GENERAL NOTES

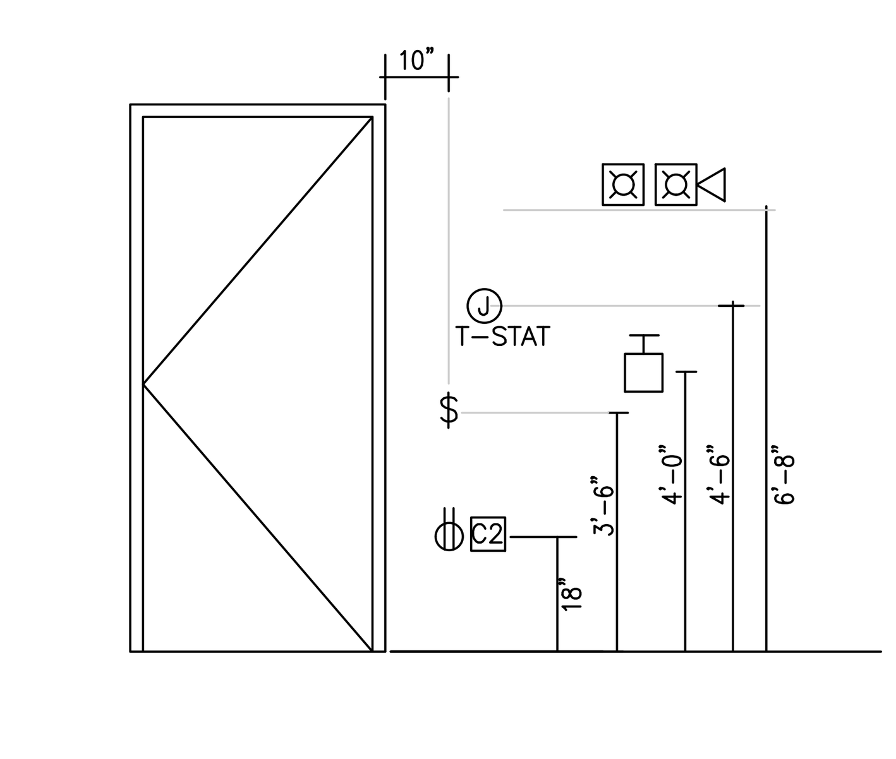
1. THIS INSTALLATION SHALL BE IN COMPLIANCE WITH THE CITY OF AURORA,IL BUILDING CODES OF ORDINANCES, LOCAL AMENDMENTS AND NATIONAL CODES INCLUDING BUT NOT LIMITED TO: 2015IBC, 2014NEC, 2015IECC, AND NFPA72.
2. BEFORE COMMENCING WORK THE CONTRACTOR SHALL VISIT THE JOB SITE AND FULLY INFORM HIMSELF OR HERSELF OF ALL CONDITIONS THAT AFFECT THE WORK, EXAMINE THE DRAWINGS AND SPECIFICATIONS SHEET, AND SUBMIT ANY QUESTIONS IN WRITING TO THE ARCHITECT AND ENGINEER.
3. ALL ELECTRICAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION SHEET AND ALL OTHER DRAWINGS RELATED TO THE PERFORMANCE OF THE WORK.
4. THE CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THIS WORK SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT BEFORE COMMENCING ANY WORK. THE PROJECT DRAWINGS FORM THE BASIS OF THIS CONTRACT REQUIREMENTS AND INCLUDE THE TYPE AND GRADE OF MATERIALS TO BE INSTALLED, EQUIPMENT TO BE FURNISHED, THE MANNER BY WHICH TO BE INSTALLED AND WHERE TO BE LOCATED. IN THE EVENT OF A CONFLICT BETWEEN THE PROJECT SPECIFICATIONS AND DRAWINGS, THE MOST STRICT METHOD GOVERN UNLESS THE ARCHITECT/ENGINEER DIRECTS OTHERWISE.
5. THE ELECTRICAL CONTRACTOR SHALL CHECK CAREFULLY ALL CONSTRUCTION DRAWINGS THAT ARE PART OF THIS PROJECT TO ENSURE THAT NO FIXTURE, OUTLET, ALARM STATION, CONTROL DEVICE, POWER WIRING DEVICE, ETC...IS OMITTED. HE/SHE SHALL CONSULT ALL TRADES FURNISHING EQUIPMENT AND OBTAIN FROM THEM ALL DATA. IN SOME CASES EQUIPMENT, FIXTURES AND DEVICES ARE SHOWN ONLY. ASCERTAIN AND PROVIDE THE WIRING AND CONTROL STATIONS REQUIRED FOR THE PROPER FUNCTION OF BUILDING EQUIPMENT. NO EXTRA CHARGES SHALL BE ACCEPTED BY OWNER AFTER BIDDING FOR SUCH EQUIPMENT AND LABOR.
6. EQUIPMENT LABELS AND INSTRUCTIONS REGARDING THE APPLICATION AND INSTALLATION OF THE LISTED EQUIPMENT SHALL BE FOLLOWED TO INSURE THAT THE EQUIPMENT IS BEING INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S LISTING INSTRUCTIONS. THE TEMPERATURE RATING OF THE EQUIPMENT TERMINATIONS MUST BE CAREFULLY CORRELATED WITH THE CONDUCTOR AMPACITY TO PREVENT OVERHEATING AND PREMATURE FAILURE.
7. INSTALL ELECTRICAL DEVICES AS INDICATED IN THIS SET OF DRAWINGS. ADJUST FINAL DEVICE LOCATIONS AS REQUIRED TO ACCOMMODATE WORK. COORDINATE WITH ALL TRADES INVOLVED AND WITH ARCHITECTURAL CASEWORK AND ELEVATIONS DRAWINGS. NOTIFY THE ENGINEER AND/OR THE ARCHITECT IF ANY CONFLICTS ARE FOUND PRIOR TO BIDDING PROJECT. INSTALL CONDUIT AND BOXES TO CLEAR EMBEDDED DUCTS, OPENINGS AND OTHER STRUCTURAL FEATURES.
8. ALL LIGHTING FIXTURES ARE TO BE LOCATED AS REQUIRED ON THE JOB TO CLEAR DUCTS, PIPING, EQUIPMENT, AND/OR MECHANICAL UNITS.
9. CONDUIT RUNS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. ALL CONDUITS SHALL RUN CONCEALED, EXCEPT IN EQUIPMENT ROOMS AND WHERE APPROVED BY THE ARCHITECT.
10. FURNISH AND INSTALL EQUIPMENT DISCONNECT SWITCHES IN STRICT COMPLIANCE WITH CODE REQUIREMENTS.
11. ADJACENT POWER AND DATA DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION.
12. ALL RECEPTACLES, VOICE AND DATA OUTLETS SHALL BE MOUNTED PER MOUNTING HEIGHT LEGEND, UNLESS OTHERWISE NOTED. SEE DETAIL THIS SHEET FOR ADDITIONAL INFORMATION. ALL DEVICES SHALL BE NEW. REFER TO ARCHITECTURAL CASEWORK DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR EXACT DEVICES MOUNTING HEIGHTS.
13. REFER TO FIRE ALARM SHEET IN THIS SET OF DRAWINGS FOR FIRE ALARM SYSTEM INFORMATION.
14. DETERMINE, IN ADVANCE OF PURCHASE, THAT ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE INSTALLED SHALL FIT INTO THE ROOM OR SPACE ALLOCATED, AS INDICATED ON THE DRAWINGS, ALLOWING SUFFICIENT CLEARANCE FOR THE SAFE SERVICE AND/OR MAINTENANCE OF RELATED EQUIPMENT, INCLUDING THAT OF OTHER TRADES.
15. ALL CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED. COLOR OF GROUNDING CONDUCTOR SHALL BE GREEN. SIZE OF GROUNDING CONDUCTOR SHALL BE AS REQUIRED PER CEC ARTICLE 250.122.
16. ALL BRANCH CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR INSTALLED UNLESS OTHERWISE INDICATED. COLOR OF NEUTRAL CONDUCTOR SHALL BE WHITE.
17. ALL CONDUCTOR SHALL BE MADE OF COPPER. MINIMUM WIRE SIZE SHALL BE #12AWG UNLESS OTHERWISE INDICATED. UTILIZE SOLID CONDUCTORS FOR WIRE GAGES UP TO #12AWG AND STRANDED CONDUCTOR FOR GAGES #10AWG AND LARGER.
18. SPECIAL RECEPTACLES PLUG CONFIGURATION REQUIREMENTS SHALL BE COORDINATED WITH EQUIPMENT PLUG REQUIREMENTS PRIOR TO INSTALLATION.
19. ALL FEEDER AND BRANCH CIRCUIT WIRING INSTALLED INDOORS SHALL USE THHN INSULATION (90F). ALL WIRING INSTALLED OUTDOORS SHALL USE THWN INSULATION (75F). REFER TO SPECIFICATION SHEET FOR COLOR CODED REQUIREMENTS.
20. ALL POWER WIRING SHALL BE INSTALLED IN A DEDICATED RACEWAY SYSTEM. MINIMUM RACEWAY SIZE SHALL BE 3/4"C UNLESS OTHERWISE INDICATED. CONTRACTOR SHALL SIZE ALL CONDUITS SO AS TO NOT EXCEED 40% OF CONDUIT FILLING CAPACITY. WHEN MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE INSTALLED IN THE SAME CONDUIT AND AMBIENT TEMPERATURES ADJUSTMENT FACTORS PER ELECTRICAL CODE TABLES 310.15(B)(2)(A), 310.15(B)(3)(A) SHALL BE APPLIED.
21. ALL CIRCUITS SERVING EMERGENCY EXIT SINGS, NIGHT LIGHTS AND EXTERIOR LIGHTS SHALL UTILIZE #10 WIRE TO MINIMIZED VOLTAGE DROP UNLESS OTHERWISE INDICATED.
22. ALL BREAKERS SERVING FIRE ALARM EQUIPMENT AND EXIT SIGNS SHALL HAVE LOCK-OUT DEVICE INSTALLED UNLESS OTHERWISE INDICATED.
23. DISTRIBUTION PANELS AND BRANCH CIRCUIT PANELBOARDS, SHALL BE LABELED WITH PANEL NAME AND ALSO HAVE A PANEL DIRECTORY INSTALLED. UTILIZE TYPE WRITER AS A MINIMUM FOR COMPLIANCE. HAND WRITTEN CARD DIRECTORIES ARE NOT ACCEPTABLE.
24. PANELBOARDS, DISCONNECT SWITCHES, ETC. SHALL BE LABEL WITH A READILY VISIBLE LABEL PER NFPA 70E, STANDARD FOR SAFETY IN THE WORKPLACE, LABEL SHALL BE CLEARLY VISIBLE TO PERSONNEL AND SHALL READ "CAUTION ARC FLASH HAZARD" ALSO LABELS SHALL INDICATE THE AVAILABLE SHORT CIRCUIT CURRENT AT EQUIPMENT, PPE, VOLTAGE, PHASES, SIZE AND COLOR OF TEXT SHALL BE PER STANDARD.
25. ALL FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT SHALL BE DONE WITH LIQUID TIGHT FLEXIBLE METAL CONDUIT. INSTALL GREEN GROUNDING CONDUCTOR.
26. ALL FINAL BREAKERS AND CONDUCTORS SIZES SERVING MECHANICAL EQUIPMENT SHALL BE COORDINATED WITH MECHANICAL SHOP DRAWINGS AND CONTRACTOR PRIOR TO INSTALLATION. E.C. SHALL COORDINATE WITH HVAC CONTRACTORS EXACT POINT OF CONNECTION TO THE EQUIPMENT PRIOR TO ROUGH-IN.
27. ALL EQUIPMENT INSTALLED OUTSIDE SHALL BE WEATHER PROOF RATED.

GENERAL NOTES (CONTINUE)

REFER TO DRAWINGS FOR ADDITIONAL INFORMATION.

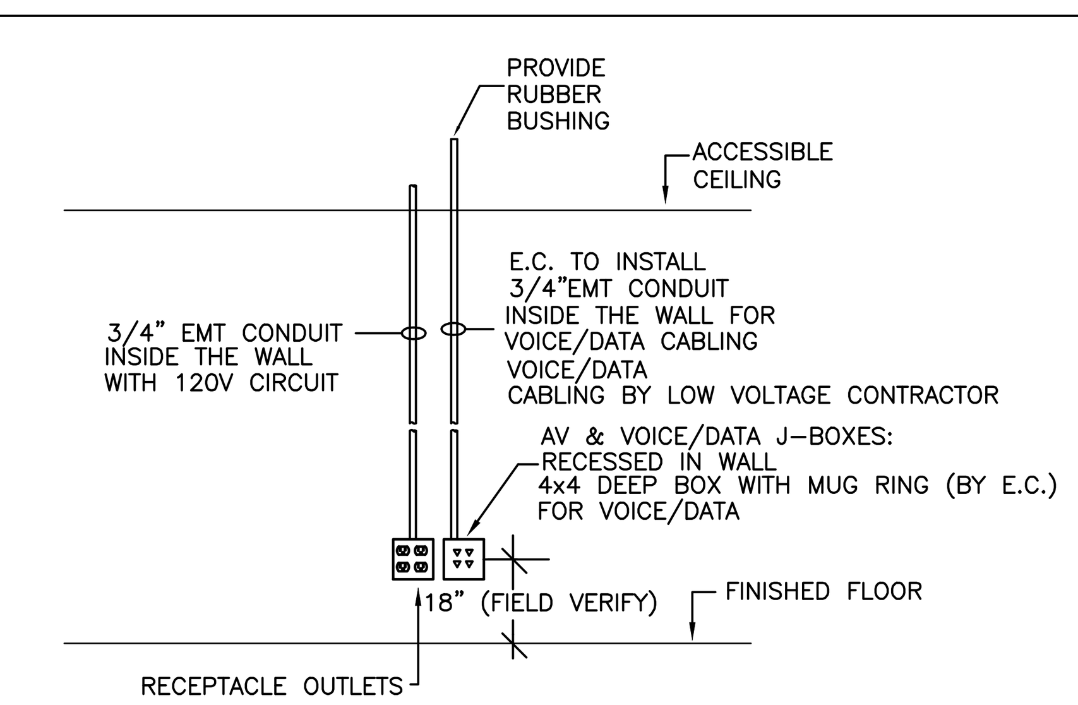
28. INSTALL CONDUIT FROM THE TOP OF THE BAR JOIST.
29. LABEL ALL J-BOXES COVER PLATES, RECEPTACLES COVER PLATES WITH CIRCUIT INFORMATION AND PANEL SOURCE. UTILIZE P-TOUCH LABEL OR APPROVED EQUAL.
30. ALL MOUNTING HEIGHTS OF DEVICES SHALL BE COORDINATED WITH ARCHITECTURAL ELEVATIONS OR ARCHITECT PRIOR TO ROUGH-IN.
31. DO NOT INSTALL DEVICES IN DIFFERENT ROOMS BACK TO BACK. PROVIDE 6" SIDE BY SIDE IN BETWEEN.
32. WHEN APPLICABLE COORDINATE EXACT FURNITURE POWER REQUIREMENTS AND VOICE/DATA FEEDING CONNECTIONS AT EACH LOCATION PRIOR TO ROUGH-IN.
33. GENERAL USE RECEPTACLES SHALL BE WHITE IN COLOR WITH STEEL COVER PLATES. FINAL COLOR OF RECEPTACLES & COVER PLATES SHALL BE AS SELECTED BY THE OWNER.
34. E.C. SHALL INSTALL J-BOX AND CONDUIT FOR MECHANICAL THERMOSTATS. COORDINATE EXACT LOCATIONS WITH M.C. E.C. SHALL FURNISH AND INSTALL WIRING AND TERMINATE ALL LINE VOLTAGE THERMOSTATS.
35. FIRE PROOF ALL PENETRATIONS THRU WALLS AND FLOORS TO RE-STABLISH THE FIRE RATING OF PARTITION.
36. PROVIDE MULTI-GANG J-BOX FOR INSTALLATION OF WIRING DEVICES LOCATED AT THE SAME LOCATION UNLESS OTHERWISE INDICATED ON THE FLOOR PLANS. PROVIDE METALLIC DIVIDER PLATES BETWEEN DIFFERENT CIRCUITS IN THE SAME BOX.
37. ALL PULL BOXES AND JUNCTION BOXES SHALL BE SIZED PER ELECTRICAL CODE ARTICLE 314, TABLES 314.16 BASED IN THE AMOUNT OF CABLE AND CONDUITS ENTERING/LEAVING THE BOX.
38. VOICE/DATA/AUDIO VISUAL (AV) SYSTEMS CABLING AND EQUIPMENT SHALL BE PROVIDED BY LOW VOLTAGE CONTRACTOR. EC SHALL PROVIDE REQUIRED JUNCTION BOXES, CONDUIT, AND PULL STRING FOR ALL LOCATIONS.
39. FOR THE AREA OF WORK WITH DAMAGED, DETERIORATED, COMPROMISED OR MISSING FIREPROOFING CREATED OR EXPOSED DURING CONSTRUCTION SHALL BE RESTORED TO FULL PROTECTIVE CAPACITY.
40. ALL ELECTRICAL WORK SHALL MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE OR 2014 NATIONAL ELECTRICAL CODE

MOUNTING HEIGHTS



NOTES:
1. ALL HEIGHTS FOR OUTLETS ARE AS INDICATED. COORDINATE WITH INTERIOR ARCHITECTURAL DRAWINGS. WHERE DIFFERENCES EXIST, USE ARCHITECTURAL MOUNTING HEIGHTS.

ELECTRIC AND VOICE/DATA OUTLETS



NOTE:
1-ADJACENT POWER AND DATA/PHONE DEVICES SHALL BE SPACED NO MORE THAN 4" APART. PROVIDE JUNCTION BOX MOUNTING BRACKET BETWEEN STUDS AS NEEDED.

2-ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS

ELECTRICAL SYMBOL LIST

Symbol	Description
#	DUPLEX RECEPTACLE, # INDICATES CIRCUIT
	SIMPLEX RECEPTACLE
C	SIMPLEX RECEPTACLE CLOCK STYLE
GFI	DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
U	DUPLEX RECEPTACLE, W/2 USB PORTS
#	QUAD RECEPTACLE (# INDICATES CIRCUIT)
AC	QUAD RECEPTACLE MOUNTED ABOVE THE COUNTER. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT
AS	DUPLEX RECEPTACLE MOUNTED AT SWITCH HEIGHT
	SPECIAL RECEPTACLE COORDINATE EXACT REQUIREMENTS WITH EQUIP. SERVING
	FLUSH MOUNTED FLOOR BOX WITH DUPLEX RECEPTACLE
FB	FLOOR BOX (REFER TO FLOOR PLAN FOR REQUIREMENTS: PWR, VOICE/DATA & AV
PT	POKE THRU SEE DRAWING FOR REQUIREMENTS
PB	PULL BOX
$	TOGGLE SWITCH SPECIFICATION GRADE
$D	TOGGLE SWITCH WITH DIMMER
$3	3-WAY TOGGLE SWITCH
$K	KEYED SWITCH
$M,K	MOMENTARY CONTACT SWITCH - CENTER OFF
$P	RED PILOT LIGHT SWITCH (ON IN THE ON POSITION)
$OS	WALL SWITCH OCCUPANCY SENSOR
$V	VOLUME SWITCH
OS	CEILING MOUNTED OCCUPANCY SENSOR
DL	DAY LAY SENSOR
PC	PHOTOCELL FOR OVERRIDE TIME CLOCK FUNCTION
	HEAVY DUTY FUSIBLE DISCONNECT SWITCH
	HEAVY DUTY NON-FUSIBLE DISCONNECT SWITCH
	JUNCTION BOX
	SINGLE POLE DISCONNECT SWITCH TOGGLE STYLE
T	CONTROL TRANSFORMER WITH DISCONNECT SWITCH
	MOTOR WITH MOTOR RATED DISCONNECT SWITCH.
	HOT, NEUTRAL, GROUND CONDUCTOR IN RACEWAY
	RACEWAY STUB UP TO ABOVE ACCESSIBLE CEILING WITH END BUSHING
	CONDUIT CONCEALED IN WALL/ABOVE THE CEILING
	CONDUIT IN CONCRETE SLAB/UNDERGROUND
	EXPOSED CONDUIT
	FLEXIBLE METAL CONDUIT
	SLEEVE WITH END BUSHINGS ACC SIZE AS INDICATED IN DRAWINGS
	(4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP VOICE OUTLET
	(4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP VOICE/DATA OUTLET
	(4x4 DEEP BOX WITH MUG RING AND ONE (1) 3/4"C. STUB UP AUDIO/VISUAL/DATA OUTLET
AV	(4x4 DEEP BOX WITH MUG RING AND ONE (1) 1 1/4"C. STUB UP TO ACC WITH END BUSHING)
BPS	FIRE ALARM REMOTE BOOSTER POWER SUPPLY
	FIRE ALARM DOUBLE ACTION PULL STATION
	WALL MOUNTED FIRE ALARM STROBE (DEVICE W/ A "C" IS CEILING MTD)
	WALL MOUNTED FIRE ALARM HORN/STROBE (W/ A "C" IS CEILING MTD)
SD	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR
HD	FIRE ALARM HEAT DETECTOR (SEE DRAWINGS FOR TYPE) 135FIX, 200FIX, RATE OF RISE (ROR)
DD	FIRE ALARM DUCT SMOKE DETECTOR
RTS	FIRE ALARM DUCT DETECTOR REMOTE KEYED TEST SWITCH
MM	FIRE ALARM MONITOR MODULE
R	FIRE ALARM CONTROL RELAY
SC	CEILING MOUNTED SPEAKER
	UNIVERSAL MOUNTED (CEILING/WALL) EXIT SIGN WITH CHEVRONS (SEE LIGHT FIXTURE SCHEDULE)
	2 x 4 SURFACE MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
	2 x 4 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
	2 x 2 RECESSED MOUNTED LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
	NIGHT LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
	LIGHT FIXTURE (SEE LIGHT FIXTURE SCHEDULE)
	EMERGENCY LIGHT (SEE LIGHT FIXTURE SCHEDULE)
	PANELBOARD
WAP	WIRELESS ACCESS POINT

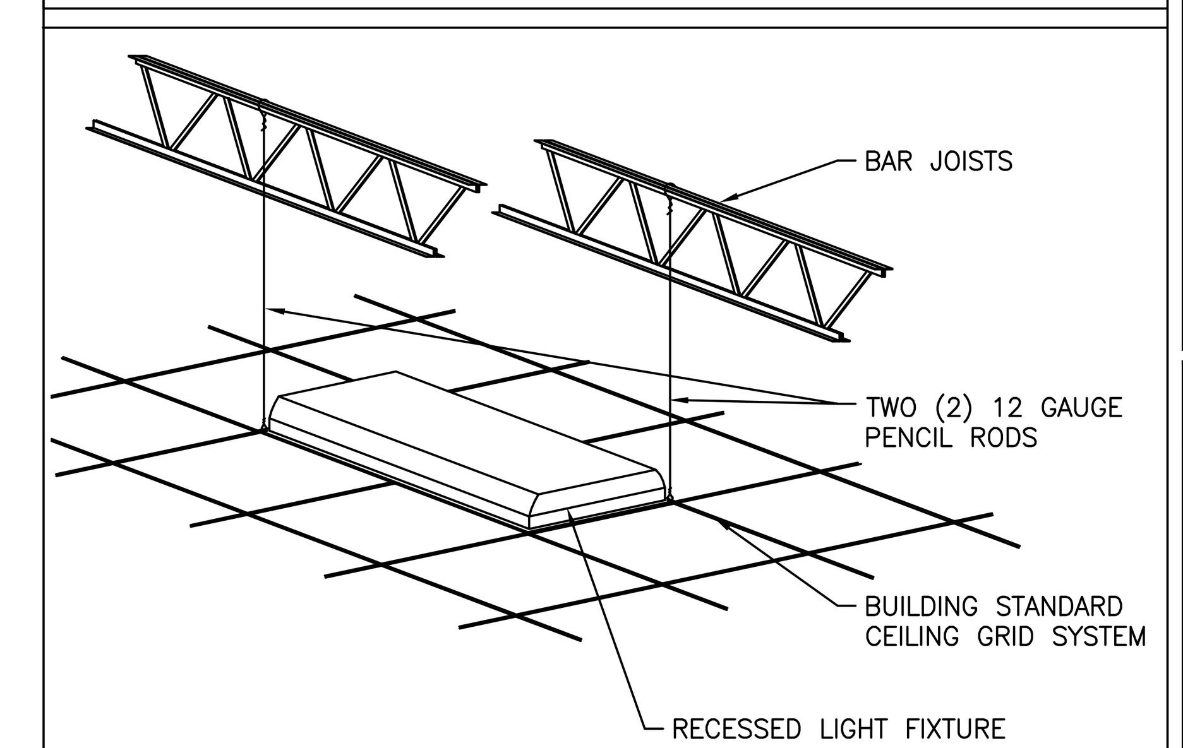
ABBREVIATIONS

WP	WEATHER PROOF
WG	WIRE GUARD
AC	ABOVE THE COUNTER
C	CEILING MOUNTED DEVICE
NL	NIGHT LIGHT
CLG	CEILING
(R)	RETURN DUCTWORK
(S)	SUPPLY DUCTWORK
OHD	OVERHEAD DOOR
ACC	ABOVE ACCESSIBLE CEILING
VEL	VERIFY EXACT LOCATION PRIOR TO ROUGH-IN
+42	DEVICE MOUNTED AT 42 INCHES AFF
AFF	ABOVE FINISH FLOOR
TR	TAMPER RESISTANT
TG	TAMPER GUARD
EWC	ELECTRICAL WATER COOLER
WP/ IN USE	METAL WHILE-IN-USE COVER WEATHER PROOF SIMILAR TO EATON WIUMH-1 SERIES
E.C.	ELECTRICAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
S.C.	SECURITY CONTRACTOR
AHJ	AUTHORITY HAVING JURISDICTION
HD	ELECTRICAL HAND DRYER
IWH	INSTANTANEOUS ELECTRICAL WATER HEATER
X	EXISTING DEVICE TO REMAIN
XRR	EXISTING DEVICE TO BE REMOVED AND RELOCATED
XR	EXISTING DEVICE RELOCATED
N	NEW DEVICE

ELECTRICAL DRAWING LIST

E001	ELECTRICAL SYMBOL LIST, GENERAL NOTES AND DETAILS.
ED201	PARTIAL SECOND FLOOR PLAN - ELECTRICAL DEMOLITION.
E201	PARTIAL SECOND FLOOR PLANS - ELECTRICAL & LIGHTING.
EM201	PARTIAL SECOND FLOOR PLANS - ELECTRO-MECHANICAL-PLUMBING
E301	PARTIAL ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES.
E401	LIGHTING FIXTURE SCHEDULE & DETAIL.
E501	SPECIFICATION SHEET.

LAY-IN CEILING FIXTURE MOUNTING DETAIL



ALL LAY-IN LIGHT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF CEILING GRID SUPPORTS. SUPPORT LIGHT FIXTURES WITH (2) 12 GAUGE PENCIL RODS LOCATED AT OPPOSITE CORNERS FROM TOP OF BAR JOISTS. SEE DETAIL ABOVE.

