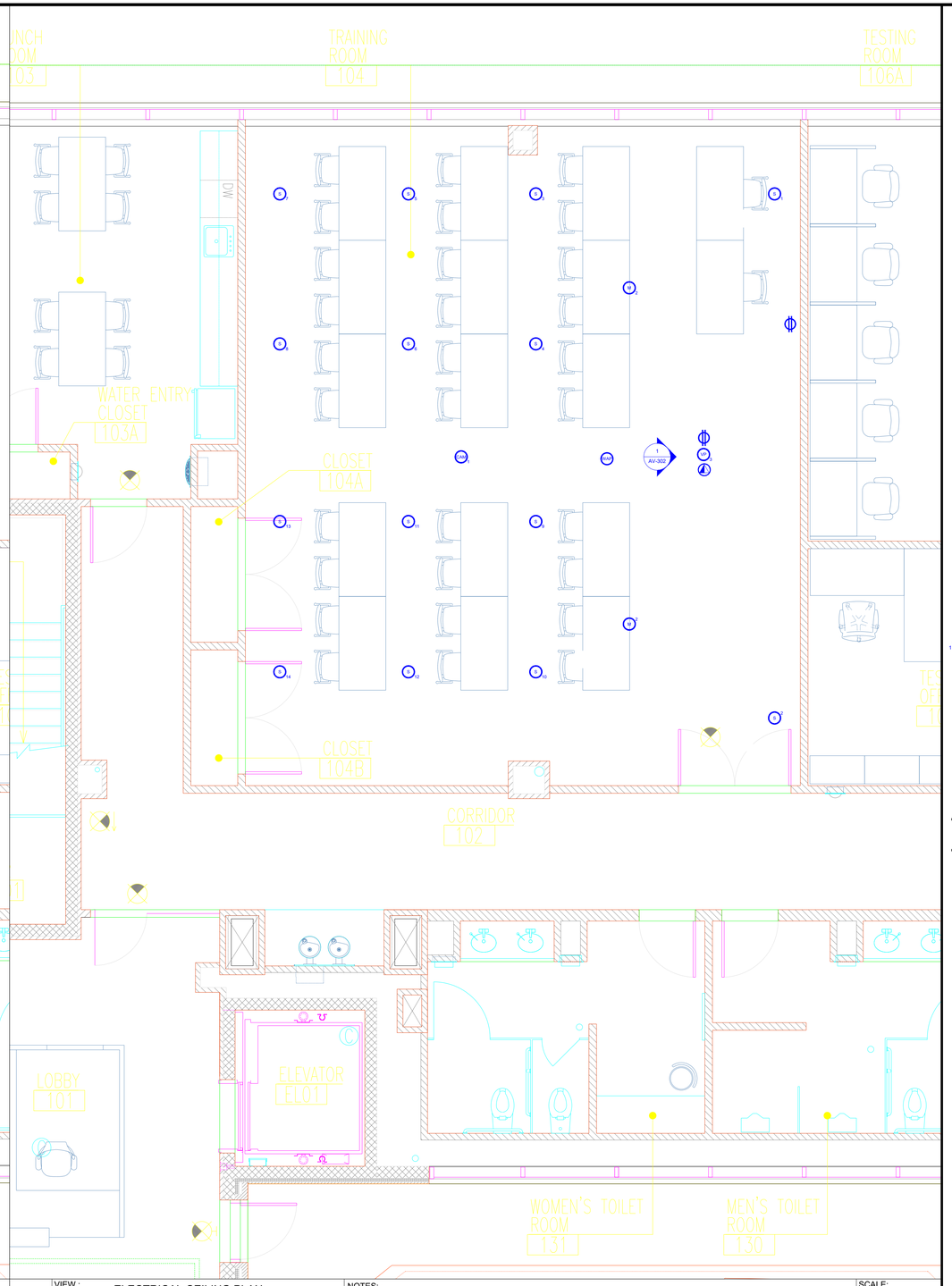
Drawing Title: AUDIOVISUAL FACILITY PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-202



1 | VIEW: ELECTRICAL PLAN | ROOM NAME: NEW SVOC TRAING ROOM | NOTES: - | SCALE: 75/256" = 1'-0"



2 | VIEW: ELECTRICAL CEILING PLAN | ROOM NAME: NEW SVOC TRAING ROOM | NOTES: - | SCALE: 75/256" = 1'-0"

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 20amp - L5-30 RECEPTACLE
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- PB 1 — PRESS BOX - WALL MOUNTED - REFER TO THE DETAIL FOR THE EXACT MOUNTING SPECIFICATIONS
- AVR — AV RACK - WIRING TROUGH - HOFFMAN TYPE 1 (4"x4"x AS REQUIRED") WITH KNOCKOUTS AND COVER. WIRING TROUGH COVER TO BE SUPPLIED WITH 2" GROMMETS (AMOUNT AS REQUIRED) FOR CABLE PASS THROUGH. BOX TO BE FLUSH MOUNTED IN WALL
- FB — AV FLOOR BOX
- VP 1 — VIDEO/DATA PROJECTOR - SINGLE GANG JUNCTION BOX LOCATED ABOVE FINISHED CEILING FOR A/V CABLING
- SCRN 1 — 110V — LV LOW VOLTAGE INTERFACE — PROJECTION SCREEN LOW VOLTAGE INTERFACE - MOTOR AND LOW VOLTAGE INTERFACE MOUNT ABOVE FINISHED CEILING (MAINTAIN ACCESS TO DEVICES)
- M 1 — MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 — SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- CAM 1 — CAMERA - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- WAP 1 — WIRELESS ACCESS POINT - CEILING MOUNTED - REFER TO THE CEILING PLAN VIEW FOR THE EXACT LOCATION

GENERAL NOTES

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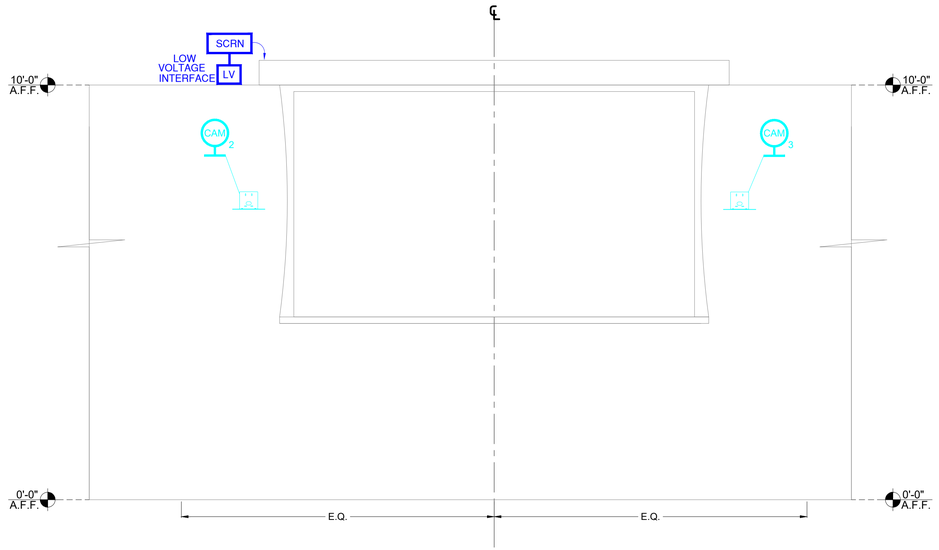
ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

