



Purchase College

STATE UNIVERSITY OF NEW YORK

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IFB T990043/SU-021119: Perception Lab Renovation Addendum #1 * February 26, 2020

To: Prospective Bidders

No. of Pages: 16 page(s)

SUNY Purchase hereby issues this Addendum, dated 2/26/2020, for the above referenced IFB, in order to provide the clarifications provided on page 2.

Bid packages are due no later than 2:00 pm, Thursday, March 5, 2020. Please note that as the bidder, you must sign THIS ADDENDUM and submit it with your bid package.

Respectfully,

Elizabeth Pleva
Associate Director of Contract and Procurement Services

Acknowledgement of ADDENDUM #1

Signature

Date

Typed printed name and title

Company name

Capital Facilities Planning

Addendum

To: Prospective Bidders

From: Muneeza Ismail
Project Manager, Capital Facilities Planning

Re: Addendum No. 1 to specifications SU-021119
Visual Arts Perception Lab Renovation – Electrical, Mechanical drawing changes

DATE: FEB 26TH, 2020

Mechanical Drawings

See the attached mechanical drawings indicating:

- 1- DDC to Pneumatic thermostat change
- 2- Removal of wall penetration details

Electrical Drawings

See the attached electrical drawings indicating:

- 1-Addition of specs for low voltage modular cables, jacks and faceplates
- 2-Addition of a patch panel and patch cords in the CTS closet
- 3-Removal of note to correct reference to an alternate

SYMBOLS LIST

DUPLEX RECEPTACLE RATED AT 20-AMPS 120 VOLTS.
 C= ABOVE CEILING
 WALL DOUBLE DUPLEX EACH RECEPTACLE RATED AT 20 AMPS, 120 VOLTS. N ONE 4"x4" BOX
 SPECIAL PURPOSE RECEPTACLE FLUSH FLOOR MOUNTED LETTER INDICATES TYPE 'A' 208 VOLTS 30 AMPS 2 POLE 3 WIRE (NEMA 6-30R)
 DATA OUTLET BOX, CAT6/CAT6A JACK, AND FACEPLATE. PROVIDE CAT6/6A CABLE FROM 2ND FLOOR DATA CLOSET TO DATA OUTLET. REFER TO DWG E-003 FOR LOCATION OF CLOSET.
 '2' INDICATES QUANTITY OF DATA PORTS ALL 2-PORT OUTLETS ARE FOR WAPS AND SHALL BE PROVIDED WITH CAT6A CABLE.
 ALL 3 AND 4-PORT OUTLETS ARE FOR OTHER IT OUTLETS AND SHALL BE PROVIDED WITH CAT6 CABLE.
 'CM' INDICATES CEILING-MOUNTED
 CAT6 JACK: LEVITON ATLAS-X1 CAT6 UTP QUICKPORT, OR APPROVED EQUAL
 CAT6A JACK: LEVITON ATLAS-X1 CAT6A UTP QUICKPORT, OR APPROVED EQUAL
 FACEPLATE: COMMSCOPE 1-406185-1 4-PORT, OR APPROVED EQUAL.
 CEILING MOUNTED JUNCTION BOX (J-BOX) WITH HOMERUN CIRCUIT AND FLEXIBLE CONNECTION TO EQUIPMENT. USE SEALTITE FOR OUTDOOR CONNECTIONS.
 WALL MOUNTED JUNCTION BOX (J-BOX) WITH HOMERUN CIRCUIT AND FLEXIBLE CONNECTION TO EQUIPMENT. USE SEALTITE FOR OUTDOOR CONNECTIONS.
 VAV DAMPER WITH 120V, 20AMP, SINGLE POLE TOGGLE
 INDICATES EXISTING TO BE REMOVED
 WALL-MOUNTED SWITCH FOR USE WITH POWERPACKS AND MOTION SENSORS. REFER TO DETAIL 2/DWG E-102 FOR MORE INFORMATION.
 '4P' INDICATES FOUR-POLE
 '2P' INDICATES TWO-POLE
 'D' INDICATES DIMMING
 MANUFACTURER: ACUITY CONTROLS
 '4P' MODEL: nP0DM 4P DX WH
 '2P' MODEL: nP0DM 2P DX WH
 LOWERCASE LETTER REFERS TO FIXTURES CONTROLLED.
 WALL-MOUNTED VACANCY SENSOR/SWITCH. REFER TO DETAIL 2/DWG E-102 FOR MORE INFORMATION.
 MANUFACTURER: ACUITY CONTROLS
 MODEL: WSX SA WH
 VACANCY-POWERPACK WITH 0-10V DIMMING RECESSED IN CEILING. REFER TO DETAIL 2/DWG E-102 FOR MORE INFORMATION.
 MANUFACTURER: ACUITY CONTROLS
 MODEL: nPP16 D SA
 'EM' INDICATES EMERGENCY POWERPACK
 'EM' MODEL: nPP16 D ER SA
 LOWERCASE LETTER REFERS TO LIGHT FIXTURES CONTROLLED.
 CEILING-MOUNTED MOTION SENSOR. REFER TO DETAIL 2/DWG E-102 FOR MORE INFORMATION.
 MANUFACTURER: ACUITY CONTROLS
 MODEL: nCM PDT 9 RJB
 LOWERCASE LETTER REFERS TO LIGHT FIXTURES CONTROLLED.
 CORNER-MOUNTED MOTION SENSOR MOUNTED AT 10"-0" A.F.F. REFER TO DETAIL 2/DWG E-102 FOR MORE INFORMATION.
 MANUFACTURER: ACUITY CONTROLS
 MODEL: nWV PDT 16
 LOWERCASE LETTER REFERS TO LIGHT FIXTURES CONTROLLED.
 CONCEALED CONDUIT
 PULL BOX
 FUSED DISCONNECT SWITCH. FUSE TO BE EQUAL TO OR LESS THAN THE WIRING AMPACITY.
 UNFUSED DISCONNECT SWITCH. SWITCH SIZE TO BE GREATER THAN OR EQUAL TO OVER CURRENT PROTECTION. U.O.N.
 MOTOR
 HOMERUN NOTATION
 WALL-MOUNTED SPEAKER. PROVIDE EMPTY 3/4" FROM BACK BOX TO JUNCTION BOX BEHIND PODIUM
 'PA' INDICATES FOR PODIUM PA SYSTEM
 CEILING-MOUNTED WIRELESS ACCESS POINT.
 ASSISTED LISTENING DEVICE LOCATION. PROVIDE EMPTY 1" TO FROM BACK BOX TO JUNCTION BOX BEHIND PODIUM.
 8" FLUSH POKE-THRU FLOOR BOX FOR POWER, 6-PORT DATA AND A/V.
 MANUFACTURER: LEGRAND
 BOX MODEL: BAT02PK
 DATA PLATE MODEL: BATC6A
 SPEAKER WIRE PLATE MODEL: 80EC (2 TOTAL)
 SPEAKER WIRE ACCESS STRAPS: WP1014 (2 TOTAL)
 BOTTOM HOUSING ASSEMBLY: 1150CHA
 BOTTOM HOUSING ASSEMBLY: 1125CHA

ELECTRICAL ABBREVIATIONS

● "AT" OR "EACH AT"	G GROUND
A AMPERE	GFI GROUND FAULT INTERRUPTER
AC ABOVE COUNTER	GRD GROUND
AF AMPERE FRAME	HC HUNG CEILING
AFB ABOVE FINISHED FLOOR	HP HORSEPOWER
ALM ALARM	HZ HERTZ
ASYM ASYMMETRICAL	JB JUNCTION BOX
AT AMPERE TRIP	KVA KILOVOLT AMPERE
AUTO AUTOMATIC	KW KILOWATT
AWG AMERICAN WIRE GAUGE	KWH KILOWATT HOUR
BKR BREAKER	LTG LIGHTING
BLDG BUILDING	LV LOW VOLTAGE
C CONDUIT	MAX MAXIMUM
°C DEGREE CELSIUS	MECH MECHANICAL
CB CIRCUIT BREAKER	MFS MAIN FUSED SWITCH
CXT CIRCUIT	MIN MINIMUM
CLG CEILING	N NEUTRAL
CLOS CLOSET	NC NOT IN CONTRACT
COMM COMMUNICATION	NTS NOT TO SCALE
CONT CONTINUATION	PB PULLBOX
CT CURRENT TRANSFORMER	● PHASE
CU COPPER	PANL PANEL
DEG DEGREE	PWR POWER
DISC DISCONNECT	RECEPT RECEPTACLE
DN DOWN	REQD REQUIRED
DWG DRAWING	RM ROOM
EA EACH	SCHED SCHEDULE
EC ELECTRICAL CONTRACTOR	SECT SECTION
EL ELEVATION	SP SINGLE POLE
ELEC ELECTRICAL	SPEC SPECIFICATION
EM EMERGENCY	SW SWITCH
EQPT EQUIPMENT	SYM SYMMETRICAL
EXIST EXISTING	SYS SYSTEMS
EXT EXTERIOR	TBD TO BE DETERMINED
°F DEGREE FAHRENHEIT	TEMP TEMPERATURE
FA FIRE ALARM	TYP TYPICAL
FAP FIRE ALARM PANEL	UNF UNFUSED
FBO FURNISHED BY OTHERS	UNO UNLESS OTHERWISE NOTED
FIXT FIXTURE	V VOLT OR VOLTAGE
FL FLOOR	VA VOLT AMPERE
FLEX FLEXIBLE	W WATT
FLUOR FLUORESCENT	WP WEATHERPROOF
FT FEET OR FOOT	

ELECTRICAL GENERAL NOTES

- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWING IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS.
- SEPARATE RACEWAYS FOR CONDUCTORS OF NORMAL AND EMERGENCY CIRCUITS. BOXES: PROVIDE BARRIERS BETWEEN EMERGENCY AND NORMAL WIRING.
- FIRESTOPPING SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED CONSTRUCTION.
- HORIZONTAL OR CROSS RUNS IN PARTITIONS AND WALLS ARE NOT PERMITTED.
- PROVIDE PULLBOXES AS, REQUIRED BY CODE AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE. COORDINATE PULLBOX LOCATIONS WITH OTHER TRADES.
- COVERS OF JUNCTION AND PULLBOXES SHALL BE READILY ACCESSIBLE.
- WIRE COLOR CODING: AS PER CODE. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION FOR OVERLAP COLOR TAPING OF CONDUCTORS (MINIMUM LENGTH 6") IN ACCESSIBLE LOCATIONS. COLOR CODING, ONCE SELECTED, MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT.
- SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART.
- VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS. ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
- LOCATIONS INDICATED FOR LOCAL WALL SWITCHES ARE SUBJECT TO MODIFICATIONS AT OR NEAR DOORS. COORDINATE WITH ARCHITECT AND INSTALL SWITCH ON SIDE OPPOSITE HINGE. VERIFY FINAL HINGE LOCATIONS IN FIELD PRIOR TO SWITCH OUTLET INSTALLATION.
- CONTRACTOR SHALL REFER TO THE LATEST "CAMPUS NETWORK CABLE INSTALLATION SPECIFICATION" DOCUMENT FOR INFORMATION REGARDING THE INSTALLATION OF TELECOMMUNICATIONS CABLING AND PATHWAYS, ACCESS CONTROL, AND POKE-THRU DETAILS.

