



FLNA - LIBERTY QA LAB
89 MILL STREET
LIBERTY, NY 12754

ISSUE FOR CONSTRUCTION
16 JULY 2021

DRAWING LIST

SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE
A1.00	FLOOR PLANS AND DETAILS	16 JULY 2021
A2.00	SCHEDULES, SECTIONS, DETAILS AND NOTES	16 JULY 2021
S0.00	STRUCTURAL ABBREVIATIONS AND LEGEND	16 JULY 2021
S1.01	GENERAL NOTES	16 JULY 2021
S1.02	SPECIAL INSPECTIONS	16 JULY 2021
S2.01	ENLARGED ROOF FRAMING PLAN	16 JULY 2021
MEP1.00	OVERALL FLOOR PLAN - AREAS OF WORK	16 JULY 2021
M0.00	GENERAL NOTES AND LEGENDS	16 JULY 2021
M0.01	MECHANICAL SPECIFICATIONS	16 JULY 2021
M1.01	MECHANICAL DEMO PLANS	16 JULY 2021
MP2.01	MECHANICAL & PLUMBING NEW PLANS	16 JULY 2021
MP4.01	MECHANICAL & PLUMBING DETAILS	16 JULY 2021
MP4.02	MECHANICAL & PLUMBING DETAILS	16 JULY 2021
MP5.01	MECHANICAL & PLUMBING SCHEDULES	16 JULY 2021
E0.00	GENERAL NOTES AND LEGENDS	16 JULY 2021
E0.01	ELECTRICAL SPECIFICATIONS	16 JULY 2021
E1.01	ELECTRICAL DEMO PLANS	16 JULY 2021
E2.01	ELECTRICAL FLOOR PLANS	16 JULY 2021
E5.01	ELECTRICAL SCHEDULES	16 JULY 2021



PROJECT VICINTIY MAP

BUILDING CODES

- 2018 INTERNATIONAL BUILDING CODE WITH NEW YORK STATE AMENDMENTS
- 2018 INTERNATIONAL EXISTING BUILDING CODE WITH NEW YORK STATE AMENDMENTS
- 2018 INTERNATIONAL MECHANICAL CODE WITH NEW YORK STATE AMENDMENTS
- 2018 INTERNATIONAL FUEL GAS CODE WITH NEW YORK STATE AMENDMENTS
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE WITH NEW YORK STATE AMENDMENTS
- 2017 NATIONAL ELECTRICAL CODE

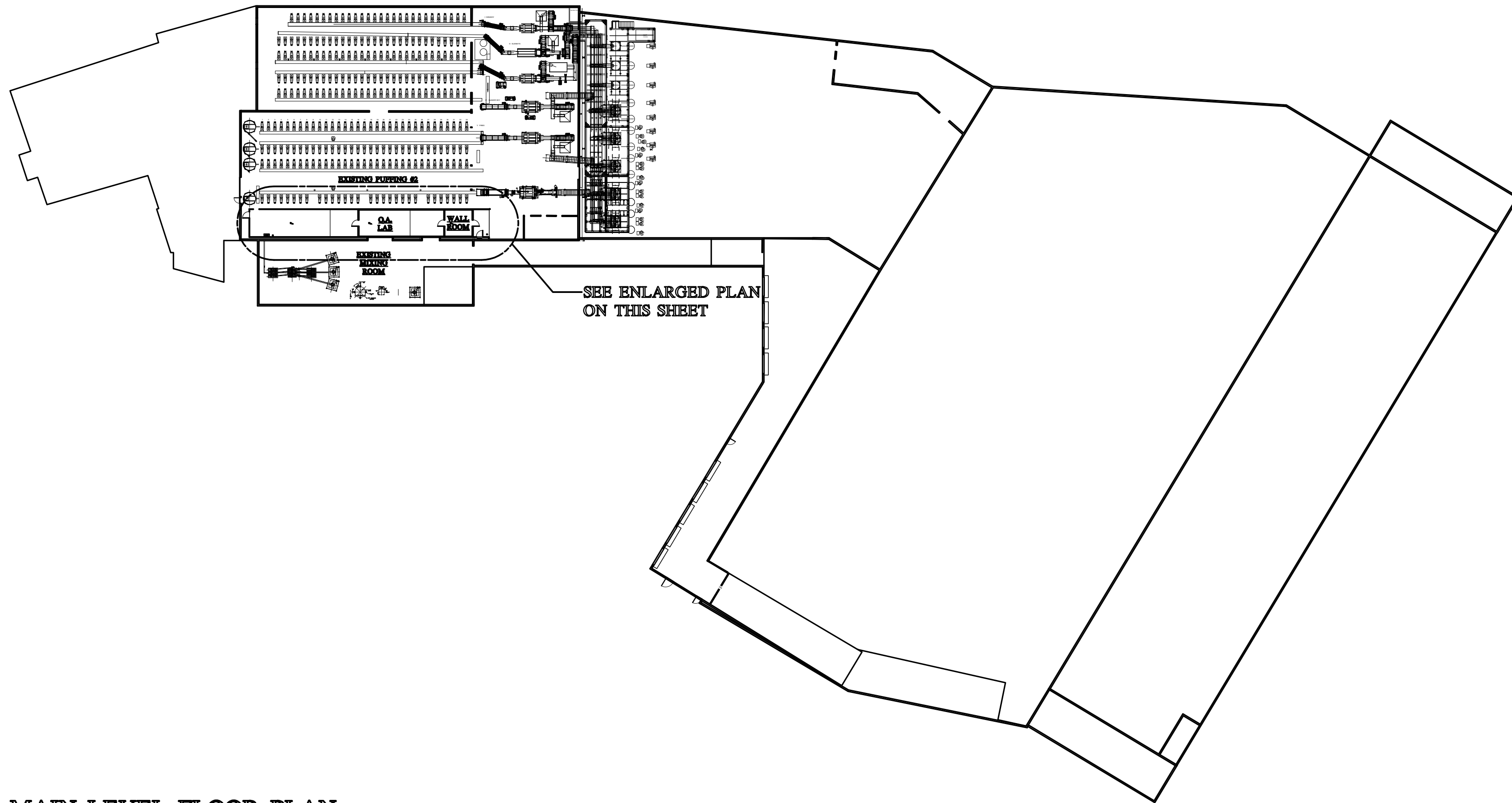
BUILDING DATA :		
THE PROPOSED WORK HAS BEEN REVIEWED AS A LEVEL -II ALTERATION IN THE EXISTING BUILDING CODE OF NEW YORK STATE (EBCNYS) 2020 EDITION, CHAPTERS #7 & 8 EXISTING OCCUPANCY: "B" BUSINESS, "F-1" FACTORY & "S-1" STORAGE PROPOSED OCCUPANCY: "B" BUSINESS, "F-1" FACTORY & "S-1" STORAGE		
CHAPTER #7 EBCNYS: (LEVEL - II ALTERATIONS)		
THE FOLLOWING SECTIONS OF CHAPTER 7 OF EBCNYS, ARE APPLICABLE: <u>SECTION 702 - BUILDING ELEMENTS AND MATERIALS</u>		
702.1 INTERIOR FINISHES : NEWLY INSTALLED INTERIOR WALL AND CEILING FINISHES SHALL COMPLY WITH CHAPTER 8 OF THE BUILDING CODE OF NEW YORK STATE.		
"B" BUSINESS OCCUPANCY	REQUIRED	PROVIDED
INTERIOR EXIT STAIRWAYS AND RAMPS AND EXIT PASSAGEWAYS	A	A
CORRIDORS AND ENCLOSURES FOR EXIT ACCESS STAIRWAYS AND RAMPS	B	B
ROOMS & ENCLOSED SPACES	C	C
702.2 INTERIOR FLOOR FINISHES SHALL COMPLY WITH B.C.N.Y.S. 804.4.2: MINIMUM CRITICAL RADIANT FLUX. "IN ALL OCCUPANCIES, INTERIOR FLOOR FINISH AND FLOOR COVERING MATERIALS IN ENCLOSURES FOR STAIRWAYS AND RAMPS, EXIT PASSAGEWAYS, CORRIDORS AND ROOMS OR SPACES NOT SEPERATED FROM CORRIDORS BY PARTITIONS EXTENDING FROM THE FLOOR TO THE UNDERSIDE OF THE CEILING SHALL WITHSTAND A MINIMUM CRITICAL RADIANT FLUX. THE MINIMUM CRITICAL RADIANT FLUX SHALL BE NOT LESS THAN CLASS I IN GROUPS I-1, I-2, AND I-3, AND NOT LESS THAN CLASS II IN GROUPS A, B, E, I-4, M, R-1, R-2, AND S."		
702.3 INTERIOR TRIM		
702.6 MATERIAL AND METHODS		
SECTION 703 - FIRE PROTECTION 703.1 GENERAL		
SECTION 704 - MEANS OF EGRESS 704.1 GENERAL		
CHAPTER #8 EBCNYS:		
THE FOLLOWING SECTION OF CHAPTER 8 OF E.B.C.N.Y.S. ARE APPLICABLE: <u>SECTION 801 - GENERAL</u> 801.2 ALTERATION LEVEL 1 COMPLIANCE 801.3 COMPLIANCE <u>SECTION 807 - ELECTRICAL</u> 807.1 NEW INSTALLATIONS <u>SECTION 807 - ELECTRICAL</u> 808.3 LOCAL EXHAUST		



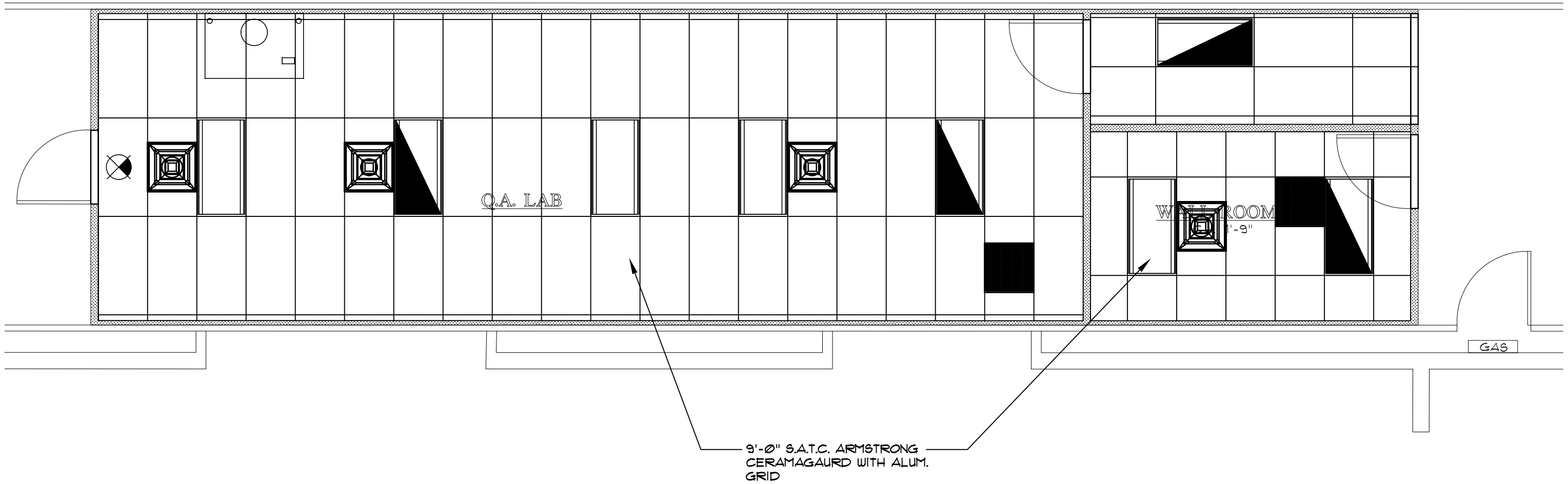
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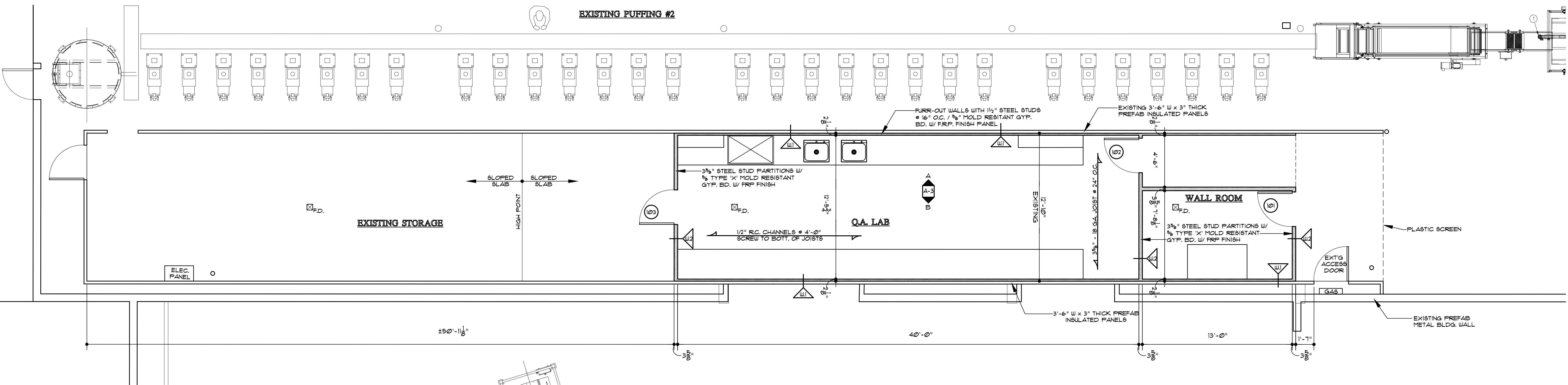
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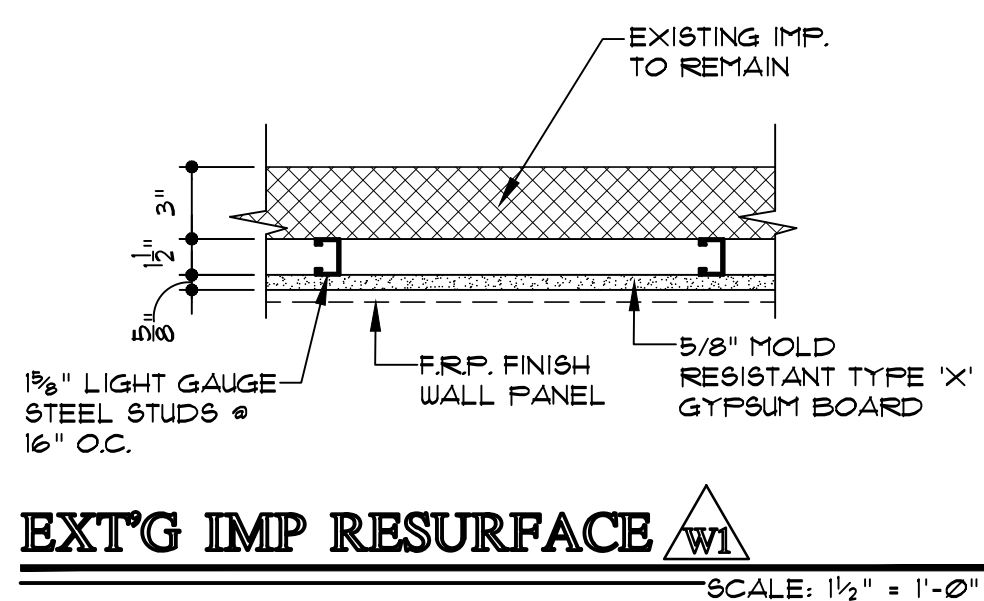
MAIN LEVEL FLOOR PLAN



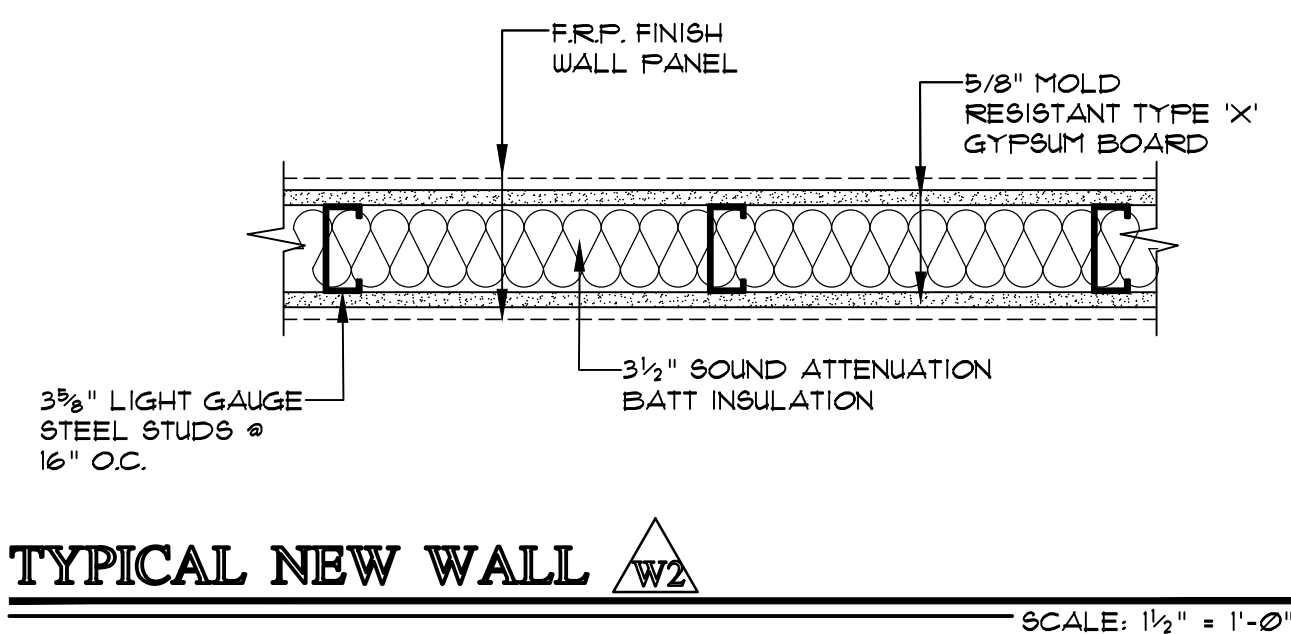
REFLECTED CEILING PLAN



ENLARGED: MAIN LEVEL FLOOR PLAN





EXT'G IMP RESURFACE



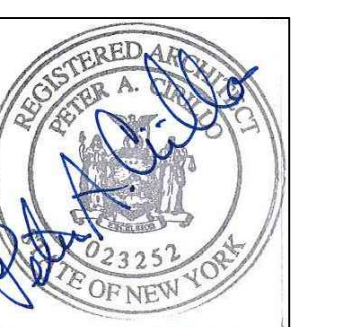
TYPICAL NEW WALL

LEGEND:

	EXISTING FRAME AND/OR MASONRY WALLS TO REMAIN
	NEW WALL FRAMING

[illegible]

PROFESSIONAL SEALS



DOOR PLANS AND DETAILS

DRAWN BY CBC	CHECKED BY JEM
PROJECT NUMBER 21045	PROJECT ABBREVIATION FLNA LIB QA LAB
ORIGINAL ISSUE 16 JULY 2021	CURRENT DOCUMENT STAGE IFC
FILE NAME	21045.rvt

A1.00
SHEET NUMBER

BUILDING	DOOR SCHEDULE												
	DOOR No.	DOOR			FRAME		DETAILS			SADDLE	LABEL	DOOR CLOSER	HWD. GROUP
		LOCATION	SIZE	TYPE	SIZE	TYPE	HEAD	JAMB	SILL				REMARKS
MAIN FLOOR	101	EXISTING RUFFING #2 / WALL ROOM	3'-0" x 7'-0" x 1 3/4"	A	2" x 5 7/8"	HM	X1 SIM.	X1				YES	I
	102	QA LAB / WALL ROOM	3'-0" x 7'-0" x 1 3/4"	A	2" x 5 7/8"	HM	X1 SIM.	X1				YES	I
	103	QA LAB / STORAGE	3'-0" x 7'-0" x 1 3/4"	A	2" x 5 7/8"	HM	X1 SIM.	X1				YES	I

DOOR AND HARDWARE REMARKS:

- CONTRACTOR TO SUPPLY (1) DOOR STOP PER DOOR. TYPE AND LOCATION TO BE DETERMINED IN FIELD WITH ARCHITECT. FOR WALL MOUNTED DOOR BUMPERS, CONTRACTOR SHALL INSTALL SOLID BLOCKING IN WALL FOR FASTENING.
- ALL METAL FRAMES ARE TO HAVE (3) ANCHORS PER JAMB PLUS (1) TOE ANCHOR INTO FLOOR.
- DOORS AND FRAMES ARE TO BE PROPERLY PREPARED AND REINFORCED IN FACTORY OR SHOP TO RECEIVE SPECIFIED HARDWARE.
- ALL METAL DOOR FRAMES TO BE INSTALLED IN INTERIOR FRAME CONSTRUCTION ARE TO BE 16 GA KNOCK DOWN
- ALL EXTERIOR DOOR FRAMES TO BE INSTALLED IN EXTERIOR FRAME CONSTRUCTION ARE TO BE 14 GALVANIZED WELDED 4 GROUND SMOOTH
- INSTALL TRANSITION STRIPS OR SADDLES WHERE DISSIMILAR FLOORS ABUT ONE ANOTHER
- CONTRACTOR TO VERIFY ALL DOOR 4 FRAME SIZES IN THE FIELD BEFORE FABRICATING DOORS 4 FRAMES
- PROVIDE FUSIBLE LINK

Hardware Schedule.

Group #2 (Doors #101, 102)
1 1/2 pair butts
1 latchset (office function)
1 closer
1 kickplate

Door Hardware Manufacturers:

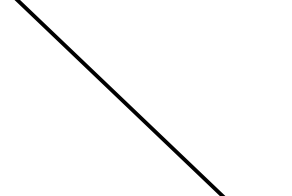
Butt Hinges: Stanley - FBB 199 4-1/2" x 4-1/2"
NRP Stainless Steel

Latchsets: Schlage-ND "Rhodes" US26 Finish

Door Closers: Yale 3300 Series

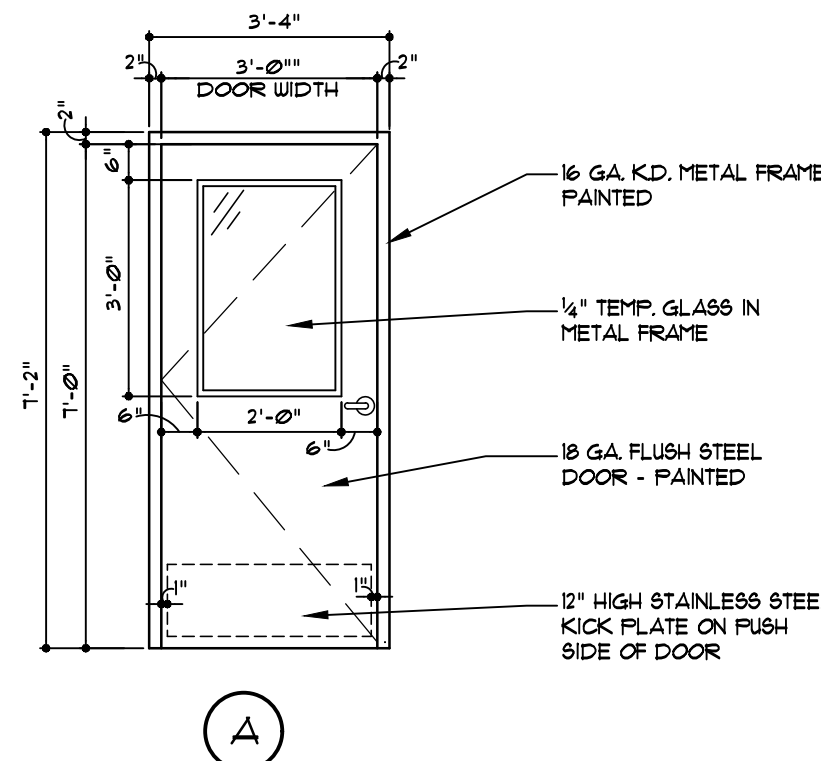
Kickplates: 12" High X 34" Long 18 Ga. Stainless Steel

Door Bumpers: Floor - Baldwin #4000.150
Wall - Baldwin #4273

FINISH SCHEDULE												
BUILDING		FLOOR	BASE	WALLS	CEILING	FINISH CEILING HEIGHT	ELEVATION REFERENCE				KEY	REAR WALL
								SHEET No. A-X	SHEET No.	SHEET No.	SEE MANUAL	LEFT WALL
MAIN FLOOR	ROOM NAME	FASTOP 1/2 IN. TYP. SLURRY	NO BASE	CLASS. A: FRP OVER 1/4" TYPE 1X 6YF B.C.	FRONT 1/2 IN. TYP. SLURRY							
	WALL ROOM	●	●	●	●	9'-0"						3
	QA LAB	●	●	●	●	9'-0"	●					3

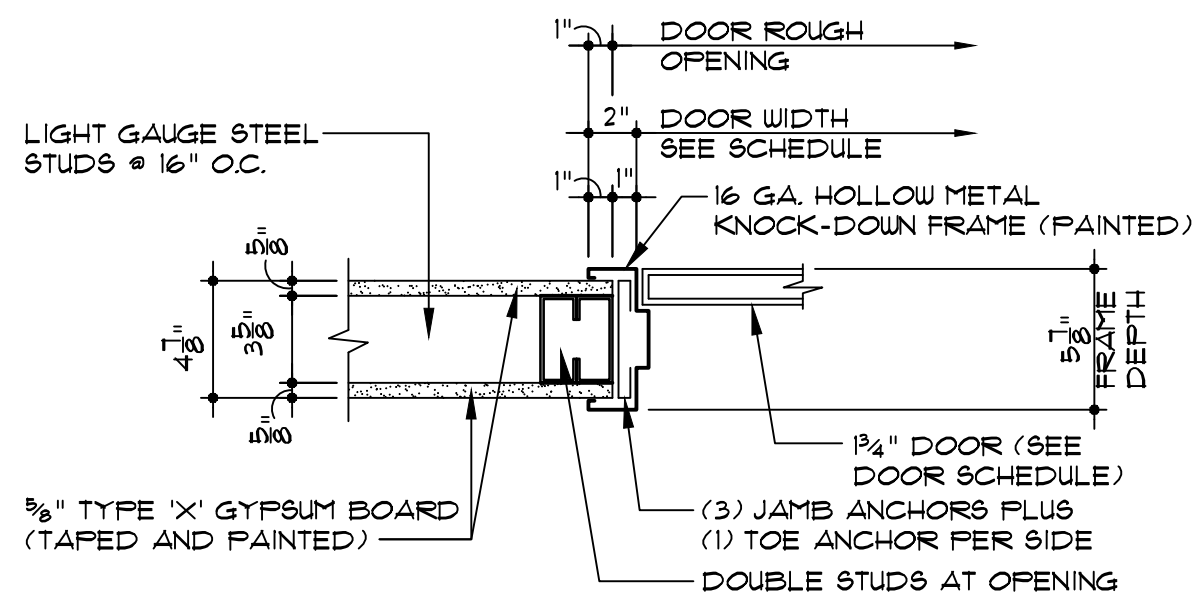
REMARKS:

- CONTRACTOR TO SUBMIT SAMPLES 4 COLOR CHIPS FOR ALL FINISH MATERIALS TO OWNER FOR COLOR SELECTION.
- CONTRACTOR SHALL SUPPLY 4 INSTALL RESILIENT TRANSITION STRIPS AT THE JUNCTION OF ALL DISSIMILAR FINISH FLOORING MATERIALS.
- CONTRACTOR SHALL CLEAN AND PREPARE EXISTING CONCRETE SLAB TO RECEIVE NEW TRASTOP 17 SPOXY FLOOR FINISH IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.