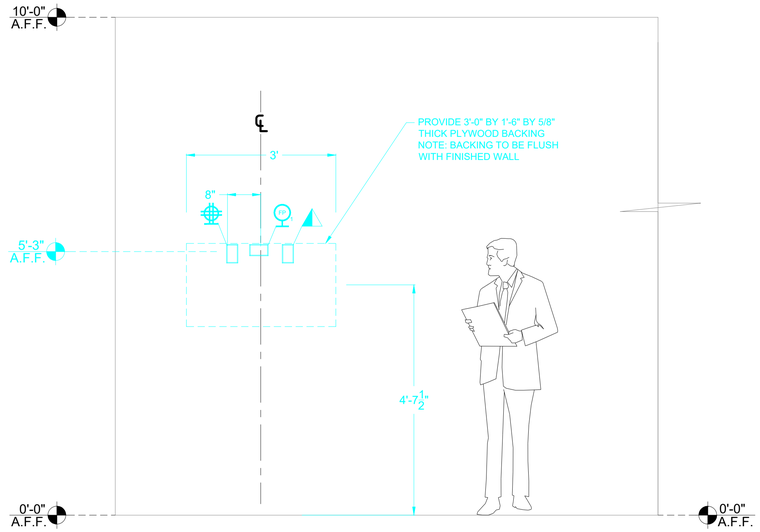
Drawing Title: AUDIOVISUAL ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

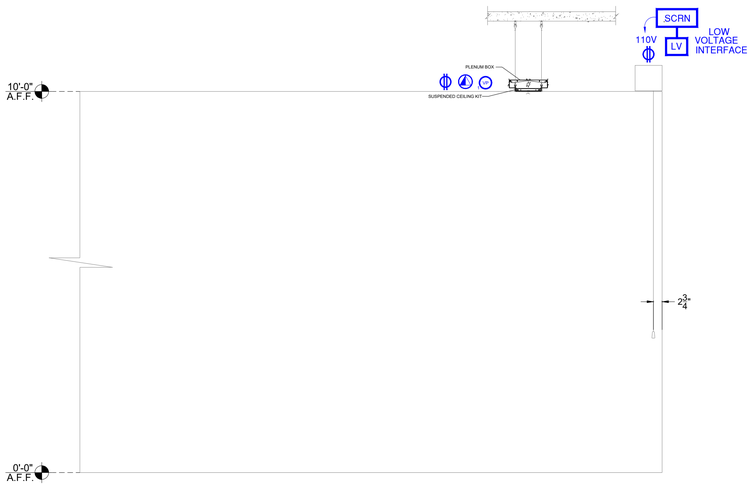
Sheet Number: AV-301



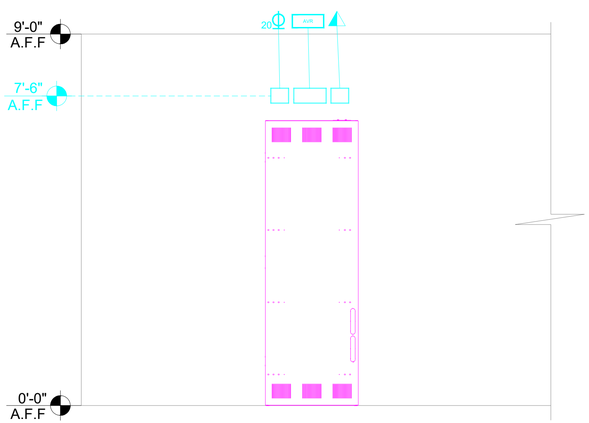
1	VIEW : ELECTRICAL ELEVATION	NOTES: -	SCALE: 37/64" = 1'-0"
	ROOM NAME: NEW SVOC TRAINING ROOM		



2	VIEW : ELECTRICAL ELEVATION	NOTES: - O.F.E. MICROSOFT SURFACE HUB3	SCALE: 17/32" = 1'-0"
	ROOM NAME: NEW SVOC TRAINING ROOM		



2	VIEW : ELECTRICAL SECTION	NOTES: -	SCALE: 17/32" = 1'-0"
	ROOM NAME: NEW SVOC TRAINING ROOM		



3	VIEW : ELECTRICAL ELEVATION	NOTES: -	SCALE: 37/64" = 1'-0"
	ROOM NAME: NEW SVOC TRAINING ROOM		

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- 20 SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 20amp - L5-30 RECEPTACLE
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- PB 1 PRESS BOX - WALL MOUNTED - REFER TO THE DETAIL FOR THE EXACT MOUNTING SPECIFICATIONS
- AVR AV RACK - WIRING TROUGH - HOFFMAN TYPE 1 (4"x4"x AS REQUIRED") WITH KNOCKOUTS AND COVER. WIRING TROUGH COVER TO BE SUPPLIED WITH 2" GROMMETS (AMOUNT AS REQUIRED) FOR CABLE PASS THROUGH. BOX TO BE FLUSH MOUNTED IN WALL
- FB AV FLOOR BOX
- VP 1 VIDEO/DATA PROJECTOR - SINGLE GANG JUNCTION BOX LOCATED ABOVE FINISHED CEILING FOR A/V CABLING
- 110V SCRN LV LOW VOLTAGE INTERFACE PROJECTION SCREEN LOW VOLTAGE INTERFACE - MOTOR AND LOW VOLTAGE INTERFACE MOUNT ABOVE FINISHED CEILING (MAINTAIN ACCESS TO DEVICES)
- M 1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

ADA NOTES

IVCi Collaborate Anywhere
CORPORATE OFFICE
601 Old Willets Path
Hauppauge, New York 11788 USA