19.COA.001

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ELECTRICAL SYMBOL LIST GENERAL NOTES & DETAILS

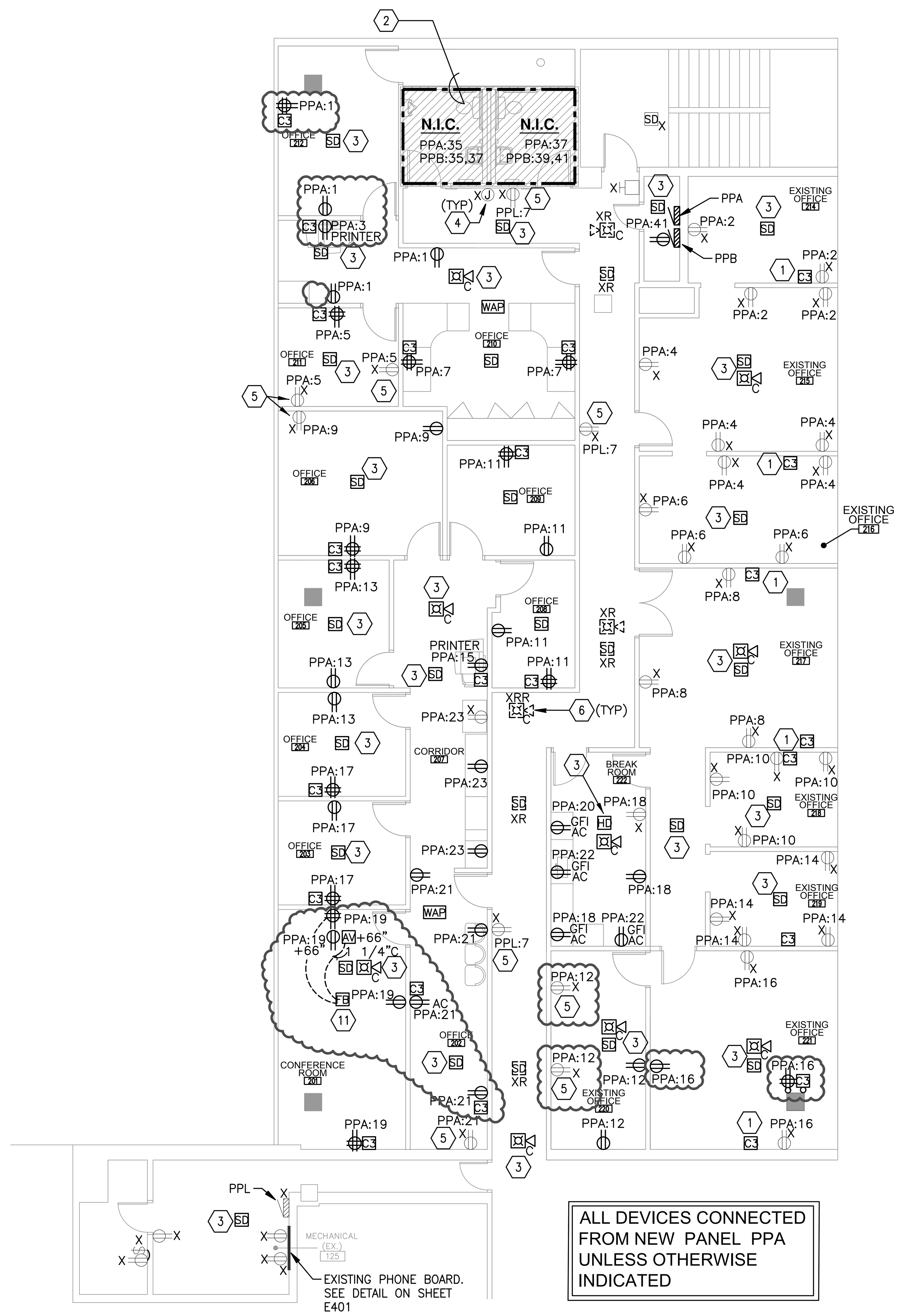
ISSUED:
3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

E001

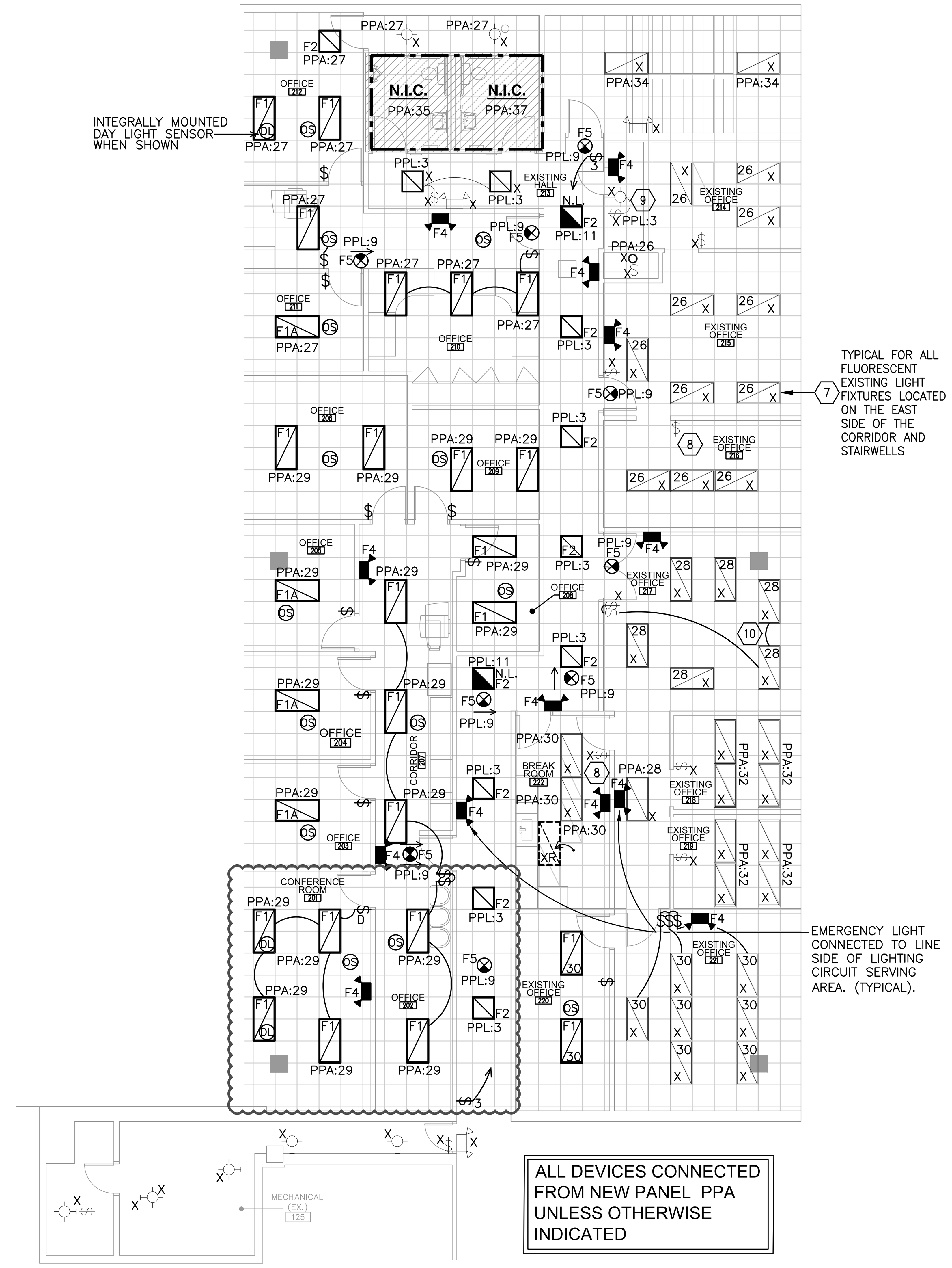
ELECTRICAL PLAN NOTES

1. RETROFIT EXISTING J-BOX LOCATION FOR NEW VOICE AND DATA OUTLET. COORDINATE WITH LOW VOLTAGE CONTRACTOR AND OWNER FOR EXACT REQUIREMENTS.
2. EXISTING BATHROOMS:
   CONTRACTOR SHALL CONNECT POWER AND LIGHTING IN EXISTING BATHROOMS TO CIRCUITS PPA:35 & PPB:35,37 (MEN) AND PPA:37 & PPB:39,41 (WOMEN). MODIFY EXISTING WIRING AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM. SEE PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
3. FURNISH AND INSTALL NEW FIRE ALARM DEVICE COMPATIBLE WITH EXISTING SYSTEM AND CONNECT FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.
4. FURNISH AND INSTALL NEW BLANK FINISHED COVER PLATE ON EXISTING OPEN J-BOX (TYPICAL FOR ALL APPLICABLE LOCATIONS)
5. MODIFY EXISTING RACEWAY AND WIRING SO AS TO CONNECT ELECTRICAL DEVICE TO CIRCUIT SHOWN.
6. REINSTALL EXISTING FIRE ALARM DEVICE AND CONNECT TO EXISTING SYSTEM FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM.
7. UNDER BASE BID:
   CLEAN FIXTURES AND FURNISH AND INSTALL NEW FLUORESCENT LAMPS IN ALL EXISTING FLUORESCENT FIXTURES & PROVIDE PRISMATIC LENS IN EXISTING LIGHT FIXTURES WITH YELLOWED LENS. NEW LAMPS SHALL HAVE AN OUTPUT OF APROX 2,600 LUMENS (MEANS), 4100K, AND 82 CRI.

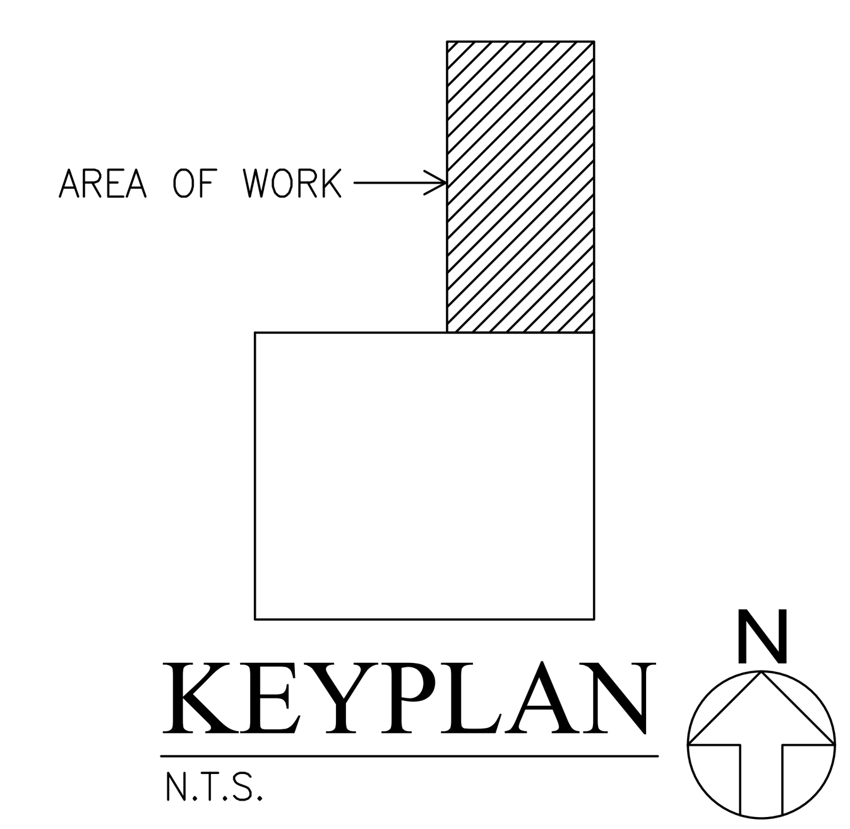
   UNDER ALTERNATE BID:
   FURNISH AND INSTALL NEW TYPE "F1" LED LIGHT FIXTURES IN PLACE OF EXISTING.
8. INSTALL BLANK INSERT TO COVER LOCATION OF REMOVED CONTROL SWITCH.
9. FURNISH AND INSTALL NEW LED LAMP IN EXISTING SOCKET. CONTROL SHALL BE FROM EXISTING SWITCH.
10. MODIFY WIRING AS REQUIRED TO CONNECT FIXTURES AS SHOWN.
11. FLOOR BOX WITH POWER RECEPTACLES, VOICE/DATA AND AV CONNECTIVITY TO PROJECT IN MONITOR IN ROOM. COORDINATE EXACT LOCATION WITH OWNERS PROVIDED CONFERENCE TABLE.



1 PARTIAL SECOND FLOOR PLAN – ELECTRICAL
1/8" = 1'-0"



2 PARTIAL SECOND FLOOR PLAN – LIGHTING
1/8" = 1'-0"



KEYPLAN
N.T.S.

19.COA.001

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PARTIAL SECOND FLOOR PLANS - ELECTRICAL & LIGHTING

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4-23-19 ISSUED FOR PERMIT COMMENTS

E201

EXISTING PANEL PPL ✳

PANEL: PPL					FRAME SIZE: 225A									VOLTAGE: 120 / 208	
LOCATION: MECHANICAL ROOM					M.L.O. X									PHASE: 3ϕ	
FEEDER: EXISTING					AIC: EXISTING									WIRE: 4W	
CKT NO.	BR	P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	FAULT C.B.	BR	P	CKT NO.
1	20	1	-	LIGHTS EQUIP. RM.							LIGHTS & RECEPTS, BOILER RM.	-	20	1	2
3	20	1	-	LIGHTS CORR.			326				SPARE	-	20	1	4
5	20	1	-	WATER COOLER & JAN CLOSET NORTH						500	TEL. EQUIP.	-	20	1	6
7	20	1	-	RECEPT. IN CORR.	600	500					TEL. EQUIP.	-	20	1	8
9	20	1	L.O.	EXIT LIGHTS			35				SPARE	-	20	1	10
11	20	1	-	LIGHTS CORR NIGHT LIGHTS					68						12
13	20	1	-	SPARE	0	0					SPARE	-	40	3	14
15							3276	0							16
17	50	3	N	RTU - 1 (6.5 TON)					3276	0					18
19					3276						SPARE	-	20	3	20
21	20	1	-	SPACE											22
23									3276						24
25	50	3	N	RTU - 2 (6.5 TON)	3276						SPARE	-	30	3	26
27							3276								28
		3	-	(SUB BREAKER) SPACE							(SUB BREAKER) SPARE	-	175	3	
TOTAL CONNECTED LOADS (VA)					7152	500	6913	0	6620	500	N - NEW BREAKER IN PLACE OF EXISTING				
TOTAL CONNECTED LOADS (VA)					7652		6913		7120		GFI BREAKER				
TOTAL AMPERAGE					60.19						-L.O. LOCK OUT				

✳ **EXISTING PANEL NOTES: E.C. REQUIRE TO PERFORM THIS WORK**

1. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY EXACT CIRCUIT NUMBER INFORMATION PRIOR TO CONNECT CIRCUITS TO THE PANEL. CIRCUIT NUMBER INFORMATION HAVE BEEN GIVEN ONLY FOR INFORMATION PURPOSES BASED ON EXISTING PANEL CARD DIRECTORY. MODIFY CIRCUIT PANEL CONNECTIONS AND INFORMATION AS REQUIRED TO ACHIEVE THE PURPOSE.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE NEW UPDATED PANEL CARD DIRECTORY AFTER ALL CONNECTIONS HAVE BEEN COMPLETED. INSIDE PANEL EXISTING MARKER WRITING SHALL BE CLEANED SO THAT NOT MARKER WRITING IS VISIBLE. ALL NOT VALID INFORMATION SHALL BE DELETED.
3. UTILIZE EXISTING EMPTY CIRCUITS/MODIFY CIRCUIT INFORMATION GIVEN AS REQUIRED FOR CONNECTION OF LOADS.
4. PROVIDE UPDATED RECORD DOCUMENTS AFTER CONSTRUCTION IS DONE FOR FUTURE USE.
5. FURNISH AND INSTALL NEW BREAKERS AS REQUIRED.
6. ALL RECEPTACLE OUTLETS SHALL BE PROVIDED W/ P-TOUCH LABEL WITH CIRCUIT # AND SOURCE PANEL TAGS.

NEW PANEL - PPA

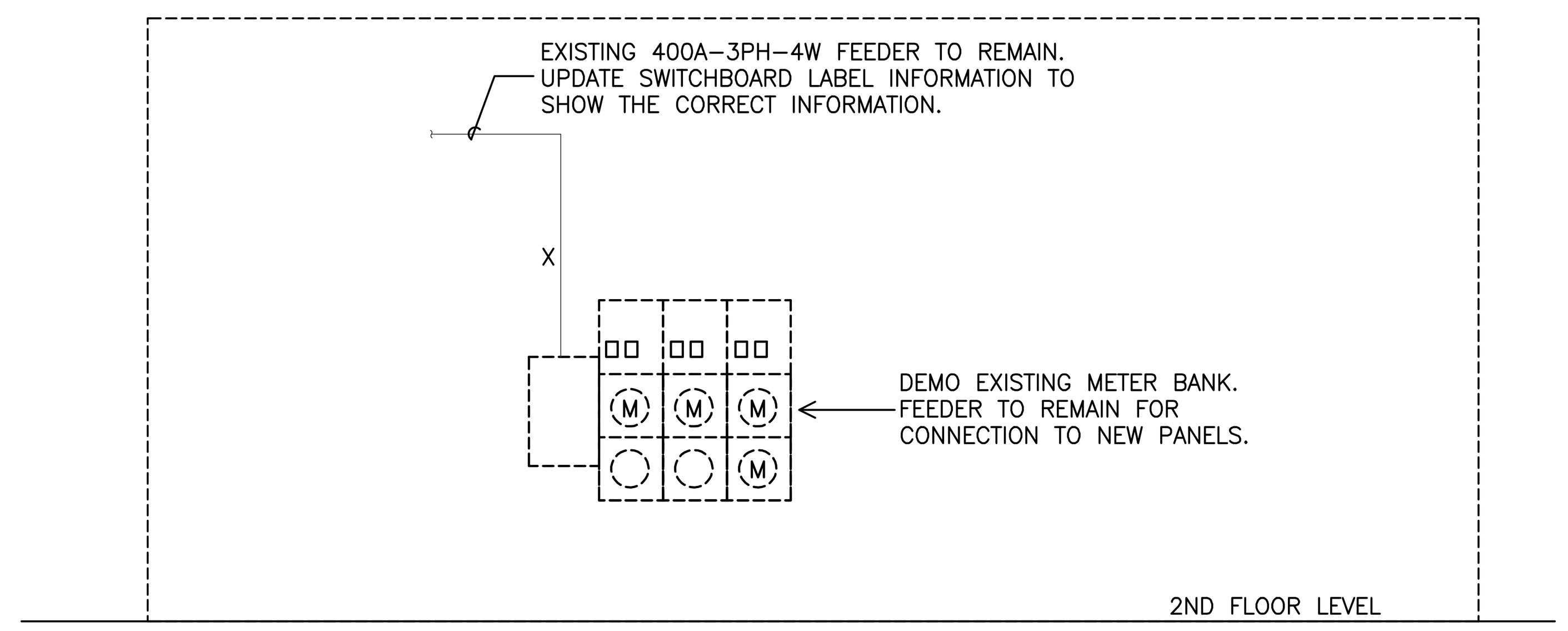
PANEL: PPA					FRAME SIZE: 225A									VOLTAGE: 120 / 208	
LOCATION: 2ND FLOOR NORTH ELECTRICAL CLOSET					MAIN: 200A									PHASE: 3ϕ	
FEEDER: SEE RISER					AIC: 22kAIC SERIES RATED									WIRE: 4W	
CKT NO.	BR	P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	FAULT C.B.	BR	P	CKT NO.
1	20	1	-	RECEPTS. OFFICE & HALL NEAR TO PRINTER	1000	800					RECEPTS. OFFICE 214	-	20	1	2
3	20	1	-	PRINTER IN NORTHWEST OFFICE 210			1000	1000			RECEPTS. OFFICE 215	-	20	1	4
5	20	1	-	RECEPTS. OFFICE 211					800	600	RECEPTS. OFFICE 216	-	20	1	6
7	20	1	-	RECEPTS. OFFICE 210	800	600					RECEPTS. OFFICE 217	-	20	1	8
9	20	1	-	RECEPTS. OFFICE 206			800	800			RECEPTS. OFFICES 218	-	20	1	10
11	20	1	-	RECEPTS. OFFICE 208, 209					1200	800	RECEPTS. OFFICE 220	-	20	1	12
13	20	1	-	RECEPTS. OFFICE 204 & 205	800	800					RECEPTS. OFFICE 219	-	20	1	14
15	20	1	-	PRINTER BY OFFICE 208			1000	1000			RECEPTS. OFFICE 221	-	20	1	16
17	20	1	-	RECEPTS. OFFICES 204 & 203					1000	1500	RECEPT. BREAK ROOM (GFI/AC)	-	20	1	18
19	20	1	-	CONFERENCE ROOM 201	1400	1500					RECEPT. BREAK ROOM (GFI/AC)	-	20	1	20
21	20	1	-	OFFICE 202			1000	1500			RECEPT. BREAK ROOM (GFI/AC)	-	20	1	22
23	20	1	-	RECEPTS. CORR 207 ABOVE COUNTER					400	1000	RECEPT. OFFICE 220	-	20	1	24
25	20	1	-	SPARE	600	1872					LIGHTING OFFICE 214-216	-	20	1	26
27	20	1	-	LIGHTING OFFICES 210-212			291	1092			LIGHTING OFFICE 217	-	20	1	28
29	20	1	-	LIGHTING OFFICES 201-209					761	1560	LIGHTING OFFICE 220, 221	-	20	1	30
31	20	1	-	SPARE		1248					LIGHTING OFFICE 218,219	-	20	1	32
33	20	1	-	RECP, EF AND LIGHTING BATHROOM MEN			500	400			LIGHTING NORTH STAIR	-	20	1	34
35	20	1	-	RECP, EF AND LIGHTING BATHROOM WOMEN					500		SPARE	-	20	1	36
37	20	1	-	SPARE							SPARE	-	20	1	38
39	20	1	-	SPARE							SPARE	-	20	1	40
41	20	1	-	RECEPT BELOW PANEL					200		SPARE		20	1	42
TOTAL CONNECTED LOADS (VA)					4600	6820	4591	5792	4861	5460					
TOTAL CONNECTED LOADS (VA)					11420		10383		10321		GFI BREAKER				
TOTAL AMPERAGE					89.17						-L.O. LOCK OUT				

NEW PANEL - PPB

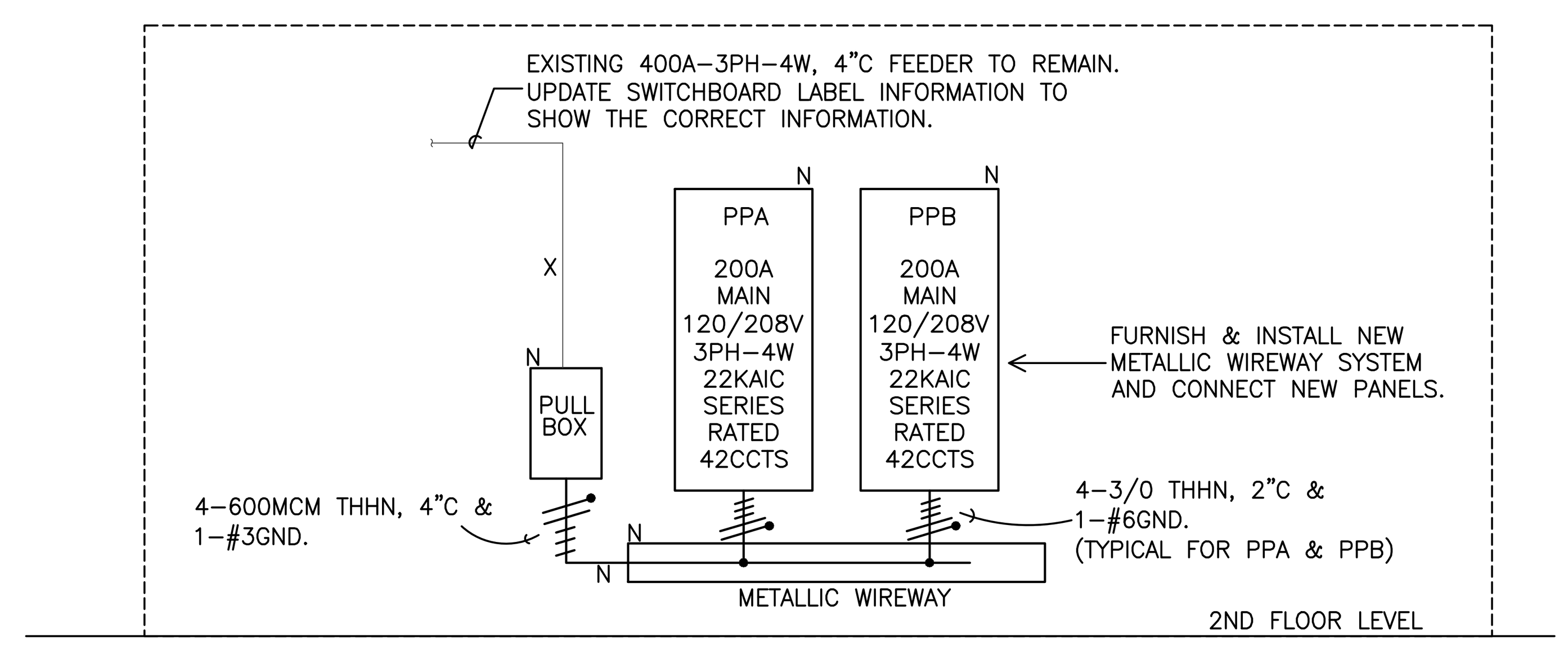
PANEL: PPB					FRAME SIZE: 225A									VOLTAGE: 120 / 208	
LOCATION: 2ND FLOOR NORTH ELECTRICAL CLOSET					MAIN: 200A									PHASE: 3ϕ	
FEEDER: SEE RISER					AIC: 22kAIC SERIES RATED									WIRE: 4W	
CKT NO.	BR	P	FAULT C.B.	CIRCUIT DESCRIPTION	PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	FAULT C.B.	BR	P	CKT NO.
1	20	1	-	EBB -2 OFFICE 212	900	900					EBB -2 OFFICE 214	-	20	1	2
3	20	1	-	EBB -2 OFFICE 212			900	900			EBB -2 OFFICE 215	-	20	1	4
5	20	1	-	EBB - 2 OFFICE 211					900	900	EBB -2 OFFICE 215	-	20	1	6
7	20	1	-	EBB - 1 OFFICE 206	1200	1200					EBB - 1 OFFICE 216	-	20	1	8
9	20	1	-	EBB - 1 OFFICE 205			1200	900			EBB -2 OFFICE 217	-	20	1	10
11	20	1	-	EBB - 1 OFFICE 204					1200	1200	EBB - 1 OFFICE 217	-	20	1	12
13	20	1	-	EBB - 1 OFFICE 203	1200	900					EBB -2 OFFICE 218	-	20	1	14
15	20	1	-	EBB - 1 OFFICE 202			1200	900			EBB -2 OFFICE 219	-	20	1	16
17	20	1	-	EBB - 1 OFFICE 201					1200	1200	EBB - 1 OFFICE 221	-	20	1	18
19	30	2	-	EWH - 1 (ELECT HEAT STAIRS)	2400	1200					EBB - 1 OFFICE 221	-	20	1	20
21							2400				SPARE	-	20	1	22
23	20	1	-	RECEPTS. RTU-1 & RTU-2					400			-	20	1	24
25	25	1	-	ELECTRICAL WATER HEATER	1500							-	20	1	26
27	20	2	-	PLUMBING WASTE HEAT TAPE ⟨1⟩			2000					-	20	1	28
29									2000			-	20	1	30
31	20	2	-	PLUMBING WASTE HEAT TAPE ⟨1⟩	2000							-	20	1	32
33							2000					-	20	1	34
35	20	2	-	MEN BATHROOM CUH					1000			-	20	1	36
37					1000							-	20	1	38
39	20	2	-	WOMEN BATHROOM CUH			1000					-	20	1	40
41									1000			-	20	1	42
TOTAL CONNECTED LOADS (VA)					10200	4200	10700	2700	7700	3300					
TOTAL CONNECTED LOADS (VA)					14400		13400		11000		GFI BREAKER				
TOTAL AMPERAGE					107.70						-L.O. LOCK OUT				

PANELBOARD PLAN NOTES

⟨1⟩ ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR EXACT HEAT TAPE SYSTEM POINT OF CONNECTION(S) AND EXACT POWER REQUIREMENTS PRIOR TO INSTALL. PROVIDE NEUTRAL CONDUCTOR IF REQUIRED FOR 120V LOADS. E.C. SHALL PROVIDE J-BOX AND SAFETY DISCONNECT SWITCH WITH PROPER LABEL FOR EACH CONNECTION.