TYPICAL DOOR ELEVATION

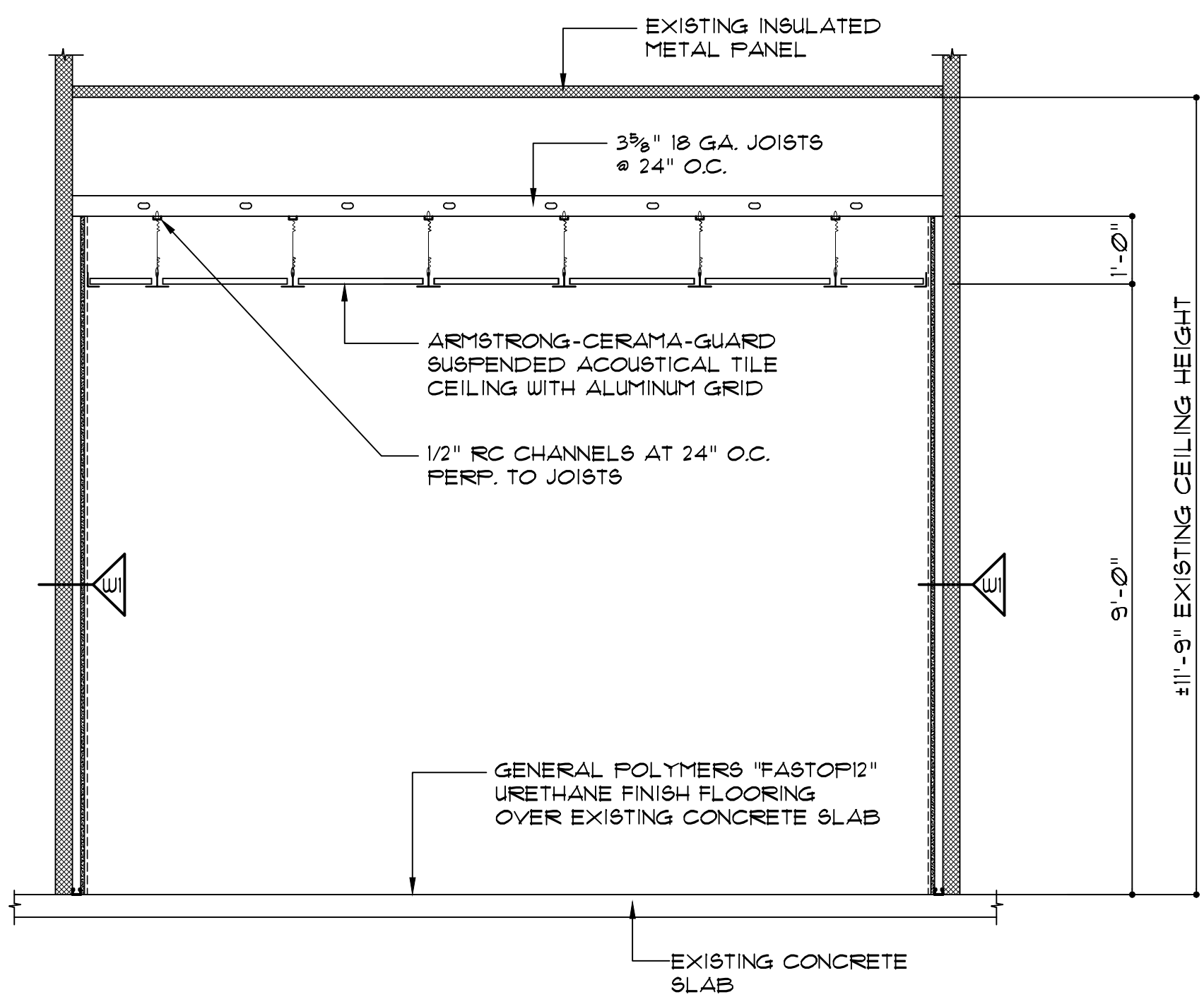
SCALE: 3/8" = 1'-0"



DOOR JAMB DETAIL

(HEAD DETAIL SIMILAR)

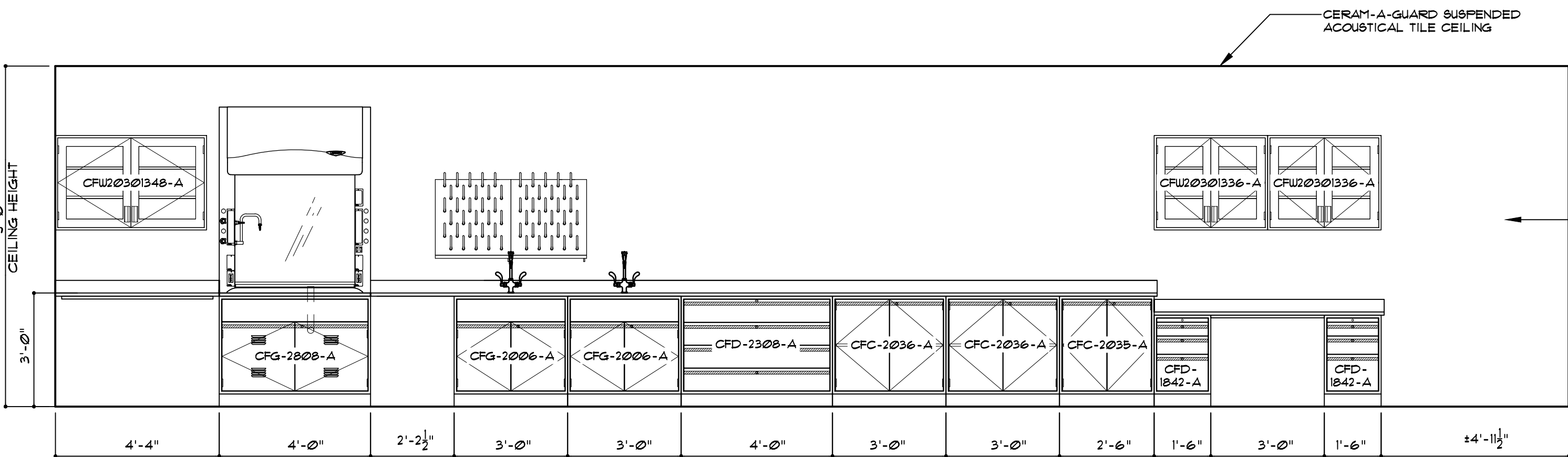
SCALE: 1/4" = 1'-0"



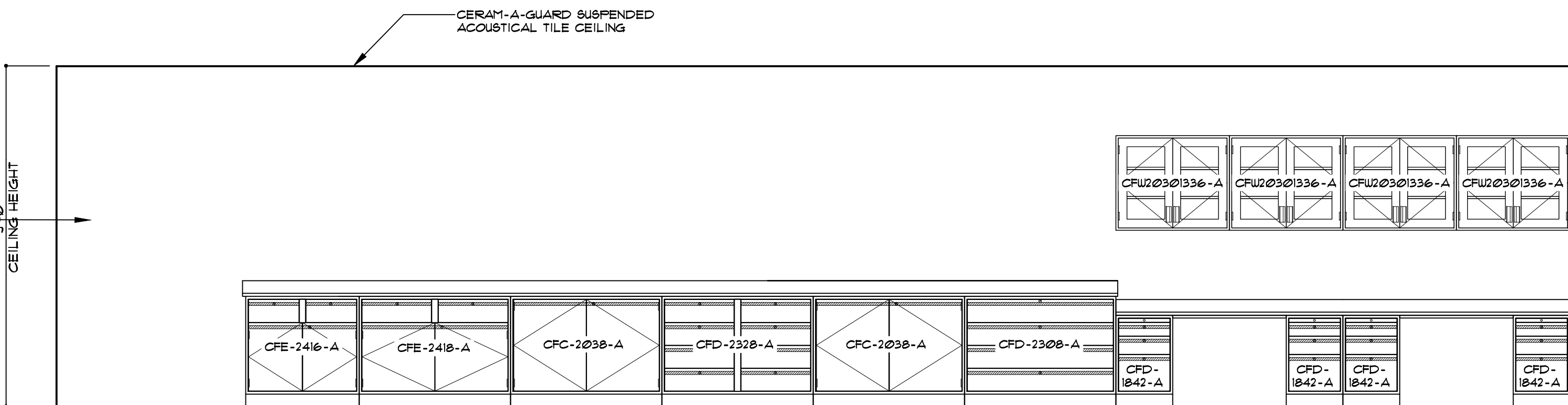
CROSS SECTION

S-1
A-X

SCALE: 1/2" = 1'-0"



A



B

QA LAB

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

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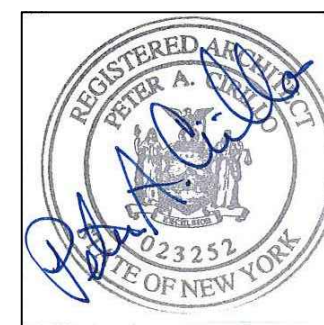
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REVISION HISTORY

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PROFESSIONAL SEALS



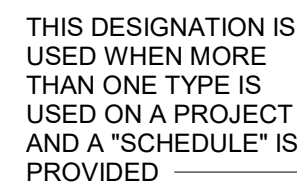
SCHEDULES, SECTIONS,
DETAILS AND NOTES

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A2.00

SHEET NUMBER

STRUCTURAL WOOD FRAMING



DTL
SHT

REINFORCED CONCRETE

W16X26 W16X26

FD

ABOVE FINISH FLOOR
ADDITIONAL
AMERICAN INSTITUTE
STEEL CONSTRUCTION
AMERICAN WELDING SOCIETY
ANCHOR BOLT
AMERICAN CONCRETE INSTITUTE
APPROXIMATE
ARCHITECT
ARCHITECTURAL
AREA DRAIN
AIR CONDITIONER
AIR HANDLING UNIT
AT

FABRICATOR, FABRICATE	FAB
FACE OF	FB
FACE TO FACE	F T O F
FAR SIDE	FS
FINISHED FLOOR	FIN FLR
FLOOR	FLR
FLOOR DRAIN	FD
FOOT	FT
FOOTING	FTG
FOUNDATION	FDN
FRAME	FRM
GAGE OR GAUGE	GAL
GALVANIZED	GALV
GENERAL	GEN
GENERAL CONTRACTOR	GC
GIRDER TRUSS	GT
GRADE BEAM	GB
HEADED STUDS	HS
HEIGHT	HT
HIGH	HI
HIGH AND LOW	HI & LO
HORIZONTAL	HORIZ
INCH	IN
INFORMATION	INFO
INSIDE DIAMETER	ID
INSIDE FACE	IF
INTERIOR	INT
INTERMEDIATE	INTERM
JOINT	JT
JOIST	JOIST

INCH	IN
INFORMATION	INFO
INSIDE DIAMETER	ID
INSIDE FACE	IF
INTERIOR	INT
INTERMEDIATE	INTERM
JOINT	JT
JOIST	JST

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ISSUE	DESCRIPTION	DATE
0	ISSUE FOR CONSTRUCTION	16 JULY 2021

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PROJECT NUMBER	PROJECT ABBREVIATION

SHEET NUMBER

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DATE/TIME: 7/15/2021 4:55:59 PM
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CONTRACTOR'S ACKNOWLEDGEMENT OF RESPONSIBILITY FOR IMPLEMENTATION OF THE SPECIAL INSPECTIONS PLAN

1. AS PART OF THE SUBMITTAL FOR BUILDING PERMIT, THE GENERAL CONTRACTOR SHALL COMPLETE THE FOLLOWING FORM AS A WRITTEN STATEMENT OF RESPONSIBILITY.
- a. AS THE GENERAL CONTACTOR, WE ARE AWARE OF THE REQUIREMENTS FOR SPECIAL INSPECTIONS AS LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS.
- b. AS GENERAL CONTRACTOR, WE ACKNOWLEDGE THAT CONTROL MUST BE EXERCISED BY OUR ORGANIZATION TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL. WE ACKNOWLEDGE OUR RESPONSIBILITY TO DISTRIBUTE UP TO DATE DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, RESPONSES TO REQUESTS FOR INFORMATION, ARCHITECTURAL SUPPLEMENTAL INSTRUCTIONS, SHOP DRAWINGS, ETC., TO ALL SUBCONTRACTORS AND TO THE SPECIAL INSPECTORS. WE ACKNOWLEDGE OUR RESPONSIBILITY FOR CALLING THE APPROPRIATE SPECIAL INSPECTORS AT APPROPRIATE TIMES TO FULLFILL THE REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS.
- c. AS GENERAL CONTRACTOR, WE HAVE DEVELOPED PLANS AND PROCEDURES FOR EXERCISING CONTROL WITHIN OUR ORGANIZATION, FOR THE METHOD AND FREQUENCY OF REPORTING AND FOR THE DISTRIBUTION OF THE REPORTS.
- d. THE FOLLOWING QUALIFIED INDIVIDUAL(S) WITHIN OUR FIRM WILL BE RESPONSIBLE FOR CONTROLLING THE PLAN, PROCEDURES AND PROCESS OF THE SPECIAL INSPECTIONS PLAN:

Name Position within Firm

2. THE GENERAL CONTRACTOR ACKNOWLEDGES OUR RESPONSIBILITIES AS STATED ABOVE.

Name Position/Office within Firm date

Firm Name

INSPECTION OF FABRICATORS

1. WHERE FABRICATION OF STRUCTURAL , LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION.
2. SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE FABRICATOR MAINTAINS APPROVED DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND THIS CODE APPROVAL SHALL BE BASED UPON REVIEW OF FABRICATION AND QUALITY CONTROL PROCEDURES AND PERIODIC INSPECTION OF FABRICATION PRACTICES BY THE BUILDING OFFICIAL.
3. SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNER'S AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DUCUMENTS

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

1. SPECIAL INSPECTIONS FOR STEEL ELEMENTS OF THE BUILDINGS AND STRUCTURES SHALL BE AS REQUIRED IN THE FOLLOWING TABLE.
2. SPECIAL INSPECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF IBC 1705.2 AND AISC 360

VERIFICATION AND INSPECTION		CONTINUOUS	PERIODIC	NOT APPLICABLE	REFERENCED STANDARD	IBC REFERENCE	PROJECT SPECIFICATION SECTION
1.	INSPECTION OF WELDING						
a.	INSPECTION PRIOR TO WELDING		X		AWS D1.1/ D1.1M	IBC 1705.2 AISC: TABLE N5.4-1	
b.	INSPECTION DURING WELDING		X		AWS D1.1/ D1.1M	IBC 1705.2 AISC: TABLE N5.4-2	
c.	INSPECTION AFTER WELDING		X		AWS D1.1/ D1.1M	IBC 1705.2 AISC: TABLE N5.4-3	
2.	INSPECTION OF BOLTING						
a.	INSPECTION PRIOR TO BOLTING			X	-	IBC 1705.2 AISC: TABLE N5.6-1	
b.	INSPECTION DURING BOLTING			X	-	IBC 1705.2 AISC: TABLE N5.6-2	
c.	INSPECTION AFTER BOLTING			X	-	IBC 1705.2 AISC: TABLE N5.6-3	
3.	INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION			X	-	IBC 1705.2.2 AISC: TABLE N6.1	
5.	REINFORCING STEEL	X			AWS D1.4	IBC 1705.3.1, IBC 1705.3.2 318, CH. 19, 20	051000, 3.02

STATEMENT OF SPECIAL INSPECTIONS

1. INFORMATION ON THIS SHEET IS BEING SUBMITTED IN ACCORDANCE WITH THE SPECIAL INSPECTIONS PROVISIONS OF THE 2015 INTERNATIONAL BUILDING CODE. THIS INFORMATION CONSTITUTES THE SCHEDULE OF SPECIAL INSPECTIONS (SSI) REQUIRED FOR THIS PROJECT.
2. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED HEREIN.
3. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
4. THE SPECIAL INSPECTOR SHALL FULLFILL THE FOLLOWING REPORT REQUIREMENTS:
- a. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS.
- b. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, THE OWNER, THE GENERAL CONTRACTOR, THE STRUCTURAL ENGINEER, AND THE ARCHITECT. IN ADDITION, REPORTS RELATED TO GEOTECHNICAL ISSUES SHALL BE DISTRIBUTED TO THE GEOTECHNICAL ENGINEER. WHEN TESTS OR INSPECTIONS INDICATE THAT THE WORK DOES NOT COMPLY WITH THE CONSTRUCTION DOCUMENTS, THE SPECIAL INSPECTOR SHALL NOTIFY THE OWNER, CONTRACTOR, ARCHITECT AND STRUCTURAL ENGINEER BY PHONE ON THE DAY OF THE TEST OR INSPECTION AND SHALL FOLLOW THAT CALL WITH AN EXPEDITED WRITTEN REPORT WITHIN ONE BUSINESS DAY. ALL OTHER REPORTS SHALL BE SUBMITTED WITHIN 5 BUSINESS DAYS OF THE EVENT DOCUMENTED.
- c. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.
- d. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
- e. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WITHIN ONE BUSINESS DAY.
- f. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED BY THE SPECIAL INSPECTOR AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
- g. THE SPECIAL INSPECTOR'S FINAL REPORT SHALL IDENTIFY THE FOLLOWING:
- 1) THE MATERIALS, SYSTEMS, COMPONENTS, AND WORK REQUIRED TO HAVE SPECIAL INSPECTION OR TESTING BY THE BUILDING OFFICIAL OR BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR EACH PORTION OF THE WORK.
- 2) THE TYPE AND EXTENT OF EACH SPECIAL INSPECTION.
- 3) THE TYPE AND EXTENT OF EACH TEST.
- 4) ADDITIONAL REQUIREMENTS FOR SPECIAL INSPECTION OR TESTING FOR SEISMIC OR WIND RESISTANCE AS SPECIFIED IN SECTIONS 1705.11, 1705.12 AND 1705.13.
- i. WHERE SECTION 1705.12 OR 1705.13 SPECIFIES SPECIAL INSPECTION, TESTING OR QUALIFICATION FOR SEISMIC RESISTANCE, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE DESIGNATED SEISMIC SYSTEMS AND SEISMIC FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO SPECIAL INSPECTIONS OR TESTS
- ii. WHERE SECTION 1705.11 SPECIFIES SPECIAL INSPECTION FOR WIND REQUIREMENTS, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE MAIN WINDFORCE-RESISTING SYSTEMS AND WIND-RESISTING COMPONENTS SUBJECT TO SPECIAL INSPECTIONS.
- 5) FOR EACH TYPE OF SPECIAL INSPECTION, IDENTIFICATION AS TO WHETHER IT WILL BE CONTINUOUS SPECIAL INSPECTION, PERIODIC SPECIAL INSPECTION OR PERFORMED IN ACCORDANCE WITH THE NOTATION USED IN THE REFERENCED STANDARD WHERE THE INSPECTIONS ARE DEFINED.

THE REPORT SHALL BE SIGNED BY THE SPECIAL INSPECTOR.

5. THE INSPECTIONS LISTED HEREIN ARE IN ADDITION TO THE INSPECTIONS TO BE PERFORMED BY THE BUILDING OFFICIAL AND LISTED IN SECTION 110 OF THE IBC.
6. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION ON QUANTITY, FREQUENCY AND DETAILED INFORMATION ON TESTING, INSPECTION AND REPORTING.
7. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE SPECIAL INSPECTION REQUIREMENTS WITH ALL INVOLVED PARTIES.
8. THE SPECIAL INSPECTIONS PROGRAM OUTLINED HEREIN, DOES NOT RELIEVE THE CONTRACTOR OR ANY OTHER ENTITY OF ANY CONTRACTUAL DUTIES, INCLUDING QUALITY CONTROL, QUALITY ASSURANCE, OR SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, AND JOB SITE SAFETY.
9. THE CONTRACTOR SHALL PAY FOR ENGINEERING SERVICES REQUIRED TO INVESTIGATE AND CORRECT WORK THAT DOES NOT CONFORM TO THE PROJECT DOCUMENTS OR IS FOUND DEFICIENT OR DEFECTIVE.

PERMIT APPLICANT'S RESPONSIBILITIES

1. THE PERMIT APPLICANT SHALL SUBMIT THIS SHEET AS THE STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AS A CONDITION FOR PERMIT ISSUANCE.
2. THE PERMIT APPLICANT SHALL LIST BELOW THE INDIVIDUALS, APPROVED AGENCIES OR FIRMS INTENDED TO BE RETAINED FOR CONDUCTING SUCH INSPECTIONS.
- a. STRUCTURAL STEEL

name or firm name

3. THE PERMIT APPLICANT SHALL OBTAIN ALL NECESSARY SIGNATURES INCLUDING CONTRACTOR ACKNOWLEDGEMENT OF SPECIAL INSPECTION REQUIREMENTS.