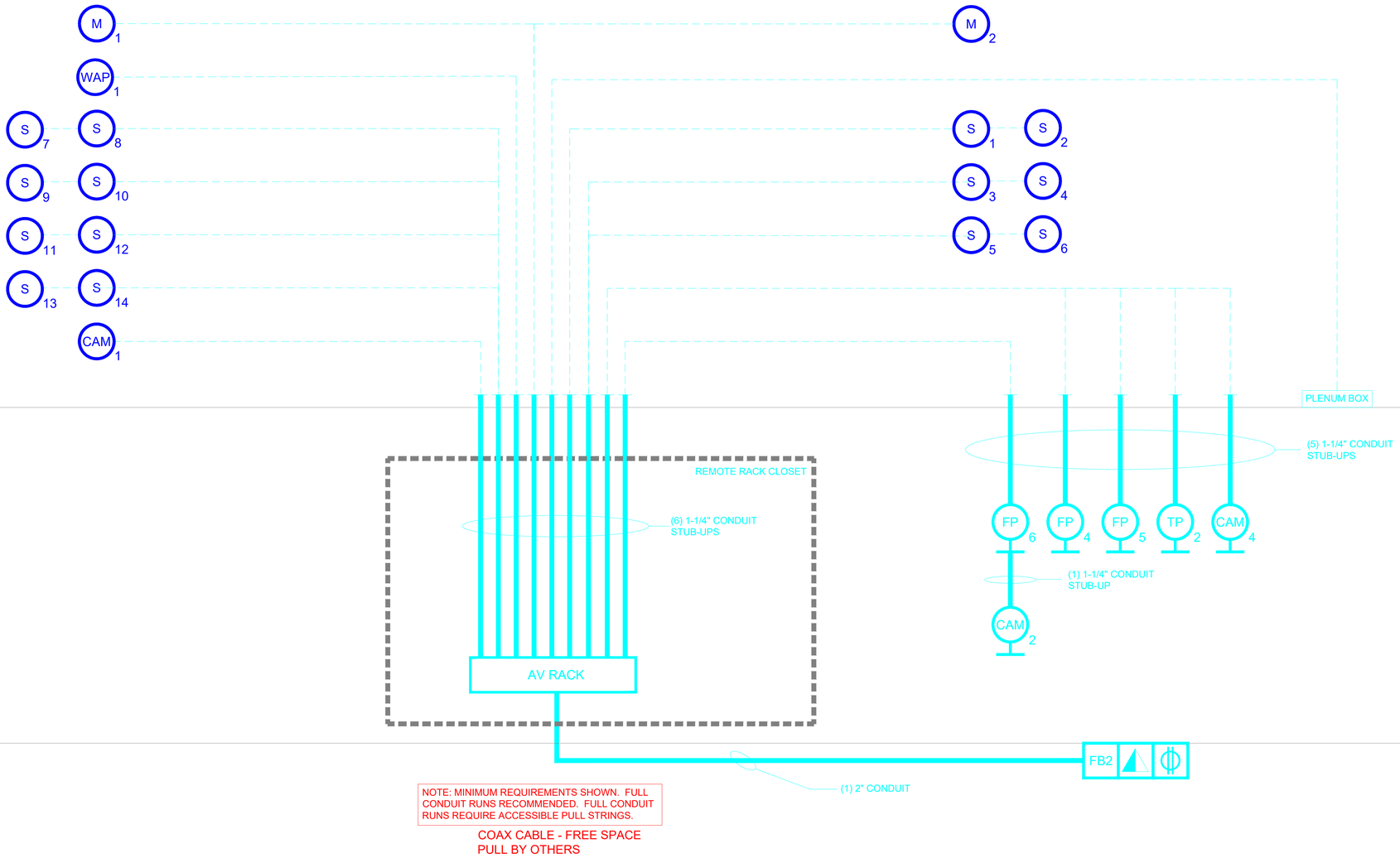
CON EDISON
NEW SVOC TRAINING ROOM
390 WEST RT. 59
SPRING VALLEY
ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title:
AUDIOVISUAL
ELECTRICAL PLANS & ELEVATIONS

Job Number: 94159

Sheet Number: AV-302



NOTE: MINIMUM REQUIREMENTS SHOWN. FULL CONDUIT RUNS RECOMMENDED. FULL CONDUIT RUNS REQUIRE ACCESSIBLE PULL STRINGS.

COAX CABLE - FREE SPACE
PULL BY OTHERS

SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 20amp - L5-30 RECEPTACLE
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- PRESS BOX - WALL MOUNTED - REFER TO THE DETAIL FOR THE EXACT MOUNTING SPECIFICATIONS
- AVR — AV RACK - WIRING TROUGH - HOFFMAN TYPE 1 (4"x4"x AS REQUIRED") WITH KNOCKOUTS AND COVER. WIRING TROUGH COVER TO BE SUPPLIED WITH 2" GROMMETS (AMOUNT AS REQUIRED) FOR CABLE PASS THROUGH. BOX TO BE FLUSH MOUNTED IN WALL
- FB — AV FLOOR BOX
- VP — VIDEO/DATA PROJECTOR - SINGLE GANG JUNCTION BOX LOCATED ABOVE FINISHED CEILING FOR A/V CABLING
- SCRN — 110v — LV LOW VOLTAGE INTERFACE — PROJECTION SCREEN LOW VOLTAGE INTERFACE - MOTOR AND LOW VOLTAGE INTERFACE MOUNT ABOVE FINISHED CEILING (MAINTAIN ACCESS TO DEVICES)
- M — MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- S — SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

ADA NOTES

1 | VIEW : ELECTRICAL RISER DIAGRAM | ROOM NAME: FEINSTEIN CONF. CENTER | NOTES: - | SCALE: N.T.S.

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Hauppauge, New York 11788 USA

CON EDISON
NEW SVOC TRAINING ROOM
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ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL ELECTRICAL RISER DIAGRAM

Job Number: 94159

Sheet Number: AV-303

AUDIOVISUAL DRAWINGS LOG

● = ISSUED ▲ = REVISION ✦ = NOT ISSUED ⦸ = DELETED

	DRAWING #	DESCRIPTION	ROOM	NO. 1	2	3	4	5	6	7	8	9	10
				ISSUE:	ISSUED FOR REVIEW	ISSUED FOR REVIEW	REVISED IFR	REVISED	ISSUED FOR CONSTRUCTION	REVISED	REVISED	REVISED	AS BUILT
				DATE:	12-03-19	12-13-19	12-17-19	01-21-20	01-22-20	04-22-20	04-23-20	5-28-20	5-28-20	10-21-20
1	AV-CO	Audiovisual Coversheet, Scope of Responsibilities	VC 53-016	●	▲	●	▲	●	●	●	▲	▲	▲
2	AV-201	Audiovisual Facility Key Plan	VC 53-016	●	▲	●	●	▲	▲	▲	▲	▲	▲
3	AV-202	Audiovisual Facility Plans and Elevations	VC 53-016	●	▲	●	●	▲	▲	▲	▲	▲	▲
4	AV-301	Audiovisual Electrical Plans and Elevations	VC 53-016	●	▲	●	●	▲	▲	▲	▲	▲	▲
5	AV-302	Audiovisual Electrical Riser Diagram	VC 53-016	●	▲	●	●	▲	●	●	▲	▲	▲
6	AV-401	Audiovisual Electrical Flow Diagram	VC 53-016	✦	✦	●	▲	▲	●	●	▲	▲	▲
7	AV-501	Audiovisual Details	VC 53-016	●	▲	●	●	▲	●	●	▲	▲	▲
8	AV-502	Audiovisual Details	VC 53-016	●	▲	●	●	▲	●	●	▲	▲	▲
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AUDIOVISUAL REFERENCE NOTES TO DRAWINGS

1. All designs, plans and specifications generated by the architects, electrical engineers, acoustical consultants, or project planners, pertaining directly to the installation of the audiovisual systems should be forwarded to IVCi for review. It is our intention to aid all involved in the project, by insuring that all consensus and criteria are met for the proper installation of the audiovisual systems.

2. These drawings are intended for AudioVisual design input purposes only .

3. Where exact dimensions are not called for, the scale of this drawing is sufficiently accurate for determining location of equipment, junction boxes, outlet boxes, wire ways, panels, etc. Room dimensions on this drawing have been taken from preliminary architectural drawings.

4. Exact locations of flush floor boxes and flush floor power receptacles shall be verified by IVCi, once final furniture designs and locations have been determined.

