

NORWALK HOSPITAL

I.R. PROCEDURE ROOM

34 MAPLE STREET NORWALK, CT.

PROPOSED INTERIOR ALTERATIONS THIRD FLOOR

H & R DESIGN
FACILITIES
PLANNERS

DESIGN
INTERIORS
PLANNING

50 OSBORNE STREET DANBURY, CT.
PH 203 790 9750 FAX 203 790 6953

GENERAL NOTES

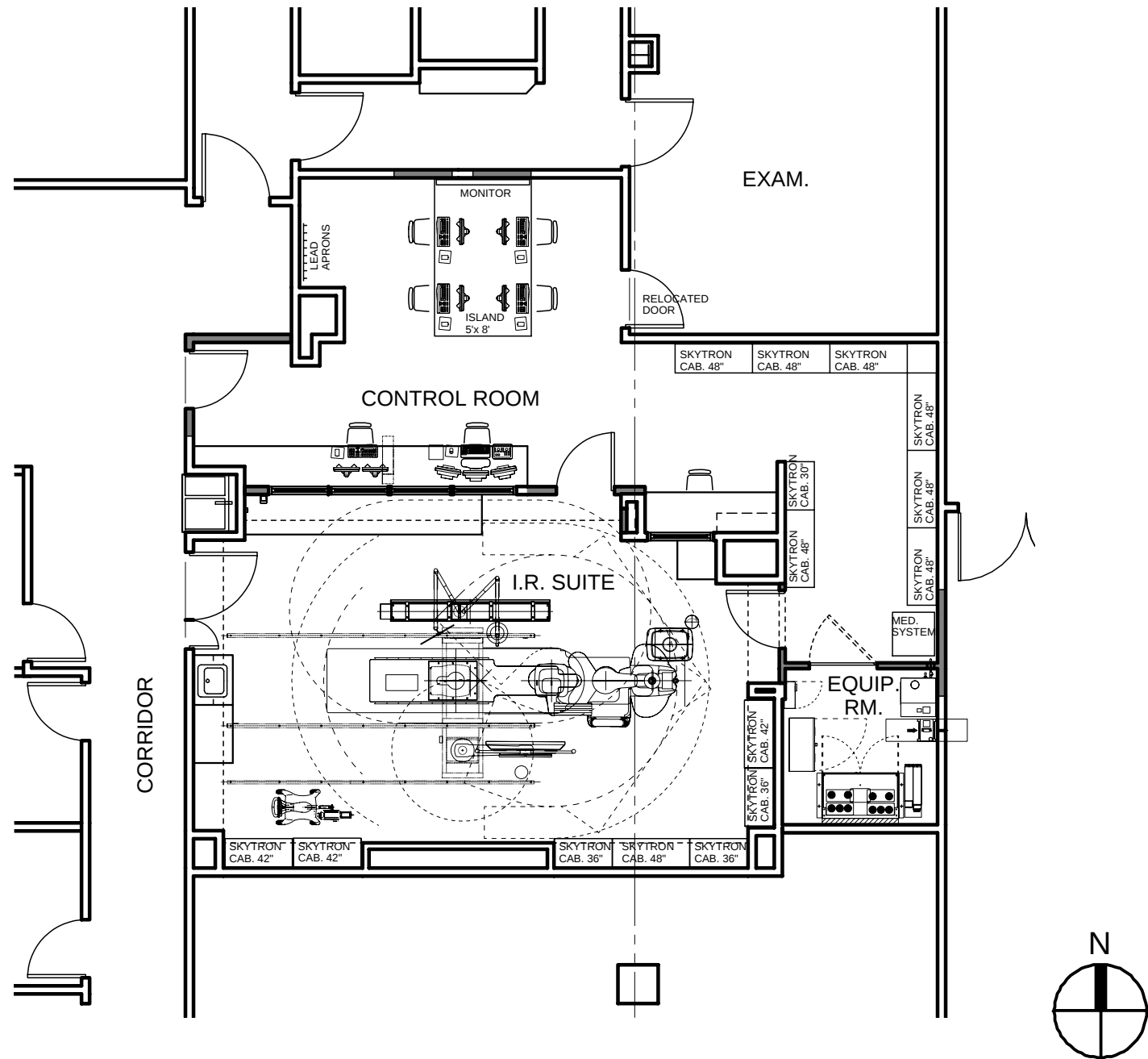
- IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, COMPLETE, TESTED AND READY FOR OPERATION.
- THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FULLY FAMILIAR WITH CONDITIONS PECULIAR TO THE PROJECT.
- IT IS NOT NECESSARILY INTENDED THAT THE DRAWINGS SHOW EVERY MINOR DETAIL AND IT IS UNDERSTOOD THAT WHILE THE DRAWINGS MUST BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT, THE SYSTEMS SHALL BE INSTALLED PROPERLY AND ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH GOOD PRACTICE. WORK SHALL BE ERRECTED TRUE TO THE LINE IN ACCORDANCE TO DIMENSIONS, SQUARED, ALIGNED, PLUMBED, AND SCREWED AS REQUIRED.
- WORK UNDER THIS CONTRACT SHALL INCLUDE GIVING WRITTEN NOTICE TO THE OWNER OF ANY MATERIALS OR APPARATUS BELIEVED INADEQUATE, UNSUITABLE OR IN VIOLATION OF ANY LAWS OR CODES, OR ITEMS OF WORK OMITTED. IN THE ABSENCE OF SUCH WRITTEN NOTICE, IT IS MUTUALLY AGREED THAT WORK UNDER THIS CONTRACT HAS INCLUDED THE COST OF ALL REQUIRED ITEMS AND LABOR FOR THE SATISFACTORY FUNCTIONING OF THE ENTIRE SYSTEM WITHOUT EXTRA COMPENSATION.
- ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ALL GOVERNMENTAL DEPARTMENTS HAVING JURISDICTION. REQUIREMENTS OF THESE CODES SHALL HAVE PRECEDENCE OVER PLANS AND SPECIFICATIONS.
- ALL PARTS OF THE WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF (1) YEAR FROM THE DATE OF ACCEPTANCE OF THE JOB BY THE OWNER. IN ADDITION, TRANSMIT ANY GUARANTEES OR WARRANTIES FROM THE MANUFACTURERS OF SPECIALITIES TO THE OWNER.
- THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR CONSTRUCTION SITE SAFETY, CONSTRUCTION METHODS AND TECHNIQUES.
- EACH CONTRACTOR IS RESPONSIBLE FOR THE CUTTING AND PATCHING OF HIS WORK AND THE COORDINATION WITH HIS WORK AND OTHER TRADES WHEN IT IS NECESSARY FOR THE SMOOTH PROGRESS OF THE PROJECT.
- THE CONTRACTOR, AND EACH OF HIS SUBCONTRACTORS SHALL TAKE SPECIAL CARE IN THE PROSECUTION OF HIS WORK NOT TO DAMAGE EXISTING WORK OF ANY NATURE. THE CONTRACTOR ASSUMES LIABILITY FOR ANY AND ALL DAMAGES OR INJURY DONE AND SHALL MAKE GOOD OR REPAIR ANY DAMAGE THAT MAY TAKE PLACE IN THE COURSE OF INSTALLATION OF WORK INCLUDED UNDER THIS CONTRACT WHICH MAY BE TRACEABLE TO SUCH WORK. IT IS UNDERSTOOD THAT ALL REPAIRS SHALL BE EXECUTED SO AS TO LEAVE THE WORK IN FIRST CLASS CONDITION.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FINAL CLEANING OF THE JOB SITE, LEAVING IT BROOM CLEAN. EACH SUB-CONTRACTOR AT THE COMPLETION OF WORK SHALL REMOVE FROM THE PREMISES ALL SURPLUS MATERIAL, DEBRIS, ETC. CAUSED BY HIS WORK.
- SMOKING SHALL NOT BE ALLOWED IN FACILITY. VIOLATION SHALL RESULT IN EXPULSION FROM SITE.
- ALCOHOL SHALL NOT BE ALLOWED ON SITE.
- CONTRACTOR SHALL PROVIDE TEMPORARY SITE STORAGE IF REQUIRED AT THE LOCATION OF THE CONTRACTOR. COORDINATE LOCATION OF ENCLOSURE WITH OWNER PRIOR TO LOCATING ON SITE.
- THE GENERAL CONTRACTOR SHALL HAVE A SITE REPRESENTATIVE PRESENT WHEN ANY SUBCONTRACTORS ARE PRESENT ON THE SITE.
- THE GENERAL CONTRACTOR SHALL PROVIDE A TEMPORARY DUST PROOF PARTITION AS REQUIRED TO PROTECT ADJACENT AREAS AND EQUIPMENT. FINAL LOCATION OF WALL TO BE APPROVED BY THE FACILITIES DEPARTMENT. PROVIDE NEGATIVE AIR PRESSURE IN PROJECT AREA DURING DEMOLITION AND CONSTRUCTION.