PARTIAL ELECTRICAL RISER DIAGRAM - DEMOLITION



PARTIAL ELECTRICAL RISER DIAGRAM - PROPOSED

19.COA.001

LICENSED PROFESSIONAL ENGINEER MANUEL GERARDO HERNANDEZ 062-064529 STATE OF ILLINOIS

DSC NORTH - SECOND FLOOR
77 S. BROADWAY
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MGH ENGINEERING
MGH Consulting Engineers, LLC
LICENSE NO. 184.007392-0002
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PARTIAL ELECTRICAL RISER DIAGRAM & PANEL SCHEDULES

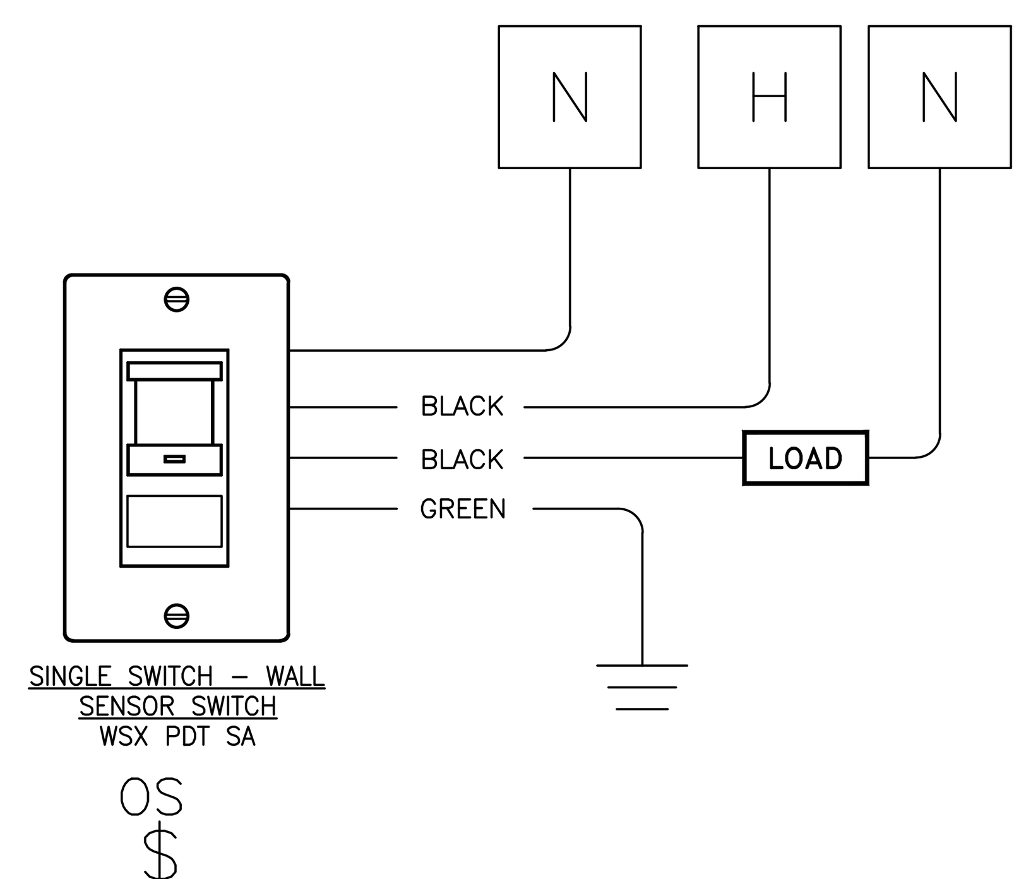
ISSUED:
3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

E301

LIGHTING FIXTURE SCHEDULE

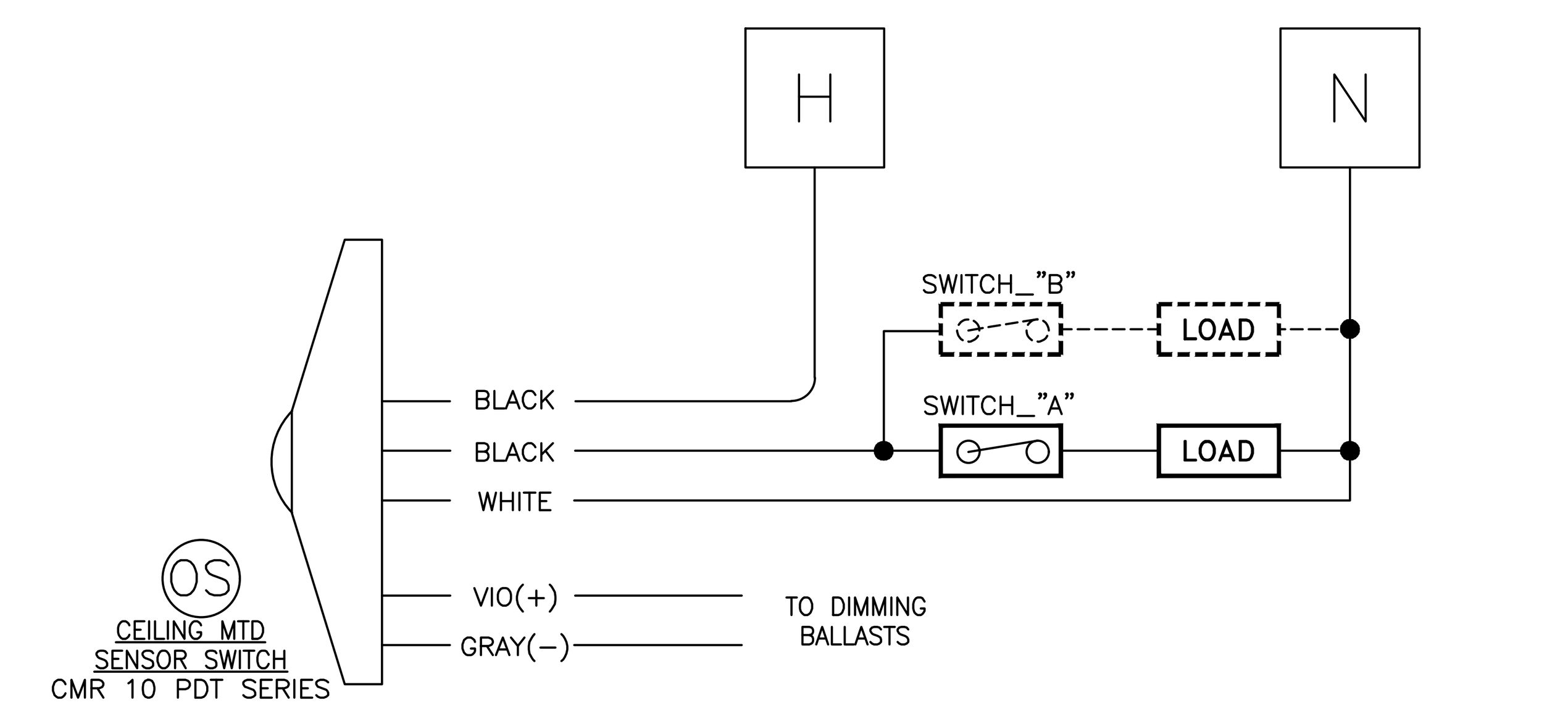
FIXTURE TAG	SYMBOL	MANUFACTURER	MODEL NUMBER	LAMPS	VOLTAGE	WATTAGE	MOUNTING	NOTES
F1		METALUX	24CZ-LD5-40-UNV-L840-CD1-U (PROVIDE DAY LIGHT SENSOR (DL) WHEN INDICATE IN PLAN)	LED 4000K-82CRI 4043lm	120V-277V	29W	RECESSED	2x4 LED RECESSED LIGHT FIXTURE.
F1A		METALUX	24CZ-LD5-50-UNV-L840-CD1-U	LED 4000K-82CRI 5088lm	120V-277V	41W	RECESSED	2x4 LED RECESSED LIGHT FIXTURE.
F2		METALUX	22CZ-LD4-34-UNV-L840-CD1-U (PROVIDE DAY LIGHT SENSOR (DL) WHEN INDICATE IN PLAN)	LED 4000K-82CRI 3400lm	120V-277V	34W	RECESSED	2x2 LED RECESSED LIGHT FIXTURE.
F3		PORTFOLIO	LDA6A15835D010TE LAR35FL 6FLC1	LED 3500K-80CRI 1500lm	120V-277V	22.9W	RECESSED	LED 6" RECESSED ROUND CAN LIGHT
F4		SURE-LITES	XR1624CSD	(2) 12W 6V	120V-277V	10W	SURFACE WALL	EMERGENCY LIGHT WITH (2) LAMPS AND BATTERY BACK UP FOR NINETY (90) MINUTE OF BATTERY BACK-UP ILLUMINATION TIME
F5		SURE-LITES	CX7(1 OR 2)WH-SD20	LED	UNIVERSAL 120V-277V	5W	WALL/CEILING	LED EXIT SIGN W/ RED LETTERS AND EMERG. BATT. (SINGLE OR DOUBLE FACE & CHEVRONS AS REQD). SHALL HAVE A NINETY (90) MINUTE BATT. BACK-UP ILLUM. TIME

ALL MANUAL OCCUPANCY SENSORS SHALL BE MANUAL ON, VACANCY OFF AS REQUIRED BY IECC2015 UNLESS OTHERWISE INDICATED STRICTLY IN THE DRAWINGS.



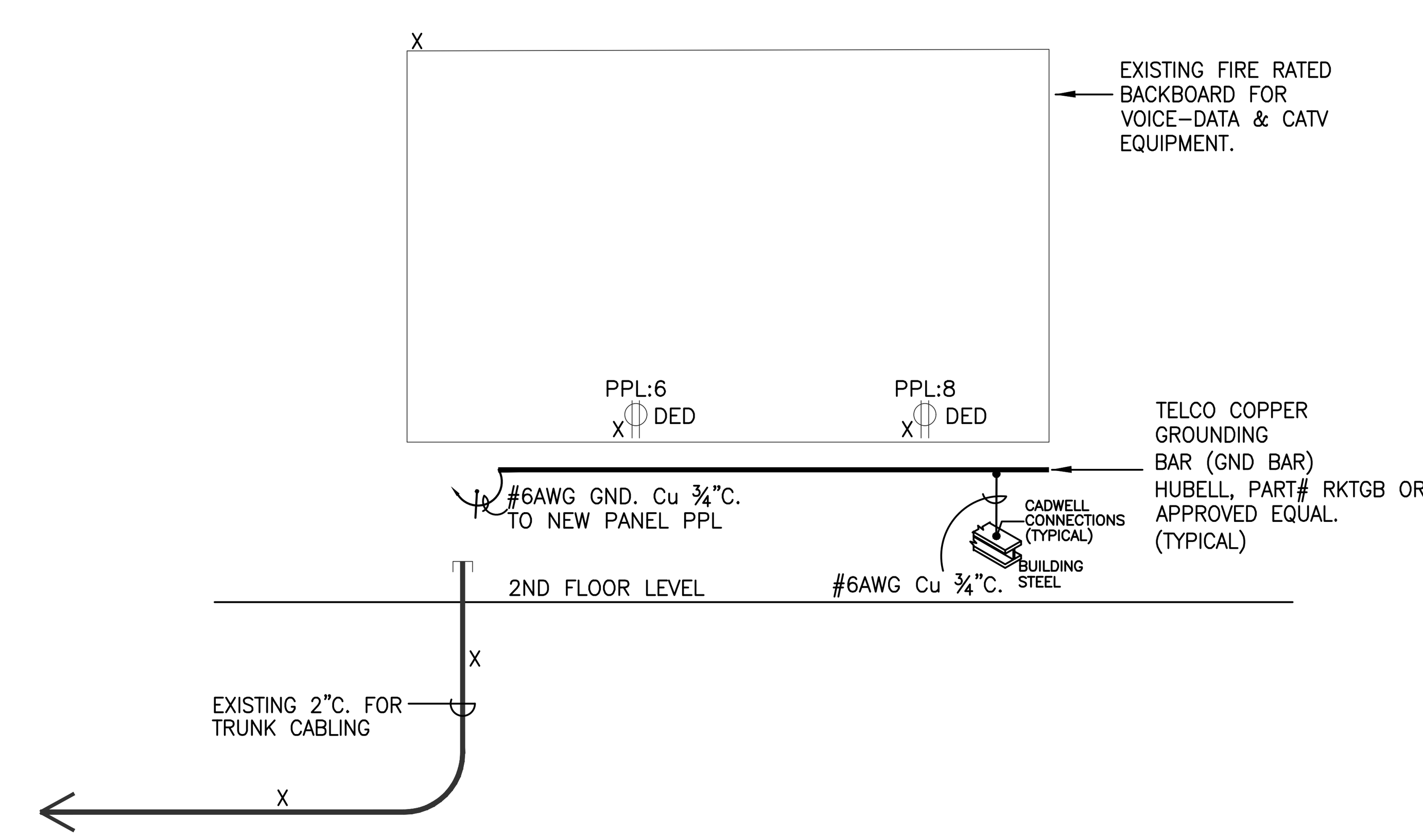
1 WALL SWITCH STYLE OCC. SENSORS

SCALE: NTS



2 OCCUPANCY SENSORS

SCALE: NTS



I.T. BOARD ELEVATION DETAIL - MECHANICAL ROOM 125

19.COA.001

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LIGHTING FIXTURE SCHEDULE & DETAILS

ISSUED:

3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

E401

A. GENERAL REQUIREMENTS:

1. SCOPE OF WORK:

a. FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE CONTRACT DRAWINGS. THE INSTALLATION SHALL BE COMPLETE IN EVERY DETAIL ESSENTIAL TO PROPER AND SATISFACTORY OPERATION, READY FOR USE AND IN CONDITION FOR SERVICE WHEN DELIVERED TO THE OWNER. ALL MANUFACTURED ITEMS SHALL BE ERECTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN.

b. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

2. APPROVALS:

a. OBTAIN APPROVALS FROM INSPECTION AUTHORITIES FOR ELECTRICAL INSTALLATIONS REQUIRING SPECIFIC APPROVAL. PRINTS OF THE ELECTRICAL DRAWINGS, FOR THIS PURPOSE, WILL BE FURNISHED UPON REQUEST. REQUIRED WIRING DIAGRAMS SHALL BE PROVIDED AND SUBMITTED FOR APPROVAL BY THE CONTRACTOR. COPIES OF THE FINAL APPROVALS SHALL BE OBTAINED BEFORE COMMENCEMENT OF RELATED WORK.

3. CODES AND STANDARDS:

a. THE WORK SHALL COMPLY WITH ALL APPLICABLE LOCAL, MUNICIPAL, AND NATIONAL CODES. WHERE THE CONSTRUCTION DOCUMENTS INDICATE MORE RESTRICTIVE REQUIREMENTS, THE CONSTRUCTION DOCUMENTS SHALL GOVERN. HOWEVER, THE CONSTRUCTION DOCUMENTS SHALL NOT BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.

b. MATERIALS, EQUIPMENT AND INSTALLATION SHALL CONFORM TO LOCAL CODE AND STANDARDS, THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), UNDERWRITER'S LABORATORIES (UL), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) AND ALL LAWS AND ORDINANCES OF LOCAL, STATE AND FEDERAL GOVERNING AGENCIES.

4. FEES:

a. ALL PERMIT FEES SHALL BE PAY BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING REQUIRED INSURANCE, INSPECTIONS, APPLICATIONS, PERMITS, LICENSES, ETC. RELATING TO THE ELECTRICAL WORK.

5. CONTRACTOR'S LIABILITY:

a. THE CONTRACTOR SHALL AGREE THAT THE OWNER, THE ARCHITECT AND THE ENGINEER SHALL NOT IN ANY FORM OR MANNER BE ANSWERABLE OR ACCOUNTABLE FOR ANY VIOLATION OF ORDINANCES, CODES OR REGULATIONS OF ANY AUTHORITIES, UTILITIES, INSURANCE COMPANIES AND GOVERNMENT AGENCIES HAVING JURISDICTION, OR FOR ANY ACCIDENTS, INJURY, LOSS OR DAMAGE TO ANY PERSON OR PERSONS AND THEIR PROPERTIES ARISING FROM NEGLIGENCE OR CARELESSNESS ON THE PART OF THE CONTRACTOR (NOR ANYONE IN HIS EMPLOY), ANY OF HIS SUBCONTRACTORS, OR ANY OTHER PARTIES OR AGENTS TO THIS CONTRACT.

b. THE CONTRACTOR SHALL AGREE TO MAKE GOOD TO SAID OWNER, ARCHITECT, AND ENGINEER ANY LOSS, DAMAGE OR EXPENSE SO INCURRED, TOGETHER WITH REASONABLE ATTORNEY'S FEES.

c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING AND COMPLYING WITH BOTH THE DRAWINGS AND SPECIFICATIONS. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN THE DRAWINGS, NOTES, SPECIFICATIONS, OR CODES, THE REFERENCE WHICH PROVIDES THE MORE COMPLETE OR HIGHER STANDARD SHALL PREVAIL.

d. THE CONTRACTOR SHALL CHECK ALL DRAWINGS FURNISHED TO THEM IMMEDIATELY UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE OWNER OF ANY DISCREPANCIES. FIGURES MARKED ON DRAWINGS SHALL IN GENERAL BE FOLLOWED IN PREFERENCE TO SCALE MEASUREMENTS. LARGE SCALE DRAWINGS SHALL IN GENERAL GOVERN SMALL SCALE DRAWINGS. THE CONTRACTOR SHALL COMPARE ALL DRAWINGS AND VERIFY THE FIGURES BEFORE LAYING OUT THE WORK AND WILL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.

6. EXAMINATION OF DRAWINGS AND SITE:

a. THE ELECTRICAL CONTRACTOR SHALL OBTAIN A COMPLETE SET OF ARCHITECTURAL AND ENGINEERING DOCUMENTS AND COORDINATE WITH MECHANICAL, PLUMBING, ARCHITECTURAL, CIVIL AND OTHER TRADES FOR EXACT DIMENSIONS, CLEARANCES, ROUGH–IN LOCATIONS, AND OTHER ADDITIONAL SCOPES OF WORK THAT MAY NOT BE SHOWN ON THE ELECTRICAL PLANS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE POWER TO OTHER TRADES EQUIPMENT AND HARDWARE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROLS, FIRE, MOTORIZED DOORS, DAMPERS, POLE LIGHTS, AND OTHER SYSTEMS. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE ELECTRICAL PLANS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL SAFETY DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT AND TRANSFORMERS UNLESS OTHERWISE INDICATED.

b. BY THE ACT OF HAVING SUBMITTED A BID, THE CONTRACTOR SHALL DEEM TO HAVE MADE SUCH AN EXAMINATION AND SHALL HAVE ACCEPTED THE PREVAILING CONDITIONS. NO SUBSEQUENT ALLOWANCE WILL BE MADE TO CONTRACTOR BECAUSE OF HIS NEGLECT IN COMPLYING WITH THE FOREGOING.

7. GUARANTEE:

a. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A WRITTEN GUARANTEE COVERING ALL OF THE EQUIPMENT AND INSTALLATION FURNISHED UNDER THE CONTRACT AGAINST FAILURE FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE ENTIRE PROJECT. THE CONTRACTOR SHALL ASSUME THE LIABILITY OF ALL EQUIPMENT AND INSTALLATION COVERED IN THIS CONTRACT, INCLUDING ALL COSTS OF LABOR, MATERIALS AND EQUIPMENT RENTALS REQUIRED.

b. ANY ADDITIONAL COSTS INCURRED IN THE REPAIR AND RECONSTRUCTION OF ALL OTHER INSTALLATIONS NOT PART OF THIS CONTRACT BUT WHICH MIGHT BE DAMAGED BY THE EQUIPMENT GUARANTEED OR AFFECTED BY THE REPAIR WORK COVERED UNDER THE GUARANTEE, SHALL BE PART OF THIS GUARANTEE.

8. INTERPRETATION OF THE DOCUMENTS:

a. CAREFULLY COMPARE THE DRAWINGS AND SPECIFICATIONS, CHECKING MEASUREMENTS AND CONDITIONS UNDER WHICH THIS INSTALLATION IS TO BE MADE. FOR CLARIFICATION BETWEEN VARIOUS DRAWINGS, BETWEEN DRAWINGS OR SPECIFICATION, OR BETWEEN SECTIONS OF THE SPECIFICATION, THE MATTER SHALL BE REFERRED TO THE ENGINEER BEFORE ANY WORK IS EXECUTED. THE CONTRACTOR SHALL STATE IN THEIR PROPOSAL ANY EXCEPTIONS NECESSARY TO MAKE THIS A COMPLETE, READY TO USE INSTALLATION. IF NOT STATED IN THE PROPOSAL, IT WILL NOT BE CONSIDERED EXTRA.

b. OMISSIONS FROM THE DRAWINGS, SPECIFICATION NOTES, OR DETAILS OF WORK WHICH ARE NECESSARY TO CARRY OUT THE INTENT OF THE DRAWINGS AND SPECIFICATIONS, OR WHICH ARE CUSTOMARILY PERFORMED, SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH OMITTED DETAILS OF THE WORK BUT THEY SHALL BE PERFORMED AS IF FULLY AND CORRECTLY SET FORTH AND DESCRIBED IN THE DRAWINGS AND SPECIFICATIONS.

9. ELECTRICAL DRAWINGS:

a. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL DOORS, WALLS, FURNITURE, EQUIPMENT, ETC. THE LOCATION OF RACEWAY SYSTEM COMPONENTS IS SCHEMATIC. THE EXACT LOCATION OF RACEWAY SYSTEM COMPONENTS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD. THE CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE ACTUAL EQUIPMENT TO BE SUPPLIED FOR THIS PROJECT, AND VERIFY CLEARANCES AND ROUGH–INS PRIOR TO STARTING WORK.

10. SHOP DRAWINGS AND SUBMITTALS:

c. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHOP DRAWING SUBMITTALS WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO: PRODUCT DATA AND EQUIPMENT SPECIFICATIONS SHEETS, SCHEMATIC DIAGRAMS, WIRING DIAGRAMS, SIZES, MOUNTING DETAILS (WITH REQUIRED ELEVATIONS), TECHNICAL DESCRIPTIONS OF COMPONENTS, TEST REPORTS, CERTIFICATES, OPERATING AND MAINTENANCE MANUALS, AND PROPER CALCULATIONS TO ENSURE SPECIFIED PERFORMANCE OF THE SYSTEMS. NO EQUIPMENT SHALL BE ORDERED, PURCHASED, OR INSTALLED PRIOR TO APPROVAL OF THE SUBMITTALS AND SHOP DRAWINGS.

d. SUBMIT COMPLETE SHOP DRAWINGS FOR MANUFACTURED EQUIPMENT: CLEARLY MARK SUBMISSIONS FOR LIGHTING FIXTURES WITH THE TYPE ASSIGNED TO EACH FIXTURE IN THE FIXTURES SCHEDULE. INCLUDE SELECTION OF INTENDED PART. INCLUDE LAMPS AND BALLASTS.

e. PROVIDE SUFFICIENT INFORMATION AND DATA REQUIRED TO REASONABLY DETERMINE PROPER COMPLIANCE WITH THE SPECIFICATIONS.

f. IN ADDITION, THE CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF MATERIALS PROPOSED, GIVING THE MANUFACTURER'S NAME, CATALOG NUMBER, OR OTHER MEANS OF IDENTIFICATION TO SHOW COMPLIANCE WITH THESE SPECIFICATIONS.

g. REVIEW OF SHOP DRAWINGS IS RENDERED AS A SERVICE ONLY, AND SHALL NOT BE CONSIDERED AS A GUARANTEE OF MEASUREMENTS OR BUILDING CONDITIONS, NOR SHALL IT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF BASIC RESPONSIBILITY UNDER THE CONTRACT. SHOP DRAWINGS SHALL BE SUBMITTED ON, BUT NOT BE LIMITED TO THE FOLLOWING SYSTEMS: LIGHT FIXTURES AND ALL ASSOCIATED LIGHT FIXTURES HARDWARE INCLUDING LAMPS , WIRING DEVICES, COVER PLATES, ELECTRICAL GEAR, PANELS, BREAKERS, DISCONNECTS, BUSS DAVA/VOICE AND CABLING (WHEN INCLUDED IN THE PROJECT), CABLE (WHEN INDICATED), FIRE ALARM DEVICES, AUTOMATIC TRANSFER SWITCHES, GENERATOR, ETC.

B. MATERIAL AND EQUIPMENT:

1. GENERAL:

a. PROPOSALS SHALL BE BASED UPON THE FURNISHING OF ALL MATERIALS AND EQUIPMENT AS SPECIFIED, WHICH IN EVERY CASE SHALL BE NEW AND OF THE BEST GRADE AND QUALITY AVAILABLE. EQUIPMENT AND MATERIALS SHALL BE WITHOUT BLEMISH OR DEFECT AND SHALL NOT BE USED FOR TEMPORARY POWER PURPOSES, WITHOUT THE ENGINEER'S PRIOR WRITTEN AUTHORIZATION.

b. ALL ITEMS OF EQUIPMENT OF ONE TYPE, EXCEPT CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, WIRE, AND CABLE, SHALL BE THE PRODUCT OF ONE MANUFACTURER THROUGHOUT UNLESS OTHERWISE INDICATED OR ACCEPTED BY THE ENGINEER.

2. RACEWAYS:

a. THE CONTRACTOR SHALL PROVIDE ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONS, PLUMBING EQUIPMENT, VOICE/DATA/CATV/AV OUTLETS AND ELECTRICAL EQUIPMENT IN GENERAL.

b. ALL PANEL AND SERVICE FEEDERS SHALL BE IN RIGID GALVANIZED STEEL CONDUIT (RGSC) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE UL LABELED. EMT SHALL BE ACCEPTABLE FOR BRANCH CIRCUITS RUN ABOVE SUSPENDED CEILINGS OR CONCEALED IN INTERIOR PARTITIONS. EMT CONNECTORS SHALL BE COMPRESSION TYPE UNLESS OTHERWISE INDICATED, SET SCREW FITTINGS ARE NOT PERMITTED. CONDUIT UNDER SLAB OR LOCATED IN THE EXTERIOR OF THE BUILDING SHALL BE RGSC.

c. MINIMUM SIZES OF CONDUIT SHALL BE 3/4" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTION OR TO INDIVIDUAL LIGHT SWITCHES AND FOR ALL OTHER LOCATIONS UNLESS OTHERWISE INDICATED. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE MINIMUM OF 1/2" SIZE, UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR SLAB CONDUIT SHALL BE A MINIMUM OF 1"C SIZE UNLESS OTHERWISE INDICATED IN THE DRAWINGS.

d. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING.

e. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER'S CONSTRUCTION MANAGER. PAINTING OF CONDUITS WILL BE BY GENERAL CONTRACTOR.

f. FLEXIBLE METAL CONDUIT AND THEIR ASSOCIATED FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.

g. FLEXIBLE CONDUIT SHALL BE ACCEPTABLE FOR THE FOLLOWING APPLICATIONS AND SHALL NOT EXCEED 6 FEET IN LENGTH. INSTALL GREEN GROUNDING CONDUCTOR
- FINAL CONNECTIONS TO VIBRATING EQUIPMENT SUCH AS MOTORS, TRANSFORMERS, ETC SHALL BE MADE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
- FINAL INTER–CONNECTIONS BETWEEN LIGHT FIXTURES.
- FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.

l. PROVIDE POLY PULL–STRING IN ALL EMPTY CONDUITS.

m. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER CLEARANCE OF CEILING AND OTHER TRADES WORK. RACEWAYS SHALL BE SECURELY SUPPORTED BY APPROVED STRUCTURAL METHODS AT FIVE FOOT (5') INTERVALS.

n. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO COLUMN LINES.

o. ALL CONDUITS MUST BE SIZED PER CODE.

p. WHERE RACEWAY IS SUBJECT TO MECHANICAL INJURY OR CORROSION UTILIZE RGSC OR INTERMEDIATE METAL CONDUIT (IMC), FITTINGS SHALL BE THREADED.

q. PROVIDE PULL BOXES IN RUNS OVER 100 FEET, WHEN MORE THAN THE EQUIVALENT OF THREE (3) 90° BENDS ARE USED, AND AS SHOWN ON DRAWINGS.