5. All power conduit, power wire ways, and power junction boxes are to be sized by the electrical engineer. Where these items have been sized on this drawing, the electrical engineer shall check sizing for compliance with applicable codes.

6. All junction boxes, conduit, wire ways, power, receptacles, floor boxes, are part of the base electrical contract.

7. Conduit runs on this drawing show only interconnection between the termination points. The exact path of the conduit is to be determined by the electrical engineer. There shall be a minimum of one pull box for every 100 feet of straight empty conduit and a pull box for more than two 90 degree bends in a conduit run. All conduit shall be deburred, cleaned, capped, tagged and furnished with pull wires (by base electrical contractor).

8. Power receptacles shown on the AudioVisual Electrical drawings are DEDICATED to specific audiovisual equipment. They should be standard commercial duplex outlets (i.e., Hubbell 5262 or equivalent). Refer to IVCi AudioVisual electrical drawings for quantities & locations. Additional utility power receptacles to meet code or convenience requirements are not shown.

9. Power breaker panels are to be sized and specified by the electrical engineer. All circuits are to be protected 15 amp circuit breakers unless otherwise detailed. The circuit breaker panel should be accessible during conferences (i.e. not locked), for maintenance access if required. All circuits must be CLEARLY labeled.

10. Power circuits for the AudioVisual systems must be on the same phase, but NOT on the same phase as any compressors, motors or lighting dimming systems.

11. All equipment must be completely grounded to a true earth common ground or equivalent for proper operation.

12. All rear projection booths are to be painted egg shell black. All room finishes and hardware shall be non-reflective. Any windows must be blacked out 100%.

13. All noted scales are for "D" 24" x 36" size sheets.

AUDIOVISUAL NOTES (IF APPLICABLE)

ROOM READINESS

This section provides a checklist for the condition of the AudioVisual conference rooms prior to delivery and installation of the Audiovisual System. The Audiovisual systems are delivered after the rooms are "ready" to ensure a proper and secure installation of the Audiovisual equipment.

1. All construction in the Conference Room complete, including:
   a) the room free of debris and clean.
   b) all walls complete with any fabric wall coverings or paint
   c) ceilings complete and closed
   d) floor finishes / carpet installed
   e) all doors installed
   f) general and track lighting installed

2. The projection / control room complete including:
   a) room painted black
   b) rear projection screens installed, front wall complete
   c) floor closed
   d) all doors installed
   e) general and track lighting installed
   f) the room free of debris and clean

3. All electrical work related to the AudioVisual system complete, including:
   a) installation of all conduit, floor boxes, junction boxes wire ways, etc.
   b) All AudioVisual related low voltage cables installed.

4. All videoconference and other ceiling lighting installed.

5. Lutron lighting systems installed, tested and operational.

6. Motorized drapes installed and operational.

7. All millwork items complete for housing the AudioVisual equipment.

8. All phone, modem, PRI, data and LAN connections live.

9. The conference room table installed and complete.

NOTE:

All audiovisual spaces must be "room ready" two weeks prior to expected system operation date.
Refer to audiovisual specifications for further schedule information.

ABBREVIATIONS

GC - General Contractor
EC - Electrical Contractor
AVC - Audiovisual Contractor
OFE - Owner Furnished Equipment
AFF - Above Finished Floor
PMV- Project Manager Verification (AudioVisual)
EQ - Equal Distance
VIF - Verify in Field
TBD - To be Determined

AUDIOVISUAL EQUIPMENT TO BE HANDLED BY ELECTRICAL CONTRACTOR

It shall be the responsibility of the Electrical Contractor to assist with receiving all AudioVisual equipment at the building loading dock and to assist with bringing the AudioVisual equipment to the appropriate rooms and/or temporary, secure storage area.

This equipment shall include all equipment cabinets, video projectors, video monitors, projections screens, speakers, microphones, cameras and all other AudioVisual components as depicted throughout this AudioVisual drawing package. Also included shall be several boxes of miscellaneous hardware required for the installation of the AudioVisual systems: items such as connection panels, mounting brackets and reels of jobsite cable (audio, video and control).

ROOM ACOUSTICS:

The Videoconference Room must be designed for a Noise Criteria of NC-35.

Of all the problems associated with videoconferencing, audio quality usually causes the most problems, and is the hardest to correct. Room acoustics are impacted by several factors: room size, ceiling height, wall/ceiling/floor material, table placement, external noise factors, microphone types, the number of people in the room, etc. Ideally, all walls and ceiling should have acoustical panels; having a noise coefficient (NRC) of 9. The reality is, most rooms will have walls that are made of panel, plasterboard, or concrete, with windows, doors, and white boards: all having hard surfaces. The impact of these hard surfaces will be felt, not in the local room, but at the distant end. these hard walls act as reflectors for the room sound, or the voice coming from the distant end via the speaker. This noise hits the walls, an is directed back into the microphones at the table, just as a ping pong ball thrown against a hard surface. The results are that the distant end hears the noise, or worse, their own voice coming back at them. The effect is similar to a bad echo canceller on a voice line, which is extremely disconcerting to the distant end.

The best solution is to create an environment where the receive level can be turned up to a level where all room participants can hear the distant end without straining. Also, where you can speak at a normal or low level without the distant end having problems hearing them. To do this we have to adjust speaker and microphone levels higher: while simultaneously reducing the reverberation or echo from feeding back into the microphone.

Acoustical treatment to the walls, ceiling and floor will prevent reverberation and ambient noise from intruding into the conference. This is where sound absorption, or acoustical panels are used. Acoustical panels come in varying levels of effectiveness and while .9NRC is desired, a .6NRC is acceptable.

There are also several other products, not specifically designed for sound absorption, that will also perform the function adequately. Although not recommended, one solution that many customers choose is drapes. Drapes or curtains are normally less expensive than panels, require less modification to a room, and can be moved aside during non-video teleconferencing conference conditions. Standard acoustical ceiling tile should be used in the conference room; however Owens Corning Softex Acoustical Ceiling Panels, or their equivalent, will provide greater reverberation control and are suggested. Another item to consider is building walls up past the false ceiling to the true floor above. This will help eliminate any noise that travels in ceiling plenum area.

Air conditioning is frequently a large contributor to excessive ambient level noise. This can be alleviated through the use of air flow diffuser (100CFM) or adding acoustical baffles inside the ducts, if the noise is coming from the AC motor.

LIGHTING:

For lighting purposes, the equipment should be placed so that the "front wall" is parallel with the lighting and ceiling grid overhead. This will make it easier to design a proper lighting arrangement.

The room should be equipped with fluorescent lighting, noting that the temperature of the lamp used has a direct impact on the color of the light output (unobservable to the human eye, but evident on the camera). Selection of the lamp type should be made with consideration to both the heat it may produce and the color temperature of the light output. A color temperature of 3200 to 3500 degrees Kelvin is preferred. Improper lighting can cause a color distortion in the picture, as seen on the monitor.

The recommended fixture is a Mark Lighting Videoconference fixture. These flush mounted, lay-in type ceiling fixtures come in both 1 x 4 and 2 x 4 sizes.