ICRA

ICRA CONSTRUCTION REQUIREMENTS:

- C.II.E.4 IMPLEMENT INFECTION-CONTROL MEASURES FOR ALL INTERNAL CONSTRUCTION ACTIVITIES (AIA:5.1.5.2)
- A. CONSTRUCTION BARRIERS TO PREVENT DUST FROM CONSTRUCTION AREAS FROM ENTERING PATIENT-CARE AREAS, ENSURE THAT BARRIERS ARE IMPERMEABLE TO FUNGAL SPORES AND IN COMPLIANCE WITH LOCAL FIRE CODES
- B. BLOCK AND SEAL OFF RETURN AIR VENTS IF RIGID BARRIERS ARE USED FOR CONTAINMENT
- C. IMPLEMENT DUST CONTROL MEASURES ON SURFACES AND BY DIVERTING PEDESTRIAN TRAFFIC AWAY FROM WORK ZONE AREAS
- D. RELOCATE PATIENTS WHOSE ROOM ARE ADJACENT TO WORK ZONES, DEPENDING UPON THEIR IMMUNE STATUS, THE SCOPE OF THE PROJECT, THE POTENTIAL FOR GENERATION OF DUST OR WATER AEROSOLS, AND THE METHODS USED TO CONTROL THESE AEROSOLS
- C.II.E.5 PERFOR THOSE ENGINEERING AND WORK-SITE RELATED INFECTION-CONTROL MEASURES AS NEEDED FOR INTRNAL CONSTRUCTION, REPAIRS, AND RENOVATIONS (AIA: 5.1.5.2)
- C.II.E.5.a ENSURE THE PROPER OPERATION OF AIR HANDLING SYSTEM IN THE AFFECTED AREAS AFTER ERRECTION OF BARRIERS AND BEFORE ROOM OR AREA IS SET TO NEGATIVE PRESSURE
- C.II.E.5.b CRATE AND MAINTAIN NEGATIVE AIR PRESSURE IN WORK ZONES ADJACENT TO PATIENT-CARE AREAS AND ENSURE THAT REQUIRED ENGINEERING CONTROLS ARE MAINTAINED
- C.II.E.5.c MONITOR NEGATIVE AIR FLOW INSIDE RIGID BARRIERS
- C.II.E.5.d MONITOR BARRIERS AND ENSURE THE INTEGRITY OF THE CONSTRUCTION BARRIERS, REPAIR GAPS AND BREAKS IN BARRIER JOINTS
- C.II.E.5.e SEAL WINDOWS IN WORK ZONES IF PRACTICAL; USE WINDOW CHUTES FOR DISPOSAL OF LARGE PIECES OF DEBRIS AS NEEDED, BUT ENSURE THAT NEGATIVE PRESSURE DIFFERENTIAL FOR AREAS IS MAINTAINED
- C.II.E.5.f DIRECT PEDESTRIAN TRAFFIC FORM THE CONSTRUCTION ZONE AWAY FROM PATIENT-CARE AREAS TO MINIMIZE THE DISPERSION OF DUST
- C.II.E.5.g PROVIDE CONSTRUCTION CREWS WITH:
- DESIGNATED ENTRANCES, CORRIDORS, AND ELEVATORS WHENEVER PRACTICAL
 - ESSENTIAL SERVICES [E.G. TOILET FACILITIES], AND CONVENIENCE SERVICES [E.G.] VENDING MACHINES
 - PROTECTIVE CLOTHING [E.G. COVERALLS, FOOTGEAR, AND HEADGEAR] FOR TRAVEL TO PATIENT-CARE AREAS AND A SPACE OR ANTEROOM FOR CHANGING CLOTHING AND STORING EQUIPMENT