3. ELECTRICAL BOXES:

a. UNLESS OTHERWISE NOTED, OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL, KNOCKOUT TYPE, WITH SUITABLE PLASTER RINGS AND COVER PLATES.

b. UNUSED KNOCKOUT HOLES SHALL REMAIN CLOSED AND THOSE OPENED BY ERROR SHALL BE CLOSED WITH SNAP–IN BLANKS.

c. OUTLET BOXES SHALL NOT BE SMALLER THAN REQUIRED BY CODE FOR THE NUMBER AND SIZE OF WIRES TO BE INSTALLED.

d. BOXES IN COVE AND LOCATED ABOVE SUSPENDED CEILING SHALL BE PLENUM RATED WHEN THE SPACE IS PLENUM RATED.

e. FLOOR BOXES: PROVIDE SYSTEMS PER DRAWINGS.

f. PROVIDE JUNCTION BOXES, PULL BOXES, CABLE SUPPORTS, AND WIREWAYS AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS. COVERS SHALL BE ACCESSIBLE. SMALL JUNCTION BOXES SHALL BE SIMILAR TO OUTLET BOXES.

g. JUNCTION BOXES AND COVERS SHALL BE FABRICATED FROM GALVANIZED NEC GAGE SHEET STEEL. OUTLET BOXES TO BE OF THE HOT–DIPPED GALVANIZED, PRESSED STEEL, KNOCKOUT TYPE. BOXES SHALL GENERALLY BE 4 INCHES SQUARE, 1–1/2"DEEP MINIMUM, EXCEPT WHERE NOTED OTHERWISE.

g. PULL BOXES, CABLE SUPPORT BOXES, AND LARGE JUNCTION BOXES FOR INDOOR USE SHALL BE MADE OF CODE GAUGE STEEL. COVERS SHALL BE HELD IN PLACE WITH STAINLESS STEEL SCREWS. PAINT INTERIOR AND EXTERIOR SURFACES WITH RUST–INHIBITIVE PAINT.

e. BOXES SHALL BE AS MANUFACTURED BY: APPLETON, GARVIN, RACO (HUBBELL) & STEEL CITY.

4. SLEEVES:

a. THE CONTRACTOR SHALL PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 2" ABOVE THE FLOOR.

b. UNLESS OTHERWISE NOTED, ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THE FIRE RATING OF THE FLOOR OR WALL. CONFORM TO UL ASSEMBLY RATING OF FLOOR OR WALL.

c. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT BLACK STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL CONDUIT.

d. SLEEVES SHALL HAVE PLASTIC END BUSHES INSTALLED WHEN THEY ARE USE FOR THE INSTALLATION OF OPEN CABLING.

5. WIRING:

a. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS MINIMUM WIRE SIZE SHALL BE #12 UNLESS OTHERWISE INDICATED IN THE DRAWINGS. THE CONDUCTORS SHALL HAVE 600 VOLT INSULATION, TYPE THHW OR THHN.

b. CONDUCTORS SHALL BE STRANDED FOR SIZES #10AWG AND LARGER.

c. ALUMINUM CONDUCTORS ARE NOT PERMITTED.

d. ALL WIRING SHALL BE IN RACEWAY.

e. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #10 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #8 AWG AND LARGER. EQUALS BY BUCHANAN OR IDEAL ARE ACCEPTABLE.

f. ALL WIRING TO BE COLOR–CODED AS FOLLOWS:

120/208 VOLT SYSTEM
NEUTRAL – WHITE
PHASE A OR L1 – BLACK
PHASE B OR L2 – RED
PHASE C OR L3 – BLUE
GROUND – GREEN

6. WIRING DEVICES:

a. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES AS SHOWN ON THE DRAWINGS AND AS NECESSARY FOR A COMPLETE INSTALLATION. COLOR OF DEVICES AND PLATES SHALL BE AS DIRECTED BY THE ARCHITECT. THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR EQUALS AS MANUFACTURED BY: PASS & SEYMOUR, HUBBELL, LEVITON, LEGRAND. WEATHERPROOF GFI RECEPTACLES SHALL BE INSTALLED WHERE SHOWN ON DRAWINGS OR AS REQUIRED BY CODE.
- TOGGLE SWITCHES: 20A–120V COMMERCIAL SPECIFICATION GRADE.
- DUPLEX RECEPTACLES: 20A–125V COMMERCIAL SPECIFICATION GRADE.
- GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE: 20A–125V, 5mA. COMMERCIAL SPECIFICATION GRADE.

b. 120 WALL SWITCHES SHALL BE MOUNTED IN SUITABLE OUTLET BOXES IN THE WALL OR PARTITIONS. THEY SHALL BE OF THE QUIET DESIGN, TOGGLE HANDLE.

c. RECEPTACLES SHALL BE GROUNDING TYPE, THREE WIRE (HOT, NEUTRAL WIRES PLUS EQUIPMENT GROUND) SINGLE, DUPLEX OR SPECIAL AS INDICATED ON THE DRAWINGS.

d. SPECIAL PURPOSE NEMA RECEPTACLES OTHER THAN 20 AMP CONVENIENCE RECEPTACLES SHALL BE AS SHOWN ON PLANS. FINAL PLUG CONFIGURATION SHALL BE COORDINATED WITH EQUIPMENT SELECTION.

e. COLOR OF WIRING DEVICES AND COVER PLATES SHALL BE SELECTED BY ARCHITECT.

7. WALL PLATES:

a. WALL PLATES SHALL BE AS SPECIFIED BY ARCHITECT AND/OR OWNER. WHERE STANDARD PLATES WILL NOT FIT WALL FINISH, UNPLASTERED BRICK OR SPECIAL FINISH WALLS, USE SPECIAL SIZE PLATES TO SUIT CONDITIONS. ALL WALL PLATES LINE UP AND FLUSH WITH MOUNTING SURFACE AND SECURELY ATTACHED IN PLACE.

b. WHERE SWITCHES, RECEPTACLES OR COMBINATIONS THEREOF ARE GROUNDED, USE GANG PLATES AND OUTLET BOXES TO SUIT THE SPECIFIC ARRANGEMENTS.

c. VERIFY MOUNTING HEIGHTS OF WIRING DEVICES WITH ARCHITECT/OWNER: IN GENERAL, RECEPTACLES 15" ABOVE FLOOR OR 4.5" ABOVE COUNTER TOP WHERE COUNTERS OCCUR, AND SWITCHES 3'–6" ABOVE FLOOR, EXCEPT WHERE SPECIFIC HEIGHTS ARE INDICATED. SPECIAL RECEPTACLE SHALL BE LOCATED AS DIRECTED BY ARCHITECT AND ENGINEER OR AS REQUIRED BY THE EQUIPMENT SERVING.

d. WALL PLATES SHALL BE OF THE SAME MANUFACTURER AS WIRING DEVICES.

8. POKE THRUS (WHEN INDICATED ON DRAWINGS):

a. PROVIDE SYSTEM, FIRE RATED POKE THROUGH PER DRAWINGS.

b. FURNISH AND INSTALL ALL REQUIRED HARDWARE FOR A COMPLETE INSTALLATION SYSTEM.

c. ACCEPTED MANUFACTURERS: HUBBELL, WIREMOLD, OR APPROVED EQUAL.

9. LIGHT FIXTURES:

a. FIXTURES SHALL BE PROVIDED COMPLETE WITH ACCESSORIES SUCH AS PLASTER FRAMES, AND OTHER SUPPORTING DEVICES FOR: RECESSED, SURFACE, OR PENDANT MOUNT AS REQUIRED.

b. SPLICES IN INTERNAL WIRING SHALL BE MADE WITH APPROVED INSULATED "WIRE NUT" TYPE MECHANICAL CONNECTORS, SUITABLE FOR THE TEMPERATURE AND VOLTAGE CONDITIONS TO WHICH THEY ARE SUBJECTED.

c. EACH LIGHTING FIXTURE SHALL BE INDEPENDENTLY SUPPORTED FROM THE BUILDING STRUCTURE BY MEANS OF (2) 12 GAGE STEEL WIRE. SEE DETAIL IN FRONT SHEET.

d. MANUFACTURER MODEL TYPES SHALL BE AS NOTED OR SCHEDULED ON THE DRAWINGS UNLESS OTHERWISE INDICATED.

e. PROVIDE LAMPS FOR FIXTURES FROM: PHILLIPS, GENERAL ELECTRIC.

f. BALLASTS OR DRIVERS SHALL BE ELECTRONIC WITH A POWER FACTOR OF NOT LESS THAN 98 PERCENT, TOTAL HARMONIC DISTORTION OF NOT MORE THAT 10%. ACCEPTABLE MANUFACTURERS: PHILLIPS, GE OR AS PROVIDED WITH LIGHT FIXTURE AS PART OF THE SYSTEM.

g. THIS CONTRACTOR SHALL FURNISH ADDITIONAL AUXILIARY SUPPORTING STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE AND FASTENED TO BUILDING STRUCTURE (MINIMUM TWO PER FIXTURE) FOR FIXTURES NOT MOUNTED ON BUILDING FRAMEWORK. FIXTURES SHALL NOT BE SUPPORTED SOLELY BY THE CEILING STRUCTURE.

h. THIS CONTRACTOR SHALL PROVIDE ANY NECESSARY FITTINGS, ACCESSORIES, ETC. AS NECESSARY TO MAKE A COMPLETE INSTALLATION.

i. REMOVE ALL DIRT, OIL OR GREASE FROM LIGHT FIXTURES. CLEAN ALL GLASS, LENSES, ETC. AND POLISH FIXTURES AND TRIM.

10. OCCUPANCY SENSORS (REFER TO DRAWING FOR INFORMATION).

11. PANELS (UTILIZE EXISTING PANELS WITH NEW BREAKERS WHEN INDICATED):

a. PANEL BOARDS SHALL BE OF THE DEAD–FRONT, SAFETY TYPE, WITH BOLTED–TYPE UL LISTED MOLDED CASE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL BE LISTED AS HID FOR LIGHTING CIRCUITS, HACR FOR HVAC LOADS, SWD FOR SWITCHING LOADS ON–OFF DIRECTLY FROM THE PANEL. VOLTAGE RATINGS, NUMBER OF POLES, FRAME SIZES, TRIP RATINGS, MAIN BREAKER, NEUTRAL BUS, AND EQUIPMENT GROUND BARS ARE AS SHOWN ON THE DRAWINGS. PANEL BOARDS ARE TO BE FULLY RATED FOR THE SHORT CIRCUIT RATING SHOWN ON THE DRAWINGS BUT NOT LESS THAN 10,000 AMPS. BUS BARS SHALL BE RECTANGULAR, SOLID COPPER, 1000 AMPS PER SQUARE INCH TYPE, SECURELY MOUNTED AND BRACED. ALL CONNECTIONS TO BUS BARS SHALL BE SECURELY BOLTED. CABINETS BOXES SHALL BE CONSTRUCTED OF CODE GRADE GALVANIZED STEEL, SIZED TO PROVIDE MINIMUM 4–INCH WIDE WIRING GUTTERS ON SIDES, TOPS AND BOTTOM. FRONTS SHALL BE CONSTRUCTED OF CODE GRADE STEEL, ADJUSTABLE INDICATING TRIM CLAMPS AND WITH DOOR PROVIDED WITH CONCEALED HINGES AND CYLINDER TYPE LOCK AND CATCH, PROVIDE DOOR WITHIN DOOR. TWO KEYS PER PANEL SHALL BE FURNISHED, AND ALL LOCKS KEYED ALIKE. FINISH SHALL BE ANSI 61 GRAY. ACCEPTABLE MANUFACTURERS: SQUARE D, CUTLER–HAMMER, PHILLIPS, GENERAL ELECTRIC.

b. IDENTIFICATION OF PANEL BOARDS. PANEL BOARD SHALL HAVE A TYPEWRITTEN CIRCUIT DIRECTORY, MOUNTED UNDER TRANSPARENT PLASTIC ON THE INSIDE OF DOOR TO IDENTIFY EACH CIRCUIT LOAD AND LOCATION. EACH PANEL BOARD SHALL HAVE A LAMINATED BAKELITE NAMEPLATE ATTACHED TO THE OUTSIDE OF THE PANEL BOARD. THE NAMEPLATE SHALL INCLUDE PANEL BOARD DESIGNATION, VOLTAGE, AND PHASE. NAMEPLATES SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.

12. DISCONNECT SWITCHES (HEAVY DUTY, REFER TO DRAWINGS FOR INFORMATION)

a. PROVIDE HEAVY DUTY SURFACE–MOUNTED SAFETY SWITCHES FOR MOTORS, TRANSFORMER, EQUIPMENT, ETC. UNLESS OTHERWISE INDICATED, OF TYPES, SIZES, AND ELECTRICAL CHARACTERISTICS AS INDICATED ON THE DRAWINGS. THE SWITCHES SHALL BE FUSED OR NON–FUSED AS INDICATED ON THE DRAWINGS AND SHALL BE MANUFACTURED BY SQUARE D, CUTLER HAMMER, EATON, PHILLIPS OR GENERAL ELECTRIC.

b. SWITCHES SHALL HAVE SWITCH BLADES WHICH SHALL BE FULLY VISIBLE IN THE OFF POSITION WHEN THE ENCLOSURE DOOR IS OPEN. CURRENT CARRYING PARTS SHALL BE PLATED COPPER AND SWITCH CONTACTS SHALL BE SILVER–TUNGSTEN. SWITCHES SHALL BE QUICK–MADE, QUICK–BREAK TYPE. THE OPERATING HANDLE SHALL BE AN INTEGRAL PART OF THE ENCLOSURE BASE AND SHALL BE PAD LOCKABLE IN THE OFF POSITION. THE HANDLE POSITION SHALL INDICATE WHETHER THE SWITCH IS ON OR OFF. SWITCHES SHALL BE HORSE POWER RATED FOR 250 AC OR DC OR 600 VOLTS AC AS REQUIRED.

13. FIRE ALARM SYSTEM (REFER TO FIRE ALARM SHEET FOR ADDITIONAL INFORMATION):

14. IDENTIFICATION:

a. PROVIDE TYPED DIRECTORIES IN PANEL BOARDS TO DEPICT ACTUAL EQUIPMENT CONNECTED TO INDIVIDUAL BREAKERS/SWITCHES.

b. LABEL EACH PIECE OF EQUIPMENT WITH EQUIPMENT NAME DESIGNATION, SOURCE, VOLTAGE, PHASES.

c. PROVIDE ORANGE LABELS WITH BLACK LETTER/NUMBERS INDICATING VOLTAGE SERVICE 120/208V–_PH–_W. ; 480/277V–_PH–_W.

d. FURNISH AND INSTALL OUTSIDE OF EQUIPMENT: DESIGNATION, SHALL HAVE BLACK 1/2 INCH LETTERS MINIMUM ON A WHITE BACKGROUND. ATTACH THE NAMEPLATE BY SCREWS OR RIVETS.

C. INSTALLATION (VERIFY WITH G.C./MEANS AND METHODS SHOULD BE APPROVED BY GC AND ARCHITECT):

1. CUTTING AND PATCHING:

a. ALL CUTTING, DRILLING, PATCHING, ETC. NECESSARY FOR INSTALLATION OF EQUIPMENT UNDER THIS CONTRACT SHALL BE DONE BY THIS CONTRACTOR.

b. ALL DISTURBED CONSTRUCTION AND FINISHED SHALL BE RETURNED TO ITS ORIGINAL STATE. HOLES IN CONCRETE WALLS AND FLOORS SHALL BE CORE DRILLED AND SLEEVED. NO CUTTING OF STRUCTURAL MEMBERS WILL BE ALLOWED.

2. INSTALLATION OF WORK:

a. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF THE OWNERS EMPLOYEES, BUILDING EMPLOYEES AND GUESTS, AS WELL AS THEIR OWN FORCES, BY ADEQUATELY PROTECTING ANY EXPOSED LIVE CONDUCTORS, OR DEVICES THROUGHOUT THE COURSE OF THIS WORK.

b. WIRE SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES, PULL BOXES, OUTLET BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.

c. CONTRACTOR SHALL BE RESPONSIBLE FOR EXACT LOCATION OF ALL EQUIPMENT AND IN CASE ANY OUTLETS DO NOT COME IN CORRECT LOCATION, HE SHALL MOVE SAME, DO NECESSARY CUTTING AND PATCHING.

d. OWNER RESERVES THE RIGHT TO CHANGE LOCATION OF OUTLETS WITHIN 10'–0" RADIUS BEFORE WORK IS INSTALLED WITHOUT EXTRA COST.

e. CHECK WITH HVAC CONTRACTOR AS TO LOCATION OF UNITS, DUCTS AND GRILLES AND PLUMBING CONTRACTOR AS TO LOCATION OF PIPING BEFORE INSTALLING THE WORK.

f. CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND REVIEW THE PLANS TO VERIFY THE EXACT LOCATIONS OF ALL OUTLETS ARE ABOVE COUNTERS WHERE CABINET WORK OCCURS, AND VERIFY THAT SWITCHES ARE AT THE CORRECT SIDE OF DOOR SWINGS.

d. THE CONTRACTOR SHALL CONSULT WITH THE EQUIPMENT SUPPLIERS FOR THE CORRECT SIZES OF ALL OUTLETS IN SUFFICIENT TIME BEFORE WALL CONSTRUCTION.

e. FAILURE OF THE CONTRACTOR TO COMPLY WITH ALL OF THE ABOVE SHALL MAKE HIM/HER RESPONSIBLE FOR ANY RELOCATIONS AT HIS EXPENSE DUE TO CONFLICT WITH OTHER EQUIPMENT.

3. GROUNDING:

a. CONTRACTOR SHALL INSTALL ENTIRE CONDUIT SYSTEM, INCLUDING BOXES, CABINETS, PANELS, ETC. SO AS TO INSURE PROPER GROUND CONTINUITY THROUGHOUT THE SYSTEM WHICH INCLUDES BUT IS NOT LIMITED TO: PROVIDE COMPLETE WIRE GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CODE.

b. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL–TO–METAL JUST CONTACT BETWEEN THE DEVICES YOKE AND THE OUTLET BOX IS NOT SUFFICIENT AND IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDED WITH GREEN GROUNDING CONDUCTOR.

c. ALL ENCLOSURES AND NON–CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCK NUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON–CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PENN–UNION" OR EQUAL, SIMILAR TO "GPL" TYPE.

d. THE COMPLETE ELECTRICAL INSTALLATION SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODE. EQUIPMENT GROUNDING SYSTEM CABLE SHALL BE COPPER.

e. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND ENCLOSURES WITHIN THE BUILDING.

f. ACCESSIBLE GROUNDING CONNECTIONS SHALL BE BOLTED OR CLAMP TYPE UNLESS OTHERWISE INDICATED. SOLDERED CONNECTIONS WILL NOT BE PERMITTED IN THE GROUNDING SYSTEM.

4. FIRE STOPPING (MEANS AND METHODS– SHOULD BE APPROVED BY G.C. AND ARCHITECT)

a. ALL PENETRATIONS IN WALL, FLOOR OR CEILINGS SHALL BE SUITABLY CLOSED UP AND SEALED WITH A FIRE STOPPING COMPOUND LISTED IN THE MOST RECENT FACTORY RESEARCH. FIRE STOPPING PRODUCTS SHALL BE MANUFACTURED BY 3M CO.

5. ELECTRICAL CONNECTIONS

a. ALL WIRE CONNECTIONS SHALL BE MADE BY MEANS OF SOLDERLESS CONNECTORS.

b. JOINT AND SPLICES SHALL BE COVERED WITH 3M ELECTRICAL TAPE TO 150% OF INSULATION VALUE.

c. NO SPLICES SHALL BE MADE IN THE CONDUCTOR EXCEPT AT OUTLET BOXES, JUNCTION BOXES, OR IN SPLICE BOXES.

6. EQUIPMENT CONNECTIONS

f. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS AND FOR ALL OWNER FURNISHED EQUIPMENT. PROVIDE A FLEXIBLE LIQUID TIGHT CONNECTIO TO ALL VIBRATION PRODUCING EQUIPMENT.

g. THE CONTRACTOR SHALL MAKE POWER CONNECTIONS TO ALL MOTORS AND EQUIPMENT FURNISHED BY OTHERS. SEE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS, AND DRAWING NOTES FOR ADDITIONAL INFORMATION

h. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.

i. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.

j. ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF RATED.

k. THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGEWAYS CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS.

l. BRANCH CIRCUITS TO RECEPTACLES, LIGHTING AND MISC. SMALL LOADS (20 AMP CIRCUITS), UNLESS SPECIFICALLY NOTED OTHERWISE, SHALL BE 2–#12, 1–#12G, 3/4" C.

m. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, WIRE AND CABLE FURNISHED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL INSTALLATION DRAWINGS AND WIRING DIAGRAMS FROM THE EQUIPMENT MANUFACTURER. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

n. CONTRACTOR SHALL MAKE FINAL CONNECTIONS AND TERMINATIONS TO THE OWNER, MECHANICAL, AND PLUMBING CONTRACTOR'S FURNISHED EQUIPMENT.

7. MISCELLANEOUS SUPPORTING MEMBERS

a. THE INSTALLATION OF ANGLES CHANNELS, AND OTHER MISCELLANEOUS STEEL, BOLTS, RODS, ETC. REQUIRED TO SUPPORT LIGHT FIXTURE, CONDUIT, RACEWAY, LADDER TRAY, OR OTHER ELECTRICAL EQUIPMENT OR DEVICES SHALL BE COORDINATED WITH THE G.C.

8. SPECIAL SYSTEMS:

a. VOICE/DATA/CABLE TV SYSTEMS: UNDER THIS SET OF ELECTRICAL DRAWINGS CONTRACTOR SHALL INSTALL CONDUITS AND J–BOXES. G.C. IS RESPONSIBLE FOR COORDINATION BETWEEN ALL SUB CONTRACTORS AND IS ULTIMATELY RESPONSIBLE FOR ACCURATELY DICTATING THE SCOPE BETWEEN SUB CONTRACTS.

b. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE G.C. TO PROVIDE LOW VOLTAGE CABLING, APPROPRIATE TAGS BACK TO MAIN DEMARC AREA.

9. GENERAL INSTALLATION NOTES .

a. THE CONTRACTOR SHALL NOT BORE, NOTCH OR IN ANY WAY CUT INTO ANY STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT OR STRUCTURAL ENGINEER.

b. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR ALL FIXTURES AND ELECTRICAL EQUIPMENT TO COMPLY WITH BUILDING CODE AND ALL LOCAL ORDINANCES.

c. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES (WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS AND PANELBOARDS (WHEN INDICATED AS NEW) REQUIRED FOR A COMPLETE INSTALLATION AND OPERATIONAL ELECTRICAL SYSTEM.

d. PROVIDE A EXTERNAL MANUAL DISCONNECTING MEANS AT ALL MOTORS OR PACKAGED MECHANICAL EQUIPMENT UNLESS NOTED OTHERWISE. SOME UNITS ARE PROVIDED BY MECHANICAL CONTRACTOR A PART OF A MECHANICAL PACKAGE.

e. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING THROUGH FIRE RATED SEPARATIONS. THROUGH STOP FIRE SEALING OF CONDUITS SHALL BE MADE WITH 3M CP25WP+ CAULK ACCORDING TO UL APPLICATION.

f. LOCATIONS SHOWN ON THE ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE CONNECTIONS, WIRING DIAGRAMS AND AUXILIARY DEVICES.

g. THE CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT, WIRE AND CONNECTIONS FOR LINE VOLTAGE LIGHTING CONTROLS AND LOW VOLTAGE LIGHTING CONTROL UNLESS NOTED OTHERWISE ON DRAWINGS. THE CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS TO HVAC EQUIPMENT INCLUDING 120 VOLT POWER CONTROL, MONITORING, AND SIGNALING EQUIPMENT FURNISHED BY OTHER DISCIPLINES. COORDINATE WITH OTHER DISCIPLINES FOR REQUIREMENTS.

h. THE CONTRACTOR SHALL RECEIVE, STORE AND INSTALL ALL ELECTRICAL ITEMS FURNISHED BY THE OWNER.

i. REFER TO THE REFLECTED CEILING PLAN AND THE ARCHITECTURAL FLOOR PLANS FOR THE EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND DEVICES.

j. RECEPTACLES SHALL HAVE PRINTED LABELS WITH THE PANEL AND CIRCUIT NUMBER PLACED ON THE COVER. THE LABEL SHALL BE RED WITH BLACK LETTERS FOR EMERGENCY RECEPTACLES, AND WHITE WITH BLANK LETTERS FOR NORMAL RECEPTACLES.

k. THE CONTRACTOR SHALL PROVIDE A SET OF AS–BUILT DRAWINGS SHOWING THE LOCATIONS OF ALL UNDERGROUND CONDUITS, INDICATE ALL CHANGES MADE DURING CONSTRUCTION, AND ANY DEVIATIONS FROM THE ELECTRICAL DRAWINGS.

l. PROVIDE PULL WIRE IN ALL EMPTY CONDUITS.

m. FOR PURPOSES OF CLEARNESS AND LEGIBILITY, THE ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC. THE SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHEREVER POSSIBLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND INFORMATION AS INDICATED ON THE DRAWINGS AND IN THE SPECIFICATION SECTIONS WHERE ELECTRICAL WORK INTERFACES WITH OTHER TRADES.

n. THIS CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF/HERSELF WITH CONSTRUCTION CONDITIONS. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY, ON THIS CONDITION, IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.

o. ALL CONDUIT SHALL BE CONCEALED WHEREVER POSSIBLE. THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS TO DETERMINE WHERE NEW WALLS AND CEILINGS ARE TO BE INSTALLED AND SHALL MAKE USE OF THESE AREAS TO CONCEAL CONDUIT. THE CONTRACTOR SHALL USE SURFACE RACEWAYS SUCH AS WIREMOLD WHERE NECESSARY (ONLY WHERE INDICATED OR AS DIRECTED).

10. TEMPORARY LIGHTING, POWER, FIRE, AND SAFETY

a. E.C. TO PROVIDE TEMPORARY LIGHTING AND POWER AS REQUIRED IN AREAS UNDERGOING WORK DURING CONSTRUCTION.

b. E.C. SHALL COMPLY WITH NFPA 241 FOR SAFEGUARDING DURING CONSTRUCTION AND ALTERATION OPERATIONS.

11. BALANCING OF LOADS

a. UPON CONNECTING ALL CIRCUITS TO PANELS, THE CONTRACTOR SHALL BALANCE THE LOAD IN AMPERES TO +/– 20% BETWEEN PHASES FOR EACH PANEL OR PER OWNERS SATISFACTION.

12. TESTING AND INSPECTION:

a. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE ENTIRE ELECTRICAL SYSTEM FOR GROUNDS, SHORTS AND PROPER GROUNDING RESISTANCE. A MAXIMUM OF 25 OHMS RESISTANCE FROM NEUTRAL CONDUCTOR AND CONDUIT TO EARTH GROUND SHALL BE PERMITTED. ONLY A GROUND RESISTANCE MEASURING METER OF APPROVED TYPE SHALL BE USED. A COMMON OHM METER IS NOT ACCEPTABLE.

b. THE ELECTRICAL CONTRACTOR SHALL SEE THAT LOCAL INSPECTION AUTHORITIES ARE NOTIFIED WHEN INSPECTIONS ARE REQUIRED BY CODE AND SHALL GIVE ALL NECESSARY ASSISTANCE TO THE INSPECTOR WHEN HE IS MAKING AN INSPECTION.

c. THE ELECTRICAL CONTRACTOR WILL SATISFY ALL REGULATIONS HAVING JURISDICTION ON THIS PROJECT.

d. THE ENTIRE WIRING SYSTEM SHALL BE TESTED FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.