Please refer to the reflected ceiling plan for specific recommendation on fixture type and placement

To eliminate shadows and dark areas we need both reflective and directional lighting. Some portion of the light hitting the table top must be reflected up to illuminate the shaded or shadow areas of the participants. This is best expressed in the basic geometry equation; the angle of incidence equals the angle of reflection. In other words, some portion of that lighting should be angled in such a manner as to reflect off the table surface and illuminate otherwise darker areas. This will be accomplished by the directional louvers of the Mark Lighting fixtures. For videoconferencing we use 90 degree and 45 degree louvers.

INTERIOR ROOM ENVIRONMENT:

FURNITURE:
In addition to the conference table, a small castered table will be required for the document stand. Highly reflective surfaces in the room, such as chrome chairs, paintings with glass covers, etc. should be avoided. Plants or other decorations are permissible, and add warmth to the room. Avoid harsh or severe colors.

TABLES:
Dark colored, high gloss tables should be avoided whenever possible as they create a glare problem for the cameras and do not effectively reflect light for shadowed areas. Glass tops can NOT be put on tables. For best results, a light colored table with a matte finish should be used; a light Oak is a good choice. i.e. Bannister Oak. Table shape is also important. A slightly curved "C" shaped table, or a straight table are what is usually selected. These offer the advantage of all meeting participants being about equal distance from the camera; thereby eliminating any field of focus problems. The disadvantage is that fewer people can be fit into the picture at one time. Another popular shape is the "V" shape. This allows more people to fit into the picture at one time but, because of the varying depth from the camera, can cause problems with the camera field of focus.

COLORING:
For room interiors, very bright or very dark colors should be avoided. Also, patterned wall paper or drapes in front of the camera should not be used. For best results the color should be a light blue (crystal blue), a medium gray, or a dark wheat color: with crystal blue being the preference. These colors aren't mandatory, nor will the room be unusable if they aren't selected. However, empirical data has shown these colors to provide the best background for the camera, and enhances the probability of a successful video teleconferencing environment.

FLOORS:
All floor surfaces in front of the video equipment should be carpeted, preferably with an anti-static type of carpeting. Since the carpet is rarely seen on camera, prohibitions about colors, and patterns are much less critical for the carpets. The main function of the carpet is to provide a sound absorption material to prevent echo from bouncing around the room, or noise intrusion from the floor below.

EXTERIOR WINDOWS:
All exterior windows must be covered with blackout type shades, blinds or drapes.
INTERIOR GLASS PARTITIONS:
Interior glass partitions will cause additional unwanted glare in the room, especially an exterior perimeter room which has exterior windows. In all cases all glass partitions must be covered (from the inside) with blackout type shades, blinds or drapes.

ITEM	FURNISHED BY	INSTALLED BY	OTHER
Bring all Audio Visual equipment from the loading dock to the appropriate secured location	Electrical Contractor with assistance from Audio Visual Contractor		
Containment conduit, junction boxes, floorboxes, wireways and other electrical (construction related) rough-in work pertaining to the installation of the AV systems	Electrical Contractor	Electrical Contractor	All AV junction boxes shall be furnished with blank cover plates. Engravings and connectors as required by the AV contractor
All AC power receptacles and related electrical requirements	Electrical Contractor	Electrical Contractor	
All voice/data provisions and related telecommunications work	Electrical Contractor and/or IT Contractor	Electrical Contractor and/or IT Contractor	
All low voltage Audio Visual cabling	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	
All low voltage Audio Visual cable terminations	Audio Visual Contractor	AV Contractor with supervision by the Electrical Contractor	
Motorized front projection screens. Furnish with low voltage interface and wall switch	Audio Visual Contractor	Electrical Contractor with supervision by the AV Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Ceiling speakers (with back boxes, transformers, and grilles)	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Video Cameras	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
All construction details including clear float glass and laminate countertops	General Contractor	General Contractor	
Audio Visual consoles and Audio Visual equipment cabinets	Audio Visual Contractor	Audio Visual Contractor	
Rear Projection Screens	Audio Visual Contractor	General Contractor	
Data / Video projector and rear projection mirror system	Audio Visual Contractor	Audio Visual Contractor	
Lectern	Millworker	Millworker	
Custom Audio Video conference tables	Millworker	Millworker	All modifications and accessories for the table shall be furnished and installed by the millworker
Custom Audio Visual document camera carts	Millworker	Millworker	
Data / Video projector and ceiling mounting brackets	Audio Visual Contractor	Audio Visual Contractor	Unistrut frame and mounting to structural ceiling by electrical contractor
Heavy black curtains for light blocking in projection booth	General Contractor	General Contractor	
Window treatments (drapes, shades, blinds) where applicable, motorized systems shall be furnished with low voltage interface and wall switch	General Contractor	General Contractor	Motorized drape/shade systems will be connected by the electrical contractor
Wall and ceiling mounted flat screen video displays	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Standard dry marker whiteboards	Furniture Vendor	General Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Electronic dry marker whiteboards	Audio Visual Contractor	Audio Visual Contractor	Related construction, per architectural details, to be furnished and installed by the general contractor
Wall mounted fixed projection screens	Audio Visual Contractor	Audio Visual Contractor	
Table microphones	Audio Visual Contractor	Audio Visual Contractor	Cutouts and ANY other modifications to the table shall be furnished and installed by the millworker
Touch screen control panels	Audio Visual Contractor	Audio Visual Contractor	
All computers with keyboard and mouse as required for Audio Visual systems	Owner	Owner	
Testing and Commissioning of the Audio Visual systems	Audio Visual Contractor		