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**FLNA - LIBERTY HVAC
REPLACEMENT FOR QA LAB**
89 MILL STREET LIBERTY, NY 12754

REVISION HISTORY

ISSUE	DESCRIPTION	DATE
0	ISSUE FOR CONSTRUCTION	16 JULY 2021

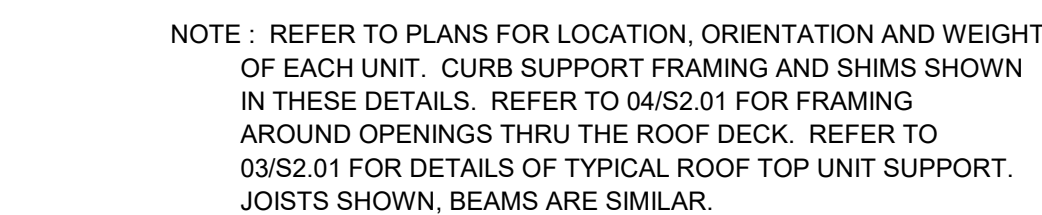
PROFESSIONAL SEALS



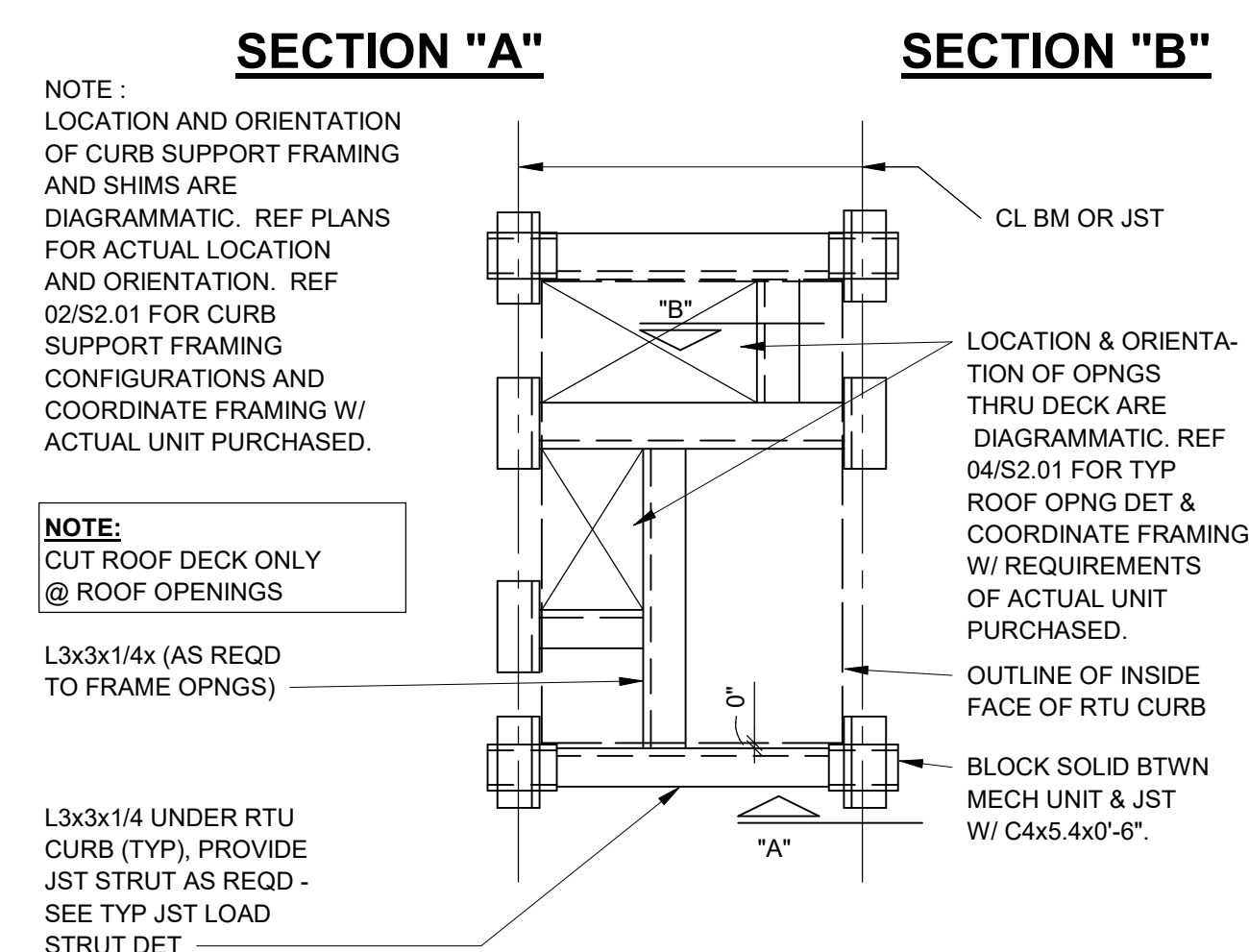
SPECIAL INSPECTIONS

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PROJECT NUMBER 2115.053	PROJECT ABBREVIATION FLNA LIB QA LAB
ORIGINAL ISSUE 16 JULY 2021	CURRENT DOCUMENT STAGE IFC
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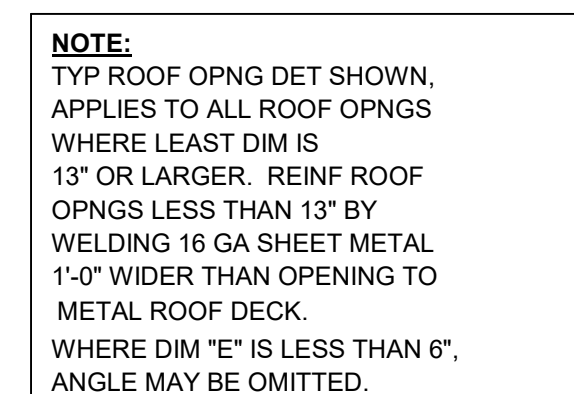
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SHEET NUMBER



02 TYPICAL ROOF TOP UNIT CURB SUPPORT FRAMING CONFIGURATIONS.



03 TYPICAL ROOF TOP UNIT SUPPORT



04 TYPICAL ROOF OPENING DETAIL



- PLAN NOTES:**
1. ALL ELEVATIONS ARE REFERENCED TO LEVEL 1 FINISHED FLOOR
EL = +100'-0". REFERENCE SITE PLAN FOR ABSOLUTE ELEVATIONS.
 2. SEE 30 SERIES FOR ABBREVIATIONS. SEE S1 SERIES FOR GENERAL NOTES
AND SPECIAL INSPECTIONS.
 3. EXISTING STRUCTURAL ELEMENTS SHOWN FROM LIMITED SITE EXAMINATION
BY OTHERS AND LIMITED ORIGINAL CONSTRUCTION DOCUMENTS. FIELD VERIFY
THEIR LOCATIONS OF EXISTING FRAMING ELEMENTS. CONTACT STRUCTURAL
ENGINEER IN THE EVENT OF CONFLICT AND DISCREPANCIES BETWEEN NEW AND
EXISTING STRUCTURAL ELEMENTS.
 4. COORDINATION ROOF TOP MECHANICAL EQUIPMENT WITH MECHANICAL PLANS.
 5. UNLESS OTHERWISE NOTED, DO NOT DISTURB EXISTING STRUCTURAL ELEMENTS.
PRIOR TO DEMOLITION, FIELD VERIFY EXISTING ROOF ROD BRACING LOCATIONS.

REVISION HISTORY		
ISSUE	DESCRIPTION	DATE
0	ISSUE FOR CONSTRUCTION	16 JULY 2021



ENLARGED ROOF FRAMING PLAN

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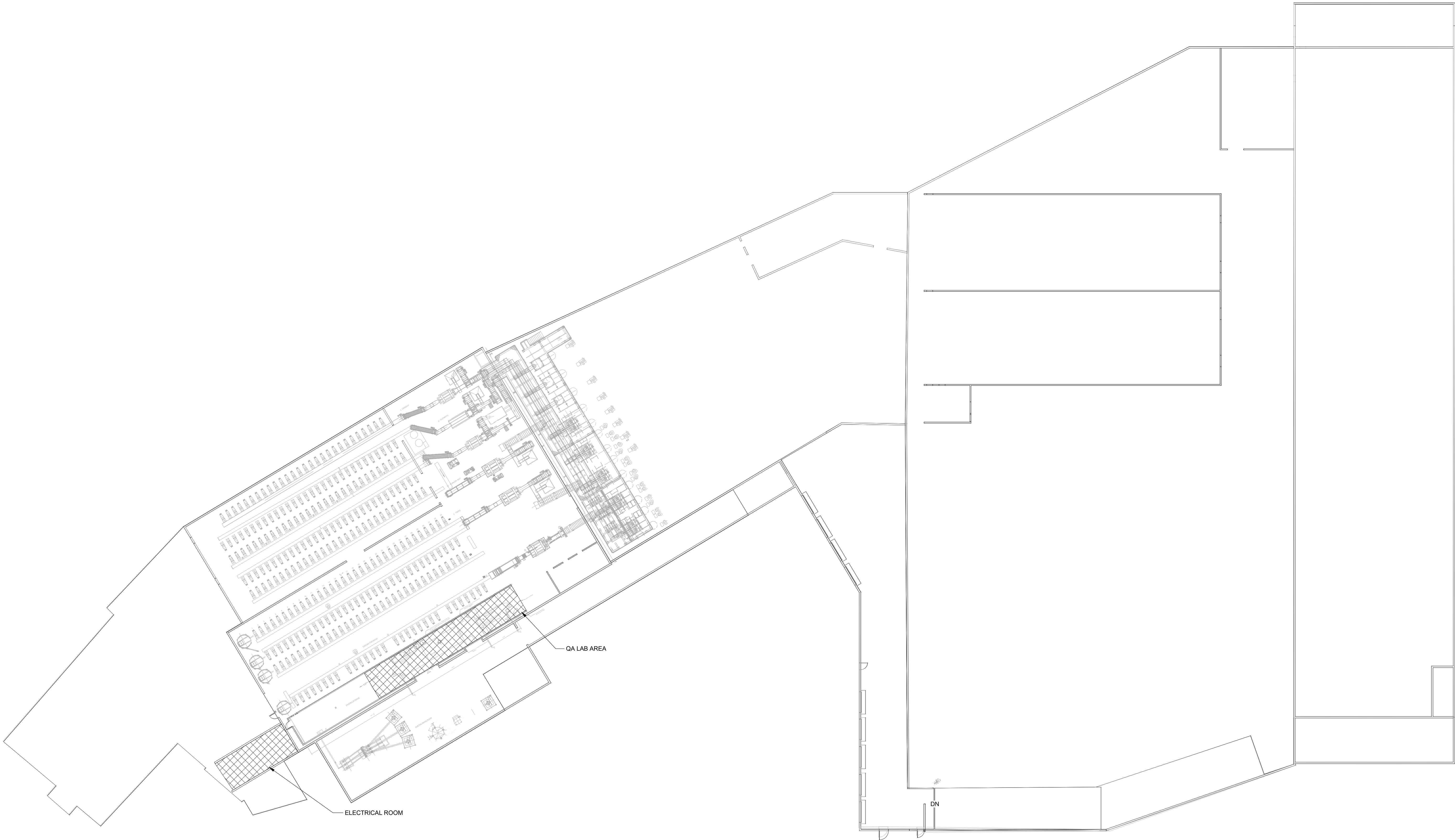
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1 OVERALL FLOOR PLAN - AREAS OF WORK
1" = 20'-0"



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PROFESSIONAL SEALS

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OVERALL FLOOR PLAN - AREAS OF WORK

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MEP1.00

SHEET NUMBER

PLUMBING & HVAC PIPING LEGEND
(NOTE: ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS)

	T&P VALVE
	SHOWER DRAIN
	FLOOR DRAIN
	AREA DRAIN
	ROOF DRAIN
	OVERFLOW ROOF DRAIN
	HOSE BIBB OR WALL HYDRANT
	VENT THRU ROOF
	PRESSURE GAUGE
	FLOW SWITCH
	POINT OF CONNECTION
	POINT OF DEMOLITION
	THERMOSTAT, SENSOR
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	GAS PIPING
	DRAIN LINE
	FLEXIBLE PIPE CONNECTION
	COLD WATER LINE
	DOMESTIC HOT WATER RETURN
	DOMESTIC HOT WATER SUPPLY
	SANITARY LINE
	GREASE WASTE LINE
	VENT LINE
	REFRIGERANT SUCTION / LIQUID LINE
	STORM DRAIN LINE
	SUMP PUMP DISCHARGE
	SEWAGE EJECTOR DISCHARGE
	PUMPED STEAM CONDENSATE RETURN
	MEDIUM PRESSURE STEAM
	HEATING HOT WATER RETURN
	HEATING HOT WATER SUPPLY
	PITCH DOWN IN DIRECTION OF ARROW
	SQUARE HEAD COCK
	THERMOMETER
	COMBINATION PRESSURE & TEMPERATURE TAP (PETE'S PLUG)
	STRAINER WITH BLOW OFF
	UNION OF FLANGED CONNECTION
	BUCKET TRAP
	CLEANOUT IN LINE
	CLEANOUT IN FLOOR
	WALL CLEANOUT
	OS & Y VALVE
	GATE VALVE
	BUTTERFLY VALVE
	BALL VALVE
	CHECK VALVE
	SOLENOID VALVE
	PRESSURE RELIEF VALVE
	AUTOMATIC, 2 WAY VALVE
	AUTOMATIC, 3 WAY VALVE
	CIRCULATION PUMP

HVAC LEGEND

(NOTE: ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS)

	LINED DUCTWORK
	SUPPLY DUCT
	RETURN DUCT
	EXHAUST DUCT
	SUPPLY DUCT THROUGH ROOF
	RETURN DUCT THROUGH ROOF
	EXHAUST DUCT THROUGH ROOF
	DIRECTION OF EXHAUST RELIEF
	SUPPLY DIRECTION
	STATIC PRESSURE SENSOR
	MOTORIZED VOLUME DAMPER
	BACKDRAFT DAMPER
	CONICAL TAP W/DAMPER
	ROUND DUCT SIZE
	OVAL DUCT SIZE
	FLEXIBLE DUCT RUNOUT
	FLEXIBLE DUCT CONNECTION
	MANUAL VOLUME DAMPER
	FIRE DAMPER IN DUCT
	FIRE SMOKE DAMPER IN DUCT
	DUCTWORK (SHEET METAL) (WITH DEPTH IN VIEW OR PLAN)
	DUCTWORK, DIRECTION OF SLOPE
	EXISTING SUPPLY AIR GRILLE
	EXISTING AIR DEVICE TO BE RELOCATED
	NEW SUPPLY AIR DIFFUSER
	EXISTING SLOT DIFFUSER TO REMAIN
	EXISTING SLOT DIFFUSER TO BE RELOCATED
	NEW SLOT DIFFUSER
	DUCT MOUNTED SMOKE DETECTOR

GENERAL NOTES FOR ALL MECHANICAL AND PLUMBING WORK

DEMOLITION

- EXISTING HVAC DUCTWORK, PLUMBING PIPING AND EQUIPMENT SHOWN IS BASED ON EXISTING PLANS AND FIELD OBSERVATION CURRENT DETAIL. AFTER DEMOLITION, ANY CLARIFICATION REQUIRED TO DETERMINE SCOPE OF WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OR OWNER'S REPRESENTATIVE IN WRITING.
- THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK OR PURCHASING EQUIPMENT.
- DRAWINGS DO NOT SHOW EVERY EXISTING PIPE, CONDUIT, DUCT, ETC. CONTRACTOR SHALL TAKE CARE TO REMOVE ONLY ITEMS REQUIRED TO BE REMOVED AND VERIFY OPERATION/FUNCTION PIPES, DUCTS, ETC., BEFORE REMOVAL.
- REMOVAL OF ITEMS SHALL INCLUDE ASSOCIATED HANGERS, ANCHOR BOLTS AND OTHER APPURTENANCES, WHERE SUCH REMOVAL RESULTS IN OPEN HOLES, VOIDS OR EXPOSURE OF DAMAGED SURFACES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND FINISHING THE SURFACE TO MATCH ADJACENT CONDITIONS. THIS WORK SHALL BE COORDINATED WITH ARCHITECTURAL FINISH SCHEDULES WHERE APPLICABLE.
- BUILDING IS TO REMAIN OCCUPIED DURING CONSTRUCTION. REMOVAL OR SHUT-DOWN OF EQUIPMENT THAT AFFECTS ANY OCCUPIED AREAS AIR CONDITIONING OR HEATING SHALL ONLY BE DONE AS APPROVED OR TEMPORARY AIR CONDITIONING OR HEATING SHALL BE PROVIDED AT CONTRACTOR'S EXPENSE. THIS MAY REQUIRE NIGHT AND WEEKEND WORK TO KEEP BUILDING IN OPERATION.
- REMOVE EXISTING DUCTWORK AND PIPING NOT TO BE REUSED.
- ALL MATERIALS REMOVED UNDER DEMOLITION, NOT TO BE RELOCATED OR DESIGNATED TO BE TURNED OVER TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED, AND SHALL BE REMOVED COMPLETELY FROM THE SITE.

GENERAL ITEMS

- GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH MECHANICAL DRAWING OF THIS SET. SEE EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO SPECIFIC SCOPE AREAS.
- VERIFY ALL MEASUREMENTS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON THE DRAWINGS AND ACTUAL MEASUREMENTS AT THE SITE OF CONSTRUCTION. DO NOT SCALE THE DRAWINGS. DRAWINGS ARE A DIAGRAMATIC REPRESENTATION AND INTENDED TO CONVEY INTENT.
- UPON COMPLETION OF THE WORK, THOROUGHLY CLEAN ALL EXPOSED PORTIONS OF THE MECHANICAL AND ELECTRICAL EQUIPMENT PROVIDED AS WELL AS THE GENERAL SCOPE AREA. REMOVE ALL TRACES OF SOLID/SLUT LABELS, GRADE, OIL, AND OTHER FOREIGN MATERIAL USING ONLY THE TYPE CLEANER RECOMMENDED BY THE MANUFACTURER OF ANY ITEM BEING CLEANED AND APPROVED BY OWNER FOR USE IN THE SCOPE AREA.
- CONTRACTOR SHALL DESIGNATE ONE PERSON TO SERVE AS PRIMARY POINT OF COMMUNICATION WITH PROJECT TEAM.
- WORK AMONG ALL TRADES SHALL BE FULLY COORDINATED AS REQUIRED IN THE FIELD TO AVOID SPACE CONFLICTS AND INTERRUPTION OF THE FLOW OF WORK. CONFLICTS SHALL BE IMMEDIATELY REPORTED IN WRITING TO ENGINEER AND OWNERS REPRESENTATIVE.
- THE CONTRACTOR SHALL TAKE PROPER PRECAUTIONS TO PROTECT ANY EXISTING CONSTRUCTION AND ADJACENT PROPERTY, WITH WHICH WORK COMES IN CONTACT, AND OVER WHICH HE MAY TRANSPORT, HOIST OR MOVE MATERIALS, EQUIPMENT, DEBRIS, ETC., AND SHALL REPAIR SATISFACTORILY ALL DAMAGES CAUSED BY HIM DURING CONSTRUCTION.
- ALL EQUIPMENT SHALL BE NEW, UNLESS NOTED OTHERWISE, AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS PUBLISHED RECOMMENDATIONS FOR THE SERVICE INTENDED. PROVIDE ONLY PRODUCTS BEARING UNDERWRITERS LABORATORIES (UL) LABEL AS APPLICABLE.
- WHEN EXISTING ITEMS ARE TO BE REUSED, REFURBISH AS NOTED ON THE DRAWINGS OR SPECIFIED, OTHERWISE, STORE AND MAINTAIN IN THE SAME OR BETTER CONDITION AS WHEN THE WORK WAS PLACED UNDER CONTRACT. REINSTALL THE ITEM IN A GOOD WORKMANLIKE MANNER. THE CONTRACTOR SHALL VERIFY THE WORKING CONDITION OF ALL EXISTING EQUIPMENT TO BE REUSED AND NOTIFY THE OWNER/ENGINEER PRIOR TO THE START OF CONSTRUCTION OF ANY MISUSE OR DAMAGE.
- CONFIRM OUTSIDE AIR INTAKE OPENINGS FOR VENTILATION AIR ARE LOCATED AT LEAST 10 FEET MEASURED IN ANY DIRECTION FROM ANY FLUES, VENTS, CHIMNEYS, GAS METERS, GAS REGULATORS, PLUMBING VENTS, ETC., UNLESS TOP OF SUCH INTAKE OPENING IS 3 FEET BELOW ANY OF THE LISTED ITEMS.
- OVERHEAD PIPING IN SPACES WITHOUT HUNG CEILINGS SHALL BE RUN AS CLOSE TO ROOF DECK AS PRACTICAL, AS CLOSE TO PARALLEL, HOISTS AS POSSIBLE, AND ABOVE LIGHTING FIXTURES TO CONCEAL PIPING.
- OVERHEAD DUCTWORK AND PIPING IN SPACES WITH CEILINGS SHALL BE CONCEALED UNLESS OTHERWISE NOTED.
- PROVIDE PIPE SLEEVES LARGE ENOUGH TO ALLOW FOR REQUIRED LATERAL MOVEMENT OF PIPING.
- EXERCISE CAUTION IN INSTALLING RUNOUTS AND BRANCH PIPING FROM MAINS ALLOWING FOR EXPANSION MOVEMENT.
- MAINTAIN A MINIMUM CLEARANCE FOR LIGHTS OF 7" ABOVE FINISHED CEILING AND 1" MINIMUM BELOW ALL DUCTS, PIPES, CONDUIT OR ANY OTHER EQUIPMENT IN THE CEILING SPACE. MAINTAIN MANUFACTURER'S RECOMMENDED SERVICE ACCESS CLEARANCE AT ALL EQUIPMENT.
- COORDINATE LOCATION OF GRILLES, REGISTERS, DIFFUSERS, THERMOSTATS AND OTHER WALL OR CEILING MOUNTED HVAC ACCESSORIES WITH REFLECTED CEILING PLAN, LIGHTING FIXTURE LAYOUT AND ACCESSORIES INSTALLED BY OTHER TRADES SO AS TO PRESENT A NEAT AND ATTRACTIVE INSTALLATION THROUGHOUT THE ENTIRE SCOPE. IT IS THE INTENT FOR GRILLES, REGISTERS AND DIFFUSERS TO BE INSTALLED IN THE CENTER OF CEILING PANELS.
- EQUIPMENT ON THE ROOF SHALL BE INSTALLED TO MAINTAIN AT LEAST 10 FEET OF CLEARANCE BETWEEN EQUIPMENT AND THE ROOF EDGE.
- ARRANGE PIPING AND DUCTWORK, PARTICULARLY ABOVE CEILING, AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUITS, ETC., ALLOWING SPACE FOR PIPE HANGERS, EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS, AND MAINTENANCE OF EQUIPMENT.
- COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER TRADES. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF DOORS, WINDOWS, ETC.
- THERMOSTATS AND/OR TEMPERATURE SENSORS SHALL BE LOCATED IN THE ROOMS INDICATED. INSTALL TOP OF DEVICE NO MORE THAN 48" ABOVE FINISHED FLOOR TO MATCH THE HEIGHT OF WALL SWITCHES OR OTHER WALL MOUNTED DEVICES.
- PIPING, DUCTWORK, VENTS, ETC., EXTENDING THROUGH EXTERIOR WALLS AND ROOF SHALL BE FLASHED AND COUNTER FLASHED IN A WEATHERPROOF MANNER.
- VALVES AND SPECIALTIES SHALL BE LINE SIZE EXCEPT FOR CONTROL VALVES OR UNLESS NOTED OTHERWISE.
- EXTEND DRAIN LINES TO NEAREST FLOOR DRAIN OR AS INDICATED. ROUTING SHALL NOT INTERFERE WITH PASSAGEWAYS AND MAINTENANCE. DRAINS FROM AIR CONDITIONING CONDENSATE DRAIN PANS SHALL BE TRAPPED. SLOPE CONDENSATE DRAIN PIPING AT 1/4" PER FOOT. VERIFY INVERT IS ESTABLISHED AFTER AIR HANDLING UNIT IS INSTALLED BUT PRIOR TO DUCTWORK INSTALLATION.
- ROOFTOP UNITS AND OTHER EQUIPMENT CONTAINING AIR CONDITIONING COILS WHICH DO NOT HAVE A SECONDARY DRAIN OR AUXILIARY DRAIN PAN SHALL BE FITTED WITH A WATER LEVEL SENSOR IN THE PRIMARY DRAIN PAN. THE SENSOR SHALL BE WIRED TO DE-ENERGIZE THE EQUIPMENT IF WATER RISES ABOVE THE DRAIN OUTLET.
- PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH NON-RATED FLOORS, WALLS, ROOF AND PARTITIONS, UNLESS OTHERWISE INDICATED.
- NO PIPING SHALL BE SMALLER THAN 1/2" UNLESS OTHERWISE NOTED.
- RUNOUTS SHALL PITCH DOWN IN DIRECTION OF FLOW A MINIMUM OF 1" IN 3'-0". FOR PIPE SIZES NOT INDICATED ON PLANS, SEE EQUIPMENT CONNECTION DETAILS, FLOW DIAGRAMS, RISER DIAGRAMS AND PIPE SIZING SCHEDULE.
-

- PROPERLY SUPPORT ALL EQUIPMENT, DUCTWORK, AND PIPING WITHIN THE BUILDING AND PROVIDE ADEQUATE PROVISIONS FOR SLOPE AND ANCHORAGE. PROVIDE ALL MATERIALS REQUIRED FOR THE SUPPORT OF SUCH ITEMS INCLUDING RODS, ANGLES, ETC., TO PROPERLY SUPPORT ALL ITEMS IN A PROPER AND SAFE MANNER. CONTRACTOR SHALL USE HANGER'S RODS, INSERTS ETC. LISTED BY UNDERWRITERS' LABORATORIES FOR THE SERVICE INTENDED. HANGERS FOR COPPER PIPING SHALL BE COPPER PLATED.
- SECURELY SUPPORT ALL EQUIPMENT FROM STRUCTURAL MEMBERS PROVIDED AS NEEDED, WHICH IN TURN ARE TO BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE. ALL HANGERS SHALL HAVE A MINIMUM FACTOR OF SAFETY OF 5. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS. ADDITIONAL SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT.
- CORRECT SETTING ON BALANCING FITTINGS SHALL BE PERMANENTLY MARKED. SUITABLE FLASHINGS FOR OPENINGS IN THE BUILDING WALLS, FLOOR OR ROOF SHALL BE FURNISHED BY THE CONTRACTOR PROVIDING THE PENETRATING ITEM. THE INSTALLATION OF THE FLASHING AND ITS WATERTIGHT INTEGRITY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR THAT PROVIDES THE SEALING AND FINISHING OF THE FLASHING. IN ALL CASES, THE FLASHING MATERIAL AND ITS INSTALLATION SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR FLASHINGS FOR PENETRATIONS MAY ALSO BE PROVIDED ENTIRELY BY THE GENERAL CONTRACTOR. ALSO REFER TO THE ARCHITECT'S SPECIFICATIONS TO COORDINATE THE COMPLETENESS OF THIS ITEM.
- ACCESSIBILITY REQUIREMENTS: (REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION/REQUIREMENTS).
- A. THE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF REGULATIONS, CODES AND ORDINANCES REGARDING HANDICAPPED PERSONS. IT IS ASSUMED THAT THE CONTRACTOR IS ALSO KNOWLEDGEABLE OF SAME AND THEIR APPLICATION WITH REGARD TO HIS WORK.
- B. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE TYPE OF EQUIPMENT BEING INSTALLED AND ITS LOCATION, MOUNTING HEIGHT AND CLEARANCES AS PRESCRIBED BY ALL APPLICABLE HANDICAP REGULATIONS, CODES AND ORDINANCES PRIOR TO PLACING EQUIPMENT ORDERS AND PRIOR TO INSTALLATION OF ALL WORK.
- C. GENERAL LISTING OF MOUNTING HEIGHTS:

ITEM	HEIGHT TO CENTER LINE ABOVE FINISHED FLOOR
THERMOSTATES, SWITCHES, ETC.	48" MAXIMUM
RECEPTACLES	12" MINIMUM

- CONTRACTOR SHALL PROVIDE ALL DIMENSIONS FOR BLOCK OUTS, SLEEVES, ETC., AND THE DIMENSIONED LOCATIONS OF SAME.
- SEE ELECTRICAL DRAWINGS FOR LOCATION OF MOTOR STARTERS.

THROUGH-PENETRATION FIRESTOP ASSEMBLIES

- PROVIDE UL LISTED THROUGH-PENETRATION ASSEMBLIES FOR FIREWALLS AND FLOORS, REVIEW ARCHITECTURAL DRAWINGS FOR FIRE PARTITION LOCATIONS AND UL LISTINGS.

SHEET METAL

- DUCT DIMENSIONS ARE CLEAR INSIDE DUCT LINING DIMENSIONS.
- PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING THE FOLLOWING:
 - DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS
- HIGH SIDEWALL REGISTERS OR GRILLES SHALL BE LOCATED 6" FROM CEILING TO TOP OF REGISTER OR GRILLE, IF APPLICABLE.
- INSTALL CEILING REGISTERS A MINIMUM OF 4" FROM EXTERIOR WALL. PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR FAN DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.
- DUCTWORK SHALL BE CONSTRUCTED TO THE SMACNA STATIC PRESSURE CLASSIFICATION 2" W.G. AND SEAL CLASS "B".
- PROVIDE EXTENDED VOLUME DAMPER CONTROL RODS SO THAT HANDLES ARE CLEAR OF DUCT INSULATION.