- C.II.E.5.h CLEAN WORK ZONES AND ENTRANCES DAILY BY:
- WET WIPING TOOLS AND TOOL CARTS BEFORE THEIR REMOVAL FROM THE WORK ZONE
 - PLACING MATS WITH TACKY SURFACES INSIDE ENTRANCE; AND COVERING DEBRIS AND SECURING THE COVERING BEFORE REMOVING DEBRIS FROM THE WORK ZONE
- C.II.E.5.i IN PATIENT-CARE AREAS FOR MAJOR REPAIRS THAT INCLUDE REMOVAL OF CEILING TILES AND THE DISRUPTION OF THE SPACE ABOVE THE FALSE CEILING, USE PLASTIC UNITS TO CONTAIN DUST; USE A NEGATIVE PRESSURE SYSTEM WITHIN THIS ENCLOSURE TO REMOVE DUST, AND EITHER PASS AIR THROUGH AN INDUSTRIAL GRADE, PORTABLE HEPA FILTER CAPABLE OF FILTRATION RATES RANGING FROM 300-800 FT3/MIN., OR EXHAUST AIR DIRECTLY OUTSIDE
- C.II.E.5.j UPON COMPLETION OF THE PROJECT, CLEAN THE WORK ZONE ACCORDING TO FACILITY PROCEDURES, AND INSTALL BARRIER CURTAINS TO CONTAIN DUST AND DEBRIS BEFORE REMOVAL OF RIGID BARRIERS
- C.II.E.5.k FLUSH WATER SYSTEM TO CLEAR SEDIMENT FROM PIPES TO MINIMIZE WATERBORNE MICROORGANISM PROLIFERATION
- C.II.E.5.l RESTORE APPROPRIATE ACH, HUMIDITY, AND PRESSURE DIFFERNETIAL; CLEAN OR REPLACE AIR FILTERS; DISPOSE OF SPENT FILTERS
- C.II.F USE AIRBORNE-PARTICLE SAMPLING AS A TOOL TO EVALUATE BARRIER INTERGRITY
- C.II.G COMMISSION THE HVAC SYSTEM FOR NEWLY CONSTRUCTED HEALTH-CARE FACILITIES AND RENOVATED SPACES BEFORE OCCUPANCY AND USE, WITH EMPHASIS ON ENSURING PROPER VENTILATION FOR OPERATING ROOMS, ALL ROOMS, AND PE AREAS. (AIA:5.1.5.5HRAE: 1 1996)
- C.II.H NO RECOMMENDATION IS OFFERED ON ROUTINE MICROBIOLOGIC AIR SAMPLING BEFORE, DURING, OR AFTER CONSTRUCTION OR BEFORE OR DURING OCCUPANCY OF AREAS HOUSING IMMUNOCOMPROMISED PATIENTS.
- C.II.I IF A CASE OF HEALTH-CARE-AQUIRED ASPERGILLOSIS OR OTHER OPPORTUNISTIC ENVIROMENTAL AIBORNE FUNGAL DISEASE OCCURS DURING OR IMMEDIATELY AFTER CONSTRUCTION, IMPLEMENT APPROPRIATE FOLLOW-UP MEASURES
- C.II.I.1 REVIEW PRESSURE DIFFERENTIAL MONITORING DOCUMENTATION TO VERIFY THAT PRESSURE DIFFERENTIAL IN CONSTRUCTION ZONE AND IN PE ROOMS WERE APPROPRIATE FOR THEIR SETTINGS (AIA:5.1)
- C.II.I.2 IMPLEMENT CORRECTIVE ENGINEERING MEASURES TO RESTORE PROPER PRESSURE DIFFERENTIALS AS NEEDED (AIA 5.1)