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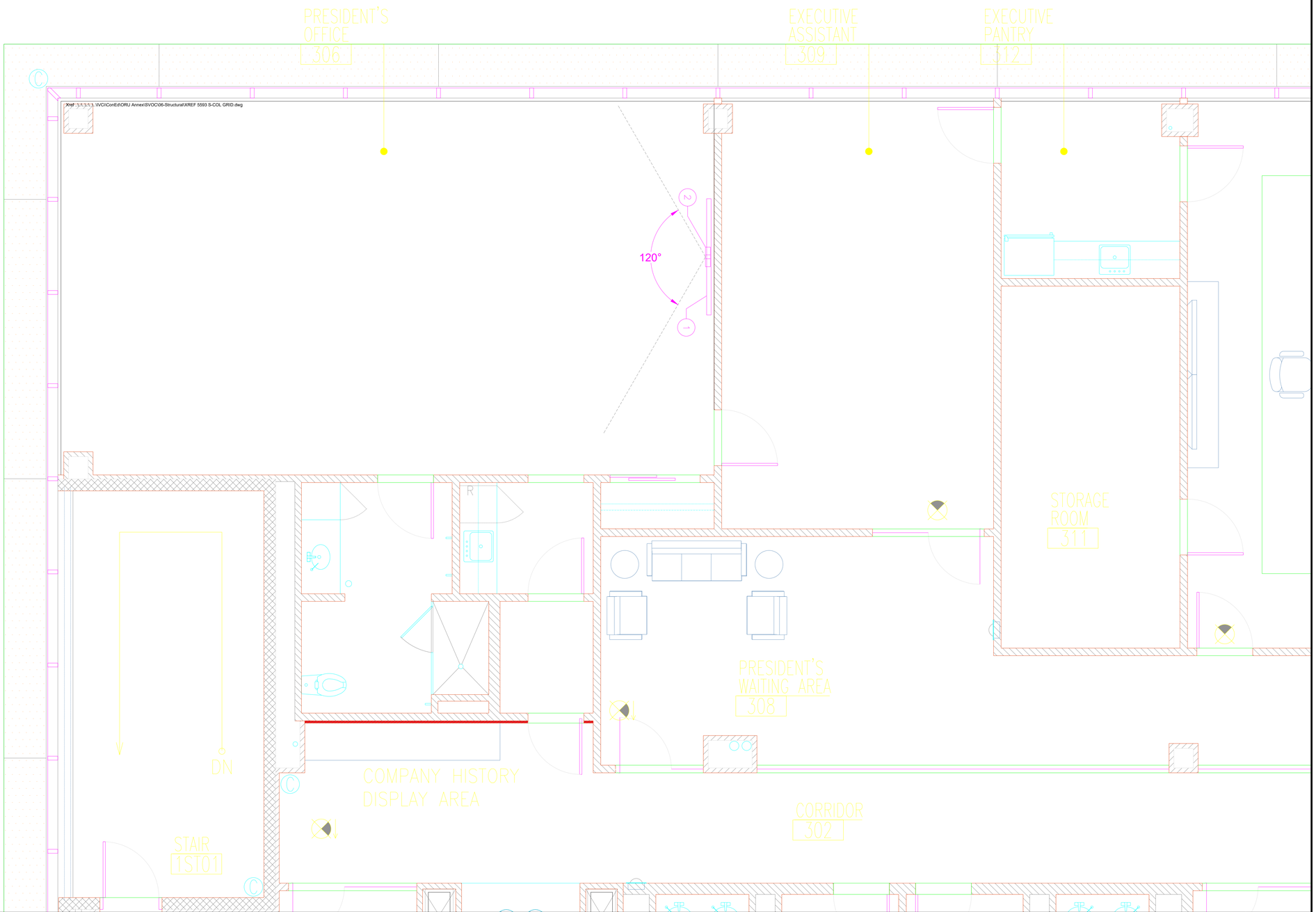
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL DRAWING COVER

Job Number: 94159

Sheet Number: AV-CO



SYMBOLS LEGEND

1. 85" FLAT PANEL DISPLAY
2. POLY X72 CAMERA/CODEC

GENERAL NOTES

1

VIEW : FACILITY PLAN

ROOM NAME: NEW SVOC EXECUTIVE OFFICE

NOTES:

SCALE: 3/8" = 1'-0"

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601 Old Willets Path
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CON EDISON

NEW EXECUTIVE OFFICE
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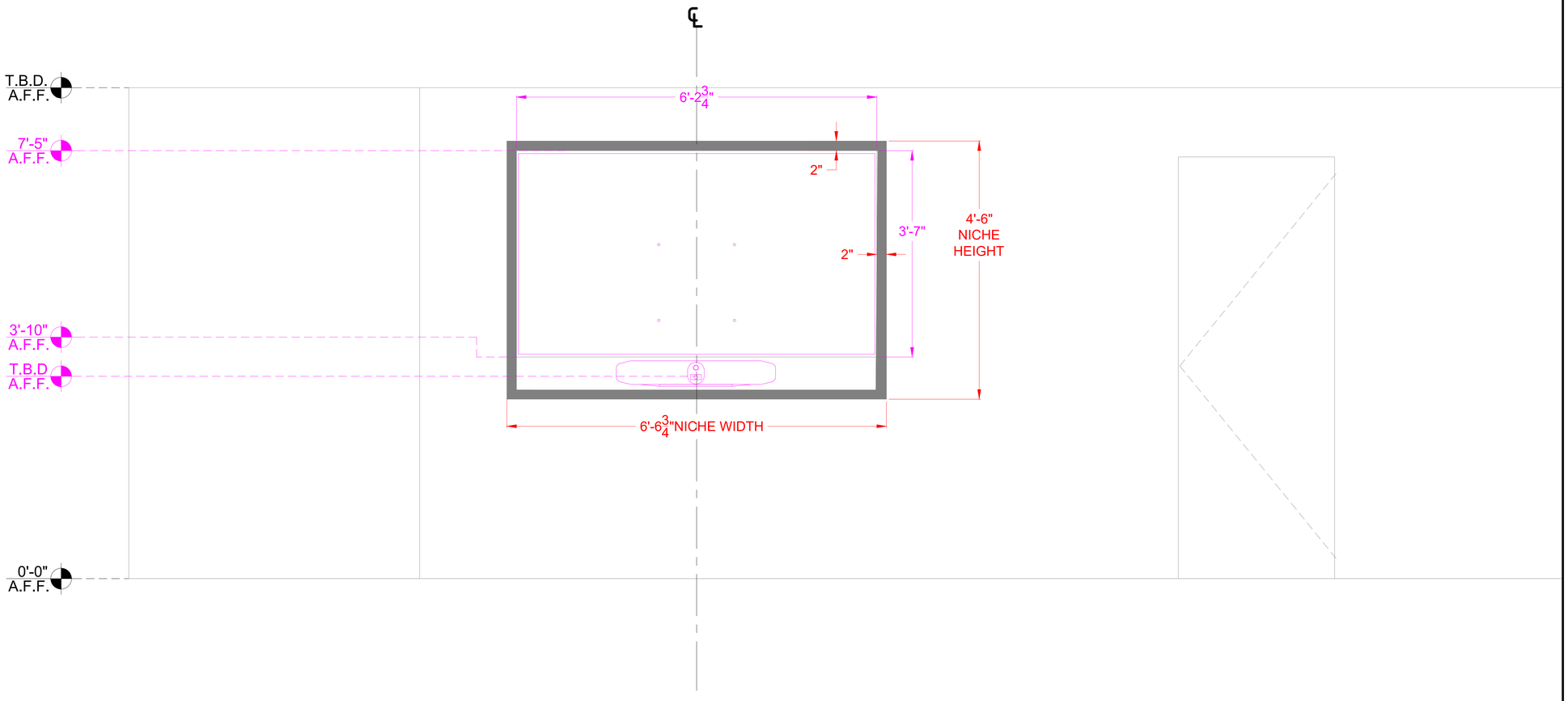
ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title: AUDIOVISUAL FACILITY DRAWINGS