MAINTENANCE

- EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.
- EQUIPMENT INSTALLED ABOVE CEILINGS SHALL BE MOUNTED APPROX. 12" ABOVE CEILING (10") FOR MAINTENANCE ACCESS.
- INSTALL PIPE RUNS AT LEAST 6" ABOVE CEILING TILES WHERE PRACTICAL. INSTALL VALVES, AND OTHER MAINTAINABLE DEVICES LOW ENOUGH TO REACH WITH A 6'-0" OR 8'-0" LADDER.
- PROVIDE ACCESS TO ANY INSPECTION OR MAINTAINABLE DEVICE. EQUIPMENT, ETC. - ACCESS OR ACCESS DOOR SHALL BE OF ADEQUATE SIZE TO WORK ON DEVICE.
- EXAMINE MANUFACTURER'S LITERATURE TO DETERMINE RECOMMENDED CLEARANCES. THESE CLEARANCES SHALL BE ESTABLISHED AND MAINTAINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE REQUIREMENTS WITH ALL OTHER TRADES.

ABBREVIATIONS (NOTE: ALL ABBREVIATIONS MAY NOT APPEAR ON DRAWINGS)

A	AMPS, AMPERE	CLG	CEILING	DWG	DRAWING
ABC	ABOVE COUNTER	CO	CLEAN OUT	EA	EACH
ABV	ABOVE	COL	COLUMN	EAT	ENTERING AIR TEMPERATURE
AC	AIR CONDITIONER	CONC	CONCRETE	EDH	ELECTRIC DUCT HEATER
ACC	ALTERNATING CURRENT	CONST	CONSTRUCTION	EER	ENERGY EFFICIENCY RATIO
ADJ	ADJACENT	CONT	CONTINUOUS	ELEV	ELEVATION
AFF	ABOVE FINISH FLOOR	CONTR	CONTRACTOR	ELEC	ELECTRICAL
AFG	ABOVE FINISH GRADE	COP	COEFFICIENT OF PERFORMANCE	ELEV	ELEVATOR
AH	AIR HANDLER	CT	COOLING TOWER	EMER	EMERGENCY
AHU	AIR HANDLING UNIT	CVO	COLD WATER VALVED OPENING	EQ	EQUAL
AMB	AMBIENT	CW	DOMESTIC COLD WATER	EQUIP	EQUIPMENT
AUX	AUXILIARY, AUXILIARIES	CWR	CONDENSER WATER RETURN	ESP	EXTERNAL STATIC PRESSURE
BLDG	BUILDING	CHWS	CONDENSER WATER SUPPLY	ETR	EXISTING TO REMAIN
BOP	BOTTOM	D	DEPTH	EWT	ENTERING WATER TEMPERATURE
BTU	BRITISH THERMAL UNIT	DB	DRY BULB	EXH	EXHAUST
BTUH	BRITISH THERMAL UNIT PER HOUR	DFU	DRAINAGE FIXTURE UNITS	EXIST	EXISTING
CAT	CATALOGUE	DI	DEIONIZED (WATER)	EXP	EXPANSION
CD	CONDENSATE DRAIN	DIA	DIAMETER	F	DEGREES FAHRENHEIT
CDA	CLEAN DRY AIR	DWR	DEIONIZED WATER RETURN	FA	FIRE ALARM
CFH	CUBIC FEET PER HOUR	DWS	DEIONIZED WATER SUPPLY	FD	FIRE DAMPER
CFM	CUBIC FEET PER MINUTE	DIFF	DIFFUSER	FCU	FAN COIL UNIT
CHWR	CHILLED WATER RETURN	DN	DOWN	FD	FLOOR DRAIN
CHWS	CHILLED WATER SUPPLY	DS	DOWNSPOUT	HHWR	HEATING HOT WATER RETURN
CI	CAST IRON	DTL	DETAIL	FF	FINISH FLOOR

DWG	DRAWING	FIXT	FIXTURE	IFGC	INTERNATIONAL FUEL GAS CODE
EA	EACH	FL	FLOW LINE	IMC	INTERNATIONAL MECHANICAL CODE
EAT	ENTERING AIR TEMPERATURE	FBM	FEET PER MINUTE	IPC	INTERNATIONAL PLUMBING CODE
EDH	ELECTRIC DUCT HEATER	FW	FEET	IN	INCHES
EER	ENERGY EFFICIENCY RATIO	IN	INCHES	IN WC	INCHES WATER COLUMN
ELEV	ELEVATION	IRW	INDUSTRIAL WASTE WATER	KW	KILOWATT
ELEC	ELECTRICAL	KB	KILOWATT - HOUR	LA	LEAVING AIR TEMPERATURE
ELEV	ELEVATOR	KB	KILOWATT - HOUR	LB	POUNDS (WEIGHT)
EMER	EMERGENCY	KB	KILOWATT - HOUR	LN	FT LINEAR FOOT
EQ	EQUAL	KB	KILOWATT - HOUR	LN2	LIQUID NITROGEN GAS
EQUIP	EQUIPMENT	KB	KILOWATT - HOUR	LWT	LEAVING WATER TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE	KB	KILOWATT - HOUR	MBH	THOUSAND BTU PER HOUR
ETR	EXISTING TO REMAIN	KB	KILOWATT - HOUR	MCB	MAIN CIRCUIT BREAKER
EWT	ENTERING WATER TEMPERATURE	KB	KILOWATT - HOUR	MCC	MOTOR CONTROL CENTER
EXH	EXHAUST	KB	KILOWATT - HOUR	MCF	THOUSAND CUBIC FEET
EXIST	EXISTING	KB	KILOWATT - HOUR	MD	MOTORIZED DAMPER
EXP	EXPANSION	KB	KILOWATT - HOUR	MCH	MECHANICAL
F	DEGREES FAHRENHEIT	KB	KILOWATT - HOUR	MIN	MINIMUM
FA	FIRE ALARM	KB	KILOWATT - HOUR	MISC	MISCELLANEOUS
FD	FIRE DAMPER	KB	KILOWATT - HOUR		
FCU	FAN COIL UNIT	KB	KILOWATT - HOUR		
FD	FLOOR DRAIN	KB	KILOWATT - HOUR		
HHWR	HEATING HOT WATER RETURN	KB	KILOWATT - HOUR		
FF	FINISH FLOOR	KB	KILOWATT - HOUR		

IFGC	INTERNATIONAL FUEL GAS CODE	MTR	MOTOR	PCWS	PROCESS CHILLED WATER SUPPLY
IMC	INTERNATIONAL MECHANICAL CODE	MTR2D	MOTORIZED	PERF	PERFORATED
IPC	INTERNATIONAL PLUMBING CODE	MVD	MANUAL VOLUME DAMPER	PLBG	PLUMBING
IN	INCHES	N2	NITROGEN GAS	PSI	POUNDS PER SQUARE INCH
IN WC	INCHES WATER COLUMN	NA	NOT APPLICABLE	PSIA	POUNDS PER SQUARE INCH- ABSOLUTE
IRW	INDUSTRIAL WASTE WATER	NCA	NORMALLY CLOSED	PSIG	POUNDS PER SQUARE INCH- GAUGE
KW	KILOWATT	NEC	NATIONAL ELECTRICAL CODE	PVC	POLYVINYL CHLORIDE PWR POWER
LA	LEAVING AIR TEMPERATURE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	QTY	QUANTITY
LB	POUNDS (WEIGHT)	NIC	NOT IN CONTRACT	RA	RETURN AIR
LN	FT LINEAR FOOT	NO	NORMALLY OPEN	SP	STATIC PRESSURE
LN2	LIQUID NITROGEN GAS	NO	NUMBER	SPECS	SPECIFICATIONS
LWT	LEAVING WATER TEMPERATURE	NTS	NOT TO SCALE	SOFT	SQUARE FEET
MBH	THOUSAND BTU PER HOUR	OA	OUTSIDE AIR	REFR	REFRIGERATOR
MCB	MAIN CIRCUIT BREAKER	OP	OPPOSED BLADE DAMPER	RPM	REVOLUTIONS PER MINUTE
MCC	MOTOR CONTROL CENTER	OC	ON CENTER	RQ	REQUIRED
MCF	THOUSAND CUBIC FEET	OD	OUTSIDE DIAMETER	RLA	RUNNING LOAD AMPS
MD	MOTORIZED DAMPER	OS	OVERFLOW DOWNSPOUT	RM	ROOM
MCH	MECHANICAL	OZ	OUNCE	RQMT	REQUIREMENT
MIN	MINIMUM	PD	PRESSURE DROP	RTU	ROOM TOP UNIT
MISC	MISCELLANEOUS	PCWR	PROCESS CHILLED WATER RETURN	SA	SUPPLY AIR

UNO	UNLESS NOTED OTHERWISE	SEER	SEASONAL ENERGY EFFICIENCY RATIO	V	VOLT
V	VOLT	SENS	SENSIBLE (BTU)	VA	VALVE
VAC	VACUUM	SFU	SUPPLY FUTURE UNITS	VAC	VACUUM
VAV	VARIABLE AIR VOLUME	SHT	SHEET	VAV	VARIABLE AIR VOLUME
VENTL	VENTILATION	SHTMTL	SHEET METAL	VERT	VERTICAL
VERT	VERTICAL	SHH	SILANE	VIF	VERIFY IN FIELD
VPO	VENT PLUGGED OPENING	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS' ASSOCIATION	VTR	VENT THRU THE ROOF
VW	VARIABLE VOLUME TERMINAL UNIT	SP	STATIC PRESSURE	W	WATTS
W	WATTS	SS, SAN	SANITARY SEWER	WB	WET BULB
WDTH	WIDTH	STD	STANDARD	WH	WATER HEATER
WFO	WASTE PLUGGED OPENING	WPT	WEATHERPROOF	WP	WEATHERPROOF
WT	WEIGHT	SYM	SYMMETRICAL	WTO	WASTE PLUGGED OPENING
		T	TIME/LOCK		
		TOT	TOTAL (BTU)		
		TYP	TYPICAL		
		UF	UNDERFLOOR		

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GENERAL NOTES AND LEGENDS

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PROJECT NUMBER 21045	PROJECT ABBREVIATION FLNA LIB QA LAB
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SHEET NUMBER

FILE NAME: C:\BWA_Rev\Files\21045_FLNA LIB QA LAB_C1S_Chris.Childress.C1S.rvt
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ROOF WARRANTY NOTE

PROVIDE THE SERVICES OF AN INSTALLER AUTHORIZED BY THE MANUFACTURER OF THE EXISTING ROOFING SYSTEM. PROVIDE EXISTING ROOFING MANUFACTURER'S WRITTEN CERTIFICATION THAT MODIFICATIONS ARE COMPATIBLE WITH AND WILL MAINTAIN THE WARRANTY OF THE EXISTING ROOF AND THAT THE MODIFICATIONS ARE INCLUDED IN THE WARRANTY. CONTRACTOR TO CONTACT BUILDING OWNER FOR DETERMINING ROOF WARRANTY INFORMATION.

KEYED NOTES

MARK	COMMENT
1	PROVIDE AND INSTALL DOMESTIC PLUMBING SERVICE TO CONTRACTOR PROVIDED LABORATORY SINK AND ASSOCIATED FAUCET. SEE VWR FURNITURE DRAWINGS FOR FIXTURE DESIGN AND SPECIFICATIONS. REFERENCE PIPING ISOMETRIC FOR CONNECTIONS.
2	PROVIDE AND INSTALL DOMESTIC PLUMBING SERVICE TO CONTRACTOR PROVIDED EMERGENCY EYE WASH. SEE VWR FURNITURE DRAWINGS FOR FIXTURE DESIGN AND SPECIFICATIONS. PROVIDE THERMOSTATIC MIXING VALVE FOR EYE WASH ONLY. SET MIXED TEMPERATURE TO PROVIDE TEPID WATER FOR EMERGENCY EYE WASH. REFERENCE PIPING ISOMETRIC FOR CONNECTIONS.
3	EXTEND AND CONNECT NEW DOMESTIC COLD WATER LINE. SIZE AS NOTED. TO EXISTING LINE IN THIS AREA. PROVIDE SHUT-OFF VALVE AT CONNECTION. FIELD VERIFY EXACT LOCATION OF SERVICES PRIOR TO BID. PIPING IS SHOWN EXTENDED BEYOND EACH WALL, BUT SHOULD ONLY BE EXTENDED WHERE EXISTING SERVICE IS LOCATED. OTHER END SHALL BE CAPPED AFTER LAST PIPING TAKEOFF.
4	PROVIDE AND INSTALL VENT LINE UP THROUGH ROOF. SIZE AS NOTED.
5	PROVIDE AND INSTALL ALUMINUM COMPRESSED AIR PIPING AND FITTINGS COMPLETE WITH HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. TIE INTO EXISTING COMPRESSED AIR PIPING IN THIS AREA. VERIFY EXACT TIE-IN LOCATION IN FIELD. PROVIDE WITH ISOLATION VALVE AT NEW CONNECTION. ROUTE AS INDICATED. PIPING IS SHOWN EXTENDED BEYOND EACH WALL, BUT SHOULD ONLY BE EXTENDED WHERE EXISTING SERVICE IS LOCATED. OTHER END SHALL BE CAPPED AFTER LAST PIPING TAKEOFF.
6	PROVIDE AND INSTALL DOMESTIC COLD WATER LINE WITH LEAD FREE SHUT-OFF VALVES COMPLETE WITH INSULATION, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. ROUTE AS INDICATED.
7	PROVIDE AND INSTALL DOMESTIC COLD WATER LINE COMPLETE WITH INSULATION, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES TO HOOD COLD WATER GOOSENECK. ROUTE COMPRESSED AIR LINE TO HOOD CONNECTION. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

KEYED NOTES

MARK	COMMENT
8	PROVIDE AND INSTALL PVC SCHEDULE 40 SANITARY LINE TO HOOD COMPLETE WITH SUPPORTS AND ALL ASSOCIATED APPURTENANCES. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
9	PROVIDE AND INSTALL DOMESTIC HOT WATER LINE COMPLETE WITH INSULATION, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES TO DISHWASHER. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
10	PROVIDE AND INSTALL ELECTRIC TANKLESS INSTANTANEOUS WATER HEATER BELOW COUNTER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE MECHANICAL SCHEDULE/DETAIL SHEETS.
11	PROVIDE AND INSTALL PVC SCHEDULE 40 SANITARY LINE WITH P-TRAP AND TRAP PRIMER. UP. SIZE DRAIN AS NOTED.
12	EXTEND AND CONNECT NEW SANITARY SEWER LINE. SIZE AND SLOPE AS NOTED. TO EXISTING LINE. FIELD VERIFY EXACT LOCATION OF SERVICES PRIOR TO BID.
13	PROVIDE AND INSTALL ALUMINUM COMPRESSED AIR PIPING AND FITTINGS COMPLETE WITH HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. TIE INTO CONTRACTOR PROVIDED HOOD. SEE VWR FURNITURE DRAWINGS FOR FIXTURE DESIGN AND SPECIFICATION.
14	PROVIDE AND INSTALL 1/2" COMPRESSED AIR DROP COMPLETE WITH ISOLATION SHUT-OFF VALVE AND QUICK-CONNECT FITTING. TERMINATE APPROXIMATELY 6" ABOVE COUNTERTOP.
15	ROUTE CONDENSATE DRAIN TO TIE INTO TAILPIECE OF P-TRAP OF SINK.
16	PROVIDE AND INSTALL EXTERNALLY INSULATED, LOW PRESSURE, SUPPLY/RETURN DUCTWORK COMPLETE WITH SUPPORTS, HANGERS AND ALL ASSOCIATED APPURTENANCES.
17	PROVIDE AND INSTALL SCHEDULE 40 PVC CHEMICAL/FUME EXHAUST DUCTWORK COMPLETE WITH FITTINGS, HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. REFERENCE ROOF PLAN FOR CONTINUATION.
18	PROVIDE AND INSTALL LOW-LEAK MOTORIZED DAMPERS AS SHOWN. WHEN FUME HOOD AND ITS ASSOCIATED EXHAUST FAN ARE ENERGIZED, MD-2 SHALL CLOSE AND MD-1 SHALL OPEN. REFERENCE CONTROL SEQUENCES FOR OPERATION. WHEN FUME HOOD AND ITS ASSOCIATED EXHAUST FAN ARE DE-ENERGIZED, MD-1 SHALL CLOSE AND MD-2 SHALL OPEN. PROVIDE MOTORIZED DAMPERS AT 120-VOLT WITH CONTROL TRANSFORMER(S).
19	INSTALL GENERAL CONTRACTOR-PROVIDED DIRECT EXPANSION/ELECTRIC HEAT ROOFTOP PACKAGED UNIT COMPLETE WITH MANUFACTURER'S ROOF CURB AND ALL ASSOCIATED APPURTENANCES. SEE MECHANICAL SCHEDULE/DETAIL SHEETS.
20	PROVIDE AND INSTALL PVC CONDENSATE DRAIN PIPING AND ROOF SUPPORTS. ROUTE AS INDICATED. INTERIOR LOCATIONS SHALL BE INSULATED. PROVIDE CONDENSATE DRAIN TRAP. SEE MECHANICAL DETAIL SHEETS.
21	PROVIDE AND INSTALL EXHAUST FAN COMPLETE WITH MANUFACTURER'S EQUIPMENT RAILS, DISCHARGE DUCT FITTINGS, ZERO PRESSURE WEATHER CAP AND ALL ASSOCIATED APPURTENANCES. SEE MECHANICAL SCHEDULE/DETAIL SHEETS. EXHAUST FAN SHALL BE MATCHED WITH FUME HOOD PROVIDED IN QA LAB.
22	PROVIDE AND INSTALL DOMESTIC COLD WATER PIPING AND FITTINGS COMPLETE WITH HANGERS, SUPPORTS AND ALL ASSOCIATED APPURTENANCES. TIE INTO CONTRACTOR PROVIDED HOOD. SEE VWR FURNITURE DRAWINGS FOR FIXTURE DESIGN AND SPECIFICATION.

3 PIPING ISOMETRIC

2 ROOF PLAN - MECHANICAL
3/8" = 1'-0"

1 FIRST FLOOR PLAN - MECHANICAL
3/8" = 1'-0"

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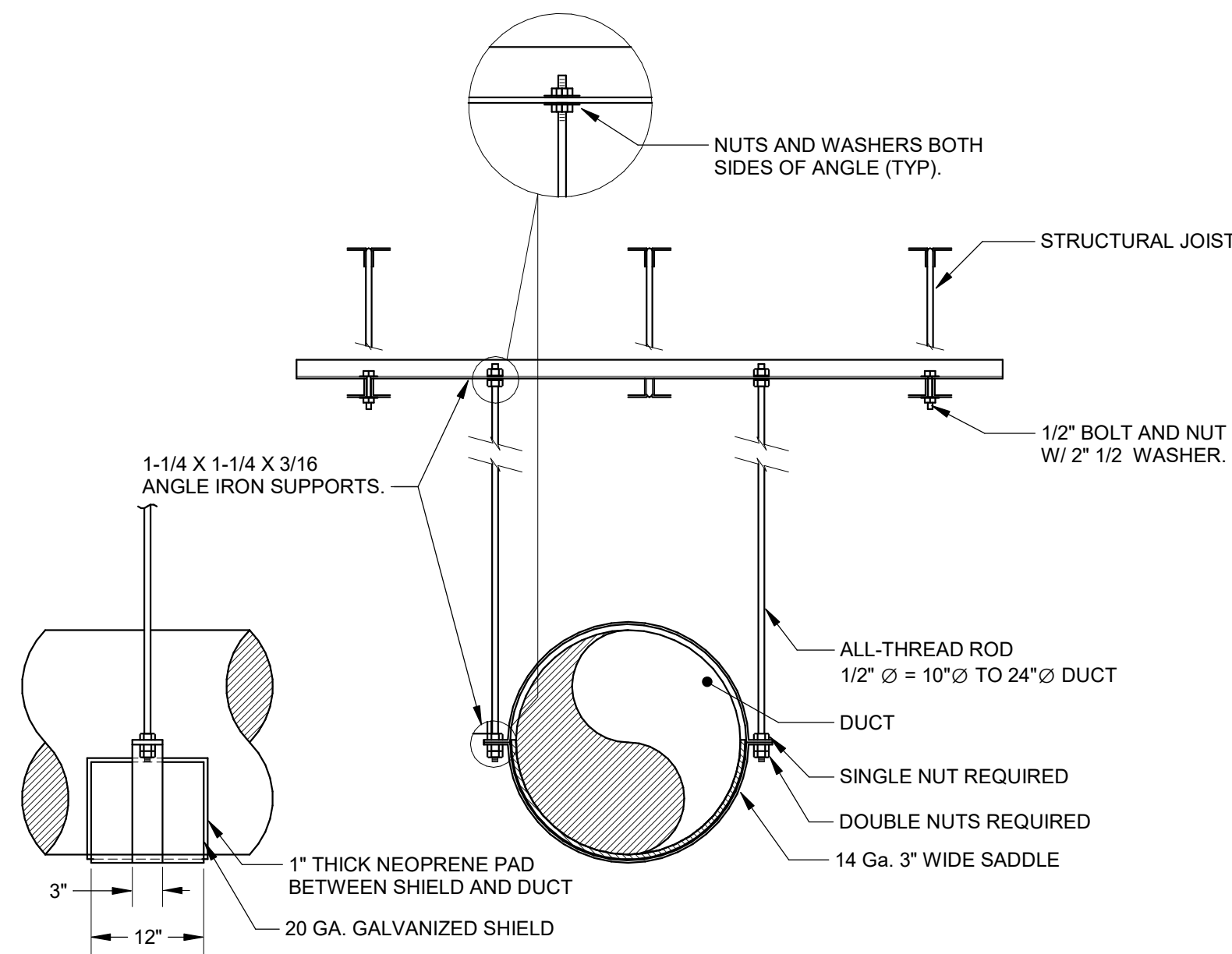
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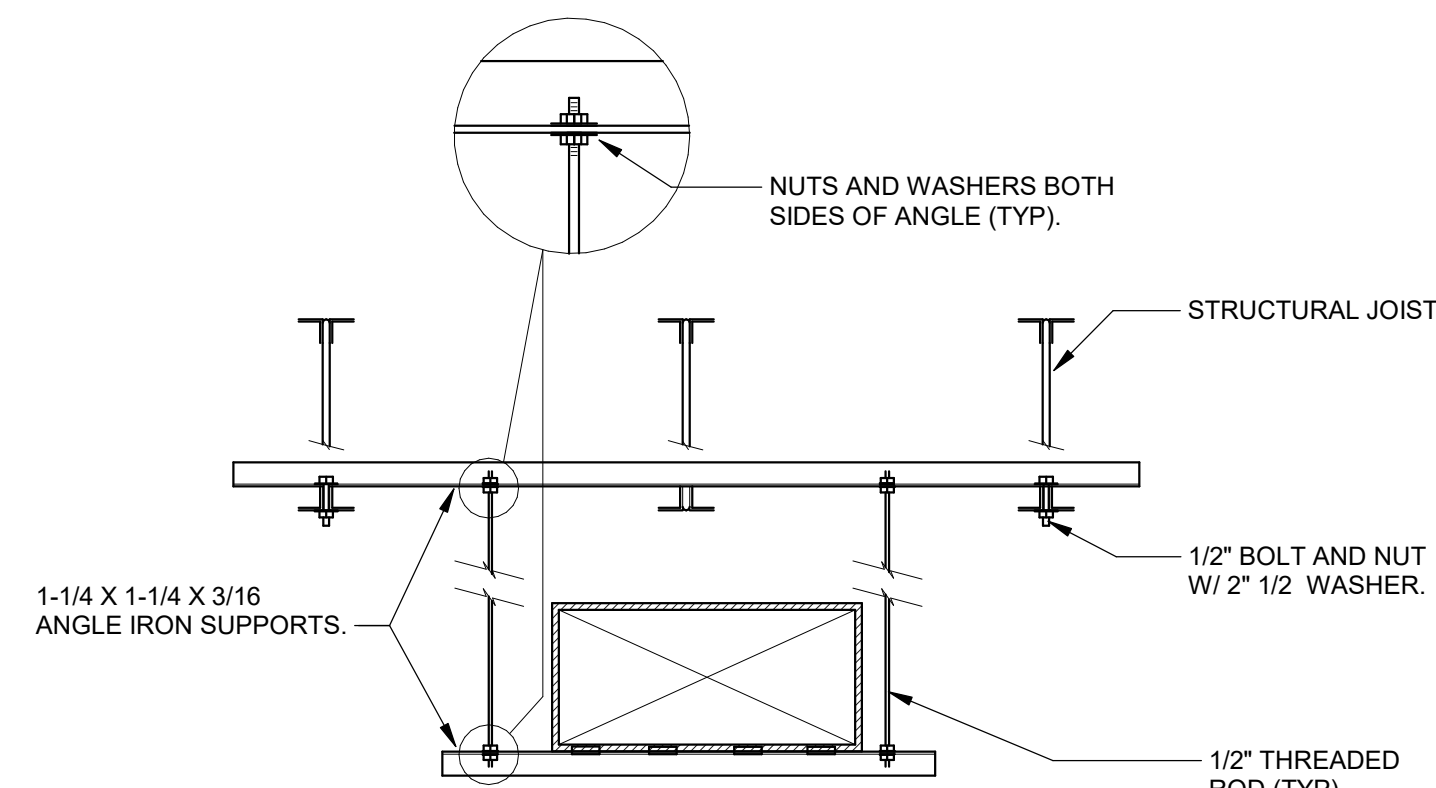
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SHEET NUMBER

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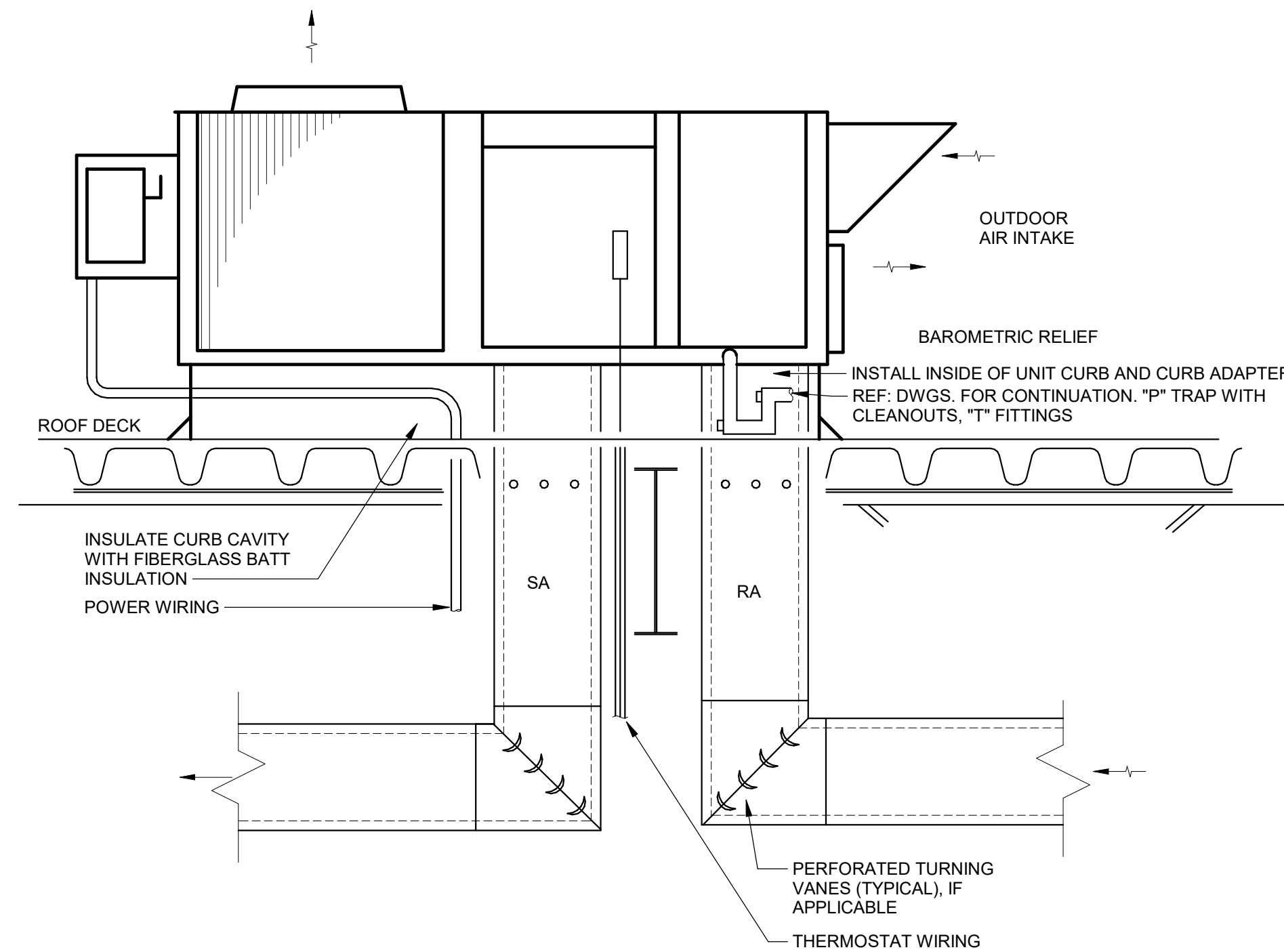


NOTE: MAXIMUM SPACING BETWEEN SUPPORTS SHALL BE ACCORDANCE WITH SMACNA.