19.COA.001

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ELECTRICAL SPECIFICATION SHEET

ISSUED:

3–19–19 ISSUED FOR REVIEW

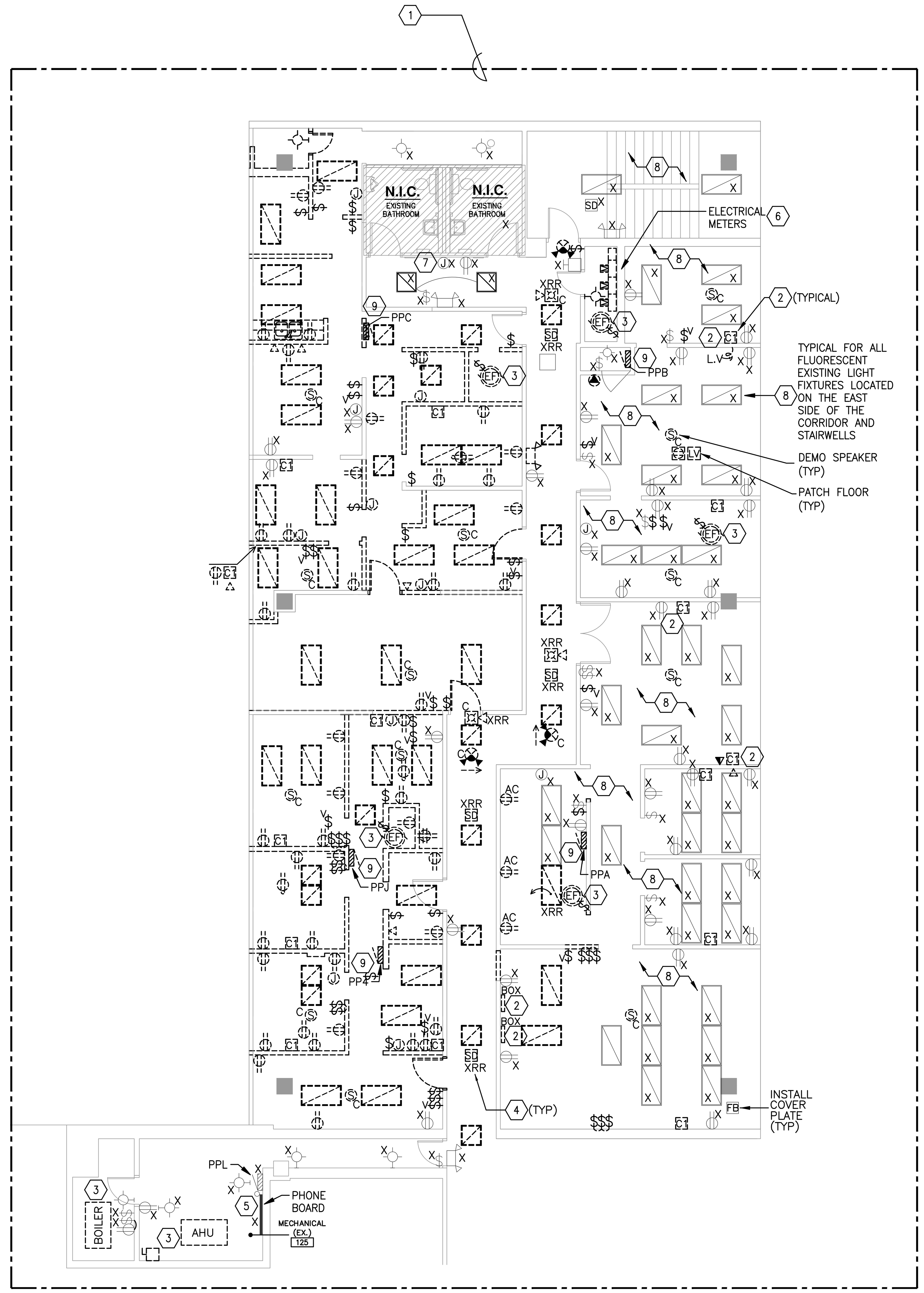
4–8–19 ISSUED FOR PERMIT

4–23–19 ISSUED FOR PERMIT COMMENTS

E501

GENERAL DEMOLITION NOTES

1. EACH CONTRACTOR SHALL REVIEW THE EXISTING SYSTEMS IN THE FIELD ALONG WITH BID DOCUMENTS AND DETERMINE SELECTIVE DEMO AND ADDITION OF TEMPORARY SYSTEMS (IF REQUIRED) TO MAKE PHASED DEMO AND PROPOSED REMODELING. IT SHALL ASSURE UNINTERRUPTED SAFE OPERATION OF AREAS THAT ARE AFFECTED BY DEMO AND ADDITION OF PROPOSED SYSTEMS AT ALL TIMES. INCLUDE THE NECESSARY WORK TO ACCOMPLISH THIS AND COORDINATE PHASING ACCORDINGLY.
2. CONFIRM WITH THE MANUFACTURERS OF EXISTING EQUIPMENT THAT IS TO BE REUSED OR EXTENDED.
3. WHERE EXISTING ELECTRICAL WORK PREVENTS PROPER CONSTRUCTION OF NEW WORK AS INDICATED, REMOVE, REROUTE, RELOCATE, OR IN OTHER WAYS ALTER EXISTING WORK IN ORDER TO ACCOMMODATE.
4. WHERE EXISTING CONDUIT, WIRE, SUPPORTS, HANGERS AND OTHER ELECTRICAL WORK MUST BE REMOVED AS A RESULT OF THE ALTERATIONS, THEY SHALL BE COMPLETELY REMOVED, BACK TO THE FIRST OUTLET WHICH IS LEFT UNAFFECTED BY THE DEMOLITION. CONDUIT WHICH IS BURIED IN CONCRETE OR OTHERWISE INACCESSIBLY POSITIONED MAY BE ABANDONED. IN SUCH CASES, WIRE SHALL BE PULLED OUT AND THE CONDUIT SHALL BE PLUGGED AT EACH END.
5. EXISTING ELECTRICAL MATERIALS AND EQUIPMENT, INCLUDING LIGHTING FIXTURES, SWITCHES, RECEPTACLES, SIGNAL LIGHTS, SPEAKERS, INTERCOM EQUIPMENT, CONTROLS, CONDUIT OUTLETS, FITTINGS, AND OTHER DEVICES REMOVED AS A RESULT OF THE ALTERATIONS SHALL REMAIN THE PROPERTY OF THE OWNER AND SHALL BE REUSED WHERE INDICATED UNLESS OTHERWISE INDICATED.
6. EXAMINE THE CONDITION OF ANY SUCH MATERIALS AND EQUIPMENT TO MAKE A PRIOR DETERMINATION OF WHETHER IT IS SUITABLE FOR REUSE. PRESENT FINDINGS TO THE ENGINEER WHO WILL IN TURN MAKE THE FINAL DECISION REGARDING REUSABILITY. ALL WIRE AND CABLE FOR REUSED AND RELOCATED EQUIPMENT SHALL BE NEW.
7. IN ORDER TO COORDINATE THE WORK OF THE MECHANICAL AND ELECTRICAL TRADES, REMOVE EXISTING ELECTRICAL WORK IN AND ABOVE CEILING OF THESE AREAS (AS REQUIRED), AFTER WHICH INSTALL NEW WORK AND REINSTALL EXISTING WORK TO REMAIN, AS SHOWN ON THE DRAWINGS. EXISTING MATERIALS AND EQUIPMENT SHALL BE REUSED ONLY WHERE INDICATED.
8. SOME EXCEPTIONS MAY ARISE WHEREIN EQUIPMENT, EITHER IN ALTERED AREAS OR OTHER AREAS, MUST BE KEPT IN SERVICE, REQUIRING THAT FEEDERS, SIGNAL CONDUCTORS, CONDUITS, BOXES, ETC. SERVING SAME ALSO BE KEPT IN SERVICE. IN SUCH CASES, THOSE ELECTRICAL FEEDERS, SIGNAL CONDUCTORS, CONDUITS, ETC. SHALL BE REROUTED AND RECONNECTED BEFORE PRESENT WORK IS REMOVED. IF THIS IS NOT POSSIBLE, TEMPORARY WIRING SHALL BE PROVIDED, AFTER WHICH NEW WORK SHALL BE INSTALLED AND TEMPORARY WIRING REMOVED.
9. ANY ELECTRICAL EQUIPMENT THAT IS TAGGED TO BE DISPOSED OF SHALL BE DONE PER APPROVED METHOD IN ACCORDANCE WITH THE CONSTRUCTION PLAN AND LOCAL AUTHORITIES.
10. THIS DRAWING INDICATES AREAS THAT ARE BEING AFFECTED BY THE DEMOLITION. DASHED LINES SHOW EXISTING MATERIALS AND EQUIPMENT TO BE REMOVED. SOLID LINES SHOW EXISTING MATERIALS AND EQUIPMENT TO REMAIN (X). ELECTRICAL CONTRACTOR SHALL REMOVE ALL ELECTRICAL EQUIPMENT AFFECTED BY THE DEMOLITION AND WILL KEEP REMAINING EQUIPMENT CONNECTED, POWERED TO THE EXISTING CIRCUITS AS REQUIRED.
11. THIS DRAWING SHOWS A REPRESENTATIVE SAMPLE OF DEMOLITION WORK THAT IS TO TAKE PLACE. NOTE THAT NOT EVERY DEVICE, LIGHTING FIXTURE, CONDUIT ETC. REQUIRED TO BE DEMOLISHED IS NECESSARILY INDICATED ON THIS PLAN. THE CONTRACTOR SHALL VISIT THE JOB SITE TO FAMILIARIZE HIMSELF/HERSELF WITH THE EXTENT OF EXISTING WORK TO BE DEMOLISHED.
12. ALL PROPOSED DEMOLITION WORK SHALL BE THOROUGHLY COORDINATED WITH ALL OTHER TRADES.
13. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS, FEEDERS AND BRANCH CIRCUITS PASSING THROUGH RENOVATED AREA AND SERVING UNDISTURBED AREAS.
14. ANY PORTION OF THE EXISTING CONDUIT SYSTEM THAT IS TO BE REUSED FOR THE NEW INSTALLATION SHALL BE CHECKED TO ENSURE THAT IT IS CLEAN, FREE OF DAMAGE, FREE OF CORROSION, AND ADEQUATELY SUPPORTED. REMOVED RACEWAY SHALL NOT BE RE-USE.
15. DISCONNECT AND REMOVE ALL ELECTRICAL EQUIPMENT, DEVICES AND CONDUITS IN WALLS, FLOORS AND CEILING SCHEDULED FOR DEMOLITION.
16. EXISTING ELECTRICAL SYSTEM IS DESCRIBED BASED ON SURVEYS OF EXISTING CONDITIONS THAT WERE VISIBLE DURING THE SURVEY. CONTRACTOR SHALL CONFIRM ALL SERVICES PRIOR TO PROCEEDING WITH DEMOLITION.
17. PATCH ALL HOLES IN SLABS, WALLS AND CEILING WHERE ELECTRICAL DEVICES AND/OR CONDUIT ARE REMOVED. IF THE REMOVAL OF CONDUIT, BOXES, EQUIPMENT, ETC. COMPROMISES THE FIRE RATING OF THESE ITEMS, THE CONTRACTOR SHALL SEAL OPENINGS WITH CODE APPROVED FIRE STOPPING MATERIAL TO RE-ESTABLISH THE ORIGINAL RATE OF PARTITION.
18. WHERE FEEDERS OR BRANCH CIRCUITS ARE DISCONNECTED AND REMOVED FROM EXISTING PANEL BOARDS, CONTRACTOR SHALL MARK THE AFFECTED BREAKERS IN THOSE PANEL BOARDS AS "SPARE". INSTALL NEW KNOCK-OUT BLANK INSERT IN PANEL BOX.
19. CONTRACTOR IS TO PERFORM DEMOLITION WORK IN A NEAT, SKILLFUL, AND CAREFUL MANNER SO AS NOT TO DAMAGE OR DEFACE EXISTING CONSTRUCTION THAT IS TO REMAIN.
20. VERIFY THAT REMOVAL OF DEVICES IN RENOVATED AREA DOES NOT AFFECT DEVICES IN OTHER AREAS THAT MAY BE FED FROM THE CIRCUIT BEING DISCONNECTED. BYPASS RACEWAY AND WIRING AS REQUIRED TO KEEP REMAINING DEVICES OPERATIONAL.
21. ALL ABANDONED AND/OR UNUSED COMPONENTS CREATED OR EXPOSED DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO CABLES, WIRING, RACEWAY, J-BOXES AND ASSOCIATED SUPPORTS AND OR ATTACHMENTS SHALL BE REMOVED.
22. RETAIN EXISTING CONDUIT, JUNCTION BOXES, AND CIRCUITING AS APPLICABLE WHEN IT MAKE SENSE, AND WHEN IN GOOD CONDITIONS.
23. REMOVE ALL LOW VOLTAGE CABLING INDICATED UNDER DEMOLITION BACK TO THE SOURCE. ALL CABLING, HANGERS, TIES AND CONDUIT ARE TO BE REMOVED ENTIRELY. PROVIDE NEW CABLING, JACKS & COVER PLATES FOR ALL VOICE/DATA OUTLETS. CONFIRM CABLING REQUIREMENTS WITH OWNER.



1 PARTIAL SECOND FLOOR PLAN – ELECTRICAL DEMOLITION

1/8" = 1'-0"

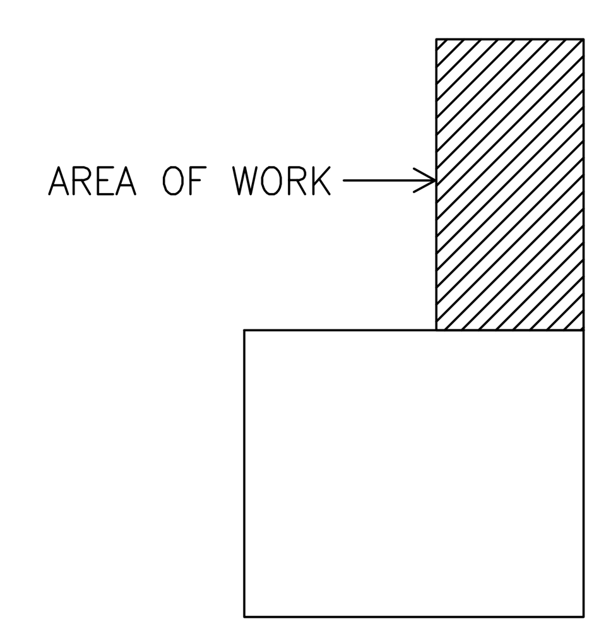
0 1'2' 5' 10' 20'

N

ELECTRICAL DEMOLITION PLAN NOTES

1. ELECTRICAL DEVICES INDICATED UNDER DEMOLITION (NOT TAGGED WITH "X") OR IN THE WAY OF NEW CONSTRUCTION SHALL BE DISCONNECTED AND REMOVED. REMOVED RACEWAY AND WIRING BACK TO SOURCE. UPDATE PANEL CARD DIRECTORY TO REFLECT NEW CHANGES. DISPOSE OF LAMPS PER E.P.A. REQUIREMENTS. DEVICES LABELED "XRR" ARE EXISTING DEVICES TO BE REMOVED AND RELOCATED. RETAIN THOSE DEVICES FOR REINSTALLATIONS AT NEW LOCATIONS. ALL EMPTY CIRCUITS SHALL BE REMOVE BACK TO PANEL, TURN OFF BREAKER AND LABEL "SPARE".
2. REMOVE EXISTING VOICE/DATA CABLING BACK TO SOURCE. J-BOX TO REMAIN FOR INSTALLATION OF NEW VOICE AND DATA OUTLET; OTHERWISE, FURNISH AND INSTALL BLANK FINISHED COVER PLATE TO MATCH NEW FINISH.
3. DISCONNECT ABANDONED MECHANICAL EQUIPMENT AND REMOVE RACEWAY AND WIRING BACK TO PANEL. REMOVE ASSOCIATED DISCONNECT SWITCH OR CONTROL SWITCH AS REQUIRED. UPDATE PANEL CARD DIRECTORY.
4. FIRE ALARM NOTIFICATION OR INITIATING DEVICES TO BE DISCONNECTED, REMOVED AND RETAINED FOR REINSTALLATION AT NEW LOCATION. INSTALL SMOKE DETECTORS COVER CAPS TO AVOID DAMAGE WITH CONSTRUCTION DUST. REFER TO NEW WORK FOR ADDITIONAL INFORMATION.
5. REMOVE ALL EXISTING PHONE TERMINAL BLOCKS AND CABLING. PHONE BOARD TO REMAIN. PREPARE EXISTING BOARD TO RECEIVE NEW VOICE/DATA EQUIPMENT. COORDINATE WITH OWNER FOR EXTEND OF WORK.
6. REMOVE EXISTING METER BANK. 400A FEEDER TO REMAIN FOR CONNECTION TO NEW PANELS. REFER TO NEW WORK AND TO PARTIAL RISER DIAGRAM ON SHEET E301 FOR FOR ADDITIONAL INFORMATION.
7. FURNISH AND INSTALL BLANK FINISHED COVER PLATE ON EXISTING J-BOX
8. UNDER BASE BID:
   CLEAN FIXTURES AND FURNISH AND INSTALL NEW FLUORESCENT LAMPS IN ALL EXISTING FLUORESCENT FIXTURES & PROVIDE PRISMATIC LENS IN EXISTING LIGHT FIXTURES WITH YELLOWED LENS. NEW LAMPS SHALL HAVE AN OUTPUT OF APROX 2,600 LUMENS (MEANS), 4100K, AND 82 CRI.

   UNDER ALTERNATE BID:
   FURNISH AND INSTALL NEW TYPE "F1" LED LIGHT FIXTURES IN PLACE OF EXISTING.
9. EXISTING PANEL TO BE DISCONNECTED AND REMOVED. REMOVE FEEDER BACK TO SOURCE INCLUDING RACEWAY AND WIRING. REMOVE STILL ACTIVE BRANCHES BACK TO UNAFFECTED AREA FOR EXTENSION OF EXISTING CIRCUITS TO NEW PANEL. REMOVE EMPTY BRANCHES BACK COMPLETE. SEE NEW WORK FOR ADDITIONAL INFORMATION.



KEYPLAN

N.T.S.

N

19.COA.001

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PARTIAL SECOND FLOOR PLAN - ELECTRICAL DEMOLITION

ISSUED:

ISSUED:
3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

ED201

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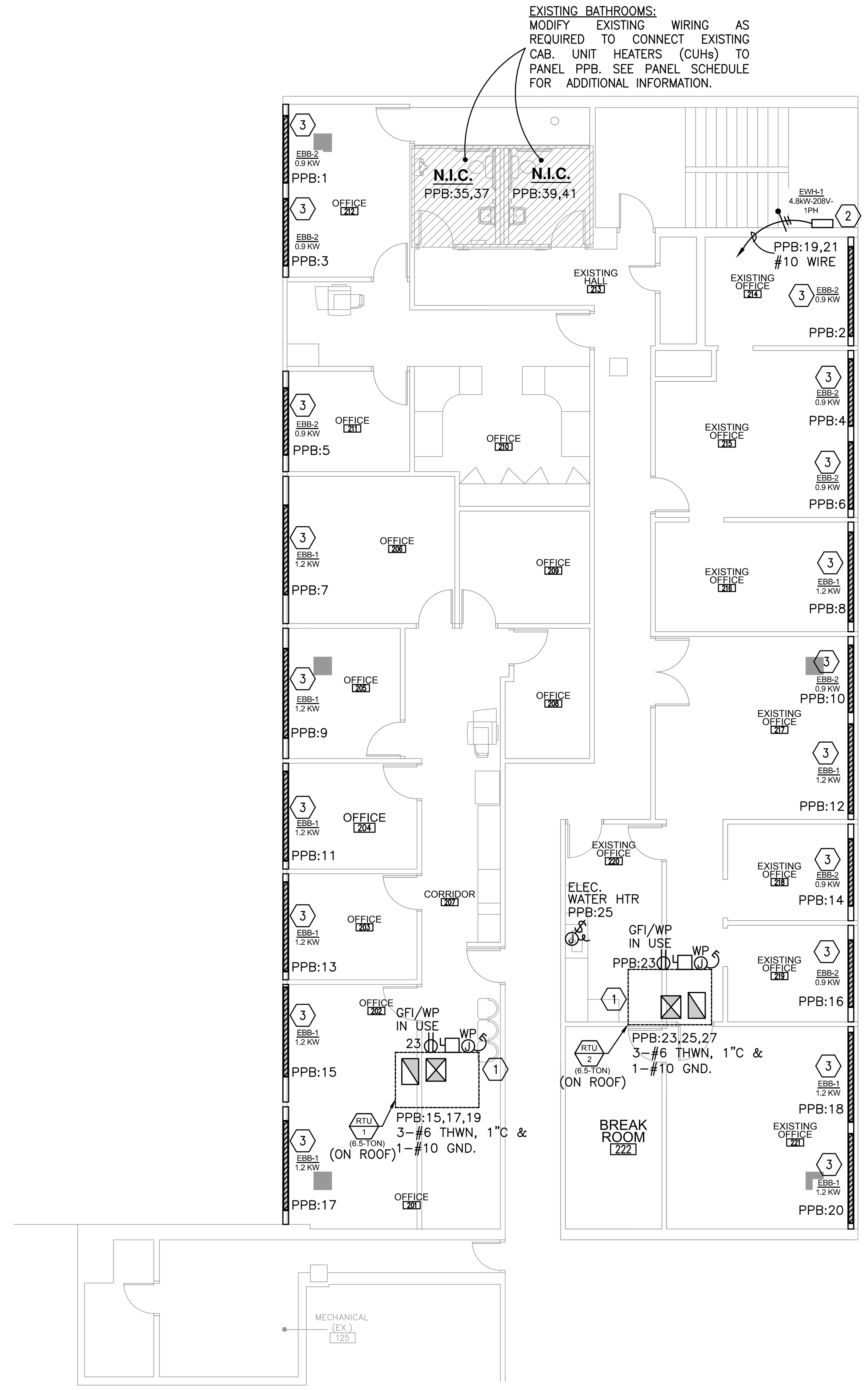


1 PARTIAL SECOND FLOOR PLAN – ELECTRO–MECHANICAL–PLUMBING

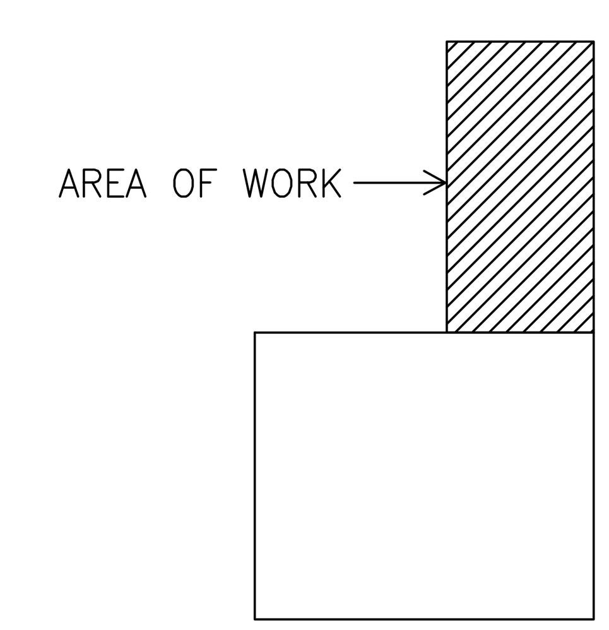
1/8" = 1'–0"

0 1' 2' 5' 10' 20'

N

ELECTRICAL PLAN NOTES

1. DISCONNECT SWITCH AND SERVICE RECEPTACLE PROVIDED INTEGRALLY MOUNTED WITH MECHANICAL UNIT. COORDINATE EXACT POINT OF CONNECTION TO MECHANICAL UNIT PRIOR TO ROUGH–IN. E.C. SHALL PROVIDE ALL INTERCONNECTIONS AS REQUIRED FOR A COMPLETE INSTALLATION AND OPERATING SYSTEM. CORE DOWN THRU ROOF NEXT TO UNIT (DO NOT RUN FEEDERS ON ROOF. FILL RACEWAYS SERVING POWER AND CONTROL WITH APPROVED SEALANT MATERIAL TO PREVENT THE CIRCULATION OF COLDER AIR TO WARMER SECTIONS OF THE RACEWAY OR SLEEVE TO PREVENT CONDENSATION.
2. DISCONNECT SWITCH PROVIDED INTEGRALLY MOUNTED WITH MECHANICAL UNIT. UNIT SHALL BE INSTALLED IN FIRST FLOOR BY EXIT DOOR. THE INTENT OF THIS ELECTRICAL UNIT HEATER IS TO TEMPER THE STAIRWELL.
3. DISCONNECT SWITCH PROVIDED INTEGRALLY MOUNTED WITH MECHANICAL UNIT.



KEYPLAN

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PACKAGED ROOF TOP UNIT SCHEDULE (RTU)

TAG	MANUFACTURER /MODEL #	TONS	EER (SEER)	BLOWER SECTION					COOLING CAPACITY					HEATING CAPACITY			ELECTRICAL DATA			WEIGHT [LBS]	NOTES
				CFM	O.A. CFM	ESP [IN W.C.]	DRIVE	FAN POWER [HP]	# OF COMP.	TYPE	REFRIG. TYPE	NET [MBH]	GROSS [MBH]	INPUT [MBH]	OUTPUT [MBH]	AFUE [%]	V/PH/Hz	MCA	MOCP		
RTU-1	YORK / ZJ078	6.5	11.8	2600	500	1.0	DIRECT	1.5	2	SCROLL	R-410A	77.0	80.5	120	96.0	81	208/3/60	34.1	45	1,200	1-12
RTU-2	YORK / ZJ078	6.5	11.8	2600	500	1.0	DIRECT	1.5	2	SCROLL	R-410A	77.0	80.5	120	96.0	81	208/3/60	34.1	45	1,200	1-12

REMARKS:
1. PROVIDE 14" PREFAB ROOF CURB.
2. OUTSIDE AIR INTAKE SHALL BE 10'-0" MINIMUM AWAY FROM ANY EXHAUST DISCHARGE.
3. PROVIDE 7-DAY FULLY PROGRAMMABLE WALL MOUNTED HEATING/COOLING/FAN THERMOSTAT WITH OCCUPIED/UNOCCUPIED MODES.
4. PROVIDE FLEXIBLE CANVAS CONNECTIONS AT SUPPLY AND RETURN DUCT CONNECTIONS.
5. PROVIDE GAS PIPING, UNION, GAS COCK AND DIRT LEG CONNECTIONS TO UNIT.
6. PROVIDE FACTORY UNIT MOUNTED DISCONNECT SWITCH AND GFI/WP SERVICE RECEPTACLE. FIELD WIRING BY ELECTRICAL CONTRACTOR.
7. PROVIDE LOW LEAK ECONOMIZER & FAULT DIAGNOSTIC AND DETECTION (FDD).
8. SMOKE DETECTORS SHALL BE PROVIDED AND INSTALLED BY FIRE ALARM CONTRACTOR.
9. HAIL GUARDS.
10. UNIT MUST BE 2015 IECC COMPLIANT. CONFIRM ALL REQUIRED ACCESSORIES WITH SALES REP.
11. PROVIDE WITH POWERED EXHAUST.
12. PROVIDE WITH INTELLISPEED OPTION.

ELECTRIC WALL HEATER SCHEDULE

TAG	MANUFACTURER AND MODEL NO.	DESCRIPTION	KW	MBH	AMPS	ELECTRICAL	REMARKS
EWH-1	"QMARK" #CWH3508F	WALL MOUNTED UNIT HEATER	4.8	17.0	23.1	208-1-60	1,2,3

REMARKS:
1. VERIFY EXACT VOLTAGE PRIOR TO ORDERING EQUIPMENT
2. HARDWIRED WITH FACTORY DISCONNECT
3. PROVIDE W/ RECESSED FRAME AND INTEGRAL THERMOSTAT.