NYS ECC 2015 COMPLIANCE (LIGHTING)

ROOM	ROOM AREA (SQ. FT.)	WATTAGE	WATTS/SQ. FT.	ALLOWABLE WATTS	ALLOWABLE WATTS/SQ. FT.	LIGHTING CONTROLS
VESTIBULES	129	78	0.6	85.1	0.66	LIGHTS UNCONTROLLED
PERCEPTION LAB	2024	1200	0.6	2510	1.24	MANUAL-ON CONTROLS (VACANCY SENSORS WITH MANUAL OVERRIDE SWITCHES).
	TOTAL:	1278	---	2595.1	---	---

NOTE: ALL LIGHT FIXTURES WILL BE FURNISHED BY CAMPUS, FOR INSTALLATION BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.

ELECTRICAL DRAWING LIST

E-001	ELECTRICAL SYMBOLS LIST, ABBREVIATIONS, GENERAL NOTES, CODE COMPLIANCE AND DRAWING LIST
E-002	ELECTRICAL VISUAL ARTS BUILDING NORTH FIRST FLOOR PLAN
E-003	ELECTRICAL VISUAL ARTS BUILDING NORTH SECOND FLOOR PLAN
ED-101	ELECTRICAL DEMOLITION PLAN
ED-102	ELECTRICAL LIGHTING DEMOLITION PLAN
E-101	ELECTRICAL POWER/DATA PLAN
E-102	ELECTRICAL LIGHTING PLAN AND LIGHTING CONTROLS WIRING DIAGRAM
E-200	ELECTRICAL PANEL SCHEDULES AND DETAILS
E-300	ELECTRICAL SPECIFICATIONS

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 PROJECT
SUNY PURCHASE COLLEGE
VISUAL ARTS PERCEPTION LAB RENOVATION
 735 ANDERSON HILL RD
 PURCHASE, NY 10577
 REVISIONS

REV	DATE	DESCRIPTION / COMMENTS
2	2/2/2020	ISSUED FOR BID
1	2/20/2020	ADDENDUM #1

 ISSUED FOR: BID & PERMIT
 ISSUED DATE: 09.11.2019
 DRAWN BY: AR
 CHECKED BY: DC
 PROJECT NUMBER: 20076
 SU-021119
 DRAWING NAME
 ELECTRICAL SYMBOLS, ABBREVIATIONS, GENERAL NOTES, CODE COMPLIANCE AND DRAWING LIST
 DRAWING NO.
E-001

SUNY PURCHASE COLLEGE
VISUAL ARTS PERCEPTION LAB RENOVATION
 735 ANDERSON HILL RD
 PURCHASE, NY 10577

REVISIONS

REV	DATE	DESCRIPTION/COMMENTS
1	2/2/2020	ISSUED FOR BID
1	2/2/2020	ADDENDUM #1

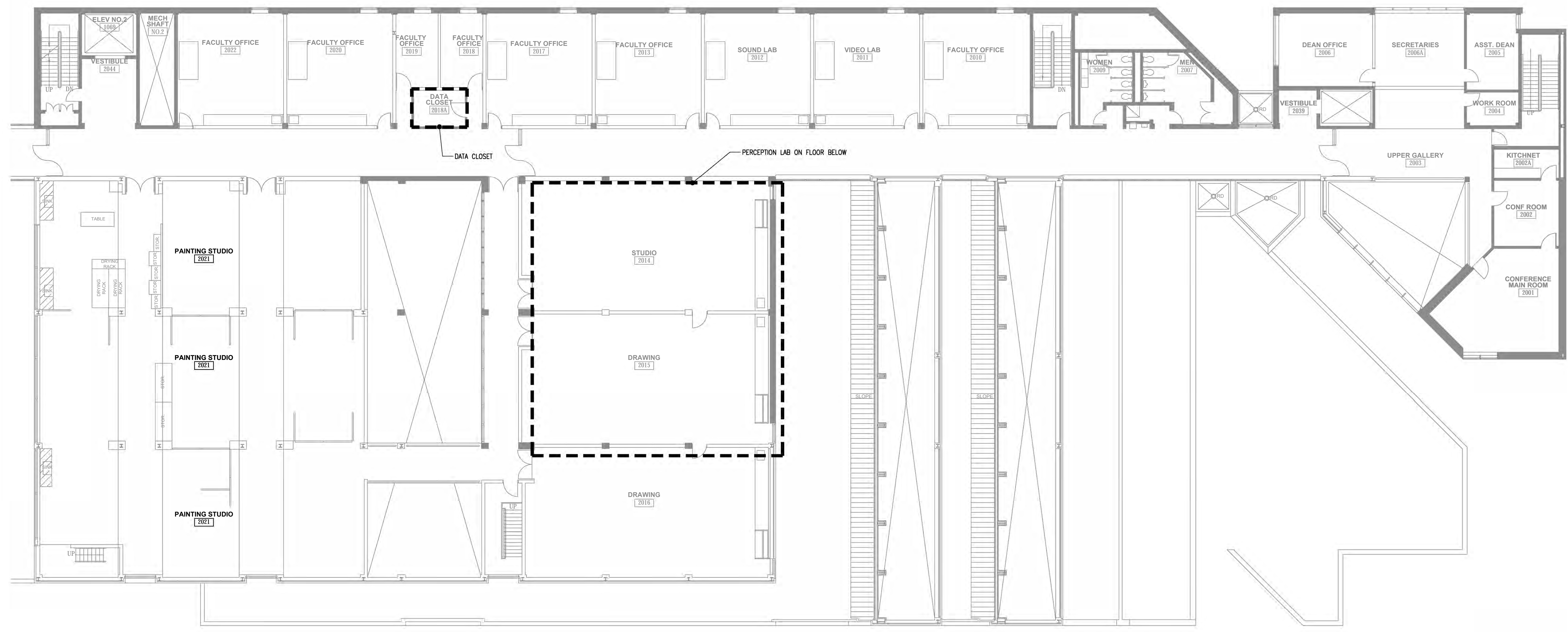
ISSUED FOR: BID & PERMIT
 ISSUED DATE: 09.11.2019

DRAWN BY: AR
 CHECKED BY: DC

PROJECT NUMBER: 20076
 SU-021119

ELECTRICAL VISUAL ARTS BUILDING NORTH SECOND FLOOR PLAN

DRAWING NO.
E-003



1 VISUAL ARTS BUILDING NORTH SECOND FLOOR PLAN
 SCALE: 3/32" = 1'-0"

NOTE: CONTRACTOR SHALL PROVIDE THE FOLLOWING SCOPE: CAT 6 CABLE, CAT6A CABLE, 24-PORT MODULAR PATCH PANEL AND 24 PATCH CORDS IN DATA CLOSET. ALL DATA CABLES SHALL BE PROVIDED FROM DATA CLOSET ON SECOND FLOOR TO PERCEPTION LAB ON FIRST FLOOR. CAT6 CABLE SHALL BE PROVIDED FOR ALL IT OUTLETS UNLESS OTHERWISE NOTED: HITACHI PREMIUM ENHANCED UTP CAT6 CABLE, OR APPROVED EQUAL. CAT6A CABLE SHALL BE USED FOR WIRELESS ACCESS POINTS: HITACHI SUPRA 10G ENHANCED UTP, OR APPROVED EQUAL. PATCH PANEL: LEVITON 24-PORT QUICKPORT PATCH PANEL 49255-L24, OR APPROVED EQUAL. PATCH CORDS (24 TOTAL): LEVITON ATLAS-X1 6AS10, OR APPROVED EQUAL. CONTRACTOR TO PROVIDE ALL LABELING AND TESTING, AS PER CAMPUS NETWORK CABLE INSTALLATION SPECIFICATION.