AREA OF WORK



THIRD FLOOR PART PLAN

AREA OF
WORK

CODE INFORMATION

2022 State of Connecticut Building Code consisting of the 2021 International Building Code
2021 International Existing Building Code, 2020 NFPA 70 National Electric Code,
2021 International Mechanical Code, 2021 International Plumbing Code, 2017 ICC / ANSI 117.1-2009
Guidelines for the Design & Construction of Hospitals & Outpatient Facilities 2021

TENANT SPACE DATA:

AREA OF ALTERATION	THIRD FLOOR APPROX. 1,185 S.F.
SECTION 311.2 USE GROUP	B - BUSINESS
SECTION 602.2 CONSTRUCTION TYPE	2B - NONCOMBUSTIBLE WITH SPRINKLERS
TABLE 1004.1.2 OCCUPANCY LOAD	1,185 / 100 = 12

LIST OF DRAWINGS

NO.	SHEET CONTENTS:	SCALE:
	ARCHITECTURAL	
A001	COVER SHEET	AS NOTED
A002	HANDICAPPED & ACCESSIBILITY REQUIREMENTS	AS NOTED
EX101	EXISTING FLOOR PLAN	1/4"=1'-0"
EX102	EXISTING REFLECTED CEILING PLAN	1/4"=1'-0"
D101	DEMOLITION PLAN	1/4"=1'-0"
D102	REFLECTED CEILING DEMOLITION PLAN	1/4"=1'-0"
A101	CONSTRUCTION PLAN & REFLECTED CEILING PLAN	1/4"=1'-0"
A102	FINISH PLAN & FURNITURE / EQUIPMENT PLAN	1/4"=1'-0"
A301	BUILDING SECTION	1/2"=1'-0"
A302	BUILDING SECTION	1/2"=1'-0"
A401	DOOR SCHEDULE & WALL TYPES	1/2"=1'-0"
A501	INTERIOR ELEVATIONS	1/2"=1'-0"
FE101	PROPOSED FURNITURE & EQUIPMENT PLAN	1/4"=1'-0"
	MECHANICAL	
M001	MECHANICAL NOTES, LEGEND AND DRAWING INDEX	AS NOTED
M100	MECHANICAL FLOOR PLANS	1/4"=1'-0"
M200	MECHANICAL SCHEDULES & DETAILS	AS NOTED
M201	MECHANICAL ROOF PLAN	AS NOTED
M300	MECHANICAL SPECIFICATIONS (1 OF 2)	AS NOTED
M301	MECHANICAL SPECIFICATIONS (2 OF 2)	AS NOTED
	ELECTRICAL	
E001	ELECTRICAL NOTES AND LEGEND	NONE
E100	ELECTRICAL DEMOLITION PLAN	1/4"=1'-0"
E200	ELECTRICAL LIGHTING PLAN	1/4"=1'-0"
E201	ELECTRICAL POWER PLAN	1/4"=1'-0"
E300	ELECTRICAL PANEL HEDULES AND DETAILS	AS NOTED
E301	ELECTRICAL DETAILS	NONE
E400	ELECTRICAL SPECIFICATIONS (SHEET 1 OF 2)	
E401	ELECTRICAL SPECIFICATIONS (SHEET 2 OF 2)	
	PLUMBING	
P001	PLUMBING NOTES & LEGEND	AS NOTED
P100	PLUMBING PLAN	1/4"=1'-0"
P200	PLUMBING SCHEDULES & DETAILS	AS NOTED
P300	PLUMBING SPECIFICATIONS	AS NOTED
	FIRE PROTECTION	
FP001	FIRE PROTECTION NOTES,& LEGEND	AS NOTED
FP100	FIRE PROTECTION PLANS	1/4"=1'-0"
FP200	FIRE PROTECTION SPECIFICATIONS	NONE
	STRUCTURAL	
S001	GENERAL NOTES AND MATERIALS SPECIFICATIONS	NONE
S101	PARTIAL THIRD FLOOR AND THIRD FLOOR INTERSTITIAL LEVEL FRAMING PLAN	1/4"=1'-0"
S201	FRAMING SECTIONS AND PLAN DETAILS	AS NOTED

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Norwalk Hospital

I.R. PROCEDURE ROOM
34 Maple Street
Norwalk, CT 06856

INTERIOR ALTERATIONS THIRD FLOOR

Date:	8-5-24	Drawn By:	JC
Scale:	AS NOTED	Approved By:	RW
Job No:	24 /027	File:	nh_irsuite.db

Drawing Title:

COVER SHEET

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Revisions:

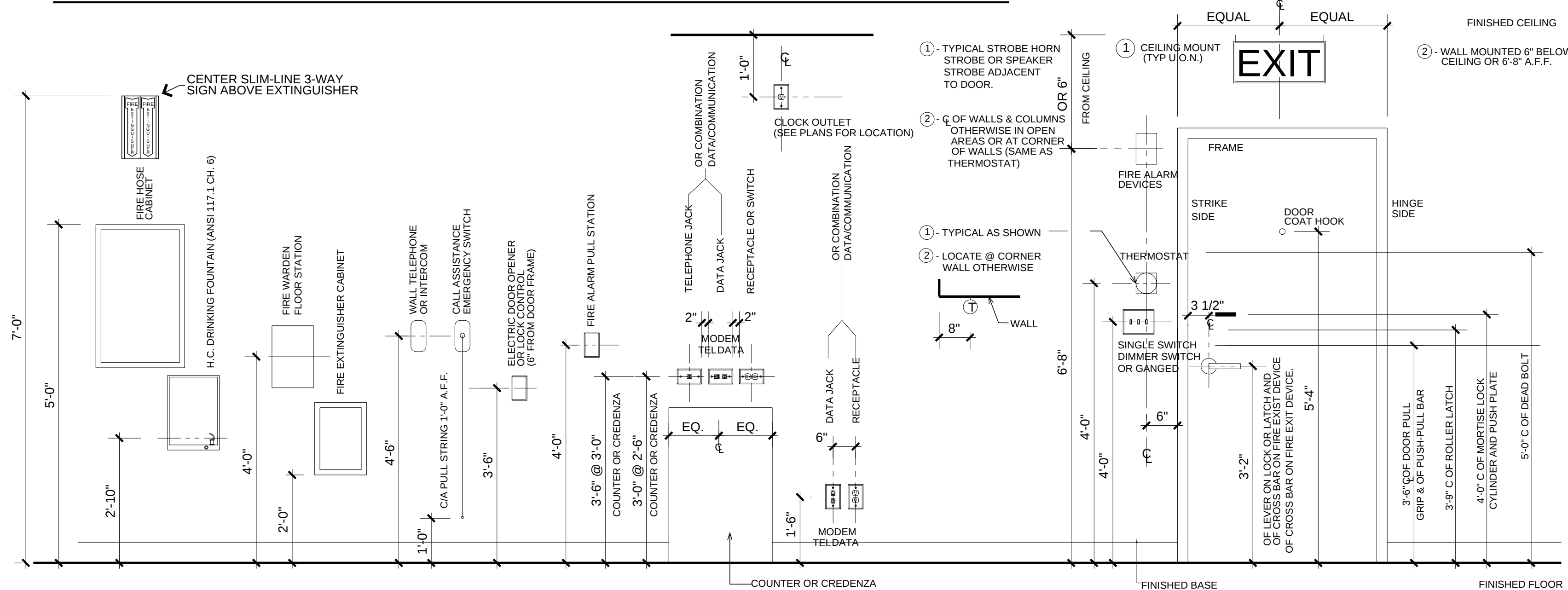


Drawing Number:

A001

DEVICE LOCATION AND MOUNTING HEIGHT DIAGRAM

NOTE THAT THE BELOW DELINEATED MOUNTING HEIGHTS ARE TYPICAL ONLY. PLANS & DETAILS MAY SHOW VARIATIONS FOR SPECIFIC CONDITIONS.

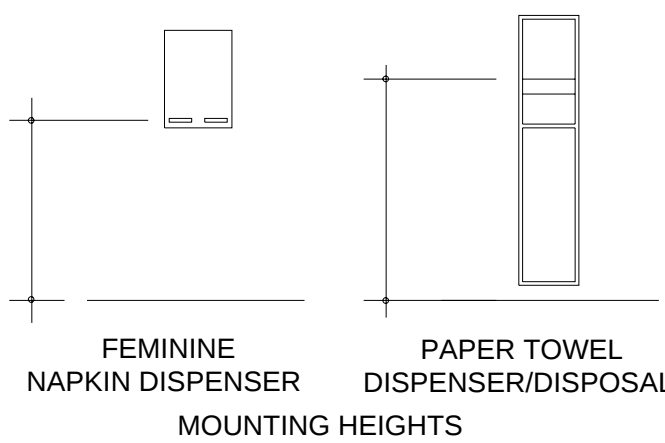
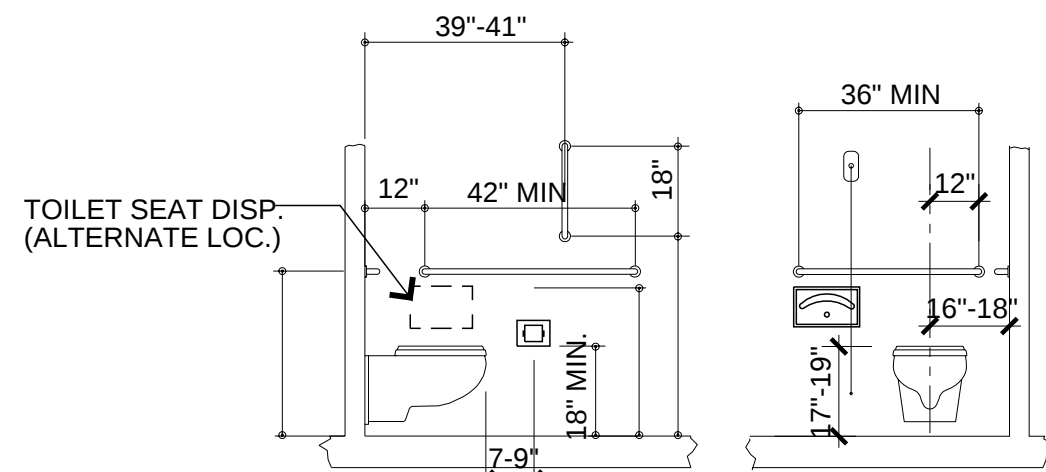