AIR DEVICE SCHEDULE

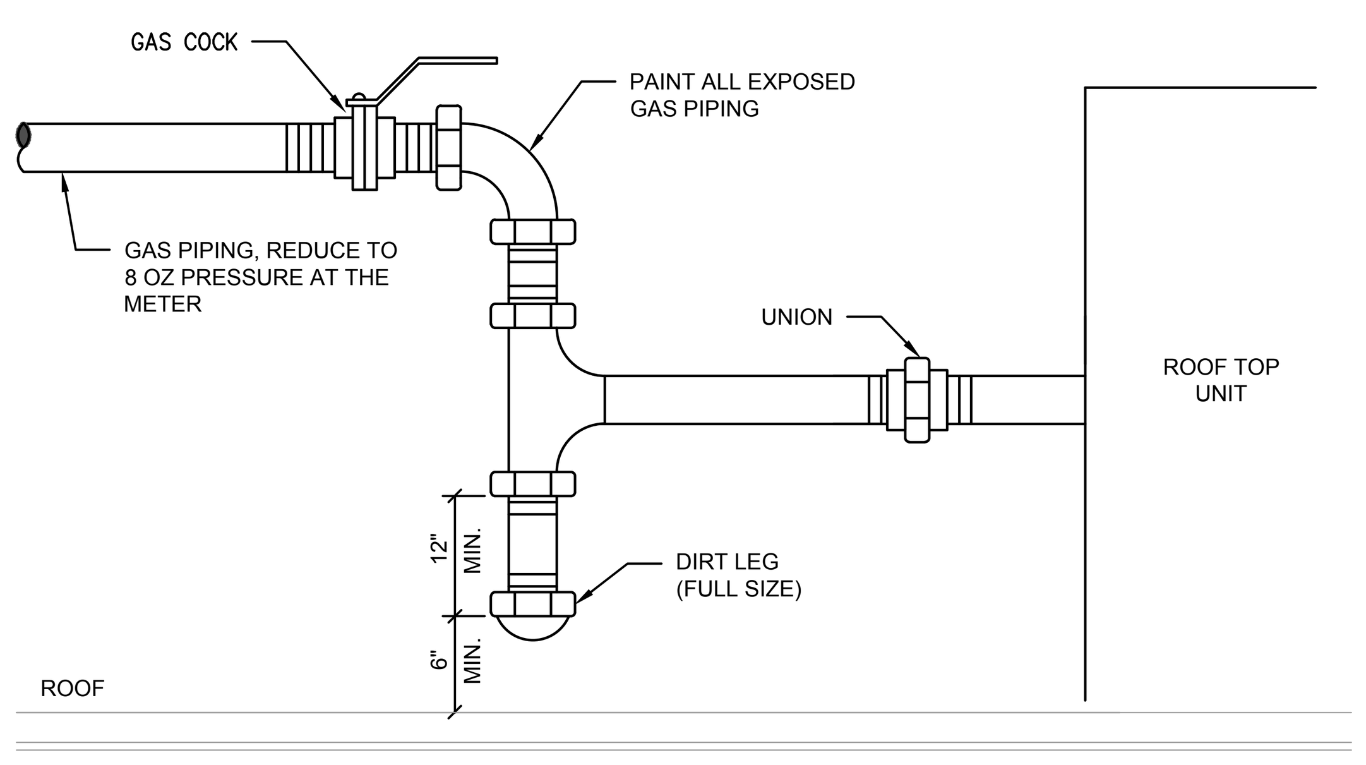
TAG	MAKE / MODEL	TYPE	SERVICE	MATERIAL	SIZE	NECK SIZE	MAX N.C.	REMARKS
A	TITUS / TMS	ARCHITECTURAL SQUARE DIFFUSER	SUPPLY	STEEL	24x24	SEE PLAN	25	1,2,4
B	TITUS / 350 RL	LOUVER GRILLE	RETURN	STEEL	24x12	22x10	25	1,2,

REMARKS:
1. WHITE FINISH
2. ARCHITECTURAL PLAQUE: TO BE INSTALLED FOR LAY-IN CEILING
4. PROVIDE SQUARE TO ROUND ADAPTER WHERE REQUIRED
5. PROVIDE WITH TITUS "FLEXABOOT" SOUND ATTENUATION ASSEMBLY

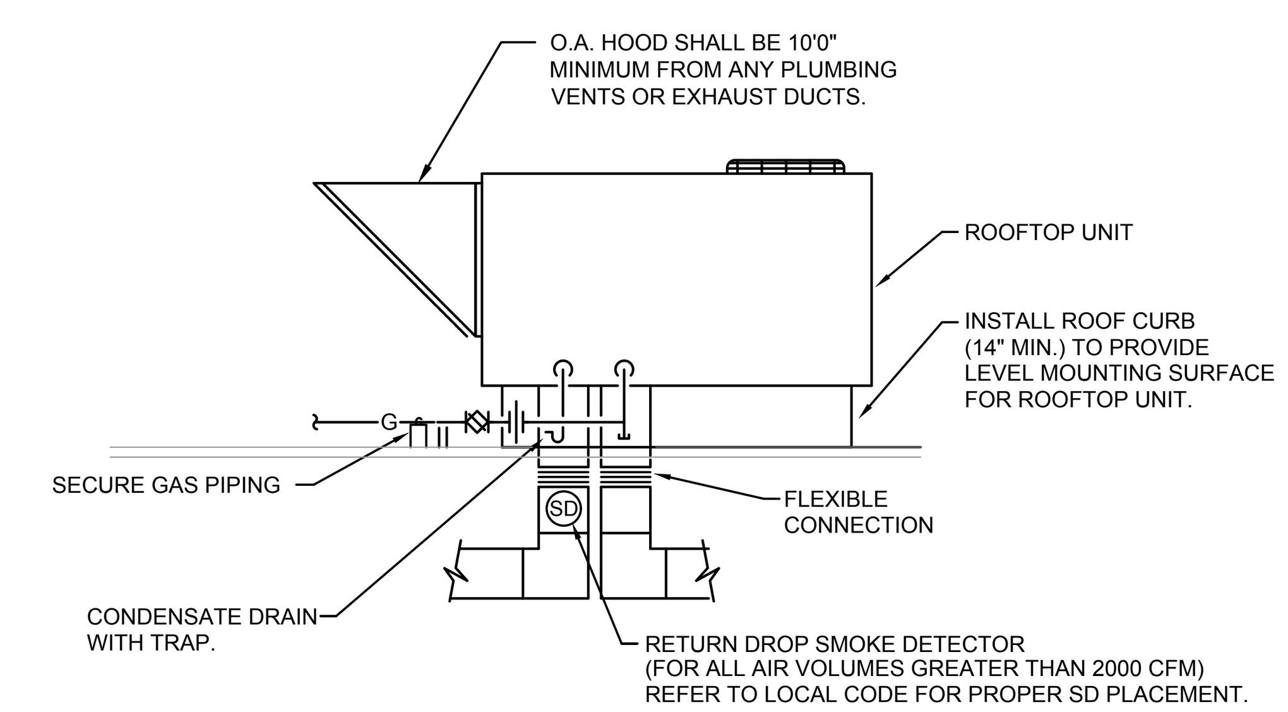
ELECTRIC BASEBOARD HEATER SCHEDULE

TAG	LENGTH	CAPACITY (KW)	ELECTRICAL DATA					WEIGHT (LBS)	MANUFACTURER AND MODEL	REMARKS
			MCA	MOCP	VOLT	PH	HZ			
EBB-1	8'0"	1.2	10	20	120	1	60	20	QMARK - DBSL06	1, 2, 3
EBB-2	6'0"	0.9	7.54	20	120	1	60	24	QMARK - DBSL06	1, 2, 3

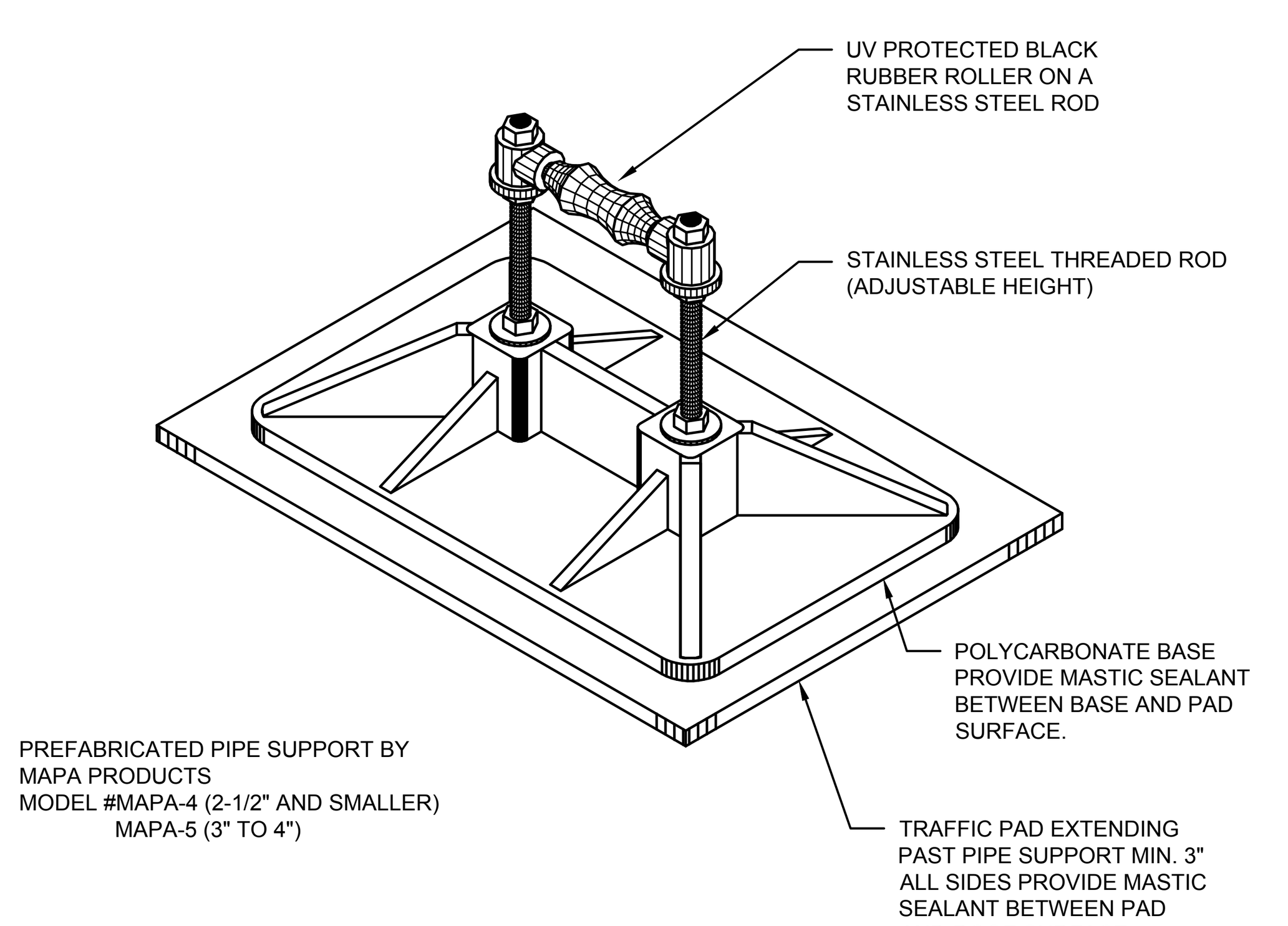
REMARKS:
1. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH, BLANK SECTIONS, & END CAPS TO PROVIDE A CONTINUOUS LOOK.
2. BASEBOARD SHALL BE FLOOR MOUNTED WITH FRONT-INLET
3. PROVIDE WITH LOCAL THERMOSTAT.
4. COORDINATE UNIT COLOR WITH ARCHITECT AND OWNER PRIOR TO ORDERING.



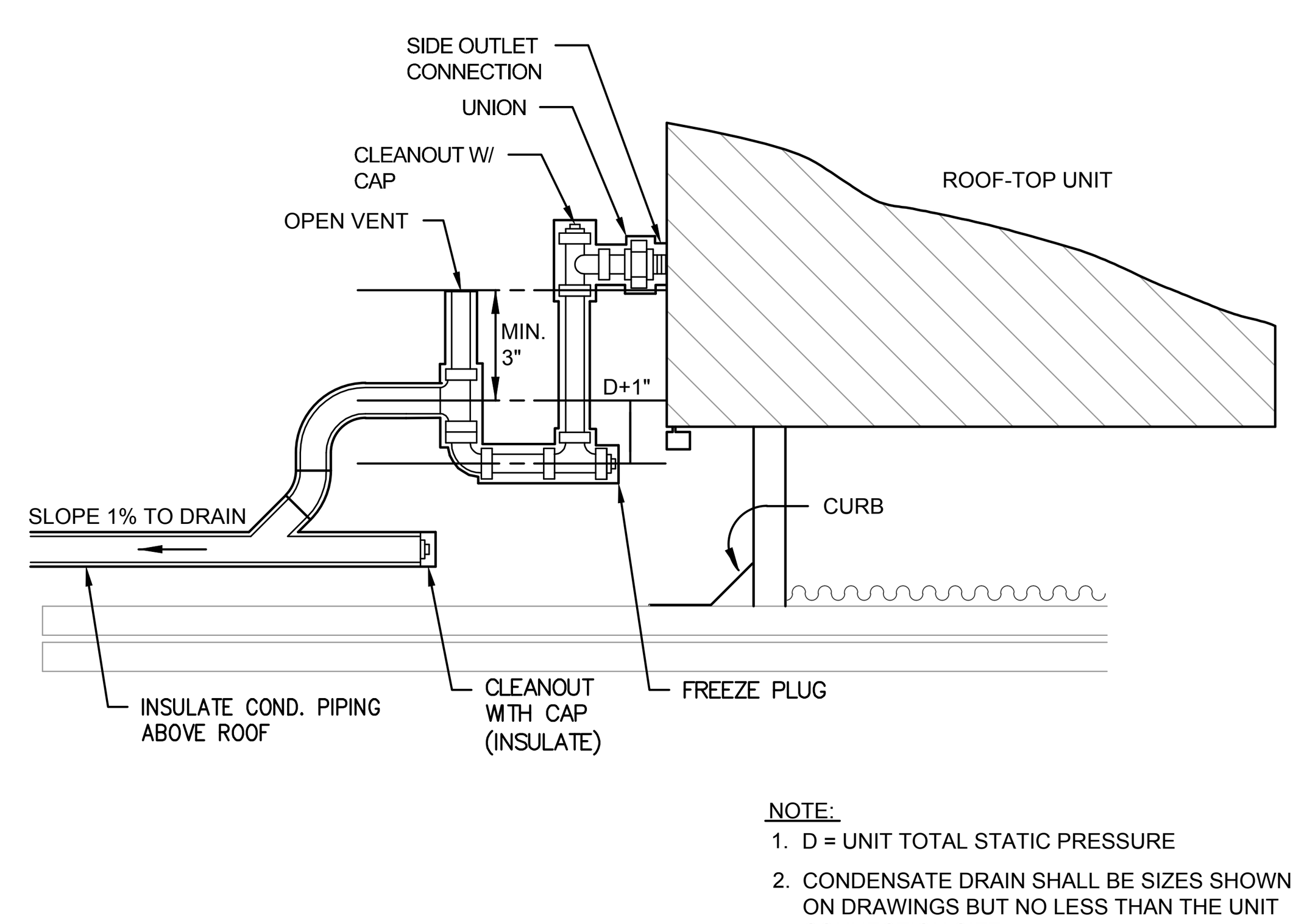
GAS COCK DETAIL
NO SCALE



ROOF TOP UNIT DETAIL
NO SCALE



ROOF PIPE SUPPORT DETAIL
NO SCALE



NOTE:
1. D = UNIT TOTAL STATIC PRESSURE
2. CONDENSATE DRAIN SHALL BE SIZES SHOWN ON DRAWINGS BUT NO LESS THAN THE UNIT CONNECTION SIZE.

ROOFTOP UNIT CONDENSATE PIPING DETAIL
NO SCALE

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL APPLICABLE CODES.
2. ALL EQUIPMENT SHALL BE U.L., ETL, AND/OR AGA LABELED AS REQUIRED.
3. ALL DUCTWORK SHALL BE PRIME GRADE GALVANIZED SHEET METAL PER SMACNA STANDARDS.
4. DUCTWORK SHALL BE SUPPORTED WITH APPROVED HANGERS AT INTERVALS NOT EXCEEDING TEN (10) FEET OR BY OTHER APPROVED DUCT SUPPORT SYSTEMS DESIGNED IN ACCORDANCE WITH THE BUILDING CODE. FLEXIBLE AND OTHER FACTORY-MADE DUCTS SHALL BE SUPPORTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. MECHANICAL CONTRACTOR SHALL PROVIDE SPIN-IN COLLARS WITH DAMPERS AT ALL ROUND BRANCH TAKEOFFS TO DIFFUSERS.
6. DUCTWORK CONSTRUCTION MATERIALS, INCLUDING COVERINGS, LININGS, AND ADHESIVES, EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED RATING OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E-84.
7. PROVIDE FIRE DAMPERS BY "NAILOR" OR APPROVED EQUAL AT ALL PENETRATIONS THRU RATED ASSEMBLIES. REFER TO ARCHITECTURAL PLANS FOR ALL LOCATIONS AND RATINGS. ALL FIRE DAMPERS MAY NOT BE SHOWN ON THE PLANS. THIS CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND QUANTITIES.
8. MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE CANVAS CONNECTIONS AT ALL EQUIPMENT.
9. MECHANICAL CONTRACTOR SHALL PROVIDE FLEXIBLE AIR CONNECTORS FOR ALL NEW DIFFUSERS. FLEXIBLE CONNECTORS SHALL NOT EXCEED FIVE (5) FEET.
10. FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS, BOTH METALLIC AND NONMETALLIC, SHALL BE TESTED IN ACCORDANCE WITH UL 181. SUCH DUCTS SHALL BE LISTED AND LABELED AS CLASS 0 OR CLASS 1.
11. OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF TEN (10) FEET FROM ANY EXHAUST VENT, FLUE VENT OR ANY OTHER MECHANICAL SOURCE OF CONTAMINATION AND TWELVE (12) FEET FROM ANY PLUMBING VENT.
12. MECHANICAL CONTRACTOR SHALL PROVIDE BALANCING REPORTS BY A CERTIFIED BALANCER UPON COMPLETION OF PROJECT. PROVIDE INSPECTOR REPORTS PRIOR TO FINAL INSPECTION.
13. MECHANICAL CONTRACTOR SHALL FIELD VERIFY LOCATION OF GAS METER.
14. ALL THERMOSTATS SHALL BE MOUNTED IN ACCORDANCE WITH ADA REQUIREMENTS. WHERE THE THERMOSTAT IS ACCESSIBLE BY FRONTAL APPROACH ONLY, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-0" A.F.F. WHERE THE THERMOSTAT IS ACCESSIBLE FROM A SIDE APPROACH, THEN THE MOUNTING HEIGHT OF THE THERMOSTAT SHALL BE 4'-6" A.F.F.
15. ELECTRICAL CONTRACTOR SHALL WIRE ALL EQUIPMENT AND SHALL PROVIDE DISCONNECT SWITCHES, STARTERS AND/OR RELAYS AS REQUIRED.
16. ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, UTILITY BOXES, AND WIRING FOR ALL THERMOSTATS. MECHANICAL CONTRACTOR SHALL FURNISH, MOUNT, AND TERMINATE THERMOSTATS ONLY.
17. ELECTRICAL CONTRACTOR SHALL PROVIDE RETURN SMOKE DETECTORS IN SYSTEMS WITH A DESIGN CAPACITY OF GREATER THAN 2,000 CFM AND SUPPLY SMOKE DETECTORS IN SYSTEMS GREATER THAN 15,000 CFM. WIRE PER LOCAL CODE.
18. ELECTRICAL CONTRACTOR SHALL PROVIDE A 120 VOLT, 15 OR 20 AMP GFCI CONVENIENCE OUTLET FOR ALL ROOFTOP, ATTIC SPACE, OR CRAWL SPACE HVAC EQUIPMENT. CONVENIENCE OUTLET SHALL BE ON THE SAME LEVEL AND WITHIN 25'-0" OF HVAC EQUIPMENT.
19. EQUIPMENT AND APPLIANCES SHALL BE INSTALLED AS REQUIRED BY THE TERMS OF THEIR APPROVAL, IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING, THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THIS CODE. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT TIME OF INSPECTION, INCLUDING LISTING FOR OUTSIDE INSTALLATION WHEN APPLICABLE.
20. SUBMIT UL LISTED FIRE STOPPING MATERIALS AND SYSTEMS WHERE FIRE RATED ASSEMBLIES ARE BREACHED.

ENERGY NOTES

1. MINIMUM EQUIPMENT COOLNG EFFICIENCY SHALL BE 11.0 EER.
3. MOTORIZED DAMPERS SHALL BE INSTALLED ON ALL INTAKES AND EXHAUST OPENINGS UNLESS NOTED OTHERWISE.
4. MAXIMUM FAN NAMEPLATE HORSEPOWER SHALL NOT EXCEED 1.1 HP/1000CFM.
5. LOAD CALCULATIONS WERE BASED ON ASHRE 2009 FUNDAMENTALS
6. ALL PROGRAMMABLE THERMOSTATS SHALL HAVE 5 DEGREE DEADBAND AND SHALL HAVE 7-DAY CLOCK, 2-HOUR MANUAL OVERRIDE, 10 HOUR BACKUP AND SETBACK CAPABLE OF 55 DEGREES HEATING AND 85 DEGREES COOLING. (EXCEPT CONTINUOUS OPERATING ZONES)
7. DUCT INSULATION AS SPECIFIED WITH MINIMUM VALUES AS FOLLOWS:
   a. R-6 SUPPLY AND RETURN DUCT INSULATION IN UNCONDITIONED SPACES.
   b. R-8 SUPPLY AND RETURN DUCT INSULATION FOR EXTERIOR DUCTS.
   c. R-3 SUPPLY AND RETURN DUCT INSULATION UNDERGROUND.
8. ALL DUCTWORK SHALL BE SEALED PRESSURE SENSITIVE TAPE IS NOT USED AS THE PRIMARY SEALANT. LONGITUDINAL AND TRANSVERSE SEAMS FOR DUCTS IN UNCONDITIONED SPACES AND WALL PENETRATIONS. TRANSVERSE SEAMS ON BURIED DUCTS.

CONTRACTOR TO VERIFY FINAL TYPE, MODEL, AND QUANTITY OF ALL MECHANICAL EQUIPMENT PRIOR TO BID

MECHANICAL SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION
	DUCT
	SUPPLY DIFFUSER
	RETURN OR EXHAUST GRILLE
	SLOT DIFFUSER
	FLEXIBLE DUCT
CO2	CO2 SENSOR
T	THERMOSTAT
S	EMS SENSOR
H	HUMIDISTAT
SP	STATIC PRESSURE SENSOR
SD	SMOKE DETECTOR
	45° PRESSURE TAP WITH VOLUME DAMPER
	CONICAL TAP WITH VOLUME DAMPER
	CONICAL TAP WITHOUT VOLUME DAMPER
	MANUAL VOLUME DAMPER
M	MOTORIZED DAMPER
B	BAROMETRIC DAMPER
FS	FIRE/SMOKE DAMPER
F	FIRE DAMPER
S	SMOKE DAMPER
CD	CONDENSATE DRAIN
	DIRECTION OF SLOPE
	DIRECTION OF FLOW
	GATE VALVE
	BALL VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	PLUG VALVE/BALANCING COCK
	SOLENOID VALVE
	CHECK VALVE
	HYDRAULIC SHOCK ARRESTOR
	VALVE IN VERTICAL
	UNION
V	VACUUM BREAKER
	GAS PRESSURE REGULATOR

MECHANICAL LEDGEND

EQUIPMENT	RTU ← MARK (SEE SCHEDULE) # ← EQUIPMENT NUMBER
AIR DEVICE	S-200-A ← TYPE-CFM-DEVICE TAG 8"Ø NK ← NECK SIZE

MECHANICAL ABBREVIATIONS

AC	ABOVE CEILING	EUH	ELECTRIC UNIT HEATER
AFF	ABOVE FINISHED FLOOR	FPB	FAN POWERED BOX
AI	ANALOG INPUT	FPI	FINS PER INCH
AO	ANALOG OUTPUT	FPM	FEET PER MINUTE
BF	BELOW FLOOR	GC	GENERAL CONTRACTOR
BFC	BELOW FINISHED CEILING	GUH	GAS UNIT HEATER
BG	BELOW GRADE	LAT	LEAVING AIR TEMPERATURE
DB	DRY BULB	MVD	MANUAL VOLUME DAMPER
DI	DIGITAL INPUT	N	NEW
DO	DIGITAL OUTPUT	NTS	NOT TO SCALE
DS	DISCONNECT SWITCH	OBD	OPPOSED BLADE DAMPER
EDH	ELECTRIC DUCT HEATER	RA	RETURN AIR
EF	EXHAUST FAN	SA	SUPPLY AIR
		U.N.O.	UNLESS NOTED OTHERWISE
		VAV	VARIABLE AIR VOLUME
		WH	WATER HEATER

DESIGN CRITERIA

BASED ON ASHRAE HANDBOOK - 2009 FUNDAMENTALS

AURORA, ILLINOIS

OUTDOOR DESIGN CONDITION

1% COOLING: 89.0°/73.4°F DB/WB

99.6% HEATING: -4°F DB

INDOOR DESIGN CONDITION

SUMMER: 75°F DB/50% RH

WINTER: 70°F DB

19.COA.001

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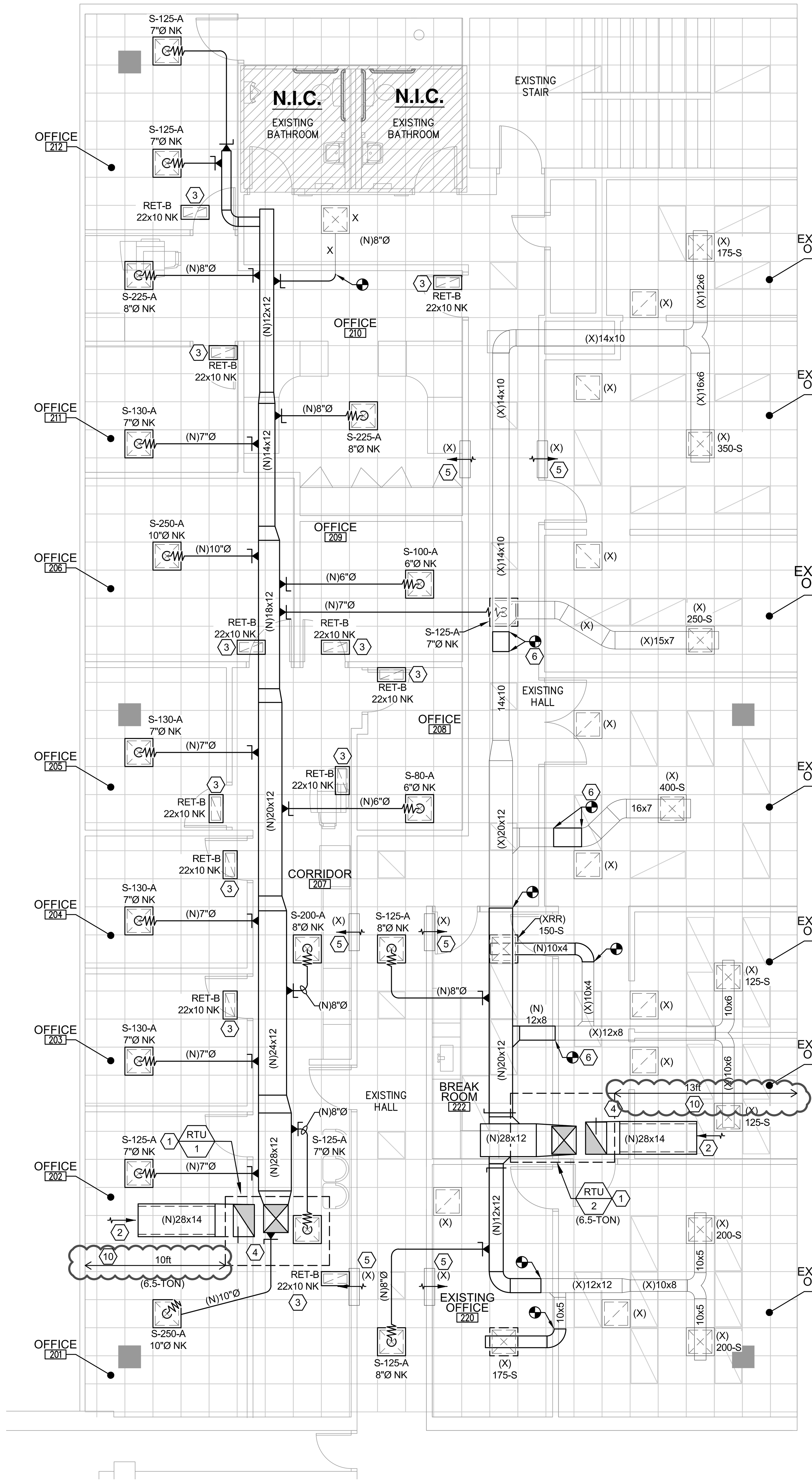
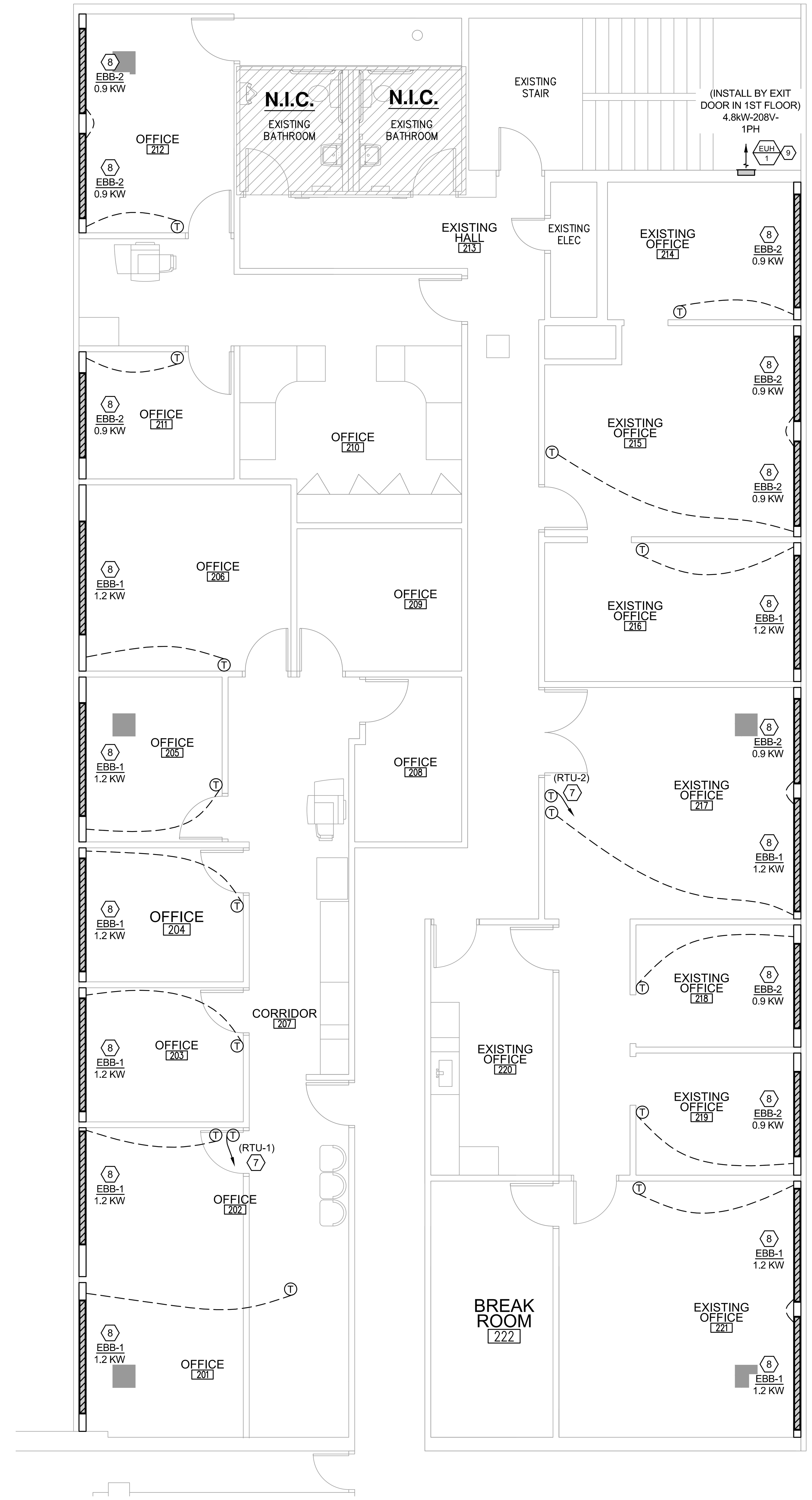


1 PARTIAL SECOND CEILING PLAN
3/32" = 1'-0"



2 PARTIAL SECOND FLOOR PLAN
3/16" = 1'-0"

GENERAL NOTES

1. FLEX DUCT SHALL NOT EXCEED 6'-0".
2. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIFFUSER AIRFLOWS AS SHOWN ON PLAN. PROVIDE A DETAILED TEST & BALANCE REPORT PRIOR TO CLOSEOUT.
3. EXISTING HVAC EQUIPMENT, ROUTING LOCATION AND QUANTITY IS BASED ON LIMITED SURVEY. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND QUANTITIES.
4. DIFFUSER NECK SIZES SHALL BE THE SAME AS ROUND DUCT THAT CONNECTS TO IT.
5. CONTRACTOR SHALL VERIFY FOR EXACT LOCATION OF EXISTING BEAMS AND COORDINATE NEW DUCT SIZES/ROUTING ACCORDINGLY.
6. COORDINATE LOCATION OF NEW FULL HEIGHT WALLS. ADJUST ASSOCIATED DUCTWORK, POWER, AND OTHER APPURTENANCES AS NECESSARY.