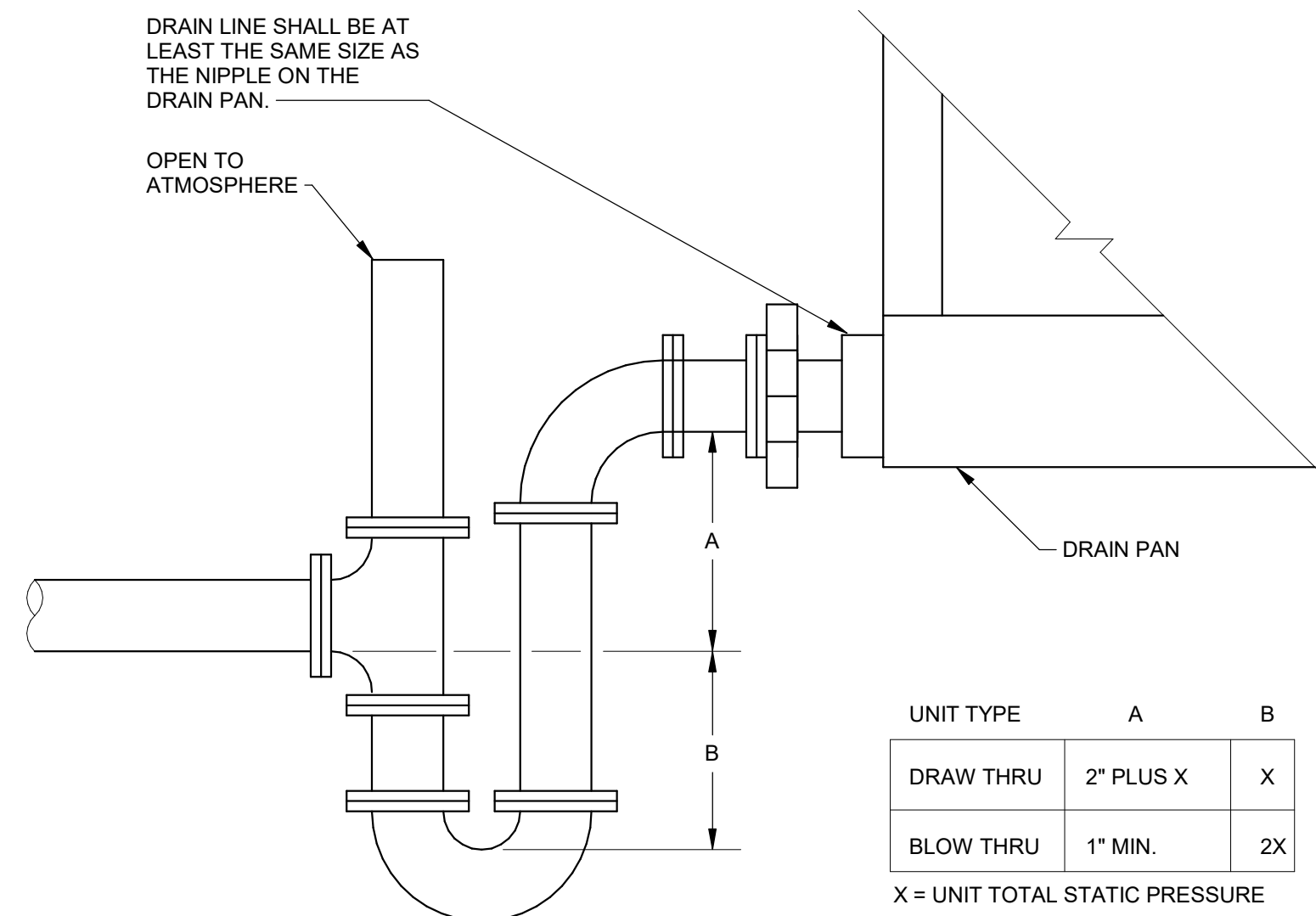
10 ROUND DUCT SUPPORT (STRUCTURAL JOIST) DETAIL
NTS



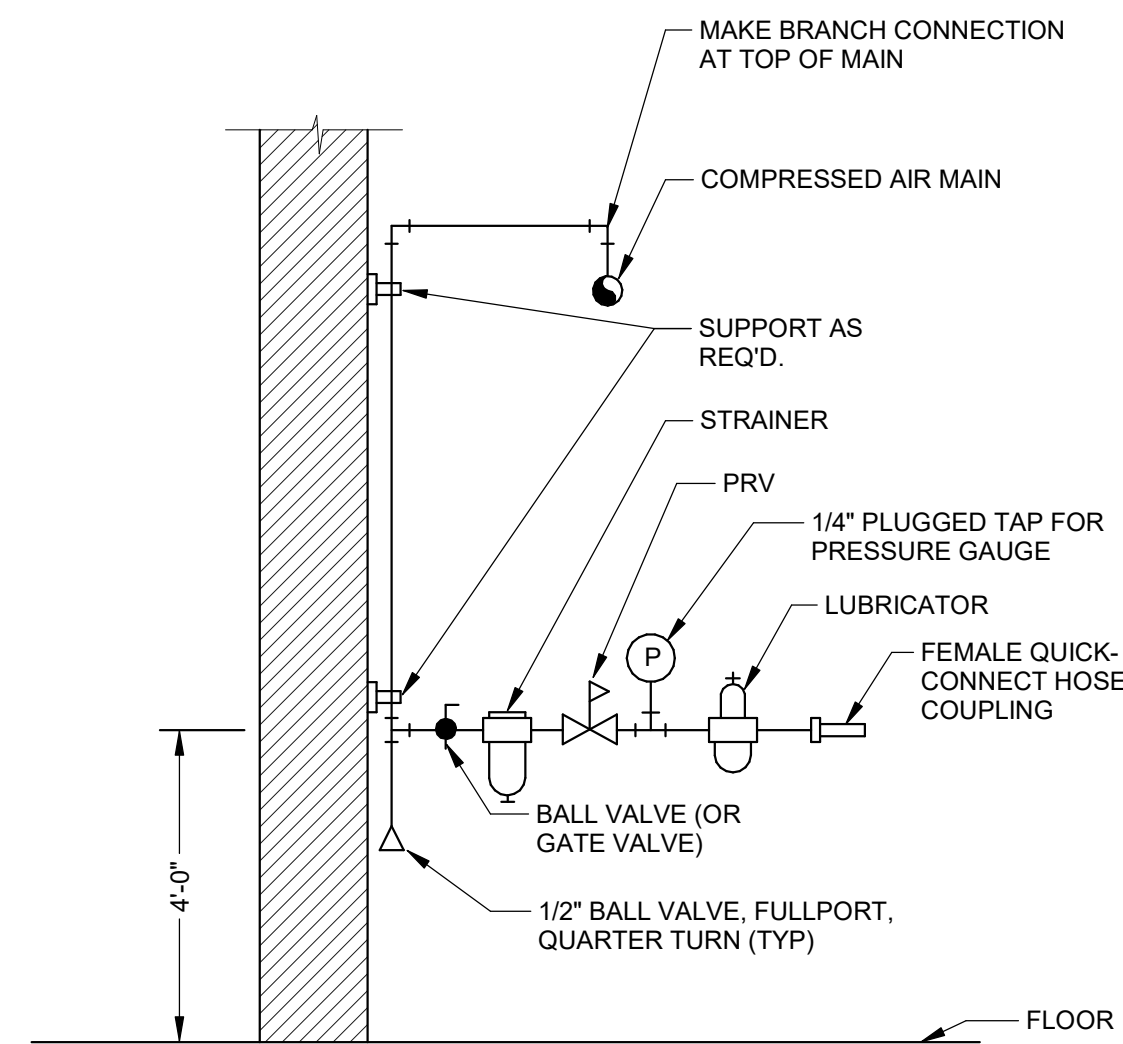
9 DUCT SUPPORT (STRUCTURAL JOIST) DETAIL
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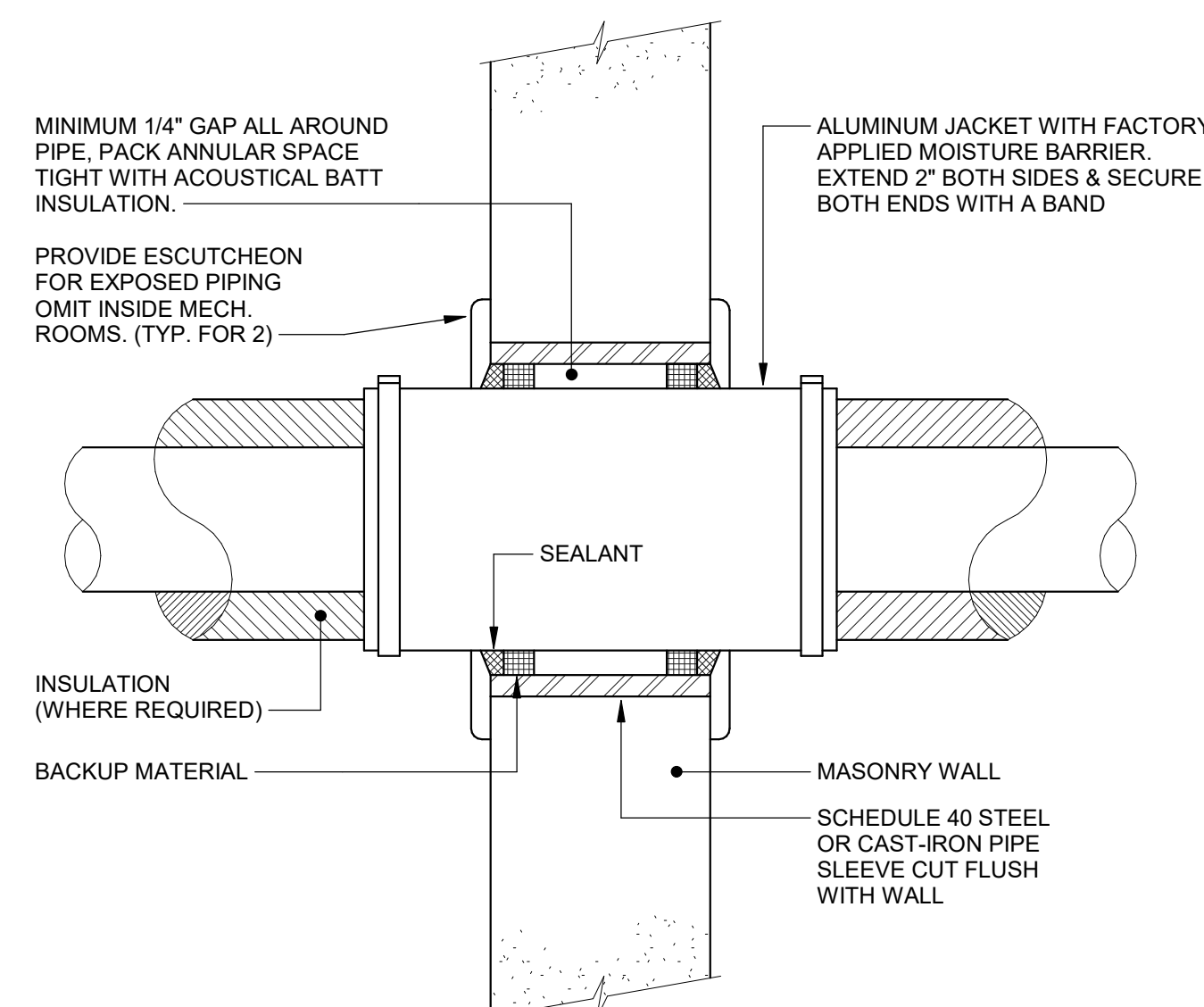
8 TYPICAL ROOFTOP UNIT DUCTED INSTALLATION DETAIL
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7 CONDENSATE DRAIN TRAP DETAIL
NTS

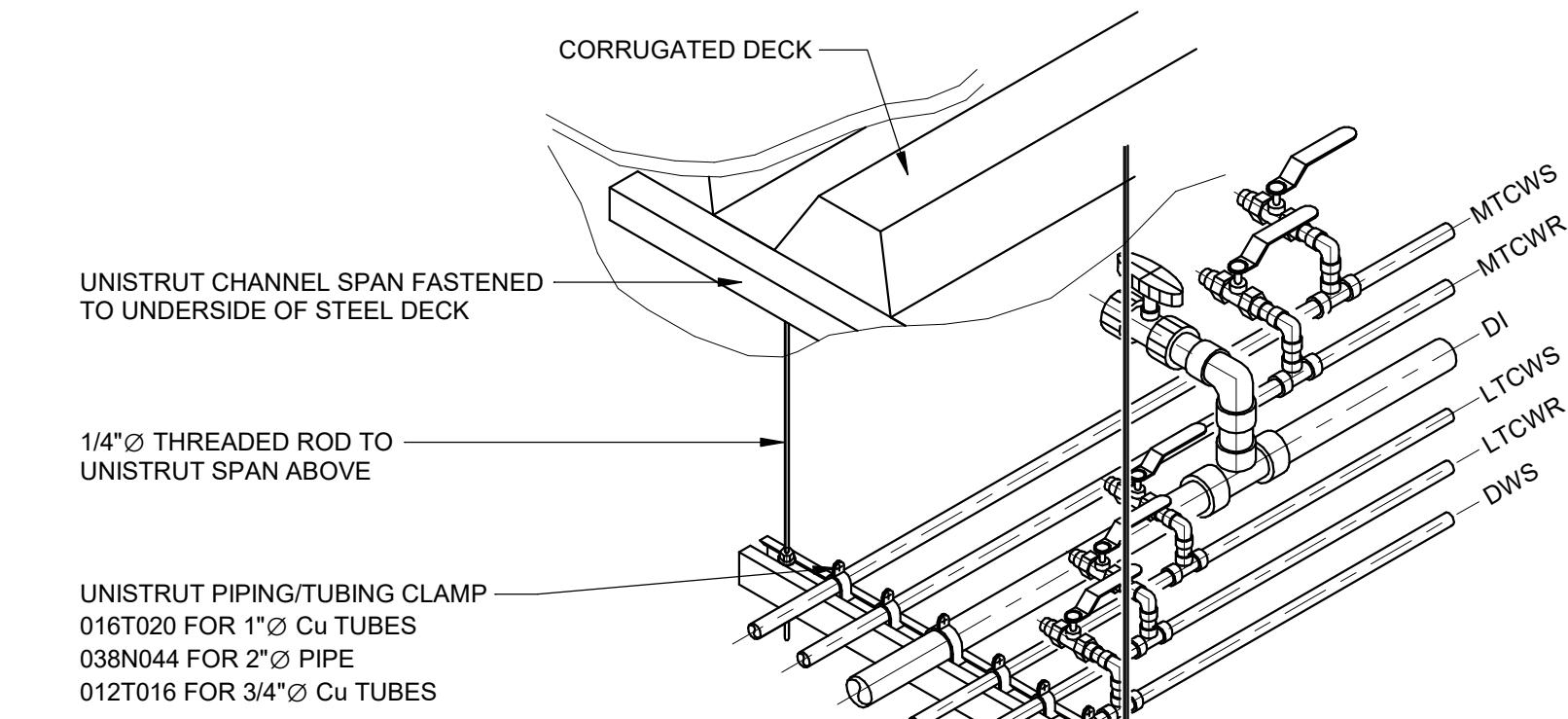


6 COMPRESSED AIR TOOL STATION
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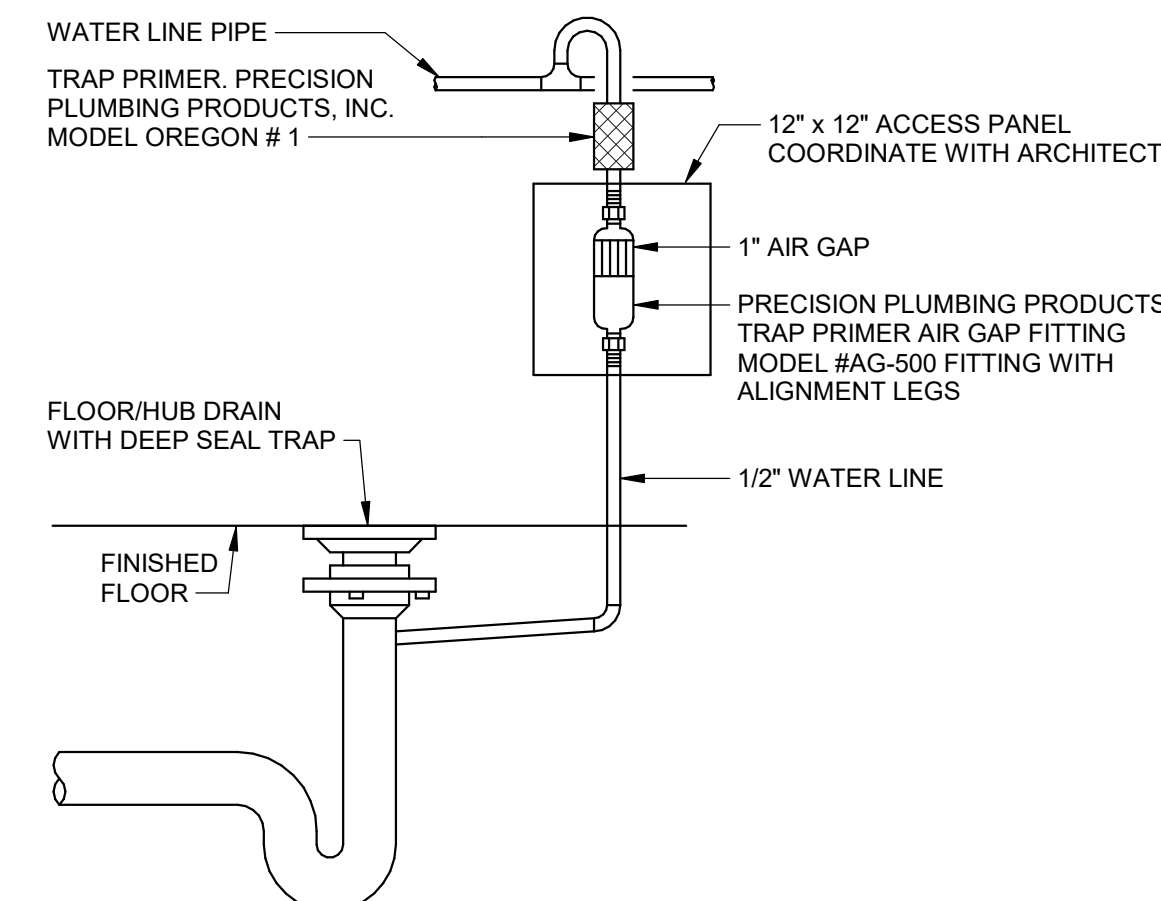


- NOTES:
- FOR GYP. BOARD WALLS PROVIDE MIN. 16 GAUGE GALV. STEEL SLEEVE W/ LOCK-TYPE LONGITUDINAL SEAM.
 - OMIT ALUMINUM JACKET IF PIPING IS UNINSULATED.