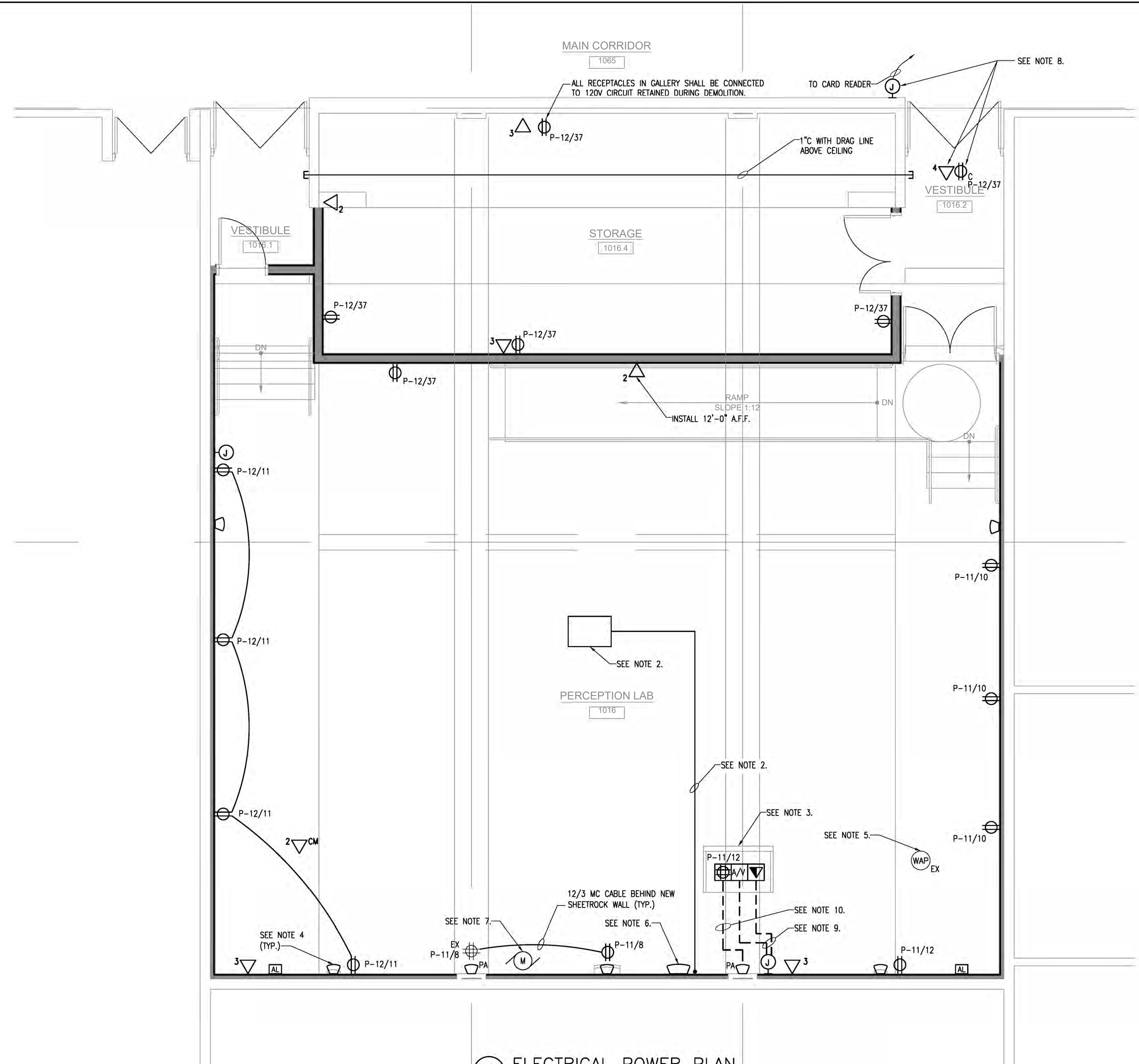
REV	DATE	DESCRIPTION/COMMENTS
1	2/2/2020	ISSUED FOR BID
2	2/2/2020	ADDENDUM #1

ISSUED FOR: BID & PERMIT
 ISSUED DATE: 09.11.2019

DRAWN BY: AR
 CHECKED BY: DC
 PROJECT NUMBER: 20076
 SU-021119

DRAWING NAME
**ELECTRICAL
 POWER/DATA PLAN**

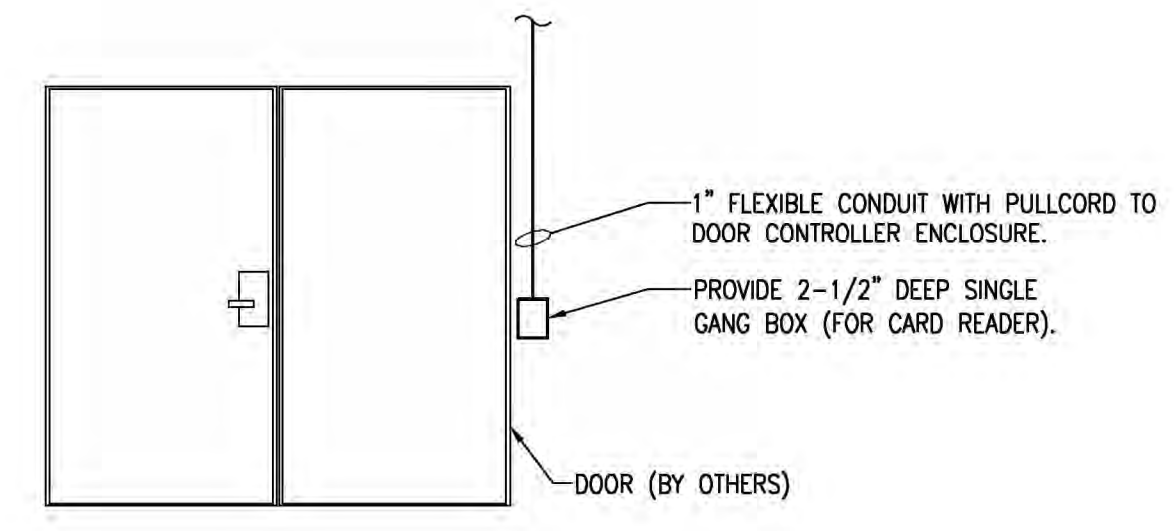
DRAWING NO.
E-101



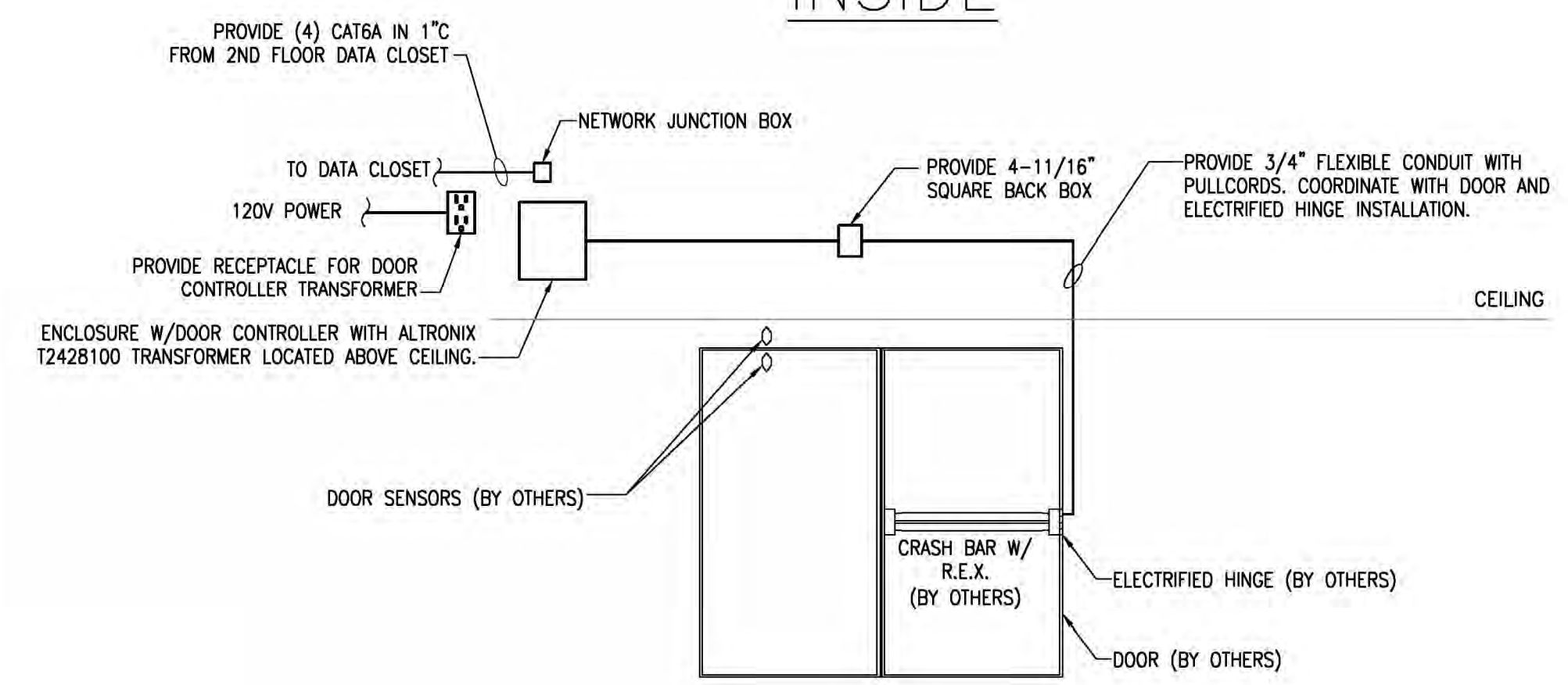
1 ELECTRICAL POWER PLAN
 SCALE: 1/4" = 1'-0"

- ELECTRICAL NOTES:**
- ALL NEW RECEPTACLES SHALL BE FLUSH WITH NEW EXTENDED SHEETROCK WALL.
 - NEW CEILING-MOUNTED PROJECTOR TO BE RE-INSTALLED BY OTHERS. RE-EXTEND POWER WIRING AND CONDUIT DISCONNECTED DURING DEMOLITION AND PROVIDE NEW RECEPTACLE. ALSO PROVIDE (2) JUNCTION BOXES AT CEILING ABOVE PROJECTOR AND (2) JUNCTION BOXES ADJACENT TO PODIUM WITH 1" EMPTY CONDUIT CONNECTING EACH SET OF JUNCTION BOXES.
 - NEW PODIUM SPECIFIED BY A/V CONTRACTOR AND INSTALLED BY CAMPUS. EXTEND POWER AND LOW-VOLTAGE CONNECTIONS TO PODIUM.
 - NEW WALL-MOUNTED SPEAKER. COORDINATE EXACT LOCATION WITH CAMPUS. PROVIDE 1" WITH DRAG LINE FROM EACH SPEAKER TO DATA OUTLET BOX ON COLUMN BEHIND PODIUM. SEE NOTE 9 ON THIS DRAWING. REFER TO DETAIL 1/DWG E-200 FOR MORE INFORMATION.
 - EXISTING CEILING-MOUNTED WIRELESS ACCESS POINT TO BE RE-INSTALLED, UNDER SUPERVISION OF CAMPUS TECHNOLOGY SERVICES DEPARTMENT. RE-EXTEND ALL ASSOCIATED WIRING AND CONDUIT.
 - NEW SUBWOOFER INSTALLED BY CAMPUS. PROVIDE 1" WITH DRAG LINE TO PODIUM. COORDINATE EXACT LOCATIONS WITH CAMPUS.
 - EXISTING MOTORIZED SCREEN TO BE RE-INSTALLED. RE-EXTEND ALL ASSOCIATED WIRING AND CONDUIT (PROVIDE EXTENSION BOX AS NECESSARY).
 - COORDINATE DOOR CONTROL EQUIPMENT LOCATIONS ABOVE VESTIBULE CEILING WITH ACCESS PANEL INSTALLATION TO ENSURE SERVICEABILITY. REFER TO DETAIL 2 ON THIS DRAWING FOR DOOR CONTROL WIRING DIAGRAM.
 - PROVIDE FLUSH JUNCTION BOX FOR ALL DATA AND A/V CABLING TO PODIUM. (1) 1-1/2" AND (1) 1-1/4" FROM NEW JUNCTION BOX SHALL TRAVEL UNDER FLOOR SLAB TO POKE-THRU DEVICE BENEATH PODIUM. REFER TO DETAILS 1, 2 AND 3/DWG E-200 FOR MORE INFORMATION. REFER TO CAMPUS NETWORK CABLE INSTALLATION SPECIFICATION FOR ADDITIONAL POKE-THRU DETAILS.
 - EXTEND WIRING AND CONDUIT (1) 1-1/2" IN 3/4" FROM POWER JUNCTION BOX RETAINED DURING DEMOLITION BELOW FLOOR SLAB TO POKE-THRU DEVICE BENEATH PODIUM. REFER TO DETAILS 2 AND 3/DWG E-200 FOR MORE INFORMATION.