Job Number: 94159

Sheet Number: AV-201



SYMBOLS LEGEND

1. 85" FLAT PANEL DISPLAY
2. POLY X72 CAMERA/CODEC

GENERAL NOTES

1	VIEW : FACILITY PLAN ROOM NAME: NEW SVOC EXECUTIVE OFFICE	NOTES:	SCALE: 255/256" = 1'-0"

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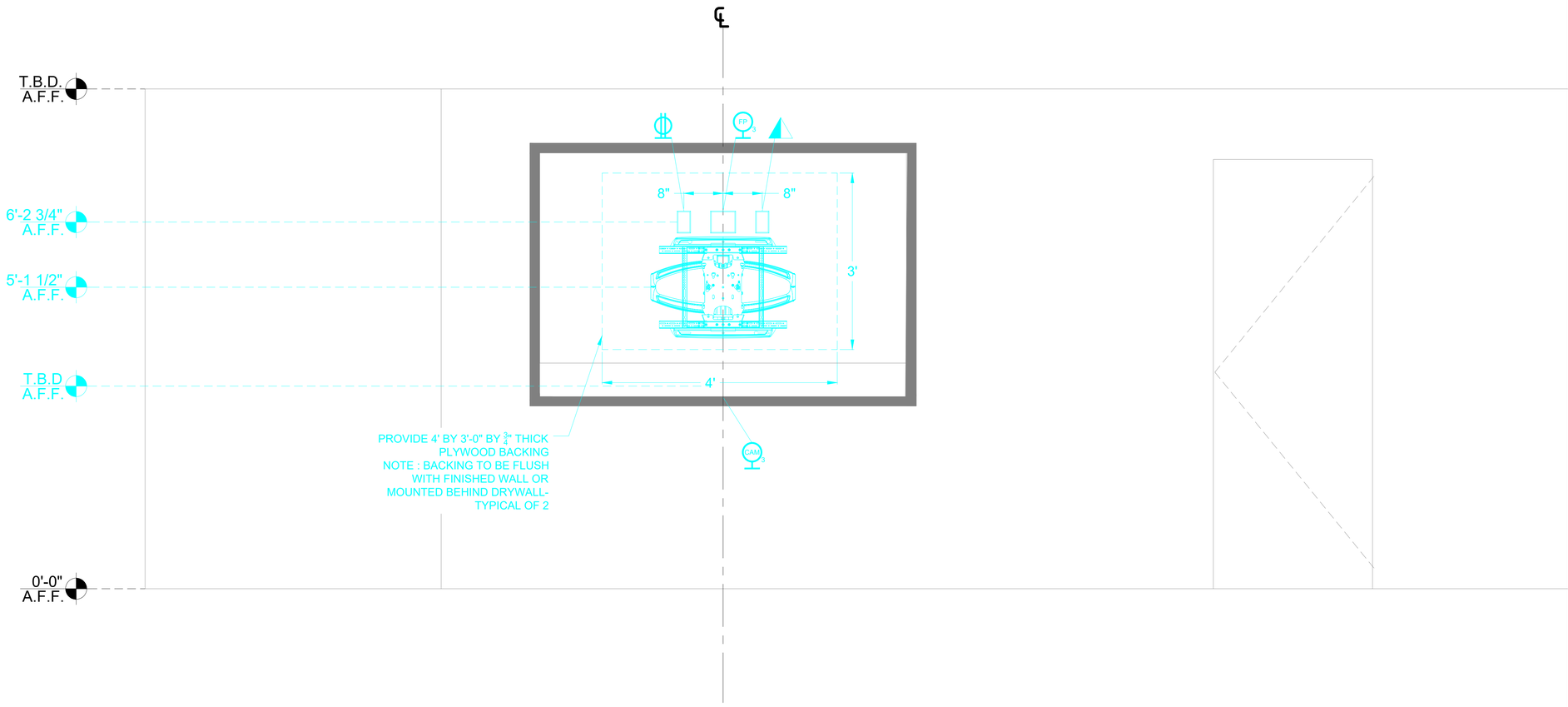
#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title:
AUDIOVISUAL
FACILITY DRAWINGS

Job Number: 94159

Sheet Number: AV-202



SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - WALL MOUNTED - ANALOG PHONE LINE / LAN LINES AS INDICATED ON DWGS (REFER TO FLOW DIAGRAM FOR QUANTITY)
- DUPLEX POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- 20 QUAD POWER RECEPTACLE -WALL MOUNTED - DEDICATED POWER CIRCUIT, 120 V, 20amp
- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- VOICE/DATA RECEPTACLE - CEILING MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE -CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
- FP1 FLAT PANEL DISPLAY - WALL MOUNTED - RECESSED BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- AVR AV RACK - WIRING TROUGH - HOFFMAN TYPE 1 (4"x4"x AS REQUIRED") WITH KNOCKOUTS AND COVER. WIRING TROUGH COVER TO BE SUPPLIED WITH 2" GROMMETS (AMOUNT AS REQUIRED) FOR CABLE PASS THROUGH. BOX TO BE FLUSH MOUNTED IN WALL
- SB AV CONDUIT STUB-UP - REFER TO THE RISER DIAGRAM FOR EXACT SIZES AND QUANTITY
- M1 MICROPHONE - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS
- CAM1 CAMERA - WALL MOUNTED - SINGLE GANG HORIZONTAL JUNCTION BOX FLUSH MOUNTED IN WALL - REFER TO ELECTRICAL ELEVATION FOR EXACT LOCATION
- S1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

1	VIEW : ELECTRICAL PLAN ROOM NAME: NEW SVOC EXECUTIVE OFFICE	NOTES:	SCALE: 253/256" = 1'-0"

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CORPORATE OFFICE
601 Old Willets Path
Hauppauge, New York 11788 USA

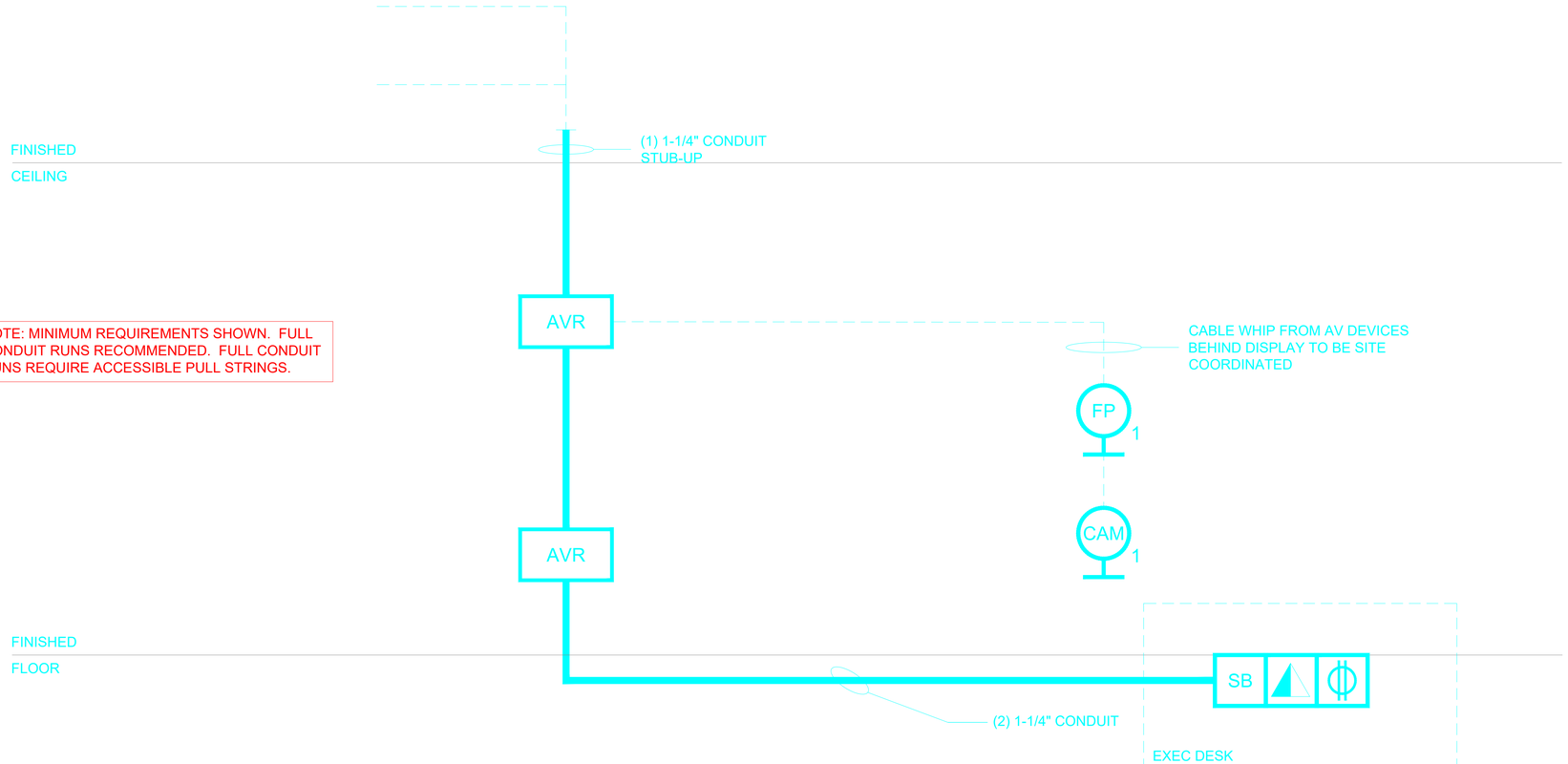
CON EDISON
NEW EXECUTIVE OFFICE
390 WEST RT. 59
SPRING VALLEY
ROCKLAND COUNTY, NEW YORK