KEYED NOTES

1. FURNISH AND INSTALL NEW ROOFTOP UNIT WITH GAS HEATING AND DX COOLING WITH ROOF CURB PER EQUIPMENT SCHEDULE. PROVIDE FULL SIZE SUPPLY AND RETURN INTO SPACE CEILING PLENUM. PROVIDE WITH TRAPPED CONDENSATE LINE AND DIRECT IT TO NEAREST ROOF DRAIN. PROVIDE GAS CONNECTION TO RTU AS RECOMMENDED BY MANUFACTURER. PROVIDE WITH GAS COCK, UNION, & DIRT LEG.
2. PROVIDE NEW OPEN ENDED 28"x14" INTERNALLY LINE RETURN DUCT. PROVIDE WIRE MESH SCREEN AT OPEN END OF DUCT.
3. PROVIDE NEW RETURN GRILLE WITH 20"x10" DUCT BOOT FOR PLENUM RETURN SOUND ATTENUATION. DISCHARGE AIR INTO CEILING PLENUM.
4. DUCT MOUNTED SMOKE DETECTOR ON RTU WITH 2,000 CFM OR GREATER SHALL BE FURNISHED AND INSTALLED BY FIRE ALARM CONTRACTOR. MOUNT IN RETURN AIR DUCT. DETECTOR TO SHUT DOWN UNIT UPON ALARM.
5. EXISTING TRANSFER OPENING ABOVE CEILING TO REMAIN FOR PLENUM RETURN.
6. REPLACE MISSING DUCTWORK WHERE REHEAT COILS HAVE BEEN REMOVED. NEW DUCT TO BE THE SAME SIZE AS EXISTING DUCTWORK.
7. FURNISH AND INSTALL NEW COMPATIBLE 24V PROGRAMMABLE THERMOSTAT. INTERLOCK WITH ASSOCIATED ROOFTOP UNIT. MOUNT 56" A.F.F.
8. FURNISH & INSTALL NEW ELECTRIC BASEBOARD FOR SUPPLEMENTAL HEAT. PROVIDE WITH FLOOR PEDESTALS AND FILLER SECTIONS AS REQUIRED. CONTROL WITH LOCAL THERMOSTAT, LOCATE WHERE SHOWN ON PLAN.
9. FURNISH AND INSTALL NEW ELECTRIC WALL HEATER WITH INTEGRAL THERMOSTAT SET TO OPERATE AT 50°F. HEATER IS TO BE INSTALL IN THIS LOCATION ON THE 1ST FLOOR.
10. CONTRACTOR SHALL PROVIDE GUARDRAIL SINCE THERE ARE ELEMENTS OF THE HVAC LOCATED LESS THAN 10 FEET FROM THE EDGE OF THE BUILDING.

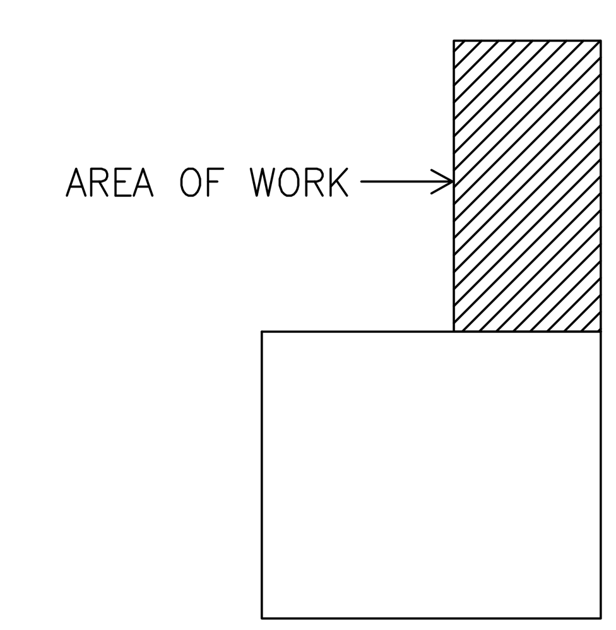
LEGEND

X	EXISTING TO REMAIN
N	NEW
XR	EXISTING RELOCATED
XRR	EXISTING TO BE RELOCATED
XO	EXISTING TO BE DEMOED
◑	POINT OF DEMOLITION
⊕	POINT OF NEW CONNECTION

PLENUM SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNAGE. THE SIGNAGE SHALL BE POSTED PRIOR TO THE FIRST ABOVE THE CEILING INSPECTION AND THE LETTERING SHALL NOT BE LESS THAN 1/2" IN HEIGHT AND BE PLACE ON EVERY WALL WITHIN THE PLENUM (OR SPACE/ROOM) AND REPEATED AT INTERVALS NOT EXCEEDING 30 FEET. THE SUGGESTING WORDING WILL BE/OR BE SIMILAR TO - "THIS CAVITY IS A MECHANICAL SYSTEM PLENUM. ALL MATERIALS WITHIN THIS PLENUM MUST BE NON-COMBUSTIBLES AND CONFROM TO IMC SECTION 602". CITY OF AURORA ORDINANCE No. 010-017.

ALL MATERIALS IN A RETURN AIR PLENUM MUST MEET THE REQUIREMENTS OF SECTION 602. (2015IECC). NEED TO INSPECT DUCT BEFORE IT IS INSULATED OR PAINTED R109.1.2 (2015 IRC) & SECTION 107 (2015IECC)

INSULATE SUPPLY & RETURN AIR DUCTS WITH A MINIMUM OF R-6 IN ALL UNCONDITIONED SPACES (EXAMPLE: DROPPED CEILINGS OR UNDERGROUND DUCTWORK) AND A MINIMUM OR R-12 WHEN LOCATED OUTSIDE (EXAMPLE:DUCTWORK ON ROOF) 2015IECC.



KEYPLAN
N.T.S.

19.COA.001

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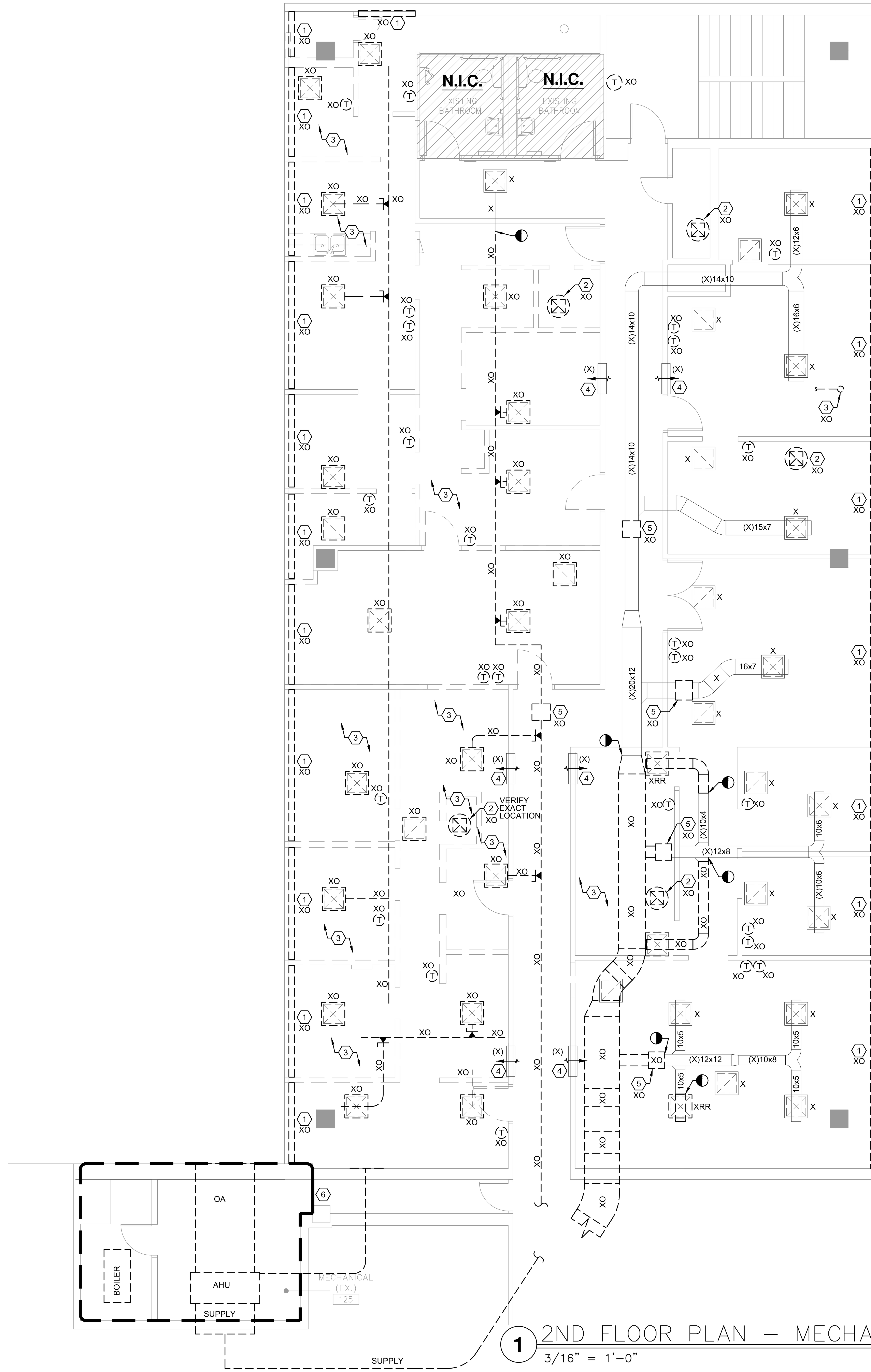
PARTIAL
2ND FLOOR PLANS -
MECHANICAL

ISSUED:

3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

M201



1 2ND FLOOR PLAN – MECHANICAL DEMOLITION
3/16" = 1'-0"
0 1' 2' 4' 6' 10'
N

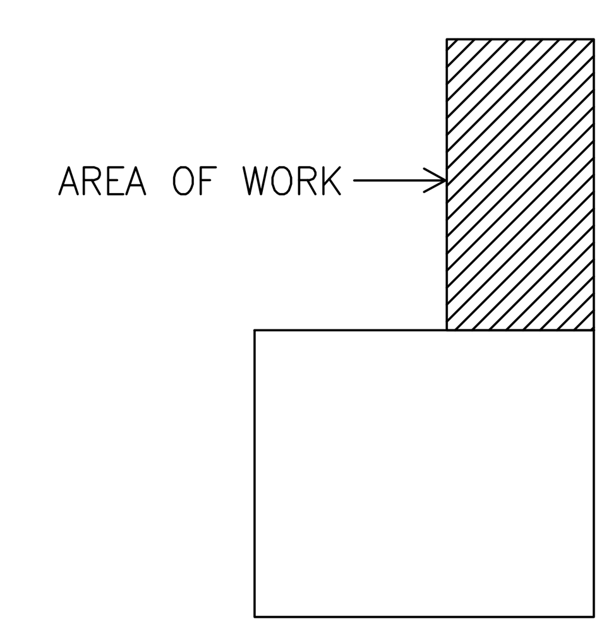
DEMO NOTES

1. BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO SUBMITTING A COMPLETE BID WITHIN THE SCOPE OF THE PLANS AND SPECIFICATIONS. WHEN UNCLEAR, VERIFY THE EXTENT OF REMOVALS PRIOR TO BID. BRING TO THE ATTENTION OF THE ENGINEER ANY QUESTIONS IN REGARD TO THE EXTENT OF WORK OR ANY OTHER ISSUES RELATING TO THIS PROJECT.
2. REMOVE ALL EXISTING MATERIAL AND EQUIPMENT INDICATED ON PLAN. THE OWNER SHALL HAVE FIRST RIGHTS TO ALL EQUIPMENT TO BE REMOVED. DISPOSE OF ALL EQUIPMENT AND MATERIAL THAT IS NOT WANTED BY OWNER IN AN APPROVED MANNER PER LOCAL AUTHORITY.
3. WHEN THE EXTENT OF REMOVALS IS UNCLEAR, REQUEST CLARIFICATION FROM THE ENGINEER PRIOR TO COMMENCING WORK.
4. WHEN MECHANICAL SYSTEMS ARE BEING REMODELED, COVER AND SEAL OPENINGS IN DUCTWORK, PIPING, OR MECHANICAL EQUIPMENT IN OPERATION THROUGH THE REMAINDER OR THE PROJECT.
5. REPAIR ALL DAMAGE TO WALLS, CEILING, ETC. IN A WORKLIKE MANNER. SEAL ALL WALL AND CEILING OPENINGS WITH MATCHING MATERIAL.
6. THE LOCATION OF EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON SITE OBSERVATIONS AND THE THE BEST AVAILABLE INFORMATION AT THE TIME OF DRAWING PREPARATION AND SOME DISCREPANCIES MAY EXIST. VERIFY EXACT LOCATIONS OF EQUIPMENT TO BE REMOVED IN THE FIELD AND REQUEST CLARIFICATION FROM THE ENGINEER WHEN LOCATION OR EXISTENCE DIFFERS FROM PLANS.
7. COORDINATE WITH LANDLORD PRIOR TO REMOVING PIPING, DUCTWORK, EQUIPMENT, ETC... THAT MAY AFFECT OPERATIONS OUTSIDE OF TENANT SPACE.
8. REMOVE ALL REMAINING UNUSED DUCTWORK, PIPING, ETC., NOT BEING REUSED BY TENANT. VERIFY THAT DUCTWORK OR PIPING IS NOT BEING USED OUTSIDE OF TENANT SPACE PRIOR TO REMOVAL.

DEMO KEYED NOTES

1. REMOVE AND PROPERLY DISPOSE OF EXISTING HOT WATER BASEBOARD HEATER AND ALL RELATED CONTROLS, PIPING, ACCESSORIES, ETC. PATCH AND SEAL WEATHER PROOF/FIRE PROOF EXISTING OPENINGS NO LONGER REQUIRED AFTER REMOVAL OF EQUIPMENT
2. REMOVE AND PROPERLY DISPOSE FOR UNUSED ROOF EXHAUST FAN AND ASSOCIATED CONTROLS, DUCTWORK, ETC... PROVIDE A WATER TIGHT SEAL AND CAP REMAINING CURB.
3. REMOVE AND PROPERLY DISPOSE FOR UNUSED VENT. PROVIDE A WATER TIGHT SEAL AND CAP. (TYPICAL FOR ALL NOT LONGER REQUIRED VENT LOCATIONS IN ARE OF WORK)
4. EXISTING TRANSFER OPENING ABOVE CEILING TO REMAIN FOR PLENUM RETURN.
5. REMOVE AND PROPERLY DISPOSE OF EXISTING HOT WATER REHEAT COILS (BOXES) AND ALL RELATED CONTROLS, PIPING, ACCESSORIES, ETC. SEE NOTE #6 BELOW.
6. REMOVE AND PROPERLY DISPOSE OF ALL UNUSED HVAC EQUPMENT, DUCTWORK, CONTROLS, PIPING, ETC. PATCH AND SEAL WEATHER PROOF/FIRE PROOF EXISTING OPENINGS NO LONGER REQUIRED AFTER REMOVAL OF EQUIPMENT. REMOVE ALL HOT WATER BOXES AND PIPING IN THE WHOLE AREA OF WORK. SEE NOTE #5 ABOVE.

LEGEND	
X	EXISTING TO REMAIN
N	NEW
XR	EXISTING RELOCATED
XRR	EXISTING TO BE RELOCATED
XO	EXISTING TO BE DEMOED
◐	POINT OF DEMOLITION
◕	POINT OF NEW CONNECTION



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PLUMBING SPECIFICATIONS

STANDARDS AND CODES:

A. GENERAL: THE WORK SHALL COMPLY WITH OR EXCEED THE REFERENCED STANDARDS AND CODES. ANY WORK WHICH CAN NOT MEET THE REFERENCED STANDARD AND CODES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR HIS WRITTEN APPROVAL BEFORE PROCEEDING WITH THE WORK.

B. CODES: THE WORK SHALL COMPLY WITH THE FOLLOWING CODES:

1. 2014 ILLINOIS PLUMBING CODE.
2. LOCAL GOVERNING BODIES HAVING JURISDICTION.

C. STANDARDS: THE WORK SHALL COMPLY WITH THE FOLLOWING STANDARDS:

1. ANSI AMERICAN NATIONAL STANDARDS INSTITUTE
2. ASSE AMERICAN SOCIETY OF SANITARY ENGINEERS
3. ASTM AMERICAN SOCIETY OF TESTING AND MATERIALS
4. AWWA AMERICAN WATER WORKS ASSOCIATION
5. CISPI CAST IRON SOIL PIPE INSTITUTE
6. NSF NATIONAL SANITATION FOUNDATION
7. UL UNDERWRITER LABORATORIES
8. ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS
9. NFPA NATIONAL FIRE PROTECTION ASSOCIATION
10. NEMA NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
11. CS COMMERCIAL STANDARDS

INSULATING ADAPTERS:

PROVIDE SWEAT-TO-SCREW INSULATING ADAPTERS AT JUNCTURE OF COPPER TO STEEL PIPE AND INSULATING BUSHINGS FOR FLANGED CONNECTIONS TO STEEL OR CAST IRON VALVES AND FITTINGS.

BALL VALVES:

A. SIZE, 2-1/2" AND SMALLER: 400LB. WOG, TWO-PIECE CAST BRONZE BODY, SCREWED OR SOLDERED ENDS, CHROME PLATED BRAS BALL, TEFLON BALL AND FLANGE SEALS, ROD SILICON BRASS STEM, TEFLON AND VICTON "O" RING STEM SEALS, ZINC PLATED CARBON STEEL HANDLE WITH VINYL GRIP AND BRASS HANDLE NUT.

APOLLO, STOCKHAM OR NIBCO

UNLESS OTHERWISE REQUIRED BY LOCAL CODE PIPING MATERIAL SHALL BE AS FOLLOWS:

VENT, SOIL, AND WASTE & STORM - ABOVE GROUND: 2-1/2" AND LARGER: TAR COATED SERVICE WEIGHT CAST IRON, BELL & SPIGOT CAST IRON DRAINAGE FITTINGS WITH LEAD & OAKUM CAULK. 2" AND SMALLER: STANDARD WEIGHT THREADED GALVANIZED STEEL PIPE; PVC MAY BE USED WHERE ALLOWABLE BY CODE.

DOMESTIC WATER - ABOVE GROUND INSIDE BUILDING: SEAMLESS TYPE "L" COPPER WITH WROUGHT COPPER FITTINGS SOLDERED. SOLDER SHALL CONFORM TO LOCAL CODE REQUIREMENTS AND ASTM B32-LATEST REVISION. BELOW GRADE INSIDE BUILDING: ANNEALED TYPE "K" COPPER.

VALVES - BALL VALVES FOR SHUT-OFF SHALL BE AS MANUFACTURES BY NIBCO: 580, HAMMOND: 8501.

INSULATION SHALL BE PROVIDED AS FOLLOWS:

DOMESTIC COLD WATER - ABOVE GRADE: LIGHT DENSITY, FIBERGLASS PIPE INSULATION. ½" THICK, WITH VAPOR BARRIER JACKET.

DOMESTIC HOT WATER - ABOVE GRADE: LIGHT DENSITY, FIBERGLASS PIPE INSULATION, 1" THICK, WITH GLASS CLOTH JACKET.

AT CONTRACTOR'S OPTION FIBERGLASS SNAP ON INSULATION WITH FOAM VAPOR BARRIER MAY BE SUBSTITUTED FOR ABOVE.

DOMESTIC HOT AND COLD WATER PIPING IN PIPE CHASES - SHALL BE INSULATED WITH ½" THICK, 3-1/2"LB. DENSITY FIBERGLASS WITH ALL PURPOSE VAPOR BARRIER JACKET.

SUBMITTALS:

A. SHOP DRAWINGS: SUBMIT FOR ENGINEER'S REVIEW, ONE SEPIA AND TWO PRINTS OF ALL PIPING LAYOUTS AND DETAILS. DRAWINGS SHALL CONSIST OF THE FOLLOWING:

1. PIPING (FLOOR) LAYOUTS IN PLAN DRAWN TO A MINIMUM SCALE OF 1/8" = 1'-0" WITH EQUIPMENT ROOM ARRANGEMENTS AND SITE REINFORCED CONCRETE STRUCTURES DRAWN TO A MINIMUM SCALE OF ¼" = 1'-0".

2. SLEEVE PLACEMENT LOCATION. MINIMUM SCALE OF 1/8" = 1'-0" IN PLAN AND ELEVATION DIMENSION FROM CENTERLINE OF BUILDING COLUMN OR FACE OF MAJOR STRUCTURAL ELEMENTS.

B. RECORD DOCUMENTS: SUBMIT THE FOLLOWING FOR ENGINEER'S INFORMATION. FURNISHED DRAWINGS TEST AND INSPECTION REPORTS WITNESSED BY THE OWNER'S REPRESENTATIVE AND OTHER AUTHORITY OF JURISDICTION, AND RECORD DRAWINGS INDICATING THE WORK AS ACTUALLY CONSTRUCTED.

RECORD DRAWINGS:

MAINTAIN A COMPLETE AND ACCURATE RECORD OF ALL CHANGES OR DEVIATIONS TO THE CONTRACT DOCUMENTS AND SHOP DRAWINGS IN THE CONTRACTOR'S FIELD OFFICE. SUCH RECORD COPY SHALL INDICATE THE WORK AS ACTUALLY CONSTRUCTED AND BE AVAILABLE FOR ARCHITECT AND OWNER REVIEW. REPRODUCIBLE DRAWING BACKGROUND SHALL BE FURNISHED TO THE CONTRACTOR BY THE ARCHITECT. TURN OVER AS-BUILT DRAWING TO BUILDING MANAGEMENT/BUILDING ENGINEER UPON COMPLETION OF PROJECT.

C. OPERATION AND MAINTENANCE MANUALS: SUBMIT FOR OWNER DOCUMENTATION. FURNISH (3) BOUND COPIES OF DATA COVERING MODEL, RATINGS AND CAPACITIES FOR EACH ITEM OF EQUIPMENT OR DEVICE. IF THE LANGUAGE OR INTENT OF ANY ACCEPTANCE DOCUMENT VOIDS, THE WARRANTY PERIOD OR TERMS OF THE FINAL ACCEPTANCE AS STIPULATED IN THE CONTRACT DOCUMENTS, OPERATION AND MAINTENANCE MANUALS FOR THE PIPING BEING ACCEPTED FOR PURPOSES OF BENEFICIAL OCCUPANCY SHALL BE GIVEN TO THE OWNER'S REPRESENTATIVE AT SUCH ACCEPTANCE.

TESTING - POTABLE WATER:

A. AFTER PORTIONS OF THE POTABLE WATER SYSTEM HAS BEEN COMPLETED, THE WORK SHALL BE HYDROSTATICALLY TESTED IN THE PRESENT OF THE ARCHITECT'S AND OWNER'S REPRESENTATIVES AND OTHER AUTHORITIES OF JURISDICTION. FIVE DAYS NOTICE OF THE TEST SHALL BE GIVEN TO THE ARCHITECT AND OWNER. FURNISH ALL PUMPS, GAGES, INSTRUMENTS, TEST EQUIPMENT AND PERSONNEL REQUIRED FOR THESE TESTS AND MAKE ALL PROVISIONS FOR REMOVAL OF TEST EQUIPMENT.

B. VENT ALL AIR FROM THE SYSTEM FOR HYDROSTATIC TESTING.

C. IN THE CASE OF THE HYDROSTATIC TEST WITH WATER, THE TEST PRESSURE SHALL BE 100 PSIG OR 1-1/2" X MAXIMUM WORKING PRESSURE, WHICHEVER IS THE GREATER. TEST PRESSURE SHALL BE HELD WITH NO NOTICEABLE LOSS IN PRESSURE WHICH ALL JOINTS ARE VISUALLY INSPECTED FOR LEAKS. WATER TEMPERATURE SHALL NOT EXCEED 100 DEGREE F.

FLUSHING:

A. BUILDING DOMESTIC COLD WATER AND HOT WATER PIPING SHALL BE CLEANED AND FLUSHED SO AS TO BE FREE OF ALL THREAD CUTTING OIL. THREAD CHIPS, SOLDER RESIDUE, SHAVINGS AND OTHER FOREIGN MATTER. AFTER CLEANING AND FLUSHING, THE PIPING SYSTEM SHALL BE DISINFECTED.

1. REMOVE SCREENS FROM ALL IN-LINE STRAINERS EXCEPT THOSE AT PUMP STATION.

2. OPEN ALL CONTROL VALVES TO FULLY OPEN POSITION.

3. FLUSH TO OBTAIN FLOW OF CLEAN WATER.

DISINFECTION:

A. DISINFECT THE DOMESTIC WATER SYSTEM TO THE OWNER'S SATISFACTION, WITH BLEACH OR CHLORINE GAS. AFTER DISINFECTING, FLUSH THE SYSTEM AS HEREIN BEFORE DESCRIBED UNDER FLUSHING.