OUTSIDE



INSIDE



2 ELECTRICAL DOOR CONTROL WIRING DIAGRAM
 SCALE: N.T.S.
 NOTE: REFER TO CAMPUS NETWORK CABLE INSTALLATION SPECIFICATION FOR DETAILS REGARDING TELECOMMUNICATIONS CABLING. PROVIDE CAT6A CABLING FOR CARD READER.

PANEL NO. P-11 SECTION 1		EXISTING PANEL		MIN. INTERRUPTING RATING		SYMM.		REV. DATE	
CTK NO.	TRIP (AMPS)	DESCRIPTION OF LOAD	LOAD (AMPS)	PER PHASE AMPS (A, B, C)	LOAD (AMPS)	DESCRIPTION OF LOAD	TRIP (AMPS)	CTK NO.	REV. DATE
1	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	2	
3	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	4	
5	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	6	
7	20	EXISTING CIRCUIT	0	7.5	7.5	PERCEPTION LAB RECEPTACLES	20	8	①
9	20	EXISTING CIRCUIT	0	9	9	PERCEPTION LAB RECEPTACLES	20	10	①
11	20	EXISTING CIRCUIT	0	12	12	PERCEPTION LAB RECEPTACLES	20	12	①
13	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	14	
15	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	16	
17	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	18	
19	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	20	
21	100	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	22	
23			0	0	0	EXISTING CIRCUIT	20	24	
			7.5	9	12				

PANEL NO. P-12 SECTION 1		EXISTING PANEL		MIN. INTERRUPTING RATING		SYMM.		REV. DATE	
CTK NO.	TRIP (AMPS)	DESCRIPTION OF LOAD	LOAD (AMPS)	PER PHASE AMPS (A, B, C)	LOAD (AMPS)	DESCRIPTION OF LOAD	TRIP (AMPS)	CTK NO.	REV. DATE
1	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	2	
3	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	4	
5	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	6	
7	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	8	
9	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	10	
11	20	PERCEPTION LAB RECEPTACLES	9	9	9	EXISTING CIRCUIT	20	12	①
13	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	14	
15	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	16	
17	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	30	18	
			0	0	9				

PANEL NO. P-12 SECTION 2		EXISTING PANEL		MIN. INTERRUPTING RATING		SYMM.		REV. DATE	
CTK NO.	TRIP (AMPS)	DESCRIPTION OF LOAD	LOAD (AMPS)	PER PHASE AMPS (A, B, C)	LOAD (AMPS)	DESCRIPTION OF LOAD	TRIP (AMPS)	CTK NO.	REV. DATE
17	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	18	
19	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	20	
21	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	22	
23	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	24	
25	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	26	
27	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	28	
29	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	30	
31	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	32	
33	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	34	
35	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	36	
37	20	PERCEPTION LAB/STORAGE RECEPTACLES	10.5	10.5	0	EXISTING CIRCUIT	20	38	②
39	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	40	
41	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	42	
43	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	44	
45	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	46	
47	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	48	
49	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	50	
51	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	52	
53	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	54	
55	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	100	56	
57	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	100	58	
			0	10.5	0				

PANEL NO. L-11 SECTION		EXISTING PANEL		MIN. INTERRUPTING RATING		SYMM.		REV. DATE	
CTK NO.	TRIP (AMPS)	DESCRIPTION OF LOAD	LOAD (AMPS)	PER PHASE AMPS (A, B, C)	LOAD (AMPS)	DESCRIPTION OF LOAD	TRIP (AMPS)	CTK NO.	REV. DATE
1	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	2	
3	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	4	
5	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	6	
7	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	8	
9	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	100	10	
11	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	12	
13	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	14	
15	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	16	
17	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	100	18	
19	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	20	
			0	0	0				

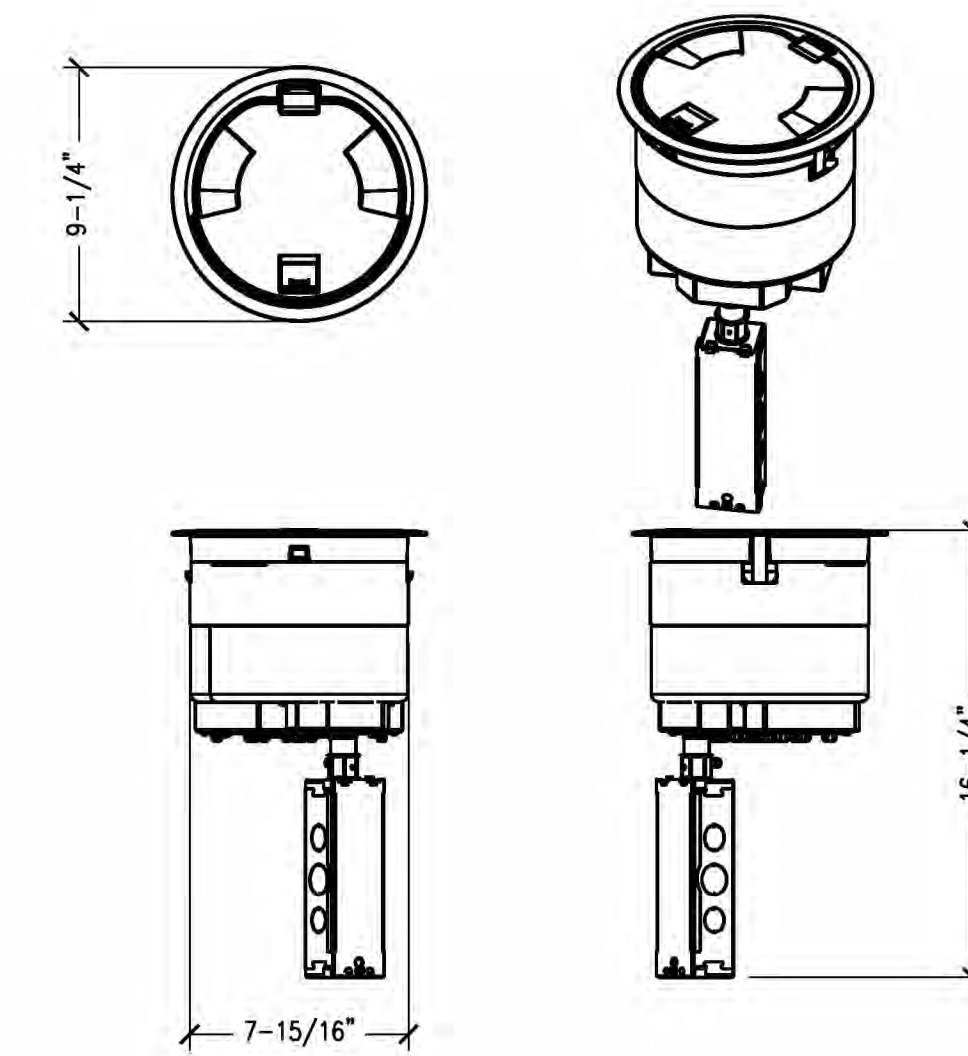
PANEL NO. L-12 SECTION		EXISTING PANEL		MIN. INTERRUPTING RATING		SYMM.		REV. DATE	
CTK NO.	TRIP (AMPS)	DESCRIPTION OF LOAD	LOAD (AMPS)	PER PHASE AMPS (A, B, C)	LOAD (AMPS)	DESCRIPTION OF LOAD	TRIP (AMPS)	CTK NO.	REV. DATE
1	20	EXISTING CIRCUIT	0	8.8	8.8	PERCEPTION LAB LIGHTING	20	2	②
3	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	4	
5	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	6	
7	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	8	
9	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	10	
11	20	PERCEPTION LAB/STORAGE LIGHTING	2.2	2.2	0	EXISTING CIRCUIT	20	12	②
13	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	14	
15	20	EXISTING CIRCUIT	0	0	0	SPACE	20	16	
17	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	18	
19	20	EXISTING CIRCUIT	0	0	0	EXISTING CIRCUIT	20	20	
21		SPACE	0	0	0	EXISTING CIRCUIT	20	22	
23		SPACE	0	0	0	EXISTING CIRCUIT	20	24	
25		SPACE	0	0	0	SPACE	20	26	
			8.8	0	2.2				

PANEL SCHEDULE NOTE:

PANEL SCHEDULES SHOWN FOR INFORMATIONAL PURPOSES ONLY

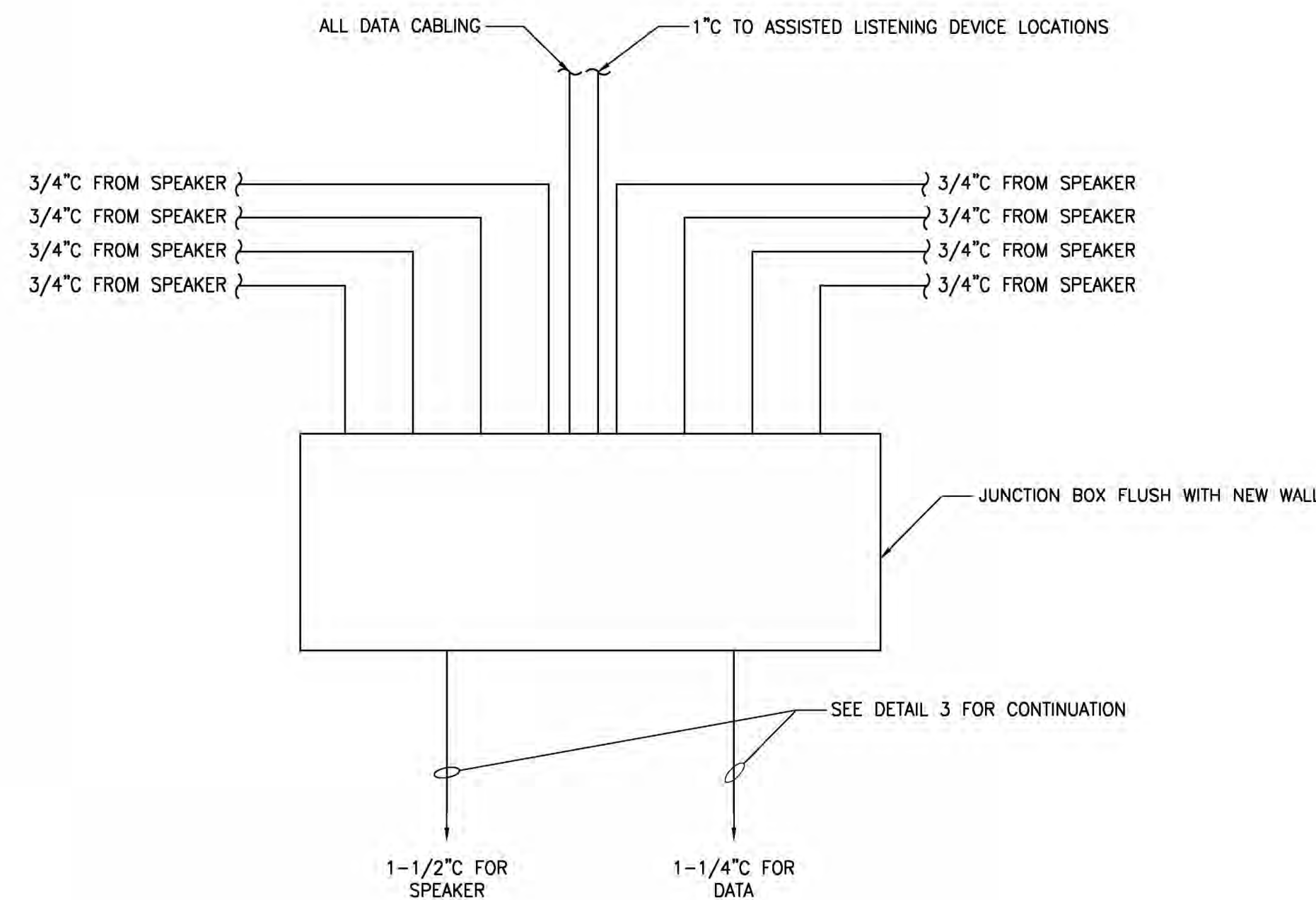
PANEL SCHEDULE KEY NOTES

- ① REUSE EXISTING CIRCUIT TO FEED NEW RECEPTACLES IN PERCEPTION LAB.
- ② REUSE EXISTING LIGHTING CIRCUIT TO FEED NEW RECEPTACLES IN GALLERY.



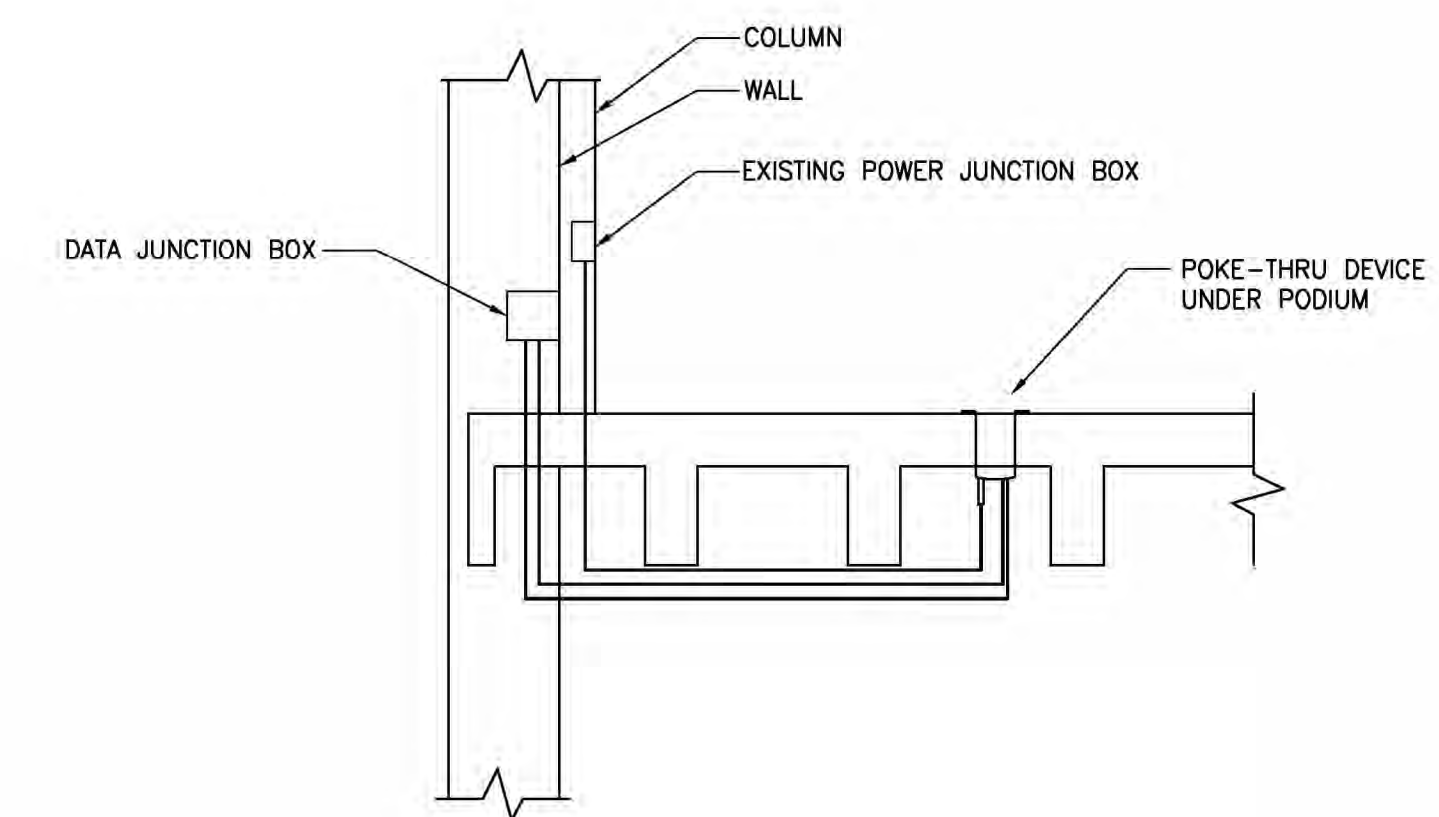
② ELECTRICAL POKE-THRU DETAIL 2

SCALE: N/A
NOTE: REFER TO SYMBOLS LIST FOR SPECS.



① ELECTRICAL POKE-THRU DETAIL 1

SCALE: N/A



③ ELECTRICAL POKE-THRU DETAIL 3

SCALE: N/A

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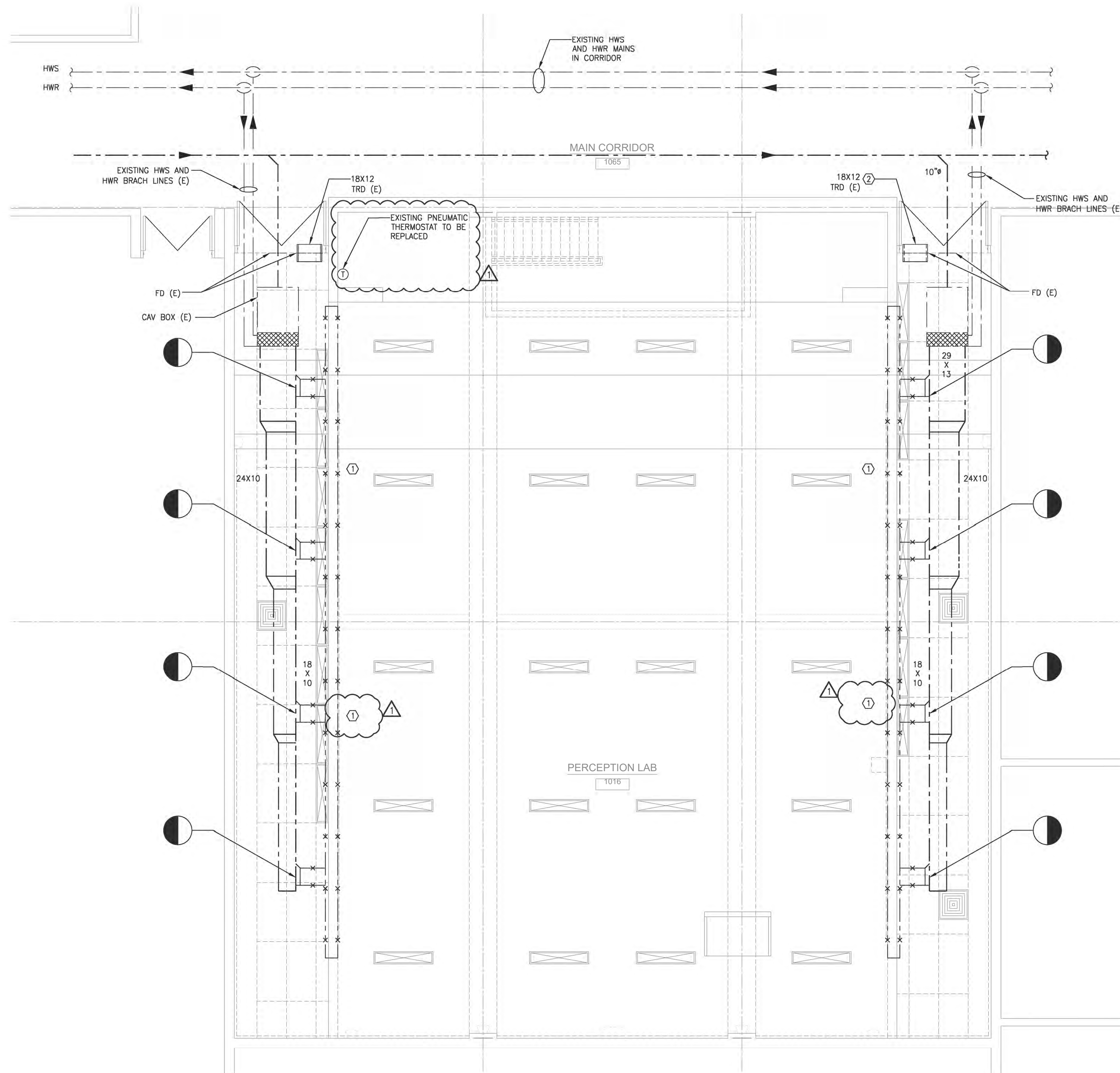
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REV.	DATE	DESCRIPTION/COMMENTS
2/9/2020		ISSUED FOR BID