ACCESSIBLE SIGNAGE NOTE:

1. ALL SIGNAGE SHALL COMPLY WITH SECTION 1111 OF THE 2021 INTERNATIONAL BUILDING CODE PORTION OF THE 2022 CONNECTICUT STATE BUILDING CODE.
2. REQUIRED ACCESSIBLE ELEMENTS SHALL BE IDENTIFIED BY THE INTERNATIONAL SYMBOLOF ACCESSIBILITY.
3. INTERIOR SIGNS, WHERE PROVIDED, THAT DESIGNATE PERMANENT ROOMS AND SPACES SHALL BE RAISED TEXT CHARACTERS AND BRAILLE, DESIGNED AND LOCATED IN ACCORDANCE WITH IIC A117.1. MOUNTING LOCATIONS FOR SIGNAGE SHALL BE SUCH THAT A PERSON APPROACHING THE SIGNAGE WILL NOT ENCOUNTER PROTRUDING OBJECTS, OR STAND WITHIN THE SWING OF ANY DOOR

SIGNAGE:

1. AS PER THE 2021 IFC SECTION 509.1: THE LOCATION AND TYPE OF FIRE PROTECTION EQUIPMENT MUST BE IDENTIFIED BY SIGNS DESIGNATED FOR THE USE OF THE RESPONDING FIRE DEPARTMENT. IN ADDITION, ROOMS CONTAINING CONTROLS FOR SPRINKLER RISERS AND VALVES, AIR-CONDITIONING SYSTEMS, OR OTHER FIRE DETECTION, SUPPRESSION OR CONTROL ELEMENTS MUST BE IDENTIFIED.
2. AS PER THE 2021 IFC SECTION 912.4: THESE CONNECTIONS ARE TO BE IDENTIFIED BY SIGNS USING WORDING SUCH AS: "AUTOMATIC SPRINKLERS" OR "STANDPIPES" OR "TEST CONNECTION" A METAL SIGN WITH RAISED LETTERS MUST BE MOUNTED ON ALL BUILDING FIRE DEPARTMENT CONNECTIONS.
3. AS PER THE 2021 IFC SECTION 805.3.1: ROOMS CONTAINING ELECTRICAL CONTROLS MUST BE IDENTIFIED WITH PLAINLY VISIBLE AND LEGIBLE SIGNS SAYING "ELECTRICAL ROOM ". IN ADDITION, THE ENTRANCE DOORS FOR THE ELECTRICAL CONTROL PANEL ROOM MUST ALSO BE MARKED WITH SIGNS.