#	Issuance	Date	ID
1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title:
AUDIOVISUAL
ELECTRICAL DRAWINGS

Job Number: 94159

Sheet Number: AV-301



SYMBOLS LEGEND

- VOICE/DATA RECEPTACLE - FLOOR MOUNTED - ANALOG PHONE LINE / LAN / BRI LINES AS INDICATED ON DWGS
- DUPLEX POWER RECEPTACLE - FLOOR MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
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- SINGLE RECESSED POWER RECEPTACLE - WALL MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
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- QUAD POWER RECEPTACLE - CEILING MOUNTED - DEDICATED POWER CIRCUIT, 110 V, 15amp
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- S 1 SPEAKER - CEILING MOUNTED - REFER TO THE DETAIL FOR EXACT MOUNTING SPECIFICATIONS

GENERAL NOTES

1

VIEW : ELECTRICAL RISER DIAGRAM

ROOM NAME: VC 53-016

NOTES:

SCALE: N.T.S.

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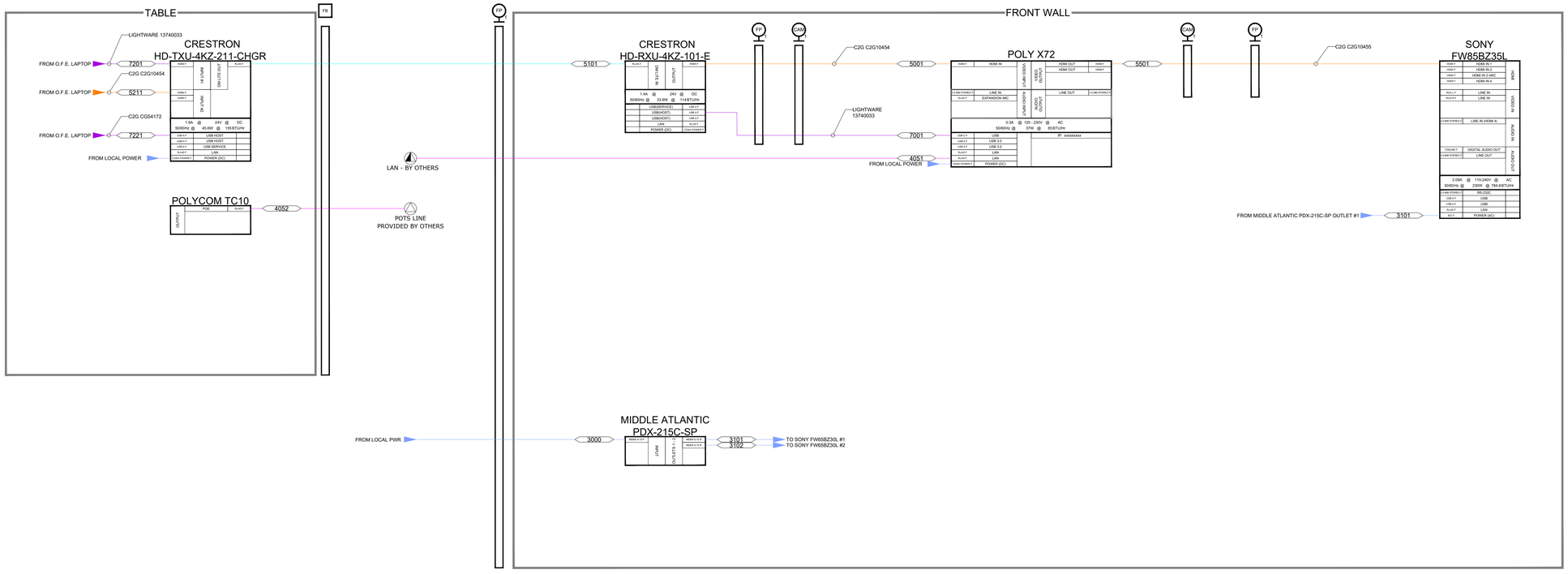
Drawing Title:
AUDIOVISUAL
ELECTRICAL DRAWINGS

Job Number: 94159

Sheet Number: AV-302



IVCI Linetypes and Wire Number Legend

Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number	Signal Type	Linetype Preview	Cable Number
MIC SIGNAL	COLOR - #5	<1000> SERIES	CAT6 SHIELDED DANTE OR AVB	COLOR - #4	<4000> SERIES	FIBER VIDEO SIGNAL	COLOR - #241	<5000> SERIES
AUDIO SIGNAL	COLOR - #5	<2000> SERIES	COMPONENT / VGA VIDEO SIGNAL	COLOR - #1	<5000> SERIES	COMPOSITE/ 3G/HD/SDI VIDEO SIGNAL	COLOR - #3	<5000> SERIES
POWER	COLOR - #31	<3000> SERIES	DVI / HDMI VIDEO SIGNAL	COLOR - #30	<5000> SERIES	CONTROL	COLOR - #0 (DEFAULT)	<6000> SERIES
CAT5 / LAN - UNSHIELDED	COLOR - #6	<4000> SERIES	CAT6 SHIELDED	COLOR - #4	<5000> SERIES	USB / PROPRIETARY	COLOR - #202	<7000> SERIES

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1	ISSUED FOR REVIEW	4-11-2025	JLK

Drawing Title:
AUDIOVISUAL
FLOW DRAWINGS

Job Number: 94159

Sheet Number: AV-401