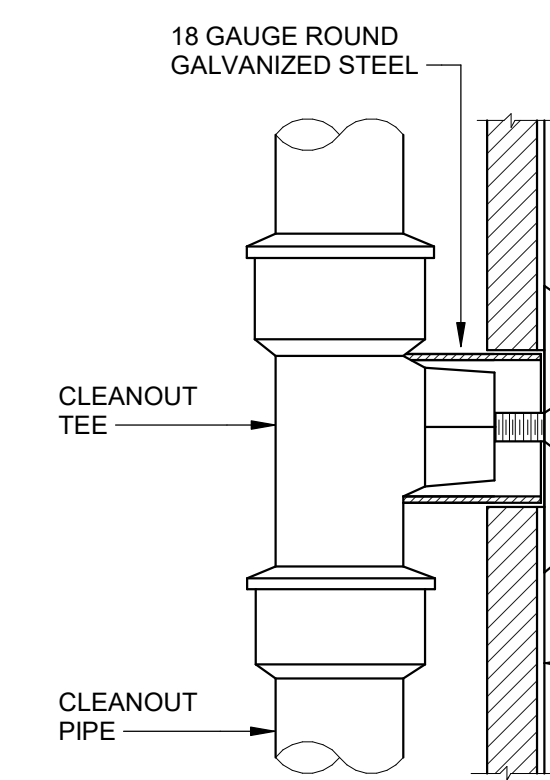
5 WALL PIPE PENETRATION DETAIL
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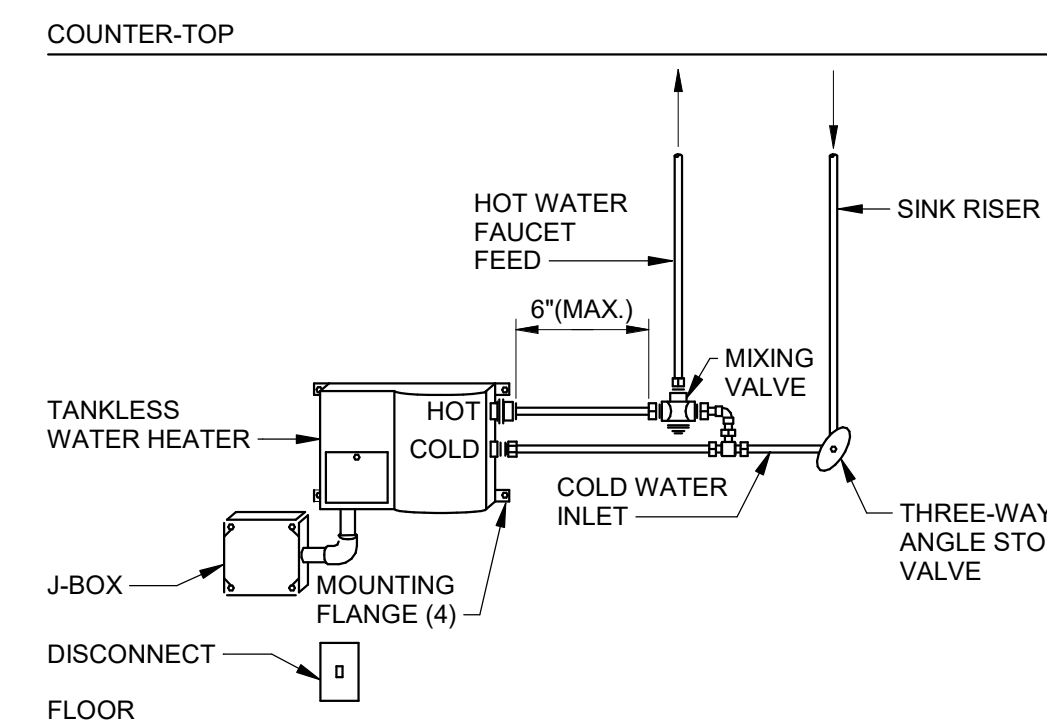
4 PIPING TRAPEZE MOUNTING DETAIL
NTS



3 TRAP PRIMER DETAIL
NTS



2 WALL CLEAN OUT DETAIL
NTS



1 ELECTRIC TANKLESS WATER HEATER DETAIL
NTS

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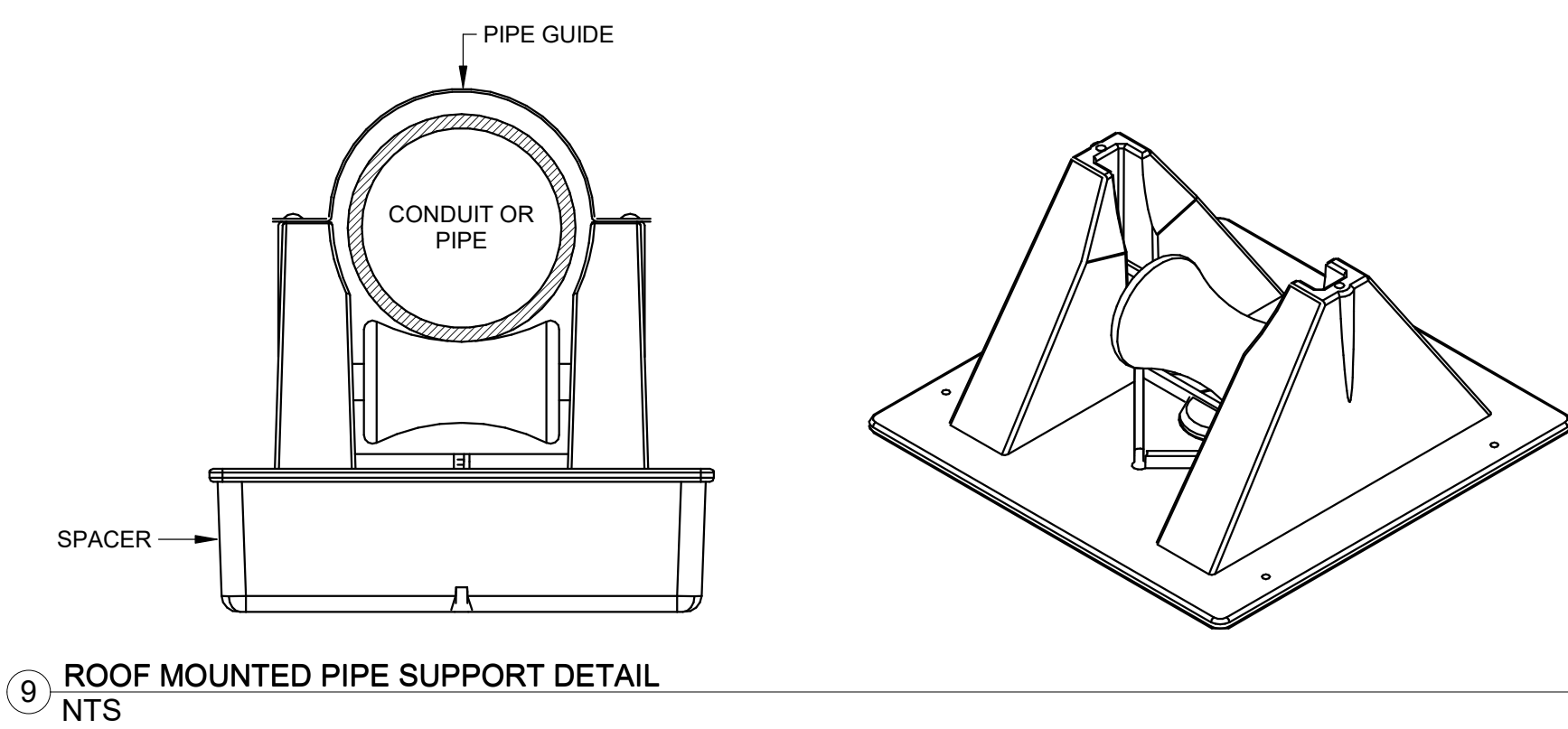
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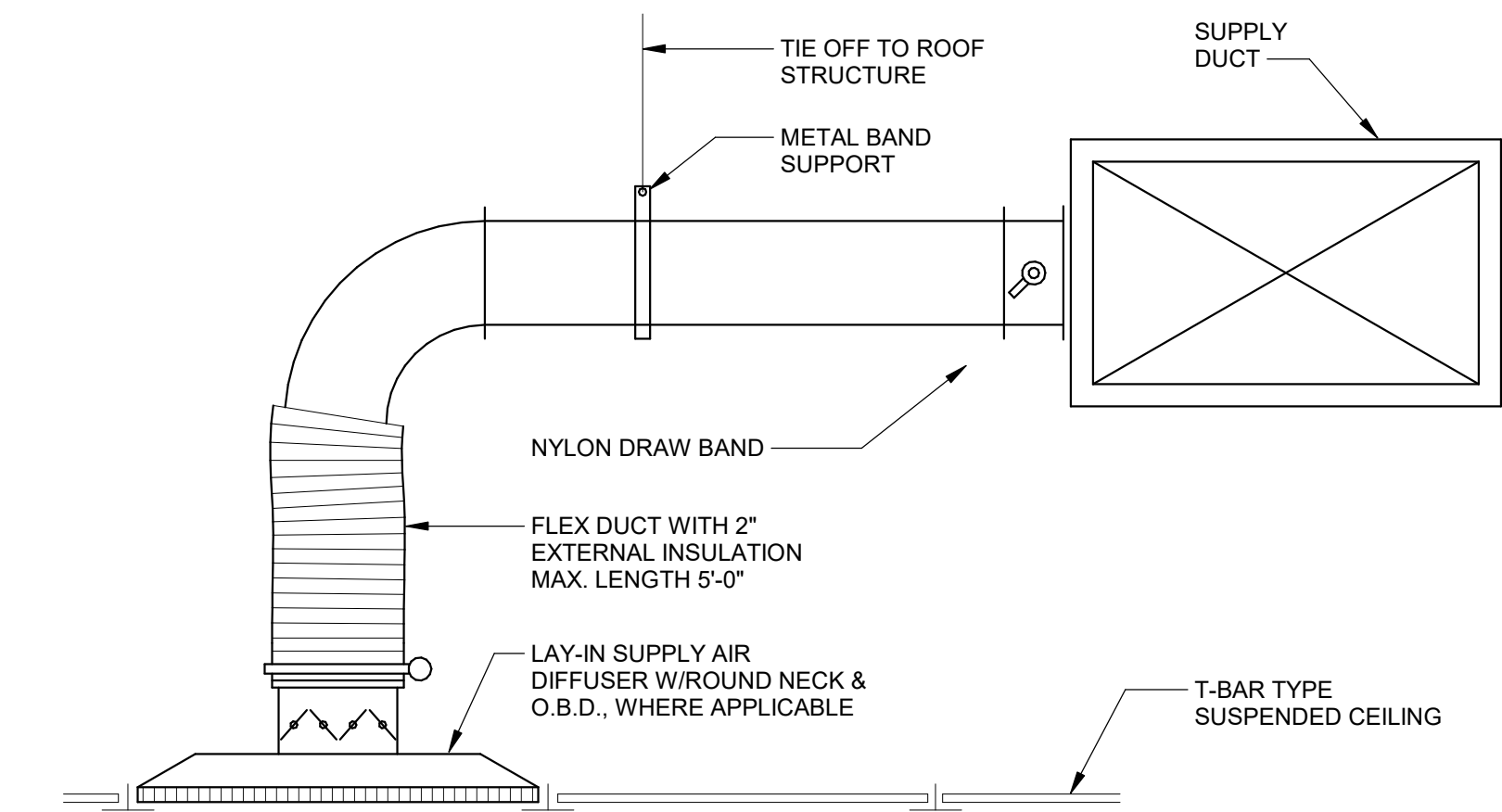
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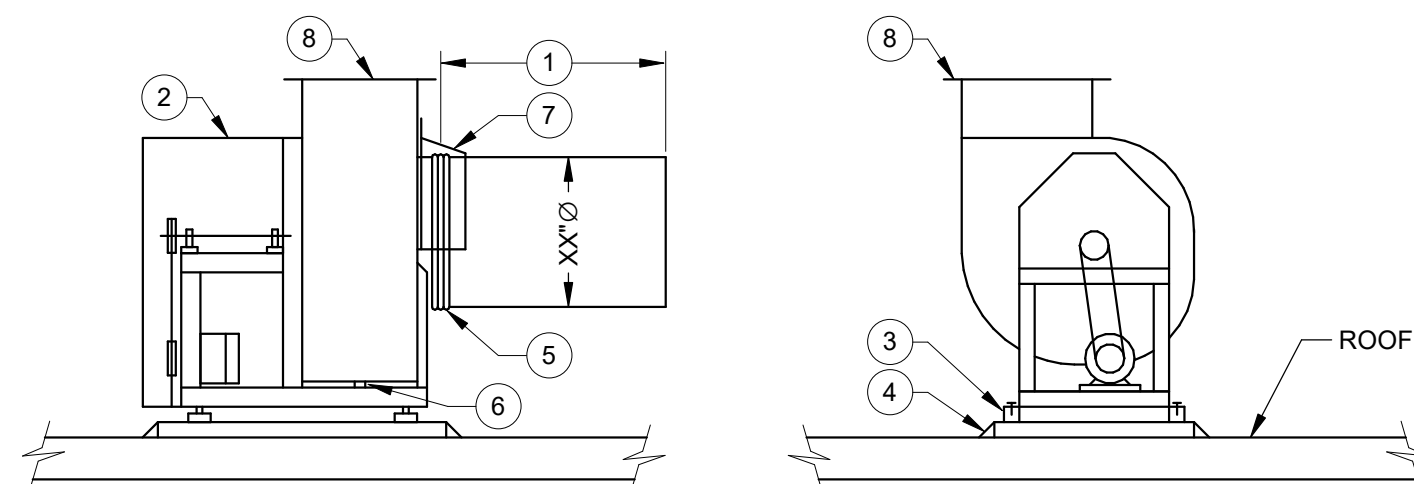
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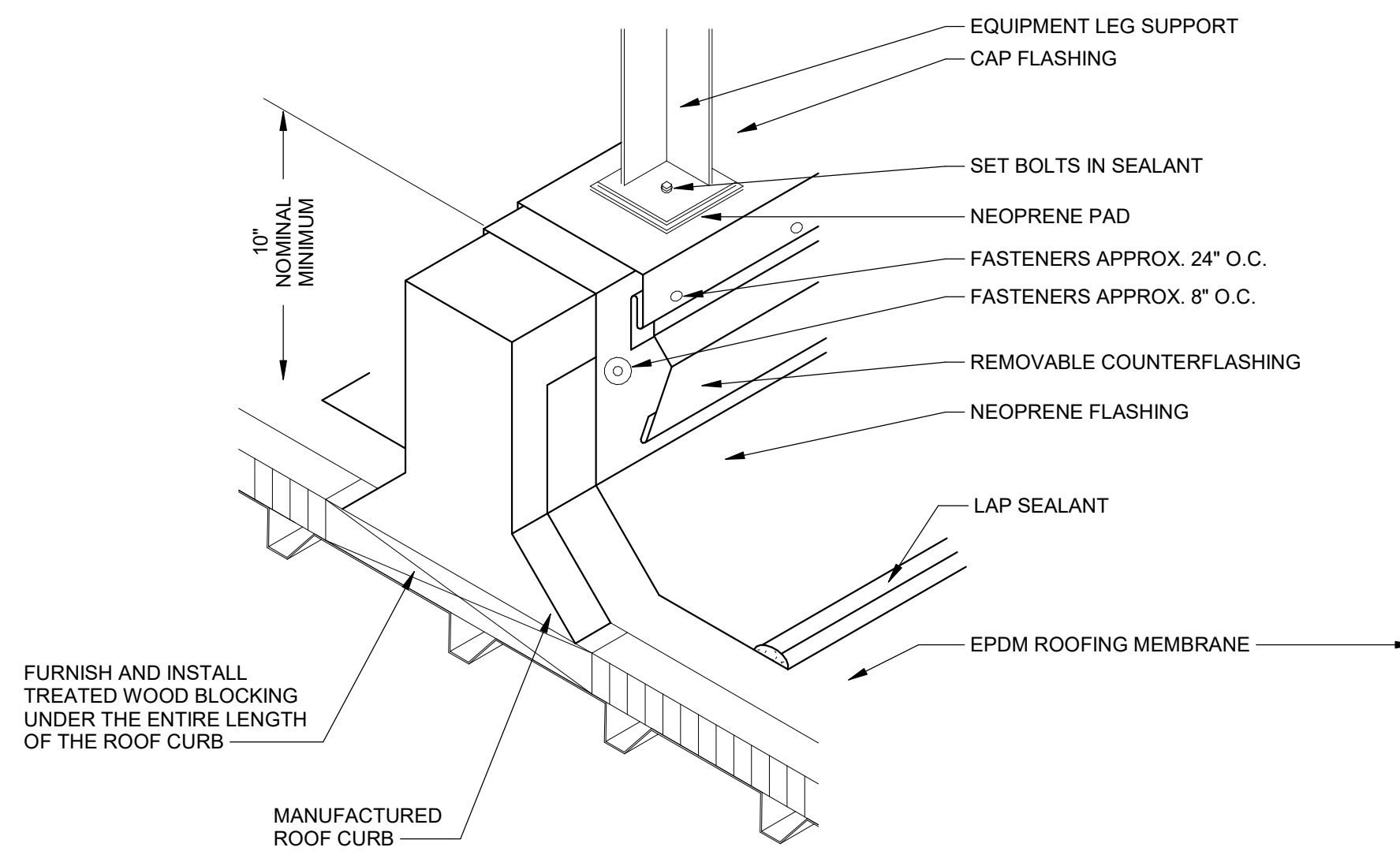
9 ROOF MOUNTED PIPE SUPPORT DETAIL
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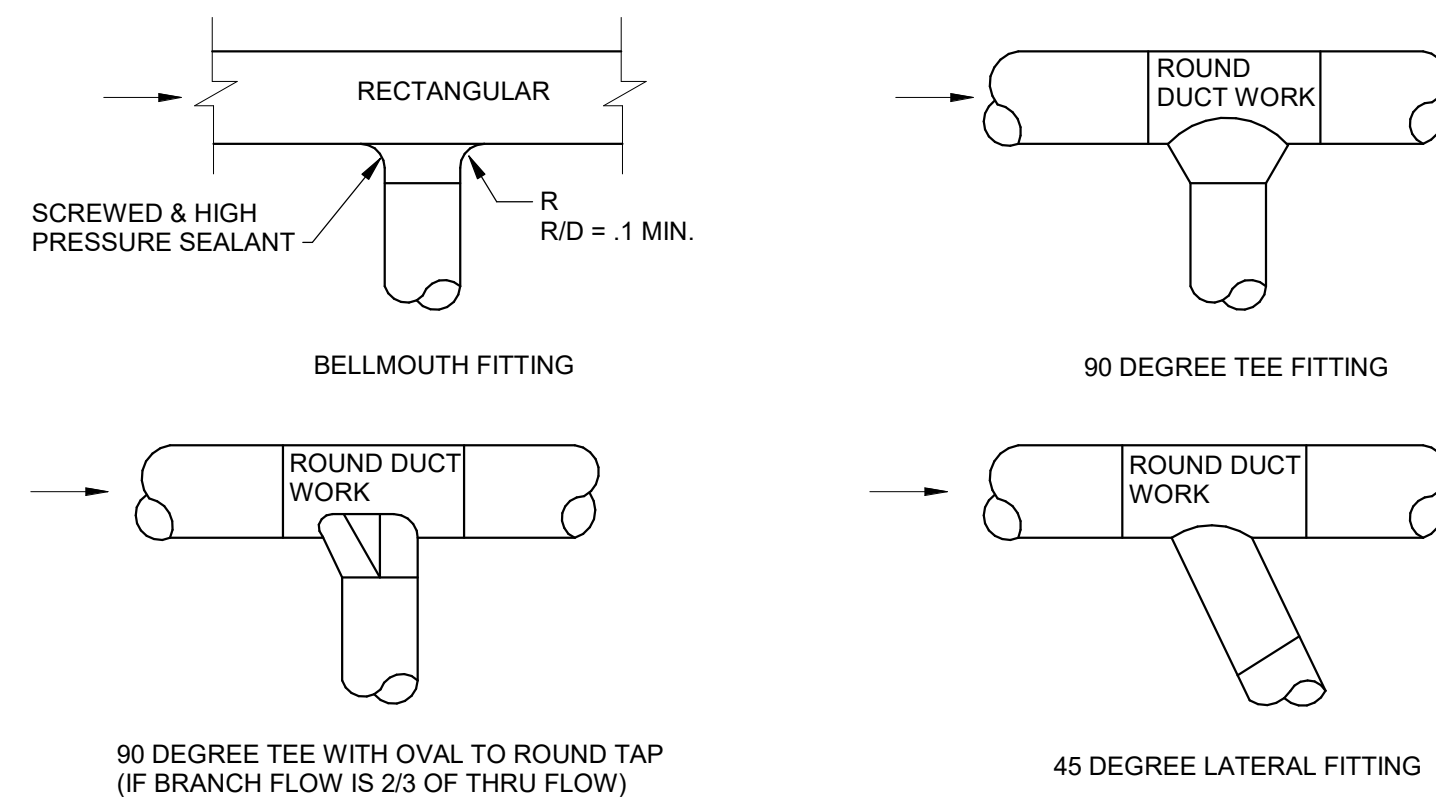
8 SUPPLY AIR DIFFUSER DETAIL
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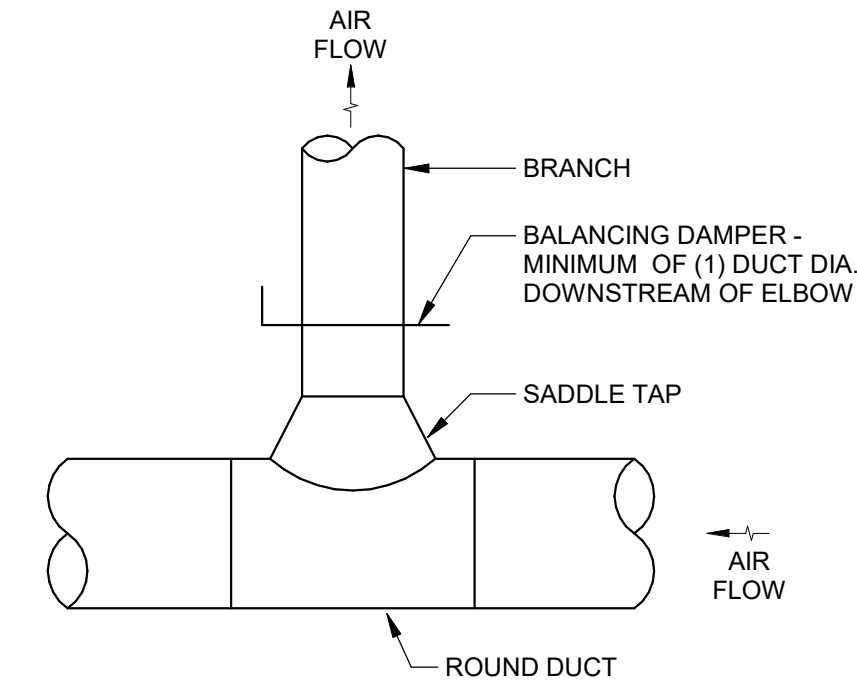
7 UTILITY SET FAN DETAIL
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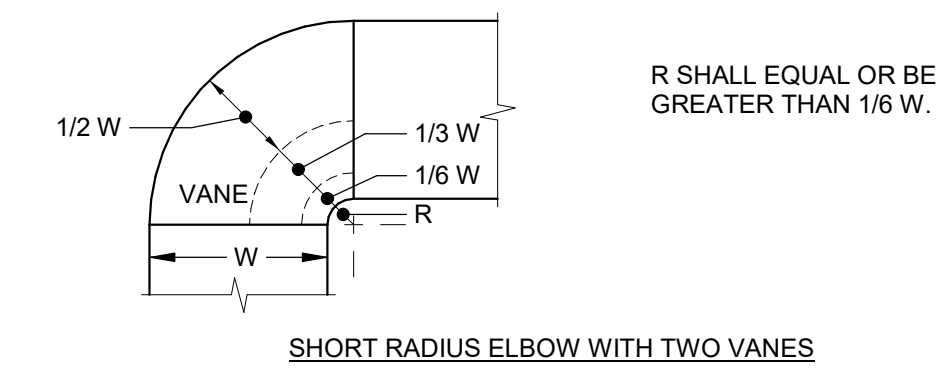
6 ROOF EQUIPMENT SUPPORT CURB DETAIL
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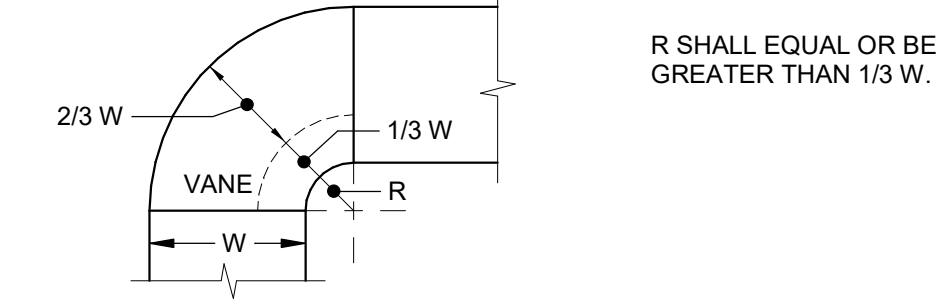
5 ROUND DUCTWORK FITTINGS DETAILS



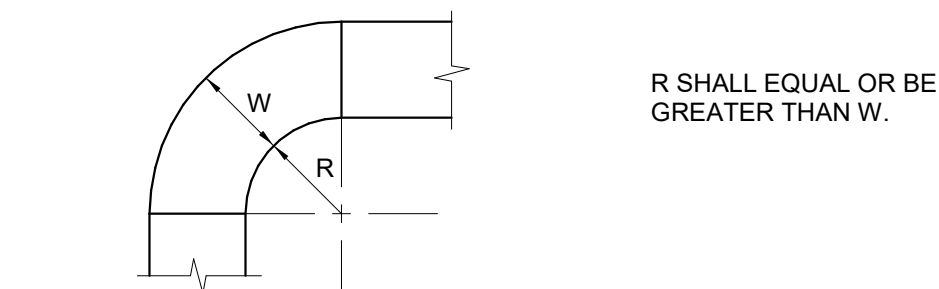
4 ROUND DUCT CONNECTION DETAIL
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SHORT RADIUS ELBOW WITH TWO VANES



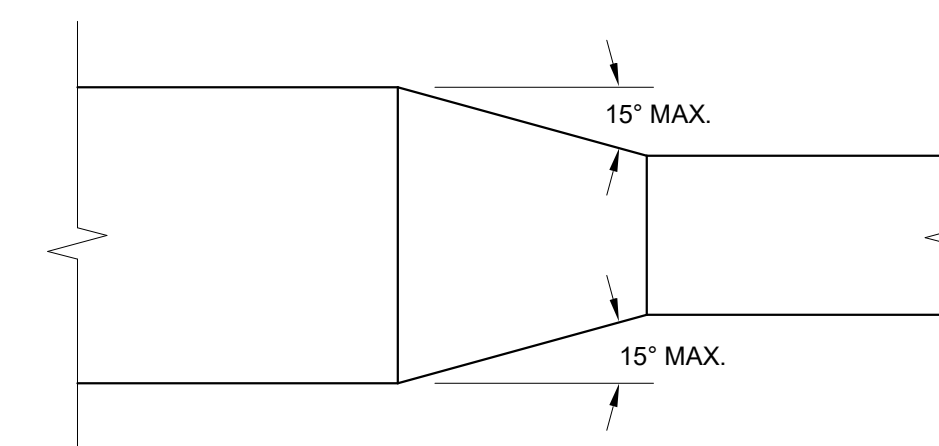
SHORT RADIUS ELBOW WITH ONE VANES



STANDARD RADIUS ELBOW

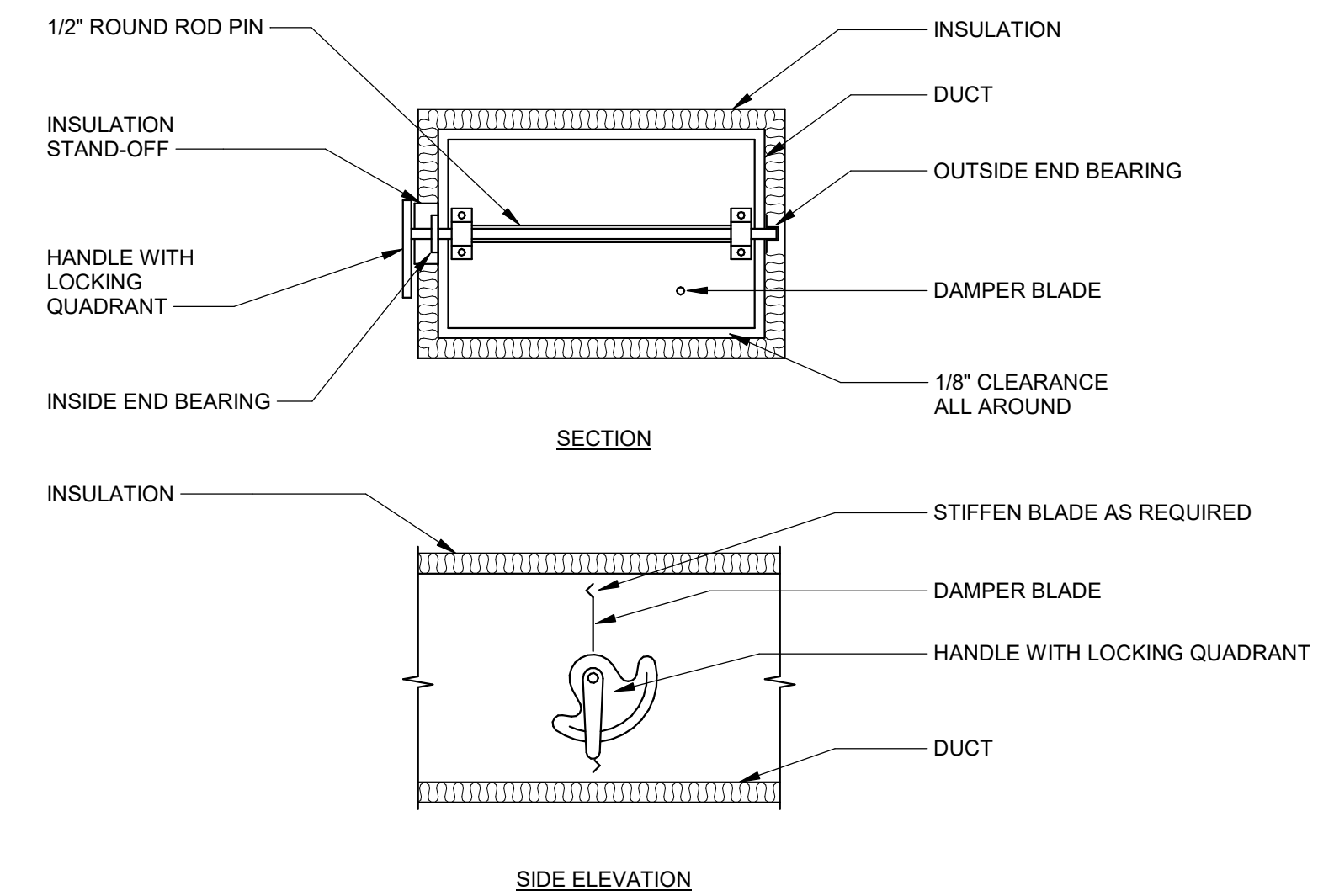
- NOTES:**
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
 2. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

③ RADIUS ELBOWS DETAIL



PLAN OR SIDE VIEW

2 DUCTWORK TRANSITION DETAIL
NTS



NOTE:
DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.