ISSUED FOR:	ISSUED DATE:
BID & PERMIT	09.11.2019

DRAWN BY: AR
 CHECKED BY: DC
 PROJECT NUMBER: 20076
 SU-021119

ELECTRICAL PANEL SCHEDULES AND DETAILS



1 EXISTING/DEMOLITION PLAN
SCALE: 1/4"=1'-0"

KEY NOTES:

- ① EXISTING LINEAR DIFFUSER PLENUM TO BE REMOVED ALONG WITH BRANCH DUCTS, AS INDICATED. BRANCH DUCT OPENINGS ON THE MAIN SUPPLY DUCT TO BE PATCHED AIR TIGHT (TYPICAL FOR ALL LOCATIONS).
- ② EXISTING TRANSFER DUCT IS COVERED BY GYPSUM BOARD AT THIS LOCATION. GYPSUM BOARD SHALL BE REMOVED FOR TRANSFER OF AIR.

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REVISIONS

REV	DATE	DESCRIPTION / COMMENTS
1	2/3/2020	ISSUED FOR BID
1	2/26/2020	ADDENDUM #1

ISSUED FOR: BID & PERMIT
 ISSUED DATE: 09.11.2019

DRAWN BY: SD
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 SU-021119

DRAWING NAME
**MECHANICAL
 DEMOLITION/
 EXISTING PLAN**

DRAWING NO.
M-100

REVISIONS

REV	DATE	DESCRIPTION / COMMENTS
1	2/3/2020	ISSUED FOR BID
1	2/26/2020	ADDENDUM #1

ISSUED FOR: BID & PERMIT
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DRAWN BY: SD
 CHECKED BY: FT

PROJECT NUMBER: 20076
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DRAWING NAME
MECHANICAL CONSTRUCTION PLAN

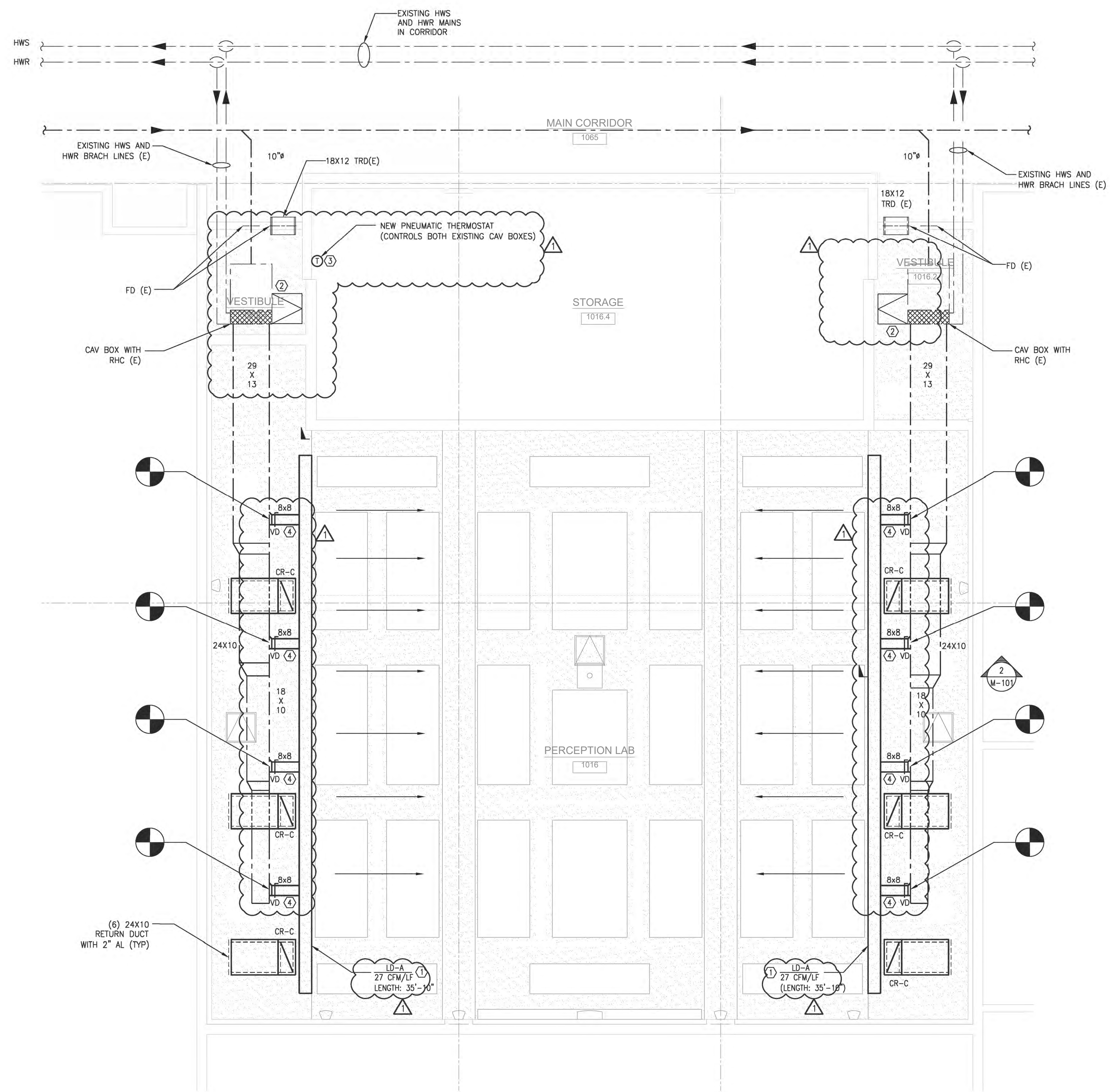
DRAWING NO.
M-101

GENERAL NOTES:

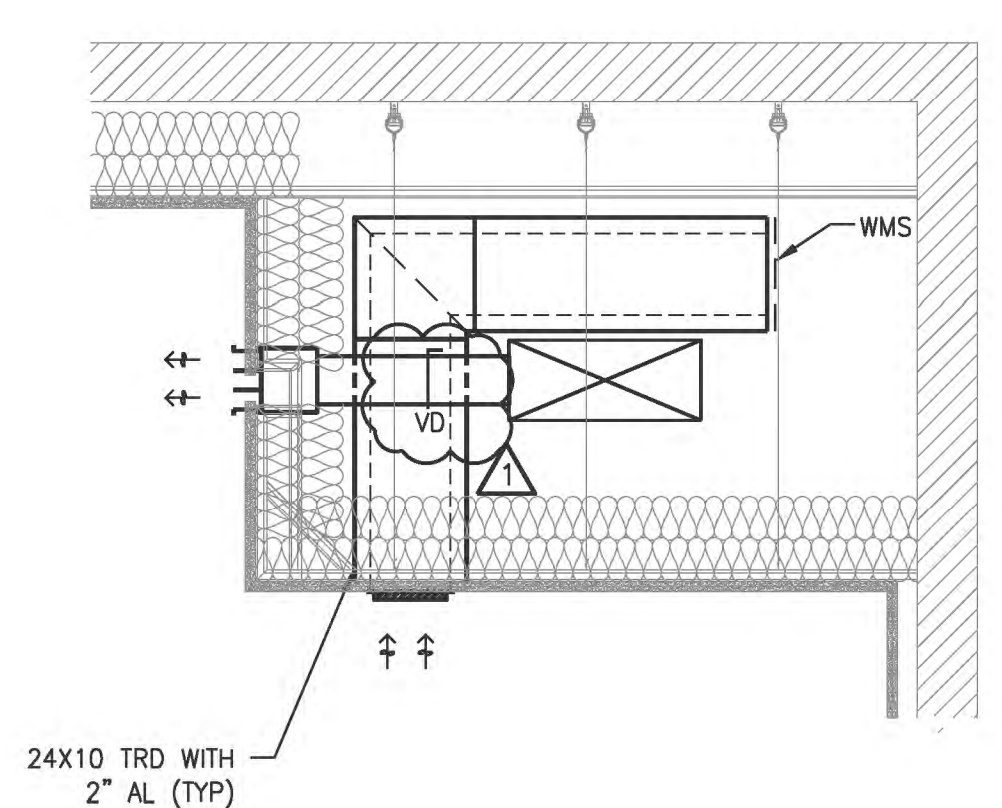
1. ALL NEW AND EXISTING EQUIPMENT (INCLUDING EXISTING CAV BOXES), AND DUCTWORK WITHIN THE PERCEPTION LAB SPACE SHALL BE SUPPORTED OR RE-HUNG USING A COMBINATION OF "KINETICS" AF-100 (FOR 20-100 LBS LOADS) AND AF-200 (FOR 50-200 LBS LOADS) HANGERS.
2. THE PERCEPTION LAB SPACE IS SERVED BY EXISTING UNIT, AC-4, WHICH IS A CONSTANT AIR VOLUME (CAV) SYSTEM.
3. ALL DEMOLITION AND NEW WORK SHALL BE SCHEDULED IN ADVANCE WITH THE BUILDING MANAGER.