1. PROVIDE NIPPLES AND VALVES AS REQUIRED TO INTRODUCE DISINFECTANT AND WATER.

2. FILL THE SYSTEM UNIFORMLY WITH A DISINFECTION SOLUTION OF 100-PPM AVAILABLE CHLORINE. THE DISINFECTANT SHALL BE RETAINED ON LESS THAN 24 HOURS. AS AN ALTERNATE, A SOLUTION OF 300 PPM HELD FOR 3 HOURS IS ALSO ACCEPTABLE. AFTER THE HOLDING PERIOD, A TEST FOR RESIDUAL CHLORINE SHALL BE MADE. IF NONE IS FOUND, THE SYSTEM SHALL BE DRAINED AND THE DISINFECTION PROCEDURE REPEATED. WHEN A POSITIVE RESIDUAL CHLORINE TEST IS ACCOMPLISHED, THE SYSTEM SHALL BE FLUSHED WITH POTABLE WATER AND PUT INTO OPERATION.

PLUMBING FIXTURE SCHEDULE

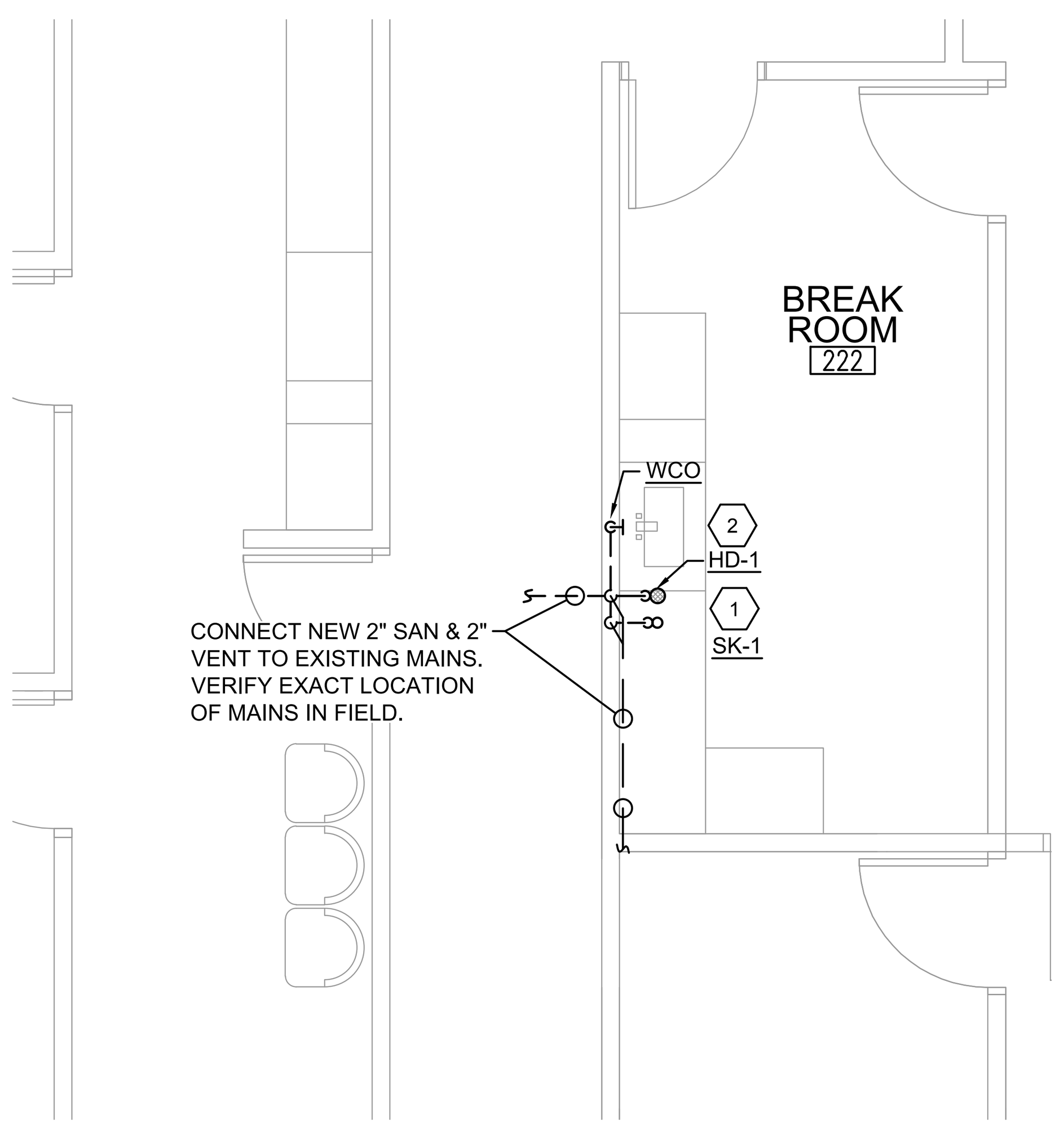
DESIG.	COMPONENT	QTY	MANUFACTURER/MODEL	REMARKS
SK-1	PANTRY SINK	1	ELKAY #ELUHAD211555	UNDERMOUNT ADA STAINLESS STEEL SINK (18 ¼"L x 23 ½"W x 5 ⅜"D) W/ "KOHLER" #K-7505 FAUCET WITH PULL-OUT SPRAYER, STAINLESS STEEL FINISH (WATER SENSE). COORDINATE INSTALLATION HARDWARE WITH MANUFACTURER AND MILLWORK, PROVIDE TEMPLATE FOR MILLWORK, GRID/OFFSET DRAIN, STAINLESS CHROME PLATED SUPPLY STOPS, CAST BRASS P-TRAP, "MCGUIRE" PRO-WRAP FOR UNDER COUNTER PIPING, & THERMOSTATIC MIXING VALVE (TMV) SET TO 105°F.
HD-1	HUB DRAIN	1	JAY R. SMITH #9740	INDIRECT WASTE RECEPTOR; ROUGH FINISH STAINLESS STEEL BODY WITH ALUMINUM DOME BOTTOM STRAINER.
EWH-1	ELECTRIC WATER HEATER	1	EEMAX #EMT6 MINI-TANK SERIES	6-GAL ELECTRIC WATER HEATER. 1.44 kW HEATING ELEMENT. UNIT SHALL BE GLASS LINED WITH A SINGLE WELD DESIGN. WATER CONNECTIONS AND SUPPLIED T&P VALVE TO BE LOCATED ON TOP OF THE UNIT. UNIT SHALL HAVE AN STATUS INDICATOR LIGHT WITH ADJUSTABLE THERMOSTAT SET TO 105°F. ELECTRICAL: 120V/1PH, 12 AMPS

GENERAL NOTES

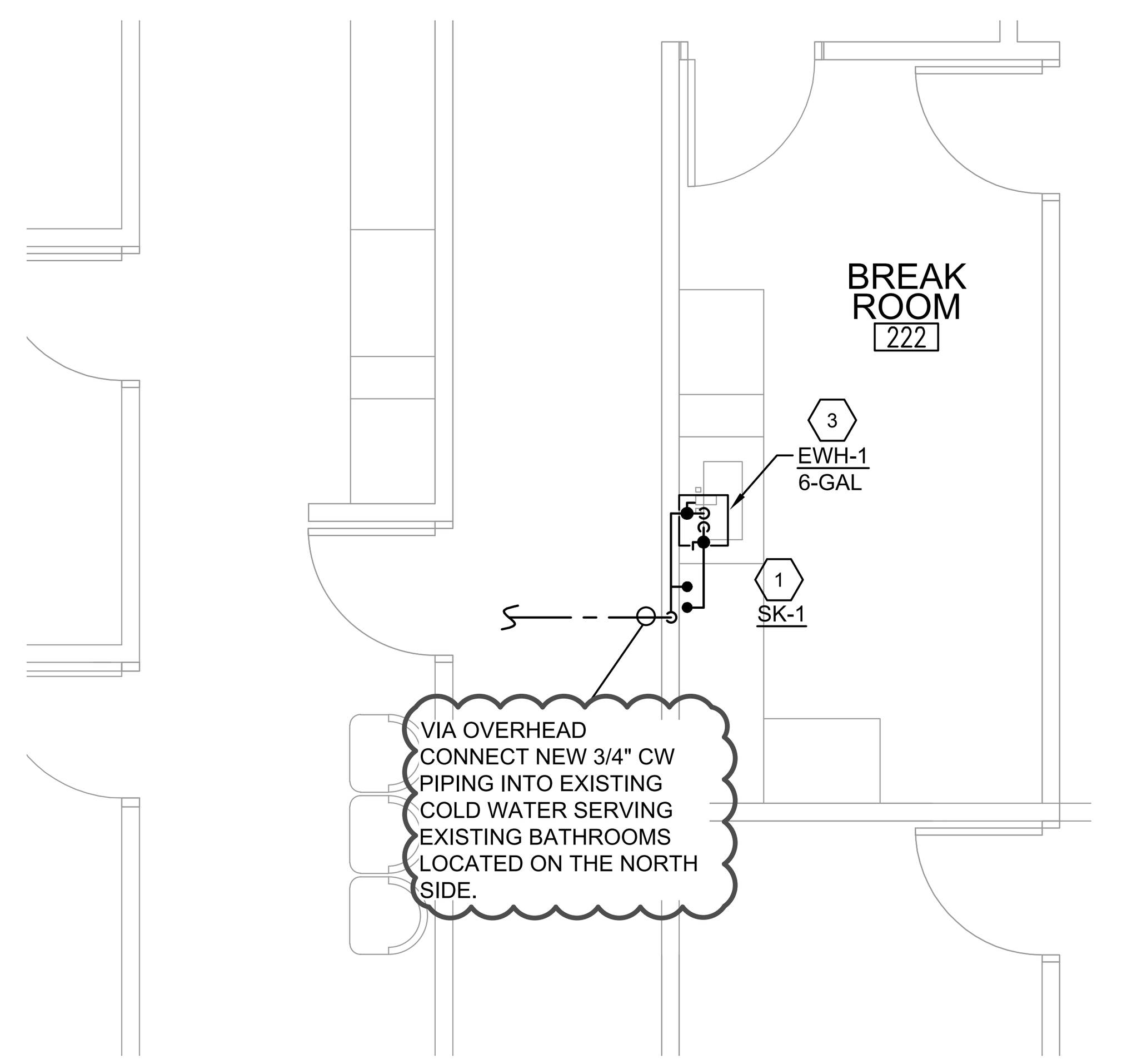
1. PLUMBING CONTRACTOR TO VERIFY ALL EXISTING WASTE, VENT AND WATER SUPPLY PIPING WHERE NEW CONNECTIONS ARE TO BE MADE PRIOR TO BID. VERIFY EXACT SIZE, LOCATION, INVERT, CONDITION AND REQUIREMENTS IN FIELD. REPORT ANY MAJOR DISCREPANCIES TO ARCHITECT/ENGINEER IMMEDIATELY.
2. PROVIDE DI-ELECTRIC UNIONS, COUPLINGS, ADAPTORS OR FLANGES AT ALL TRANSITIONS OF FERROUS PIPING TO NON-FERROUS PIPING.
3. PROVIDE 12" AIR CHAMBER AT ALL FIXTURES.
4. PROVIDE THERMOSTATIC MIXING VALVE AT LAVS AND SINKS. SET AT MAXIMUM 105°F.

KEY NOTES

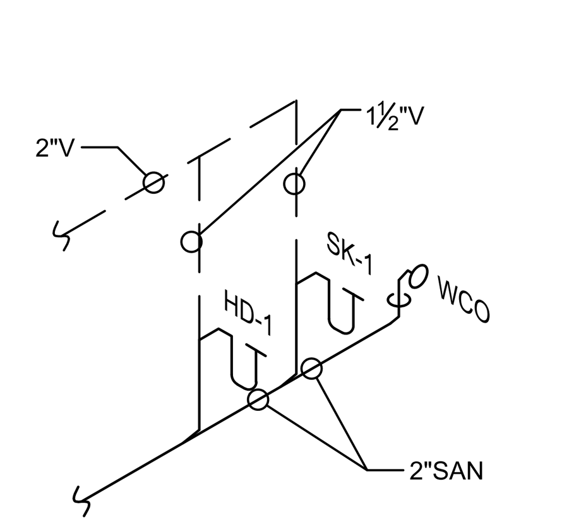
1. FURNISH AND INSTALL NEW ADA COMPLIANT SINK (SK-1) AS SCHEDULED. CONNECT NEW ½" CW/HW, 2" SANITARY, AND 1½" VENT.
2. FURNISH AND INSTALL HUB DRAIN SINK UNDER CABINET FOR WATER T&P DISCHARGE. CONNECT NEW 2" SANITARY, ROUTE NEW 1½" VENT UP IN WALL AND CONNECT TO VENT MAIN.
3. FURNISH & INSTALL NEW UNDER COUNTER 6-GALLON ELECTRIC WATER HEATER (EWH-1) AS SCHEDULED. PROVIDE DRIP PAN. DISCHARGE T&P AND DRIP PAN DRAIN TO NEAREST OPEN SITE DRAIN (HD-1).



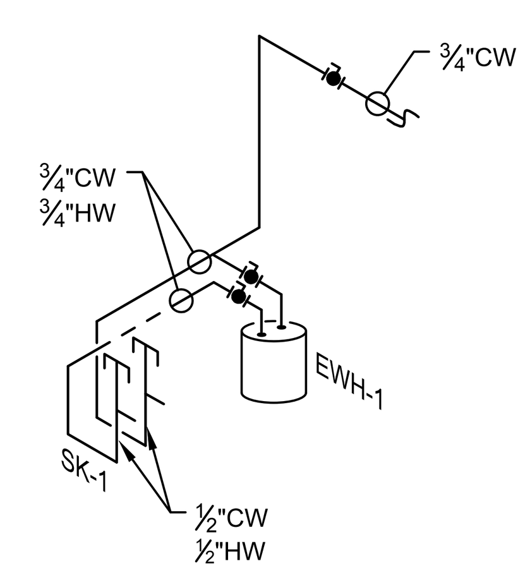
1 ENLARGED SAN & VENT PLAN
1/4" = 1'-0" PLUMBING



2 ENLARGED DOMESTIC WATER PLAN
1/4" = 1'-0" PLUMBING



SAN & VENT RISER DIAGRAM



DOMESTIC WATER RISER DIAGRAM

PLUMBING SYMBOLS

NOT ALL SYMBOLS MAY APPLY

- EXISTING COLD WATER PIPING
- EXISTING HOT WATER PIPING
- EXISTING HOT WATER RETURN PIPING
- EXISTING UNDERGROUND SEWER
- EXISTING SUSPENDED SEWER
- EXISTING VENT PIPING
- COLD WATER PIPING (INSULATED)
- HOT WATER PIPING (INSULATED)
- HOT WATER RETURN PIPING (INSULATED)
- UNDERGROUND SEWER
- SUSPENDED SEWER
- VENT PIPING
- UNION
- PIPE CAPPED
- PIPE CONTINUATION
- PIPE DROP (ELBOW)
- PIPE UP/RISER (ELBOW)
- P-TRAP
- PIPE UP/RISER (TEE)
- PIPE DROP (TEE)

SYMBOL	DESCRIPTION
CO	CLEANOUT PLUG(SIOUX CHIEF #875-2P/877/876)
WCO	WALL CLEANOUT PLUG(SIOUX CHIEF #870/873/877/876)
FCO	FLOOR CLEANOUT(SIOUX CHIEF #834)
YCO	YARD CLEANOUT (SIOUX CHIEF #851)
FD-1	FLOOR DRAIN (FINISHED FLR AREA) (SIOUX CHIEF #832 OR 833)
FD-2	FLOOR DRAIN (NON-FINISHED FLR AREA) (SIOUX CHIEF #860)
FD-3	FLOOR FUNNEL DRAIN(SAME AS FD-1 W/ SIOUX CHIEF #863-FN)
OSD	OPEN SITE DRAIN (PROVIDE FUNNEL AS REQ'D)
AD-1	AREA DRAIN (SIOUX CHIEF)
FS-1	FLOOR SINK (SIOUX CHIEF #861 W/ NICKEL BRONZE 1/2 GRATE)
TD-1	PRE-SLOPED HDPE TRENCH DRAIN (SIOUX CHIEF #865 SERIES) W/ D.I. GRATE
RD-1	ROOF DRAIN (SIOUX CHIEF #868-U-S-E)
ORD-1	OVERFLOW ROOF DRAIN(SIOUX CHIEF #868-U-S-E-STP-2) WITH STANDPIPE
	DOWNSPOUT NOZZLE (SIOUX CHIEF #868-N SERIES) FURNISH BIRD SCREEN & SPLASH BLOCK AS REQ'D)
AP	ACCESS PANEL (SIOUX CHIEF #971 SERIES)
GV	GATE VALVE(NIBCO OR EQUAL)
RP-1	IN-LINE RECIRCULATING PUMP (MFGR'D BY TACO)
BV	BALL VALVE (NIBCO OR EQUAL)
	HWR BALANCING TRIM CONSISTS OF:
CS	CIRCUIT SETTER (NEXUS VALVE "ULTRA MB" #MBNL)
STR	STRAINER(NIBCO OR EQUAL)
CV	CHECK VALVE (NIBCO OR EQUAL)
	BACKFLOW PREVENTER (WATTS #LF909-AG-S)
FPWH-1	FROSTPROOF WALL HYDRANT(PRIER #C-634)
HB-1	HOSE BIBB W/ VB (PRIER #C-258)
FPRH-1	FROST PROOF ROOF HYDRANT W/ BRACKET(PRIER #P-RH2)
BFP	DUAL CHECK BACKFLOW PREVENTERS - USE WATTS #7 FOR ICE & COFFEE MAKERS - USE WATTS #SD-3 FOR CARBONATORS/SODA DISP. (S.S. W/ ATMOSPHERIC PORT)
	NEW CONNECT TO EXISTING
SAN	INDICATES SANITARY SEWER
ST	INDICATES STORM SEWER
(EX)	INDICATES EXISTING
AC	ABOVE CEILING
UV	UNDERGROUND VENT
GW	INDICATES GREASE WASTE SEWER

PIPE MATERIALS

CONDITION/LOCATION	MATERIAL TYPE
ABOVE GROUND WATER	TYPE "L" COPPER
BELOW GROUND WATER	TYPE "K" COPPER
WASTE (UNDER 2")	SCH. 40 PVC PLASTIC
WASTE (ABOVE 2")	SCH. 40 PVC PLASTIC
VENT (UNDER 2")	SCH. 40 PVC PLASTIC
VENT (ABOVE 2")	SCH. 40 PVC PLASTIC
GAS PIPING	SCH. 40 WROUGHT IRON
CONDENSATE PIPING	SCHED. 40 PVC PLASTIC

SLOPE OF HORIZ. DRAINS

SIZE (INCHES)	MINIMUM SLOPE (INCH / FOOT)
2-1/2 OR LESS	1/4
3 TO 6	1/8
8 OR LARGER	1/16

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PLUMBING PLAN, NOTES, AND SCHEDULE

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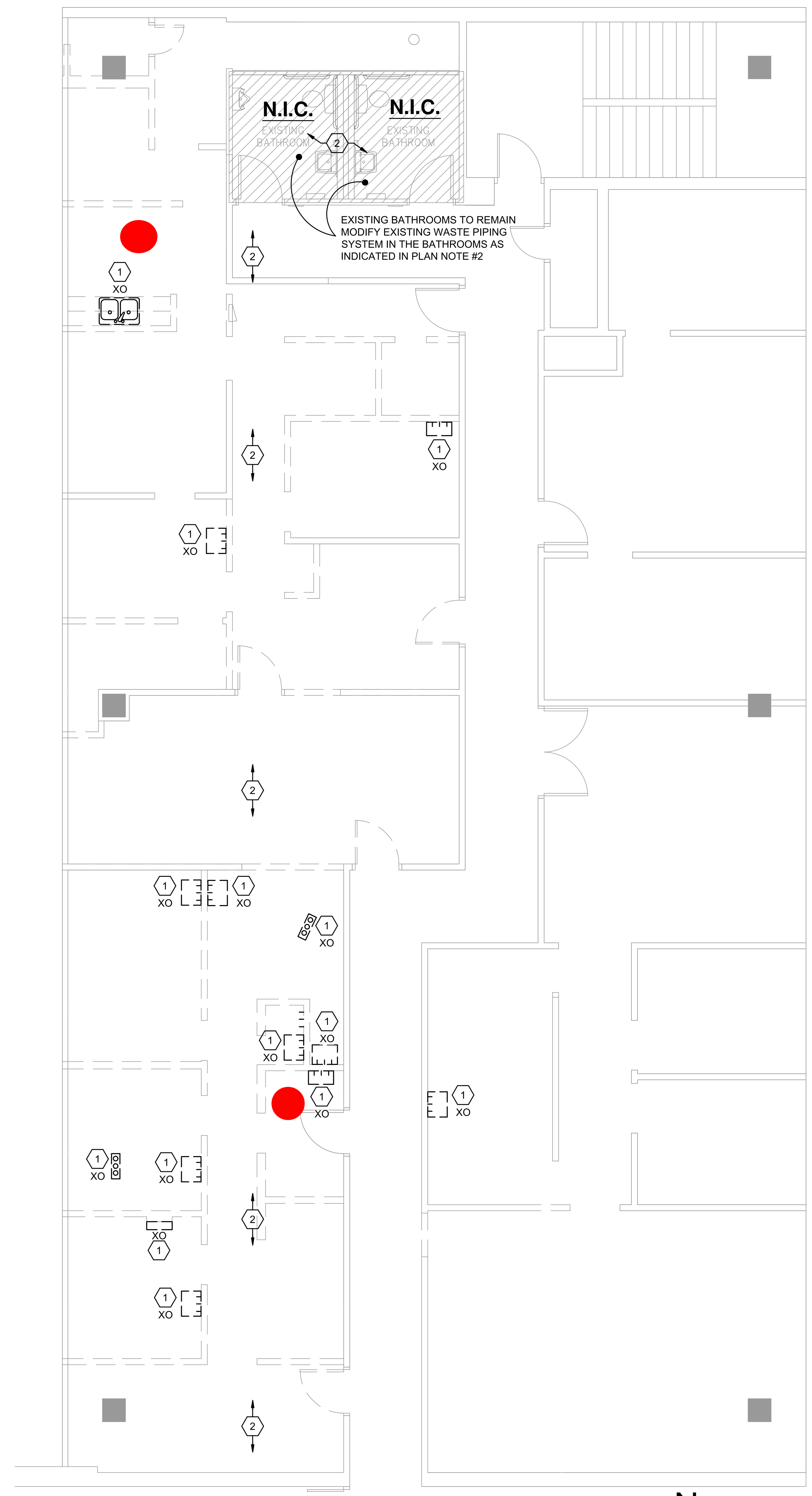


1 PLUMBING DEMOLITION PLAN
3/16" = 1'-0"

DEMOLITION NOTES

1. THE PLUMBING CONTRACTOR SHALL INSPECT THE JOB SITE TO ASCERTAIN THE EXTENT OF THE DEMOLITION NECESSARY AND INCLUDE ALL ITEMS IN THE BID. REFER TO ARCHITECTURAL DRAWINGS.
2. THE PLUMBING CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL UNUSED FIXTURES, EQUIPMENT, SUPPORTS, ETC...
3. REMOVE AND PROPERLY DISPOSE OF ALL UNUSED PIPING ALONG WITH ITS INSULATION, HANGERS, SUPPORTS, VALVES, AND FITTINGS. CAP DEMO'ED PIPES AT MAIN.
4. REMOVE ALL UNUSED PIPING OR PLUMBING MATERIALS IN THE SPACE.

DEMOLITION KEYED NOTES

(1) REMOVE EXISTING PLUMBING FIXTURE(S), ALL ASSOCIATED PIPING INCLUDING BUT NOT LIMITED TO WATER, WASTE & VENT AND ACCESSORIES, CAP PIPES AT MAIN. PATCH ALL FLOOR AND ROOF OPENINGS WEATHER / FIRE PROOF.

(2) PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL NEW HEAT TAPE ALONG THE EXISTING 3" SANITARY PIPE LOCATED IN THE BRIDGE AREA IN UNCONDITIONED AREA. HEAT TAPE SHALL BE LISTED FOR PLUMBING SYSTEMS APPLICATIONS IN FREEZING WEATHER CONDITIONS. HEAT TAPE SHALL BE WRAPPED AROUND THE EXISTING SANITARY PIPE(S) TO AVOID FREEZING OF THE WASTE LIQUID INSIDE THE PIPES. PLUMBING CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR EXACT HEAT TAPE POINT OF CONNECTION REQUIREMENTS AND POWER REQUIREMENTS. REFER TO ELECTRICAL DRAWING, SHEET E301, PANEL PPB SCHEDULE, CIRCUITS 27,29,31,33 FOR ADDITIONAL INFORMATION.

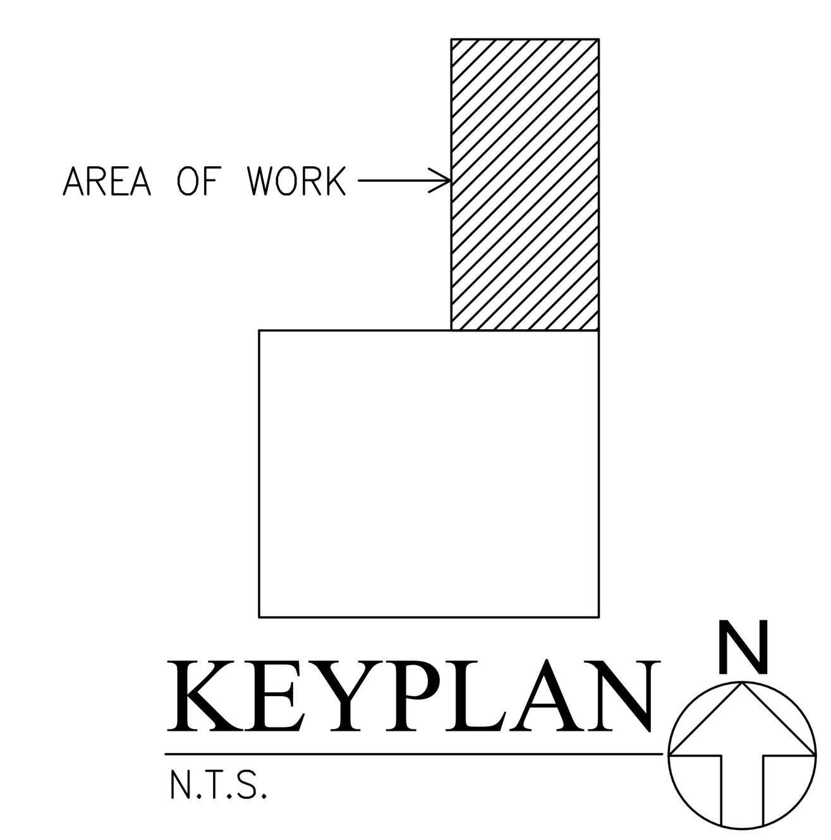
LEGEND

X	EXISTING TO REMAIN
N	NEW
XR	EXISTING RELOCATED
XRR	EXISTING TO BE RELOCATED
XO	EXISTING TO BE DEMOED
◐	POINT OF DEMOLITION
◕	POINT OF NEW CONNECTION

DEAD ENDS IN WASTE PIPING OVER 10 FEET HORIZONTALLY OR 2 FEET ABOVE THE FLOOR ARE NOT PERMITED PER 2014 STATE OF ILLINOIS PLUMBING CODE, SECTION 890.1320(d)

UNUSED SECTIONS OF WATER PIPING OVER 2 FT IN LENGTH FROM A CIRCULATED WATER LINE IS CONSIDERED A DEAD END AND ARE NOT PERMITTED PER 2014 STATE OF ILLINOIS PLUMBING CODE, SECTION 890.1200(c)

● Cold Water Supply and Shut Off Valve locations for Bid Alternate 2B



KEYPLAN
N.T.S.

19.COA.001

DSC NORTH - SECOND FLOOR

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PLUMBING DEMOLITION PLAN

ISSUED:

3-19-19 ISSUED FOR REVIEW
4-8-19 ISSUED FOR PERMIT
4-23-19 ISSUED FOR PERMIT COMMENTS

PD201