① VOLUME DAMPER DETAIL
NTS

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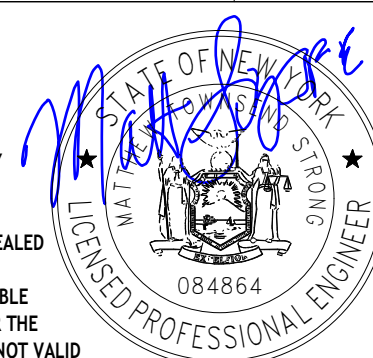
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MP4.02

SHEET NUMBER

PACKAGED ROOFTOP UNIT SCHEDULE - DX COOLING/ELECTRIC HEAT																											
SUPPLY FAN DATA										DX COIL DATA					ELECTRIC HEATING COIL DATA						DIMENSIONAL DATA				BASIS OF DESIGN		REMARKS
TAG	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP (IN WG)	HP	FAN DRIVE	ELECTRICAL DATA VOLTS	PHASE	TOTAL CAPACITY (MBH)	SENS CAPACITY (MBH)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TONS	TOTAL CAPACITY (MBH)	EDB (°F)	LDB (°F)	ELEC HEAT (KW)	MCA	MOCp	UNIT HEIGHT (IN)	UNIT WIDTH (IN)	UNIT LENGTH (IN)	UNIT WEIGHT (LBS)	MANUFACTURER	MODEL NO	
RTU-QA-1	1,100	140	10	2.4	BELT	460	3	32.9	24.1	78.6	64.5	56.1	53.6	3	39.2	57.5	90.5	11.5	23.2	25	33	49	74	568	JCI	ZQE042AC1AA1B322A3	SEE NOTES
NOTES: 1. UNIT PROVIDED BY GENERAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR. 2. SUMMER DESIGN CONDITIONS: 83°F DRY BULB/73°F WET BULB. WINTER DESIGN CONDITIONS: 6°F DRY BULB. 3. PROVIDE UNIT WITH DRY-BULB ECONOMIZER WITH BAROMETRIC RELIEF AND HOODS WITH ECONOMIZER FAULT DETECTION AND DIAGNOSTIC. PROVIDE UNIT WITH RAIN HOOD AND WATER ELIMINATOR/FILTERS ON OUTDOOR AIR INTAKE. PROVIDE RAIN HOOD ON BAROMETRIC RELIEF OUTLET. 4. PROVIDE UNIT WITH 2" PLEATED MERV-8 FILTERS AND SPARE FILTERS. UNIT SHALL BE EQUIPPED WITH A DIRTY FILTER SWITCH. 5. PROVIDE UNIT WITH POWERED CONVENIENCE OUTLET (120-VOL/15-AMP) AND HACR CIRCUIT BREAKER/DISCONNECT. 6. PROVIDE UNIT WITH SAFETY MONITORING FOR HIGH- AND LOW-PRESSURE SWITCHES, FREEZE/STATS AND TEMPERATURE LIMIT SWITCH FOR ELECTRIC HEAT. 7. PROVIDE UNIT WITH SMART EQUIPMENT CONTROLLER INCLUDING DISCHARGE AIR, RETURN AIR AND OUTDOOR AIR TEMPERATURE SENSORS. 8. PROVIDE UNIT WITH ONE (1) YEAR LIMITED WARRANTY ON THE COMPLETE UNIT AND FIVE (5) YEAR WARRANTY ON COMPRESSORS AND ELECTRIC HEATER ELEMENTS. 9. UNIT IS RATED AT 14.70 SEER/12.00 EER AND IS PROVIDED WITH R-110A REFRIGERANT. 10. PROVIDE UNIT WITH PROGRAMMABLE THERMOSTAT FOR 24/7 OPERATION AND AUTOMATIC SWITCHOVER CAPABILITIES. 11. PROVIDE UNIT WITH MANUFACTURER'S ROOF CURB.																											
SEQUENCE OF OPERATION: THE UNIT SHALL BE LOCALLY CONTROLLED AND OPERATE IN CONSTANT VOLUME MODE FOR SUPPLY AND RETURN AIR. COOLING MODE: UPON A RISE IN SPACE TEMPERATURE ABOVE 75°F (ADJ.), THE COMPRESSOR SHALL ENERGIZE TO MAINTAIN A SPACE TEMPERATURE OF 75°F (ADJ.). UPON A FALL IN SPACE TEMPERATURE BELOW THE COOLING SETPOINT, THE COMPRESSOR SHALL DE-ENERGIZE. HEATING MODE: UPON A FALL IN SPACE TEMPERATURE BELOW 70°F (ADJ.), THE ELECTRIC HEATING ELEMENT SHALL ENERGIZE TO MAINTAIN A SPACE TEMPERATURE OF 70°F (ADJ.). UPON A RISE IN SPACE TEMPERATURE ABOVE THE HEATING SETPOINT, THE HEATING ELEMENT SHALL DE-ENERGIZE. ECONOMIZER MODE: THE ECONOMIZER MODE SHALL BE INITIATED WHEN THE OUTDOOR AIR DRY-BULB TEMPERATURE RANGE IS BETWEEN 50°F AND 58°F (ADJ.). CHANGEOVER FROM COMPRESSOR TO ECONOMIZER OPERATION SHALL BE PROVIDED BY AN INTEGRAL ELECTRONIC ENTHALPY CONTROL. FUME HOOD CLOSED/MOTORIZED DAMPER FOR FUME HOOD OPERATION: WHILE THE FUME HOOD IS CLOSED AND IN THE FUME HOOD EXHAUST FAN IS DE-ENERGIZED, MD-1 SHALL BE CLOSED AND MD-2 SHALL BE OPEN TO PROVIDE SUPPLY AIR TO THE ADJACENT SPACE OF THE QA LAB. FUME HOOD OPEN/MOTORIZED DAMPER FOR FUME HOOD OPERATION: WHILE THE FUME HOOD IS OPEN (18" MAX PER PLNA STANDARDS) AND THE FUME HOOD EXHAUST FAN IS ENERGIZED, MD-1 SHALL BE OPEN TO SUPPLY MAKE-UP AIR TO THE QA LAB AND MD-2 SHALL BE CLOSED.																											

FUME HOOD EXHAUST FAN SCHEDULE (BY OTHERS-INFO ONLY)											
TAG EQ-FA-1	LOCATION ROOF	FAN TYPE UTILITY SET	CFM 450 / 725	ESP (IN WG) 0.88	DRIVE BELT	HP 3/4	VOLTS 120	PHASE 1	BASIS OF DESIGN		REMARKS
									MANUFACTURER LABCONCO	MODEL NO 82006-752	
<u>NOTES:</u>											
1. FUME HOOD EXHAUST FAN SHALL BE PROVIDED WITH THE FUME HOOD.											
2. PER PLGA STANDARDS, THE MAXIMUM SASH HEIGHT OF OPERATION SHALL BE 18" EQUATING TO 450 CFM AT 100 FPM FOR THE 4" FUME HOOD.											
3. EXHAUST FAN SHALL BE COATED STEEL BLOWER WITH HELLER AND HOUSING HAVING A PHENOLIC COATING.											
4. EXHAUST FAN SHALL HAVE ADJUSTABLE SHEAVES FOR PERFORMANCE ADJUSTMENTS AND A POWDER-COATED BASE AND WEATHER COVER.											
5. PROVIDE A POWDER-COATED STEEL BLOWER TRANSITION ADAPTER (30186-002) AND ZERO PRESSURE WEATHERCAP (30185-000) WITH FAN/BLOWER.											
<u>SEQUENCE OF OPERATION:</u>											
THE BLOWER SHALL OPERATE BASED ON THE HOOD POSITION OF OPEN (18" SASH OPENING) OR CLOSED (SASH FULLY CLOSED).											
THE FUME HOOD SHALL SEND A SIGNAL TO THE BLOWER TO ENERGIZE UPON OPENING THE SASH AND DE-ENERGIZE UPON CLOSING THE SASH.											

GRILLE, REGISTER & DIFFUSER SCHEDULE									
TAG	TYPE	SERVICE	CFM RANGE	NECK SIZE (IN)	MAX PD	MANUFACTURER/ MODEL NO	DESCRIPTION	REMARKS	
S1	CEILING	SUPPLY	225	8	0.1	PRICE / SCD	SQUARE CONE DIFFUSER WITH 360-DEGREE AIR PATTERN	SEE NOTES	
S2	CEILING	SUPPLY	250 - 400	10	0.1	PRICE / SCD	SQUARE CONE DIFFUSER WITH 360-DEGREE AIR PATTERN	SEE NOTES	
S3	SIDEWALL	SUPPLY	400	10 X 10	0.1	PRICE / 610	SIDEWALL SUPPLY GRILLE@-DEGREE/3/4" BLADE SPACING	SEE NOTES	
R1	CEILING	RETURN	200	10	0.1	PRICE / 610Z	SIDEWALL RETURN GRILLE@-DEGREE/3/4" BLADE SPACING	SEE NOTES	
R2	CEILING	RETURN	450	12	0.1	PRICE / 610Z	SIDEWALL RETURN GRILLE@-DEGREE/3/4" BLADE SPACING	SEE NOTES	
R3	SIDEWALL	RETURN	310	10 X 10	0.1	PRICE / 610Z	SIDEWALL RETURN GRILLE@-DEGREE/3/4" BLADE SPACING	SEE NOTES	

NOTES:

- PROVIDE ALUMINUM GRILLES AND DIFFUSERS WITH BAKED ENAMEL COATING.
- SIDEWALL GRILLES (SUPPLY AND RETURN) MUST BE MOUNTED ONLY. GRILLES ARE NOT MOUNTED IN A WALL FACE.
- CEILING SUPPLY GRILLES (SCD) SHALL HAVE INSULATION OVER COVER.

WATER HEATER SCHEDULE							
TAG	LOCATION	PRESET WATER TEMP (°F)	VOLTS / PHASE	HEATING ELEMENT KW	MANUFACTURER CHROMITONE	MODEL ER-50L	REMARKS
IWH	BELOW COUNTER	120	480 / 3	24			SEE NOTES
NOTES:							
1. MOUNT WATER HEATER UNDER COUNTER.							
2. WATER HEATER TO HAVE A DEDICATED ANGLE VALVE.							
3. WATER HEATER SHALL BE HARD WIRED WITH CUTOFF SWITCH OR DISCONNECT.							
4. PROVIDE WATER HAMMER ARRESTOR.							
5. PROVIDE LEONARD MODEL 70-F-L MIXING VALVE, OR APPROVED EQUAL. TO PROVIDE TEPID WATER FOR EMERGENCY EYE WASH.							

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REVISION HISTORY		
ISSUE	DESCRIPTION	DATE
0	ISSUE FOR CONSTRUCTION	16 JULY 2021

PROFESSIONAL SEALS






















































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SHEET NUMBER

ELECTRICAL SYMBOLS (SEE NOTES BELOW)	
1.	ALL SYMBOLS MAY NOT APPEAR ON DRAWINGS.
2.	DEVICES SHALL BE RECESSED FLUSH WITH FINISHED SURFACE UNLESS NOTED OTHERWISE.
3.	ABBREVIATIONS (SUCH AS "GFI", "WPI", "422", "30A" ETC.) ASSOCIATED OR ADJACENT TO SYMBOL INDICATES THAT ATTRIBUTE OR REQUIREMENT SHALL BE PROVIDED FOR ITEM REPRESENTED BY SYMBOL. (E) - EXISTING TO REMAIN (D) - TO BE DEMOLISHED (R) - TO BE RELOCATED
LIGHTING	
	DOWNLIGHT FIXTURE: FULL SHADING INDICATES EMERGENCY/ NIGHTLIGHT FIXTURE. HALF SHADING INDICATES WALL WASH. SUBSCRIPT INDICATES TYPE.
	PENDANT FIXTURE: SHADING INDICATES EMERGENCY/ NIGHTLIGHT FIXTURE. SUBSCRIPT INDICATES TYPE.
	SUSPENDED FIXTURE: SHADING INDICATES EMERGENCY/ NIGHTLIGHT FIXTURE. SUBSCRIPT INDICATES TYPE.
	2X2 RECESSED FIXTURE: SHADING INDICATES EMERGENCY/ NIGHTLIGHT FIXTURE. SUBSCRIPT INDICATES TYPE.
	2X4 RECESSED FIXTURE: SHADING INDICATES EMERGENCY/ NIGHTLIGHT FIXTURE. SUBSCRIPT INDICATES TYPE.
	POLE MOUNTED AREA LIGHTING FIXTURE: SUBSCRIPT INDICATES TYPE.
	WALL MOUNTED EMERGENCY FIXTURE: SUBSCRIPT INDICATES TYPE.
	EXIT SIGN: SHADING INDICATES LIT FACE. ARROWS INDICATE DIRECTION. SUBSCRIPT INDICATES TYPE.
WIRING	
	JUNCTION BOX - SIZE IN ACCORDANCE WITH NEC FOR SPECIFIC APPLICATIONS. (B) EXISTING CONDUITS CONCEALED IN WALLS SHALL BE MAINTAINED AND THE WIRES SHALL BE REMOVED. (C) FOR CIRCUITS CONCEALED WITHIN THE FLOOR, REMOVE THE WIRES AND CUT OFF THE CONDUIT ONE INCH BELOW THE ROUGH FLOOR GROUT FLUSH. (D) FOR AFFECTED CIRCUITS THAT HAVE NO LOAD CONNECTIONS, DISCONNECT THE WIRES FROM THEIR POWER SOURCE AND REMOVE THEM IN THEIR ENTIRETY.
	SINGLE RECEPTACLE: NEMA 5-20R.
	DUPLEX RECEPTACLE: NEMA 5-20R. SHADING INDICATES ABOVE COUNTER.
	QUADRAPLEX RECEPTACLE: NEMA 5-20R.
	SPECIAL RECEPTACLE: NEMA RATING AS INDICATED.
	FLUSH FLOOR MOUNT DUPLEX RECEPTACLE: NEMA 5-20R.
	TELEPHONE OUTLET
	TELEPHONE / DATA OUTLET
	FLUSH FLOOR MOUNT TELEPHONE / DATA OUTLET
	CABLE OR CCTV OUTLET
	OCCUPANCY SENSOR
	SINGLE POLE SWITCH, 20A, 120/277V, LOWERCASE LETTER INDICATES SWITCH CONTROL.
	DOUBLE POLE SWITCH, 20A, 120/277V
	THREE WAY SWITCH, 20A, 120/277V
	FOUR WAY SWITCH, 20A, 120/277V
	KEY OPERATED SWITCH
	MOTOR RATED SWITCH
	OCCUPANCY SENSOR AND SWITCH COMBINATION (DUAL RELAY)
	DIMMER SWITCH, LOWERCASE LETTER INDICATES SWITCH CONTROL.
	CIRCUIT: ARROW INDICATES HOME RUN
EQUIPMENT	
	MAGNETIC MOTOR CONTROLLER: SIZE PER N.E.M.A. STANDARDS; CONTROL DEVICE IN COVER, AUX CONTACT AND CONTROL TRANSFORMER
	COMBINATION MOTOR STARTER AND DISCONNECT
	DISCONNECT SWITCH: WHERE SHOWN, 60/40/3 INDICATES SWITCH SIZE/FUSE SIZE/NO. OF POLES - MOTOR RATED FOR MOTOR FEEDERS
	NON-FUSED DISCONNECT SWITCH
	MOTOR: WHERE SHOWN, NUMBER EQUALS HORSEPOWER RATING.
	PANELBOARD
	TELEPHONE BACKBOARD: 3/4" PLYWOOD FIRE RATED AND PAINTED
	DRY-TYPE TRANSFORMER
	METER
	THERMOSTAT
SYSTEMS	
	FIRE ALARM SPEAKER / HORN
	FIRE ALARM VISUAL LIGHT ASSEMBLY
	FIRE ALARM SPEAKER / HORN WITH VISUAL LIGHT ASSEMBLY
	FIRE ALARM SPEAKER / HORN WITH VISUAL LIGHT ASSEMBLY - CEILING MOUNTED
	FIRE ALARM MANUAL PULL STATION
	SMOKE DETECTOR
	HEAT DETECTOR
	MAGNETIC DOOR LOCK
	CARD READER
	DOOR CONTACT
	KEYPAD
	PUSH BUTTON RELEASE
	FIRE ALARM CONTROL PANEL
	FIRE ALARM ANNUNCIATOR PANEL
	CAMERA

GENERAL NOTES FOR ELECTRICAL WORK

DEMOLITION

- THE DEMOLITION DRAWING SHOWING EXISTING UTILITIES DOES NOT NECESSARILY REFLECT THE EXACT CONDITIONS. SUCH AS SIZES, ELEVATIONS AND ROUTING. THE PURPOSE OF THIS LAYOUT IS TO GIVE THE CONTRACTOR A GENERAL IDEA OF THE SCOPE OF THE DEMOLITION WORK. IF IN DOUBT AS TO EXTENT OR TO THE SPECIFIC WORK INVOLVED, CONTRACTOR SHALL CONSULT WITH THE ENGINEER FOR CLARIFICATION.
- WHEN THE WORK INVOLVES THE REMOVAL OF EQUIPMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISMANTLING OR DISCONNECTION OF THE RESPECTIVE UTILITIES, SUCH AS ELECTRICAL POWER, CONTROLS AND OTHER RELATED CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE SYSTEMS BEING REUSED, THE COORDINATION OF THE PATCHING OF WALLS, CEILING AND ROOF THAT ARE AFFECTED BY THE DEMOLITION. WHEN THE EQUIPMENT CALLS FOR A REPLACEMENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RECONNECTION OF ALL THE RESPECTIVE SYSTEMS.
- REMOVE ALL ABANDONED WIRING, CONDUIT AND ELECTRICAL EQUIPMENT. ALL REMOVED EQUIPMENT AND ASSOCIATED WIRING DEVICES, CONDUIT, AND CONDUCTORS SHALL BE RECYCLED TO EXTENT POSSIBLE U.N.O.
- ELECTRICAL EQUIPMENT SHALL BE REUSED AS INDICATED. REPLACE ANY PORTION OF FEEDERS OR BRANCH CIRCUIT THAT IS NOT IN GOOD CONDITION.
- WHERE REMOVAL OF AN EXISTING OUTLET OR EQUIPMENT FEED WILL RESULT IN LOSS OF CIRCUIT CONTINUITY, THE ISOLATED PORTIONS OF THE CIRCUIT OR FEED SHALL BE RECONNECTED TO PROVIDE SERVICE TO ALL OUTLETS AND EQUIPMENT.
- DISCONNECT ALL MECHANICAL EQUIPMENT BEING DEMOLISHED. REMOVE CIRCUITS BACK TO SOURCE U.N.O. SEE MECHANICAL DRAWINGS FOR EXTENT OF WORK.
- PROVIDE CIRCUIT MODIFICATIONS INDICATED OR AS OTHERWISE REQUIRED TO MAINTAIN THE CONTINUITY OF EXISTING CIRCUITS THAT REMAIN. BE SURE TO MAINTAIN THE EXISTING PHASE SEQUENCE.
- REGARDING EXISTING CIRCUITRY THAT IS NOT REUSED AT THE COMPLETION OF THE DEMOLITION WORK, THE FOLLOWING SHALL APPLY.
(A) ALL EXISTING EXPOSED CIRCUITRY (WIRE AND CONDUIT) SHALL BE MAINTAINED IN SAME OR BETTER CONDITIONS AS WHEN REMOVED FROM SERVICE.
(B) EXISTING CONDUITS CONCEALED IN WALLS SHALL BE MAINTAINED AND THE WIRES SHALL BE REMOVED. (C) FOR CIRCUITS CONCEALED WITHIN THE FLOOR, REMOVE THE WIRES AND CUT OFF THE CONDUIT ONE INCH BELOW THE ROUGH FLOOR GROUT FLUSH. (D) FOR AFFECTED CIRCUITS THAT HAVE NO LOAD CONNECTIONS, DISCONNECT THE WIRES FROM THEIR POWER SOURCE AND REMOVE THEM IN THEIR ENTIRETY.
- DEMOLITION DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION. CONTRACTOR SHALL VERIFY AND MAKE FINAL DETERMINATION OF ALL EXISTING CIRCUITS INDICATED FOR REMOVAL AND/OR TO REMAIN.
- ALL ITEMS SHOWN DASHED ON DEMOLITION PLANS ARE EXISTING AND SHALL BE REMOVED, UNLESS SPECIFICALLY INDICATED OTHERWISE, REMOVED ASSOCIATED WIRING, CONDUIT, SWITCHES, ETC.
- ALL ITEMS SHOWN SHADED ON DEMOLITION PLANS ARE EXISTING TO REMAIN. MAINTAIN CIRCUIT CONTINUITY. PROVIDE CIRCUIT MODIFICATIONS AS REQUIRED TO ENSURE THE CONTINUITY OF EXISTING CIRCUITS THAT REMAIN.
- ALL CONDUIT REMOVED SHALL BE REMOVED IN ITS ENTIRETY, INCLUDING FITTINGS, MOUNTING DEVICES, MOUNTING HARDWARE, AND SO FORTH. PROVIDE CONDUIT PLUGS AND BLANKS FOR ALL OPENINGS CREATED BY THE REMOVAL OF CONDUIT. PROVIDE BLANK COVER PLATES FOR ALL OPENED OUTLET BOXES CREATED BY THE REMOVAL OF EQUIPMENT AND/OR DEVICES.
- PATCH ALL HOLES, OPENINGS, CREVICES, AND SIMILAR DEFAACEMENTS WHICH ARE CREATED IN THE DEMOLITION PROCESS. PATCH WORK IN EXTERIOR WALLS SHALL BE WATERPROOF. PAINT THE PATCH WORK AS REQUIRED TO MATCH THE FINISH OF THE ADJACENT SURFACES.
- THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL APPURTENANCES (DISCONNECTS SWITCHES, MOTOR STARTERS, WIRE, CONDUIT, ETC) ASSOCIATED WITH ELECTRIFIED EQUIPMENT REMOVED BY THE OTHERS UNDER THE CONTRACT.
- UNLESS NOTED OTHERWISE, ALL MATERIALS REMOVED UNDER THE CONTRACT, AND THAT IS NOT REINSTALLED OR TURNED OVER TO THE OWNER, SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED COMPLETELY FROM THE SITE.
- THE CONTRACTOR SHALL EXERCISE CARE IN REMOVAL OF DEMOLISHED ITEMS. THE CONTRACTOR SHALL REPAIR, AT HIS COST, ANY DAMAGE CAUSED TO EXISTING CONSTRUCTION AND/OR EQUIPMENT TO REMAIN.