KEY NOTES:

- ① NEW 3-SLOT LINEAR DIFFUSER WITH 27 CFM/FT. TOTAL LENGTH OF LINEAR DIFFUSER IS 35'. CONTRACTOR TO RE-BALANCE THE EXISTING CAV BOXES TO PROVIDE 945 CFM.
- ② PROVIDE A 24"x24" CEILING ACCESS PANEL. COORDINATE FINAL LOCATION DURING CONSTRUCTION.
- ③ REPLACE THE EXISTING PNEUMATIC THERMOSTAT WITH A NEW PNEUMATIC THERMOSTAT. REFER TO SPECIFICATION DRAWING M-300 FOR ADDITIONAL DETAILS.
- ④ PROVIDE BALANCING DAMPER AT EACH NEW BRANCH DUCT WITH REMOTE CABLE CONTROL KIT. (TYPICAL AT ALL LOCATIONS). REFER TO DETAIL 3 ON M-200.



① PERCEPTION LAB CONSTRUCTION PLAN
 SCALE: 1/4"=1'-0"



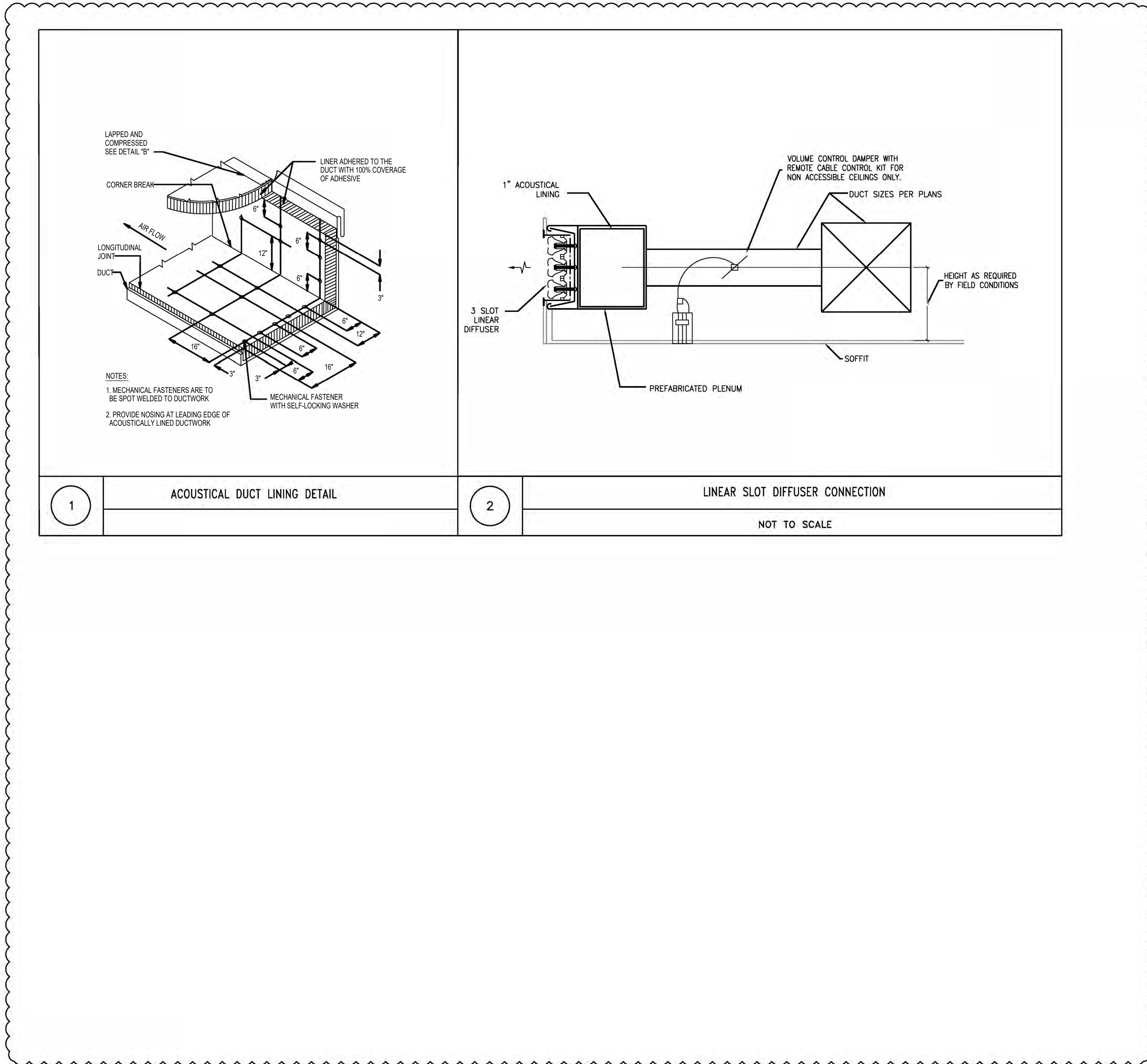
② SECTION AT SOFFIT (PERCEPTION LAB)
 SCALE: 1/2"=1'-0"

DIFFUSER, GRILLE & REGISTER SCHEDULE

DESIGN BASIS: TITUS

TAG	APPLICATION	MODULE SIZE	NECK SIZE	CFM	MAX P.D.	MAX NC	MATERIAL	MODEL	REMARKS
CR-C	RETURN	24X10	-	0-475	0.006	-	STEEL	350 RL	SEE NOTES
LD-A	SUPPLY	-	-	960	0.0066	10	STEEL	ML-39	SEE NOTES

NOTES:
1. COORDINATE COLOR AND FINISH WITH ARCHITECT.



1 ACOUSTICAL DUCT LINING DETAIL

2 LINEAR SLOT DIFFUSER CONNECTION
NOT TO SCALE

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REVISIONS

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DRAWN BY: SD
CHECKED BY: FT
PROJECT NUMBER: 20076
SU-021119

DRAWING NAME
MECHANICAL SCHEDULES AND DETAILS

DRAWING NO.
M-200

HVAC SPECIFICATIONS

1. General

A. The "General Conditions of the Contract for Construction," AIA document A201, latest edition, and these specifications as applicable are part of this contract.

B. All applicable codes, laws and regulations governing or relating to any portion of this work are hereby incorporated into and made a part of these specifications, and their provisions shall be carried out by the contractor who shall inform the owner, prior to submitting a proposal, of any work or materials which violate any of the above laws and regulations. Any work done by the contractor causing such violation shall be corrected by the contractor.

C. Investigate each space through which equipment must be moved. Where necessary, equipment shall be shipped from manufacturer in sections of size suitable for moving through available restrictive spaces. Ascertain from building owner at what times of day equipment may be moved through all areas.

D. Ductwork and piping is shown diagrammatically and does not show all offsets, drops and rises of runs. The contractor shall allow in his price for routing of ductwork and piping to avoid obstructions. Exact locations are subject to approval of the architect. Coordination with the existing services, including those of other trades is required.

E. Support all ductwork and piping from building structure and/or framing in an approved manner. Where overhead construction does not permit fastening or supports for equipment, furnish additional framing. Inserts shall be steel, slotted type and factory painted. Single rod shall be similar to Grinnell Fig. 281. Multi-rod shall be similar to Fee & Mason Series 9000 with end caps and closure strips. Maximum loading including pipes, ductwork contents and covering shall not exceed 75% of rated insert capability. When supporting from building use beam clamps in approved manner.

F. Install work so as to be readily accessible for operation, maintenance and repair. Minor deviations from drawings may be made to accomplish this, but changes which involve extra cost shall not be made without approval.

G. Removal and relocation of certain existing work will be necessary for the performance of the general work. All existing conditions cannot be completely detailed on the drawings. The contractor shall survey the site and include all changes in making up the work proposal.

H. Plan installation of new work and connections to existing work to insure minimum interference with regular operation of existing facilities. All system shutdowns affecting other areas shall be coordinated with building owner. Install isolation valves at point of connection to the existing piping. Provide temporary duct caps and/or connections to minimize shutdown time.

I. Connect new work to existing work in neat and approved manner. Restore existing work disturbed while installing new work to acceptable condition as determined by architect.

J. Disconnect, remove and/or relocate existing material, equipment and other work as noted or required for proper installation of new system.

K. The contractor shall keep all equipment and materials, and all parts of the building, exterior spaces and adjacent streets, sidewalks and pavements, free from material and debris resulting from the execution of this work. Excess materials will not be permitted to accumulate either on the interior or the exterior.

L. Seal openings around ducts and piping through partitions, walls and floors (not in shafts) with mineral wool or other noncombustible material.

M. All present material, equipment and construction debris to be removed under this contract shall become the property of the contractor with the exception of specific equipment and apparatus requested by the building representative, architect or as noted to be relocated on the drawings shall be properly disposed of by this contractor.

N. Materials and workmanship, unless otherwise noted, shall be in accordance with building standards.

O. The work in the building shall be done when and as directed, and in a manner satisfactory to the owner. The work shall be performed so as to cause the least possible inconvenience and disturbance to the present occupants.

P. The contractor's proposal for all work shall be predicated on the performance of the work during regular working hours. When so directed, however, the contractor shall install work overtime and the additional cost to be charged therefore shall be only the "premium" portion of the wages paid.

Q. Unless otherwise specifically specified, include oil cutting and patching of existing floors, walls, partitions and other materials in the existing building. The contractor shall restore these areas to original condition.

R. Removable access tiles and/or access doors are required in hung ceilings, shafts and walls for all volume and fire dampers, and all other mechanical equipment and devices. HVAC contractor to furnish access location requirements to general contractor. Access tile identification: provide buttons, tabs, and markers to identify location of concealed valves, dampers and equipment.

S. All material and equipment to be new unless otherwise noted and shall be in accordance with building standards.

T. Submission of a proposal shall be construed as evidence that a careful examination of the portions of the existing building, equipment, etc., which affect this work, and the access to such spaces, has been made and that the contractor is familiar with existing conditions and difficulties that will affect the execution of the work. Later claims shall not be made for labor, equipment or materials required because of difficulties encountered which could have been foreseen during such an examination. The on-site inspection shall verify existing ductwork, piping (sizes, clearances, etc) and conditions.

U. Insurance: In accordance with building requirements and shall include a hold harmless clause for owner and engineer.

V. The final acceptance will be made after the contractor has adjusted his equipment, balanced the various systems, demonstrated that it fulfills the requirements of the drawings and specifications and has furnished all the required certificates of inspection and approval.

W. Specifications are of simplified form and include incomplete sentences. Words or phrases such as "the contractor shall," "shall be," "furnish," "provide," "a," "the," and "all" have been omitted for brevity.

X. Definitions:

1) "Provide": To supply, install and connect up complete and ready for safe and regular operation the particular work referred to unless specifically otherwise noted.

2) "Install": To erect, mount and connect complete with related accessories.

3) "Furnish" or "Supply": To purchase, procure, acquire and deliver complete with related accessories.

4) "Work": Labor, materials, equipment, apparatus, controls, accessories and other items required for proper and complete installation.

5) "Concealed": Embedded in masonry or other construction, installed in furred spaces, within double partitions or hung ceilings, in trenches, in crawl spaces, or in enclosures.

6) "Exposed": Not installed underground or "concealed" as defined above.

7) "Similar" or "Equal": Equal in materials, weight, size, design and efficiency of specified product.

2. Scope of work

A. The work under contract includes all labor, materials and appliances necessary for the furnishing, installing and testing, complete and ready for safe operation of the systems. Work shall be installed in a neat, workmanlike manner.

B. The contractor shall give necessary notice, file drawings and specifications with the department having jurisdiction, obtain permits or licenses necessary to carry out this work and pay all fees therefor. The contractor shall arrange for inspection and tests of any or all parts of the work if so required by authorities and pay all charges for same. The contractor shall pay all costs for, and furnish to the owner before final billing, all certificates necessary as evidence that the work installed conforms with all regulations where they apply to this work.

C. The contractor shall furnish a written guarantee to replace or repair promptly and assume responsibility for all expenses incurred for any workmanship and equipment in which defects develop within one year from the date of final certificate for payment and/or from date of actual use of equipment or occupancy of spaces, by owner, included under the various parts of the work, whichever date is earlier. This work shall be done as directed by the owner. This guarantee shall also provide that where defects occur, the contractor will assume responsibility for all expenses incurred in repairing and replacing work of other trades affected by defects, repairs or replacements in equipment supplied by the contractor.

D. Special inspection by a licensed professional engineer to be hired by the owner.

E. Prior to the installation of any work and procurement of equipment provide complete set of coordinated shop drawings of all new and existing equipment, ductwork, piping and control systems indicating capacity dimensions and sequence of operation for written approval by the architect and engineer.

3. Shop drawings

A. Indicate on each submission: project name and location, architect and engineer, item identification and approval stamp of prime contractor.

B. Submissions:

1) Submissions 11 in. X 17 in. or smaller: Provide in electronic PDF format to the engineer with a copy to the architect. All submissions shall be complete, otherwise they will be returned to the contractor as "not reviewed".

2) Submissions larger than 11 in. X 17 in.: Provide in electronic PDF format to the engineer with a copy to the architect. All submissions shall be complete, otherwise they will be returned to the contractor as "not reviewed".

C. Submit shop drawings for the following:

- 1) Sheet metal shop standards.
- 2) Duct layout.
- 3) Duct insulation/interior lining.
- 4) Ceiling diffusers and return grilles.
- 5) Air testing and balancing report.
- 6) Pneumatic thermostat.

4. As-built drawings and equipment operation instructions

A. On completion and acceptance of work, this contractor shall furnish written instructions, equipment manuals and demonstrate to the owner the proper operation and maintenance of all equipment and apparatus furnished under this contract.

B. These instructions shall be typed on 8-1/2 in. X 11 in. paper and bound in three-ring binders with clear acetate covers. The contractor shall give three copies of the instructions to the owner and one copy to the engineer.

C. The instruction booklet shall be organized in sections, with one section per system. The cover of the instruction booklet shall bear the name, address and phone number of the project, architect, engineer, mechanical contractor and subcontractors.

D. As-built drawings in PDF format indicating as-installed conditions shall be provided to the architect after completion of the installation.

5. Sheet metal work

A. Except as otherwise shown or noted, all ductwork and other sheet metal work shall be galvanized sheet steel and shall be installed in accordance with the latest edition of Sheet Metal and Air Conditioning Contractors National Association, Inc. duct construction standards, pressure classification 2 in. W.G.

B. Volume dampers: Galvanized steel, per SMACNA "Low Velocity Manual," except provide bearing of one end of damper rod and quadrant, with lever and lock screw at other end. For insulated ducts, quadrants mounted on collar to clear insulation. Install with levers accessible.

C. Access doors: Insulated or uninsulated, same as duct.

1) Provide minimum 24" x 24" on main ducts, and 12" x 12" on branch ducts, unless otherwise approved, at fire dampers and at all duct accessories requiring access.

2) All access doors to be hinged, with latch similar to Ventlock No. 100.

D. Flexible connections: Neoprene-coated glass fabric, 30 oz per square yard with sewed and cemented seams, similar to Vent Fabric. Provide with metal collars. Allow minimum movement of 1 in.

E. Turning vanes: Galvanized steel small double-thickness vanes with 2 in. inside radius.

F. Fire dampers: UL listed, galvanized steel construction, multi-bladed type, spring loaded, equipped with fusible link, conforming to NFPA standard 90A. Similar to air balance Model 319-P, rated as required. See installation on drawing.

G. All duct dimensions indicated on plans are inside clear dimensions.

H. Wire mesh screen (WMS): No. 16 USSG, 3/4 square mesh, in 1 in. wide galvanized steel enclosing frame. Flanged duct opening to receive frame.

I. Low pressure flexible duct: Shall be a factory fabricated high temperature copolymer impregnated glass fabric, locked to cold rolled flat steel spiral. Similar to Wiremold 57. Maximum installed length shall not exceed 18 in.

6. Air outlets

A. General:

1) Margin types, colors, finish and methods of attachment for all diffusers, grilles and registers shall be coordinated with architectural ceiling and wall details and specifications.

2) Frame type suitable for mounting in ceiling or wall construction as indicated on architectural plans.

3) Exact location of all air outlets as per architectural plans.

4) Suitable for operation at 20% excess and 20% less than noted capacity for constant volume systems and at 20% excess and 60% less than noted capacity for variable volume systems. Manufacturer responsible for examining application of each outlet and guarantee that each will provide required NC levels and comfort space conditions without drafts throughout operating range.

5) All registers and diffusers shall be provided with opposed blade volume dampers. Damper operating levers shall be accessible at the face of air outlets.

B. Linear diffusers: Extruded aluminum construction, natural anodize finish, removable core, air deflection vane and cable operated damper in each branch top with minimum 3 feet of cable to diffuser face. Similar to Titus Model ML-39.

C. Registers and grilles:

1) Return and exhaust registers: steel construction with volume damper. Similar to Titus 35ORL.

7. Noise control

A. All room NC levels shall be 35 or less.

B. Provide sound lining for the following ductwork:

1) Air transfer ducts.

2) Linear diffuser plenums.

3) Acoustical return boots.

4) Also where noted on a drawing.

C. Sound-lining in ductwork: Fibrous glass, minimum 3 lb density, 1 in. thickness, maximum 0.25 K factor at 75F mean temperature with acrylic coated finish factory applied edge coating and stenciled in accordance with NFPA 90. Flame spread shall be a maximum of 25. Lining shall not support microbial growth and shall be tested in accordance with ASTM C 1071 and ASTM G21/G22. Similar to Manville Permacote Lino Coustic.

D. All sound lining, adhesives, faces and accessories to be applied in accordance with manufacturer's recommendations, except as otherwise noted.

B. Testing and balancing

A. Re-balance the existing two (2) CAV boxes for the new air flow and hot water requirements.

B. Air balancing shall be accomplished by adjustment of fans, constant volume boxes, and branch dampers for major adjustments. Adjustment of terminal dampers and devices shall be for trim or minor adjustment only. This shall be done to permit the least noise generation in the terminal areas and utilize minimum fan energy.

C. Upon completion of the installation, the contractor shall rebalance any existing portions of the air distribution system affected by the renovation, and also balance all the new work.

D. The contractor shall provide all labor, pressure gauges, flow meters, sheaves, and belts required to balance systems.

E. Balancing report shall be provided on AABC-type forms.

F. Air handling units and constant volume boxes shall be balanced to within +5% of their design capacities. All other air quantities shall be balanced to within +10% of the design quantities.

G. Balancing and testing shall be performed and supervised by one of the following independent firms specializing in testing and balancing:

1) Precision Testing and Balancing, Inc.

2) Air Conditioning Test and Balancing Corp.

3) Approved equal.

I. The performance and capacity of all systems and equipment to be demonstrated by the contractor.

9. Vibration isolation

A. General:

1) Provide isolation for ductwork.

2) Install in accordance with manufacturer's instructions.

3) Provide leveling devices and approved resilient restraining devices as required to limit equipment and piping motion in excess of 1/4 in.

4) Acceptable manufacturers:

a. Mason Industries, Inc.

b. Vibration Eliminator Co.

c. Korlund Dynamics Corp.

B. Ceiling equipment:

1) Provide spring hanger rod isolators. Steel compression spring and neoprene sound pad within a steel retainer box. Similar to Mason Type PCHS.

2) 1 in. minimum static deflection. 1/2 in. minimum reserve deflection. Factory-preloaded to 75% of rated load.

3) Provide supplemental steel as required where equipment or structure cannot support point loads.

10. Controls

A. Replace existing pneumatic thermostat with a new pneumatic thermostat, equal to Siemens model # 192-202/Item # 4E666. Thermostat shall be direct acting, 2-pipe design for heating and cooling. The thermostat shall utilize a throttling range of 3 to 15 PSI compressed air with a bi-metal element and a temperature control range of 45F to 85F.

END OF SECTION

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MECHANICAL SPECIFICATIONS

M-300

DRAWING NO.