GENERAL ITEMS

- WORK SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, AND LOCAL CODES, RULES, AND REGULATIONS.
- ALL WORK SHALL COMPLY WITH THE BUILDING OWNER CONSTRUCTION GUIDE. COORDINATE WITH BUILDING MANAGEMENT/OWNER FOR ACCESS TO ANY SPACES THAT MIGHT BE REQUIRED FOR THE INSTALLATION.
- EXISTING CONDITIONS ARE BASED ON INFORMATION PROVIDED BY SITE SURVEY, HOWEVER, IT IS NOT INTENDED TO BE EXACT REPRESENTATION OF ACTUAL CONDITIONS. VISIT JOB SITE BEFORE BIDDING TO ASCERTAIN EXISTING CONDITIONS AND NOTIFY ENGINEER OF DISCREPANCIES BEFORE BID.
- WHERE WIRE SIZES ARE NOTED ON DRAWINGS OR SCHEDULES, SIZE SHALL BE PROVIDED THROUGH ENTIRE RUN UNLESS NOTED OTHERWISE.
- WIRE SHALL BE COPPER.
- CONNECTIONS TO PANELBOARDS OR BUSWAY SHALL BE MADE ONLY WHEN PANELBOARD OR BUSWAY HAS BEEN DE-ENERGIZED. SCHEDULE DOWN-TIME WITH BUILDING OWNER BEFORE PERFORMING WORK.
- ALL 20A BRANCH CIRCUITS UNDER 150 FEET SHALL BE (2)#12, #12G, 3/4" U.N.O. ALL 20A BRANCH CIRCUITS 150 FEET AND OVER SHALL BE (2)#10, # 10G, 3/4" U.N.O.
- BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRAL AND GROUND WIRES.
- PROVIDE LABELS ON WIRING DEVICES, DISCONNECT SWITCHES, ETC., WITH CIRCUIT NUMBER FROM PANEL SERVING DEVICES.
- UNLESS SPECIFICALLY NOTED TO BE EXISTING, WORK AND MATERIAL SHOWN BOLD SHALL BE PROVIDED AS NEW, WHEREVER "NEW TO EXISTING" CONNECTION IS REQUIRED. PROVIDE ACCESSORIES, SPLICES, CONDUIT, FITTINGS, AND MISCELLANEOUS HARDWARE AND COMPONENTS AS NECESSARY TO EFFECT CONNECTIONS. PROVIDE CUTTING AND PATCHING AS NECESSARY. CONCEAL CONDUITS WHENEVER POSSIBLE.
- NEW CONDUIT PENETRATIONS THROUGH BLOCK, BRICK, AND/OR CONCRETE WALLS, FLOORS, AND OTHER SIMILAR CONSTRUCTION SHALL BE ACCOMPLISHED BY CORE DRILLING. REFER TO SPECIFICATIONS FOR CONDUIT SLEEVE REQUIREMENTS. SEAL AND CALK AROUND CONDUIT. PROVIDE PROPERLY RATED FIRE SEALS FOR CONDUITS THAT PENETRATE FIRE-RATED CONSTRUCTION. REFER TO ARCHITECTURAL DRAWING FOR FIRE-RATED CONSTRUCTION.

- ALL WORK IN THE EXISTING BUILDING SHALL BE SCHEDULED AT TIMES THAT ARE CONVENIENT TO THE OWNER.
- BEFORE BID CONTRACTOR SHALL VISIT SITE AND VERIFY ALL EXISTING EQUIPMENT, MATERIALS, SYSTEMS, AND EXACT REQUIREMENTS OF THE EXISTING WORK AND/OR CONFLICT THAT IS FOUND. CONTRACTOR SHALL BE REPORTED TO THE ENGINEER OF OWNERS REPRESENTATIVE.
- UNDER NO CIRCUMSTANCE SHALL UTILITY SERVICES BE INTERRUPTED WITHOUT CAREFUL COORDINATION AND WRITTEN CONSENT FROM OWNER. INTERRUPTION IN UTILITY SERVICES SHALL BE PLANNED IN ADVANCE FOR ALL PARTIES INVOLVED.
- COMPLY WITH REQUIREMENTS OF NFPA 70E WHEN WORKING WITH ENERGIZED ELECTRICAL EQUIPMENT.
- CIRCUITRY SHALL BE CONCEALED IN FINISHED AREAS. EXISTING CIRCUITRY TO REMAIN THAT BECOMES EXPOSED IN A FINISHED AREA SHALL BE REROUTED AND RECONNECTED AS REQUIRED TO BECOME CONCEALED AND TO MAINTAIN CIRCUIT CONTINUITY. EXPOSED CONDUIT MAY BE PROVIDED IN UNFINISHED SPACES.
- GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH ELECTRICAL DRAWING OF THIS SET. REFER TO EACH DRAWING FOR SPECIFIC SCOPE AREAS.
- VERIFY MEASUREMENTS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON DRAWINGS AND ACTUAL MEASUREMENTS AT SITE OF CONSTRUCTION. DRAWINGS ARE DIAGRAMMATIC REPRESENTATION AND INTENDED TO CONVEY INTENT.
- UPON COMPLETION OF WORK, THOROUGHLY CLEAN EXPOSED PORTIONS OF ELECTRICAL EQUIPMENT. ONLY USE CLEANERS RECOMMENDED IF APPROVED BY MANUFACTURER.
- DESIGNATE ONE PERSON TO SERVE AS PRIMARY POINT OF COMMUNICATION WITH PROJECT TEAM.
- WORK AMONG TRADES SHALL BE FULLY COORDINATED AS REQUIRED IN FIELD TO AVOID CONFLICTS. CONFLICTS SHALL BE REPORTED IN WRITING TO ENGINEER AND OWNER.
- EQUIPMENT SHALL BE NEW UNLESS NOTED OTHERWISE AND INSTALLED IN ACCORDANCE WITH MANUFACTURERS' PUBLISHED RECOMMENDATIONS. PRODUCTS SHALL BEAR UL LABELS.
- REUSED EXISTING ITEMS SHALL BE REFURBISHED, STORED, AND MAINTAINED IN SAME OR BETTER CONDITIONS AS WHEN REMOVED FROM SERVICE.
- COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH OTHER TRADES.
- COORDINATE EXACT LOCATIONS OF EQUIPMENT POWER CONNECTIONS WITH OWNER AND OEM EQUIPMENT VENDORS BEFORE FINAL ROUGH-IN.
- WITHIN 30 DAYS AFTER DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF INITIAL INSTALLATION SHALL BE PROVIDED TO BUILDING OWNER, INCLUDING SINGLE LINE DRAWING OF BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR DISTRIBUTION.
- PROVIDE 3/4" WITH PULL STRING FROM TELEPHONE BACKBOARD TO EACH TELEPHONE/DATA OUTLET OR COMMUNICATIONS JUNCTION BOX IN FINISHED SPACES. PROVIDE 3/4" WITH PULL STRING FROM 15 FEET ABOVE FINISHED FLOOR TO EACH TELEPHONE/DATA OUTLET OR COMMUNICATIONS JUNCTION BOX IN UNFINISHED SPACES.
- PROVIDE FIRE ALARM SYSTEM AS REQUIRED PER NFPA, ADA, TAS, AND LOCAL AUTHORITIES HAVING JURISDICTION. COORDINATE AND INTERFACE DEVICES WITH EXISTING BUILDING FIRE ALARM SYSTEM. FIRE ALARM CONTRACTOR SHALL INSTALL FIRE PROTECTION EQUIPMENT, DEVICES, ETC., PER DOCUMENTS PREPARED BY LICENSED FIRE PROTECTION ENGINEER AND APPROVED BY LOCAL AUTHORITIES HAVING JURISDICTION. INCLUDE IN BID NECESSARY COSTS FOR UPGRADING EXISTING FIRE ALARM SYSTEM TO ACCOMMODATE NEW DEVICE CAPACITY REQUIREMENTS.
- OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO BUILDING OWNER. MANUALS SHALL INCLUDE, AT MINIMUM, (A) SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH ITEM OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH ITEM OF EQUIPMENT REQUIRING MAINTENANCE; REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY; AND (D) COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.
- TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A-486B.
- PROVIDE ILSCO PIN TERMINATOR CONNECTED TO WIRES VIA COMPRESSION FITTING AS REQUIRED FOR CONNECTION TO VENDOR-FURNISHED EQUIPMENT.
- CONDUIT ROUTED ALONG ROOF SHALL BE SUPPORTED BY BLOCKS MANUFACTURED FROM RECYCLED RUBBER OR POLYCARBONATE BASE WITH SUPPORT PAD. NO WOOD BLOCKING IS ALLOWED.

ABBREVIATIONS

A	AMPS, AMPERE
ABC	ABOVE COUNTER
ABV	ABOVE
AC	AIR CONDITIONER
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CAPACITY
AT	AMP TRIP
AUX	AUXILIARY, AUXILIARIES
AV	AUDIO VISUAL
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
COMM	COMMUNICATION
CONN	CONNECT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CR	CARD READER
CT	COOLING TOWER
CT	CURRENT TRANSFORMER
CU	CONDENSING UNIT
DC	DIRECT CURRENT
DIA	DIAMETER
DN	DOWN
DTL	DETAIL
DWG	DRAWING
EXIST	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EDH	ELECTRIC DUCT HEATER
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
FA	FIRE ALARM
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FDR	FEEDER
FIXT	FIXTURE
FLUOR	FLUORESCENT
FN	FULL NEUTRAL
FPV	FAN POWERED VARIABLE VOLUME
FS	FUSED SWITCH
FSD	FIRE SMOKE DAMPER
FT	FEET
G	GROUND
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND FAULT INTERRUPTER
GFO	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
IG	ISOLATED GROUND
INC	INCANDESCENT
KA	KILOAMPERES
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT - HOUR
LTG	LIGHTING
MA	MILLIAMPS
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MECH	MECHANICAL
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
MVD	MANUAL VOLUME DAMPER
N	NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NP	POLES
PE	PHOTO-ELECTRIC
PF	POWER FACTOR
PH	PHASE
PLB	PLUMBING
PNL	PANEL
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
(R)	REUSE
RCP	REFLECTED CEILING PLAN
REC	RECEPTACLE
REF	REFERENCE
REFR	REFRIGERATOR
REQD	REQUIRED
RLA	RUNNING LOAD AMPS
RM	ROOM
RQMT	REQUIREMENT
SPECS	SPECIFICATIONS
SPKR	SPEAKER
SQ	SQUARE
SQFT	SQUARE FEET
SC	SHORT CIRCUIT CURRENT
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
TC	TIMELOCK
TELE	TELEPHONE
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
VA	VOLT-AMPS
VAV	VARIABLE AIR VOLUME
VERT	VERTICAL
W	WATTS
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER
Y	WYE

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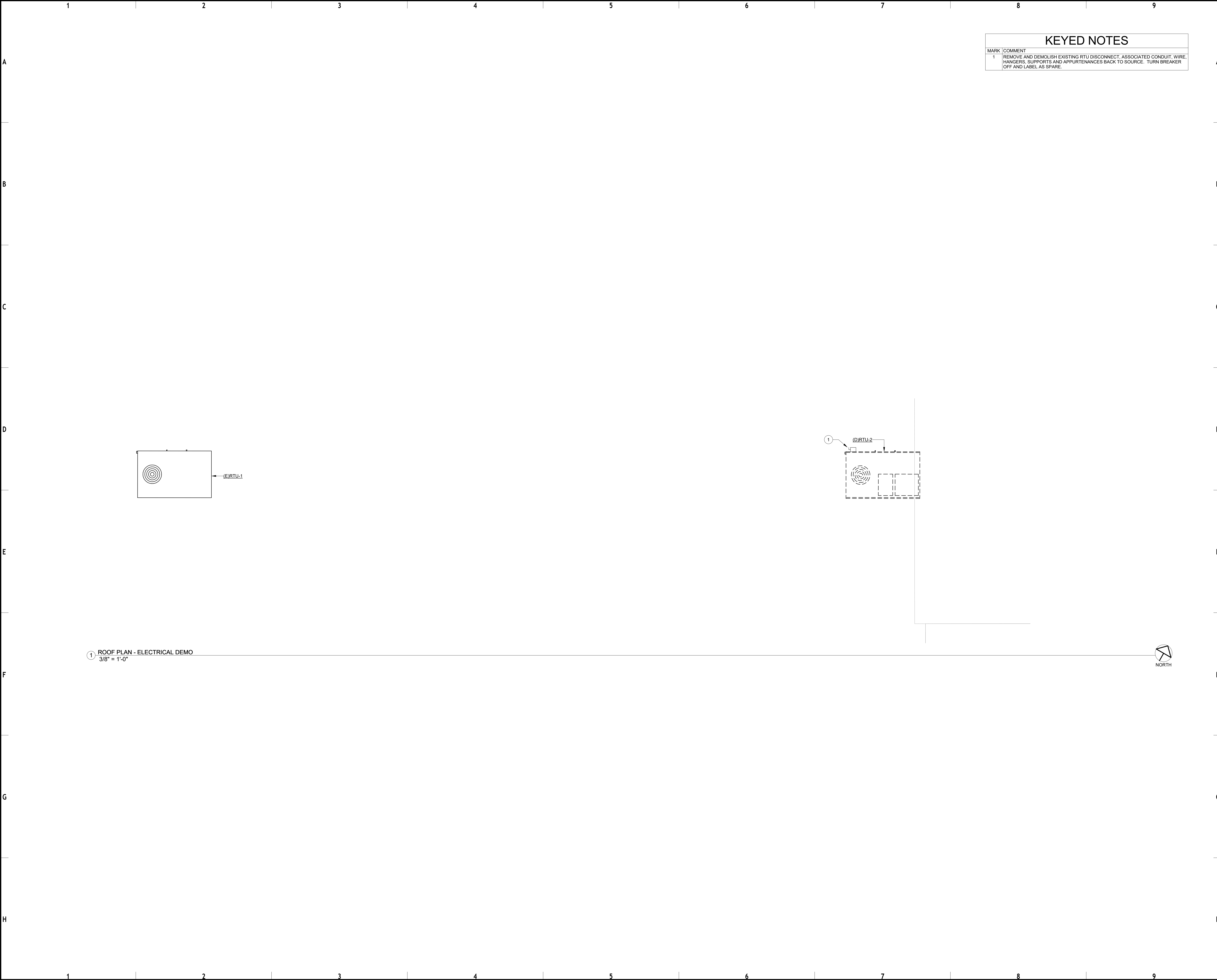
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ORIGINAL ISSUE 15 JULY 2021	CURRENT DOCUMENT STAGE IFC
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KEYED NOTES	
MARK	COMMENT
1	REMOVE AND DEMOLISH EXISTING RTU DISCONNECT, ASSOCIATED CONDUIT, WIRE, HANGERS, SUPPORTS AND APPURTENANCES BACK TO SOURCE. TURN BREAKER OFF AND LABEL AS SPARE.

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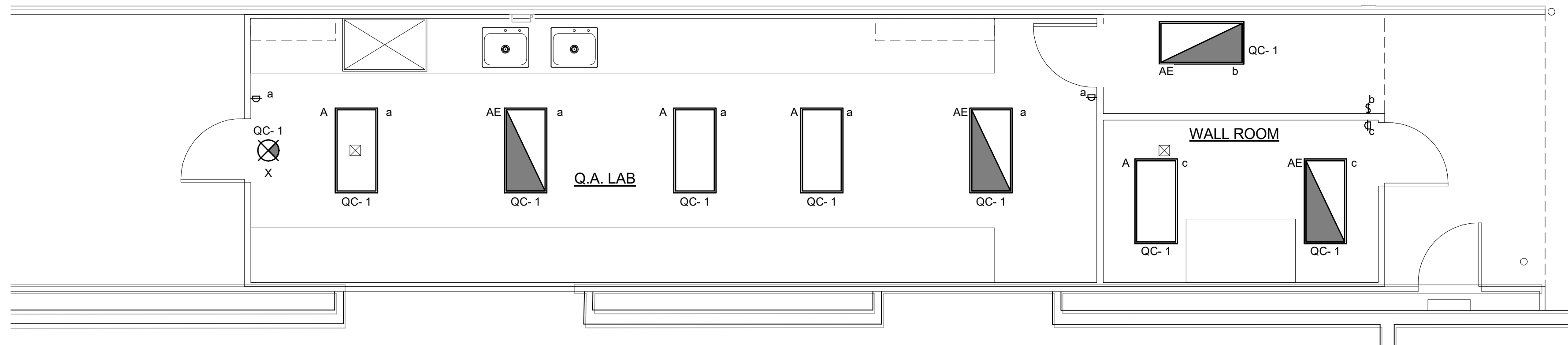
ELECTRICAL DEMO PLANS	
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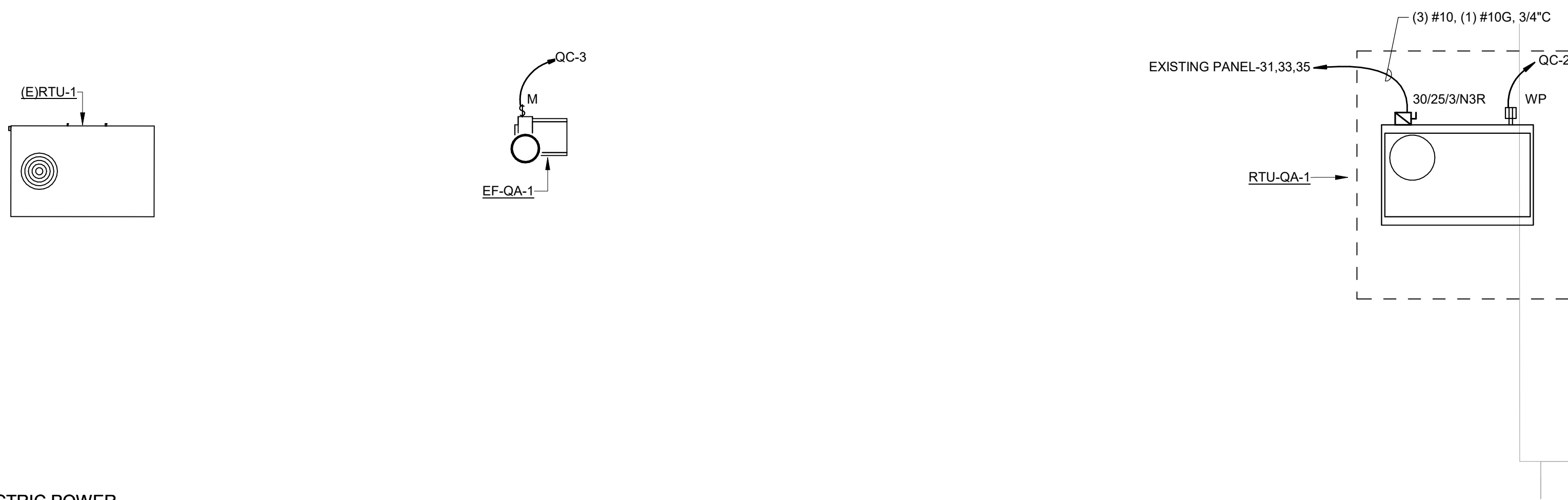
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LIGHTING FIXTURE SCHEDULE							
Type	DESCRIPTION	MANUFAC TURER	MODEL	LAMP	LOAD	VOLTAGE	NOTES
A	2X4 LED TROFFER, 7200 LUMENS, 4000 KELVIN COLOR TEMP.	LITHONIA	2GTL-4-72L-FW-EZ1-LP840-EL14L	LED	53 VA	120 V	
AE	2X4 LED TROFFER, 7200 LUMENS, 4000 KELVIN COLOR TEMP. W/ EMERGENCY BATTERY	LITHONIA	2GTL-4-72L-FW-EZ1-LP840-EL14L	LED	53 VA	120 V	
X	EDGE-LIT LED EXIT SIGN	LITHONIA	EDGR-1-R-EL	LED	10 VA	120 V	

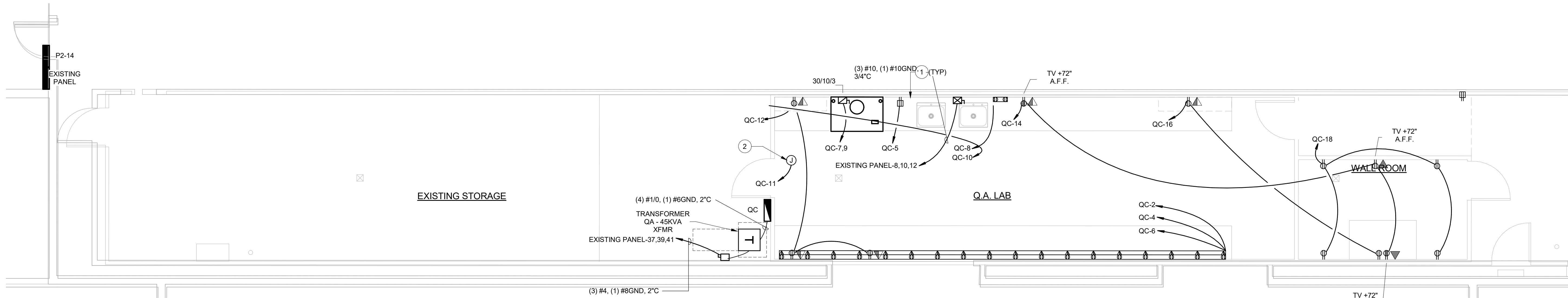
KEYED NOTES	
MARK	COMMENT
1	PROVIDE AND INSTALL (2) CHANNEL WIRE MOLD: (1) FOR POWER (1) FOR DATA, LOCATE DEVICES 24" ON CENTER, ALTERNATE CIRCUITS.
2	PROVIDE JUNCTION BOX ABOVE CEILING CONNECT TO 120V AS INDICATED TO SERVE MECHANICAL DAMPERS.



③ FIRST FLOOR PLAN - ELECTRICAL LIGHTING
1/4" = 1'-0"



② ROOF PLAN - ELECTRIC POWER
1/4" = 1'-0"



① FIRST FLOOR PLAN - ELECTRICAL POWER OVERALL
1/4" = 1'-0"

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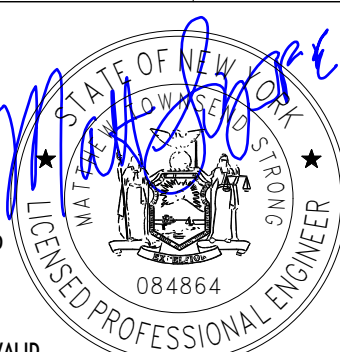
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ELECTRICAL FLOOR PLANS

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Branch Panel: QC													
Location: BACK AREA 01				Volts: 120/208 Wye				A.I.C. Rating: 10000					
Supply From: TRANSFORMER QA - 45KVA...				Phases: 3				Mains Type: MCB					
Mounting:				Wires: 4				Mains Rating: 225 A					
Enclosure:								MCB Rating: 150 A					
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	ROOM 02, 03, 04	20 A	1	437	1200					1	20 A	RECEPTACLE QA LAB 02	2
3	EF-QA-1	25 A	1			1656	1200			1	20 A	RECEPTACLE QA LAB 02	4
5	RECEPTACLE QA LAB 02	20 A	1					1440	1200	1	20 A	RECEPTACLE QA LAB 02	6
7	KITCHEN EQUIPMENT - NON-DWELLING UNIT...	20 A	2	520	200					1	20 A	RECEPTACLE QA LAB 02	8
9	--	--	--			520	200			1	20 A	RECEPTACLE QA LAB 02	10
11	MOTORIZED DAMPERS	20 A	1					500	540	1	20 A	RECEPTACLE QA LAB 02	12
13	SPARE	20 A	1	0	540					1	20 A	RECEPTACLE ROOM 02, 03	14
15	SPARE	20 A	1			0	360			1	20 A	RECEPTACLE ROOM 02, 03	16
17	SPARE	20 A	1					0	720	1	20 A	RECEPTACLE WALL ROOM 03	18
19	SPARE	20 A	1	0	180					1	20 A	RECEPTACLE RTU-QC-1	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPACE	--	--			0	0			--	--	SPACE	28
29	SPACE	--	--					0	0	--	--	SPACE	30
31	SPACE	--	--	0	0					--	--	SPACE	32
33	SPACE	--	--			0	0			--	--	SPACE	34
35	SPACE	--	--					0	0	--	--	SPACE	36
37	SPACE	--	--	0	0					--	--	SPACE	38
39	SPACE	--	--			0	0			--	--	SPACE	40
41	SPACE	--	--					0	0	--	--	SPACE	42
Total Load:				3077 VA		3936 VA		4400 VA					
Total Amps:				26 A		34 A		38 A					
Load Classification		Connected Load		Demand Factor		Estimated Demand		Panel Totals					
Other		2156 VA		100.00%		2156 VA							
Receptacle		7780 VA		100.00%		7780 VA		Total Conn. Load: 11413 VA					
Lighting		437 VA		100.00%		437 VA		Total Est. Demand: 11413 VA					
								Total Conn.: 32 A					
								Total Est. Demand: 32 A					
Notes:													

Branch Panel: EXISTING PANEL																	
Location:				Volts: 480/277 Wye				A.I.C. Rating: 10000									
Supply From:				Phases: 3				Mains Type: MCB									
Mounting:				Wires: 4				Mains Rating: 400 A									
Enclosure:								MCB Rating: 0 A									
CKT	Circuit Description			Trip	Poles	A		B		C		Poles	Trip	Circuit Description			CKT
1	FAN #1			20 A	3	0	0					3	20 A	EXISTING FAN			2
3	--			--	--			0	0			--	--	--			4
5	--			--	--					0	0	--	--	--			6
7	FAN #2			20 A	3	0	2667					3	20 A	HEATING QA LAB 02			8
9	--			--	--			0	2667			--	--	--			10
11	--			--	--					0	2667	--	--	--			12
13	EXISTING			80 A	3	0	0					3	30 A	SPARE			14
15	--			--	--			0	0			--	--	--			16
17	--			--	--					0	0	--	--	--			18
19	EXISTING			30 A	1	0	0					3	30 A	GERBS GRAIN RM			20
21	EXISTING			20 A	1			0	0			--	--	--			22
23	EXISTING			20 A	1					0	0	--	--	--			24
25	EXISTING			80 A	3	0	0					3	20 A	BAGGER 17			26
27	--			--	--			0	0			--	--	--			28
29	--			--	--					0	0	--	--	--			30
31	RTU-QA-1			25 A	3	480	0					3	20 A	BAGGER 16			32
33	--			--	--			480	0			--	--	--			34
35	--			--	--					480	0	--	--	--			36
37	TRANSFORMER QA			70 A	3	3077	0					3	60 A	EXISTING			38
39	--			--	--			3936	0			--	--	--			40
41	--			--	--					4400	0	--	--	--			42
Total Load:				6223 VA		7083 VA		7547 VA									
Total Amps:				22 A		26 A		28 A									
Load Classification				Connected Load		Demand Factor		Estimated Demand		Panel Totals							
HVAC				1440 VA		100.00%		1440 VA									
Heating				8000 VA		100.00%		8000 VA		Total Conn. Load: 20853 VA							
Other				2156 VA		100.00%		2156 VA		Total Est. Demand: 20853 VA							
Receptacle				7780 VA		100.00%		7780 VA		Total Conn.: 25 A							
Lighting				437 VA		100.00%		437 VA		Total Est. Demand: 25 A							
Notes:																	
PANEL IS EXISTING. CHANGES SHOWN BOLD ONLY NEW LOADS SHOWN.																	

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ELECTRICAL SCHEDULES

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