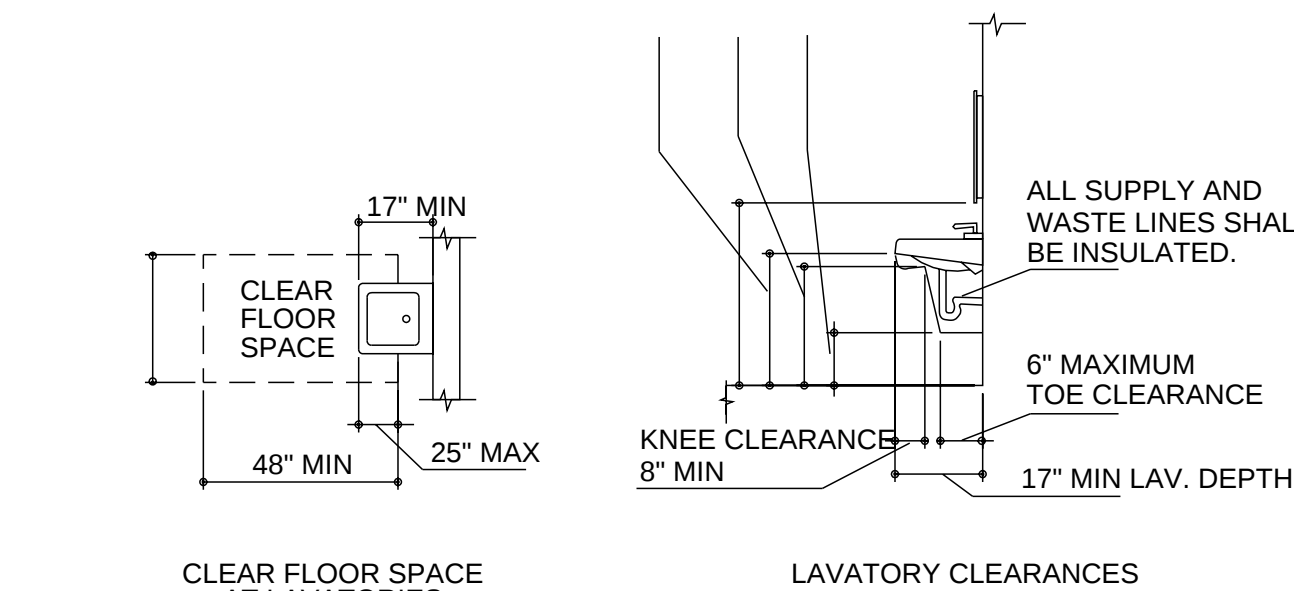
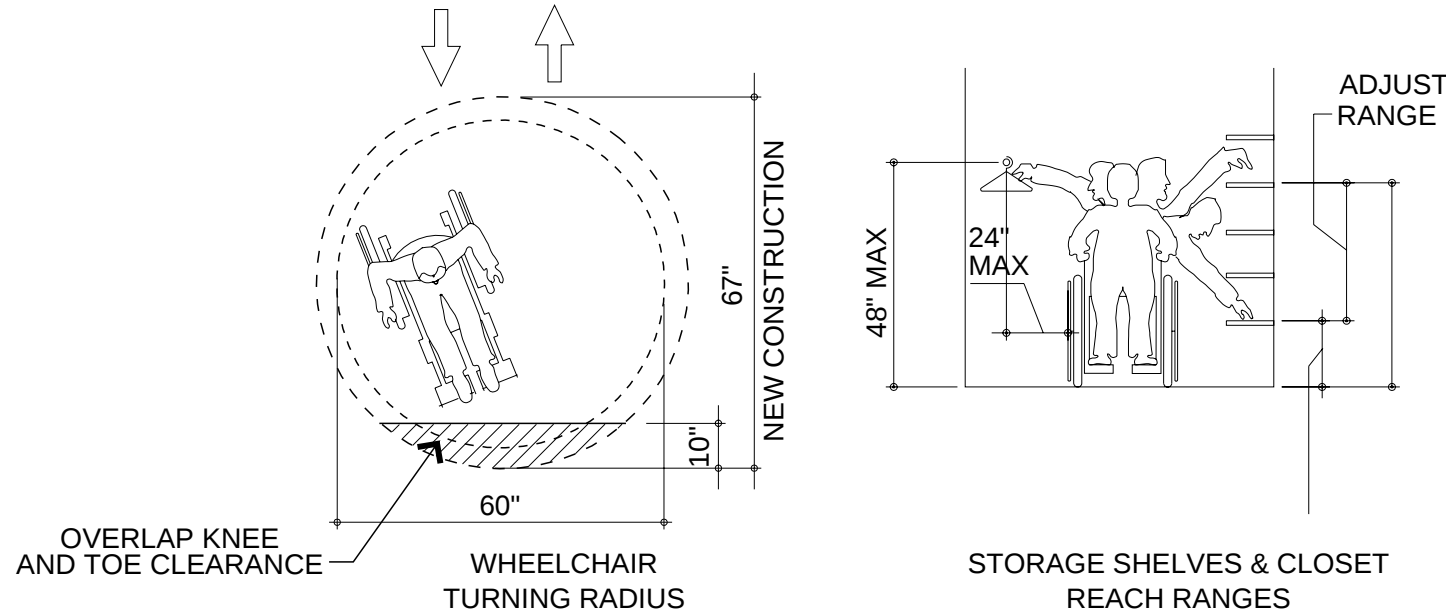
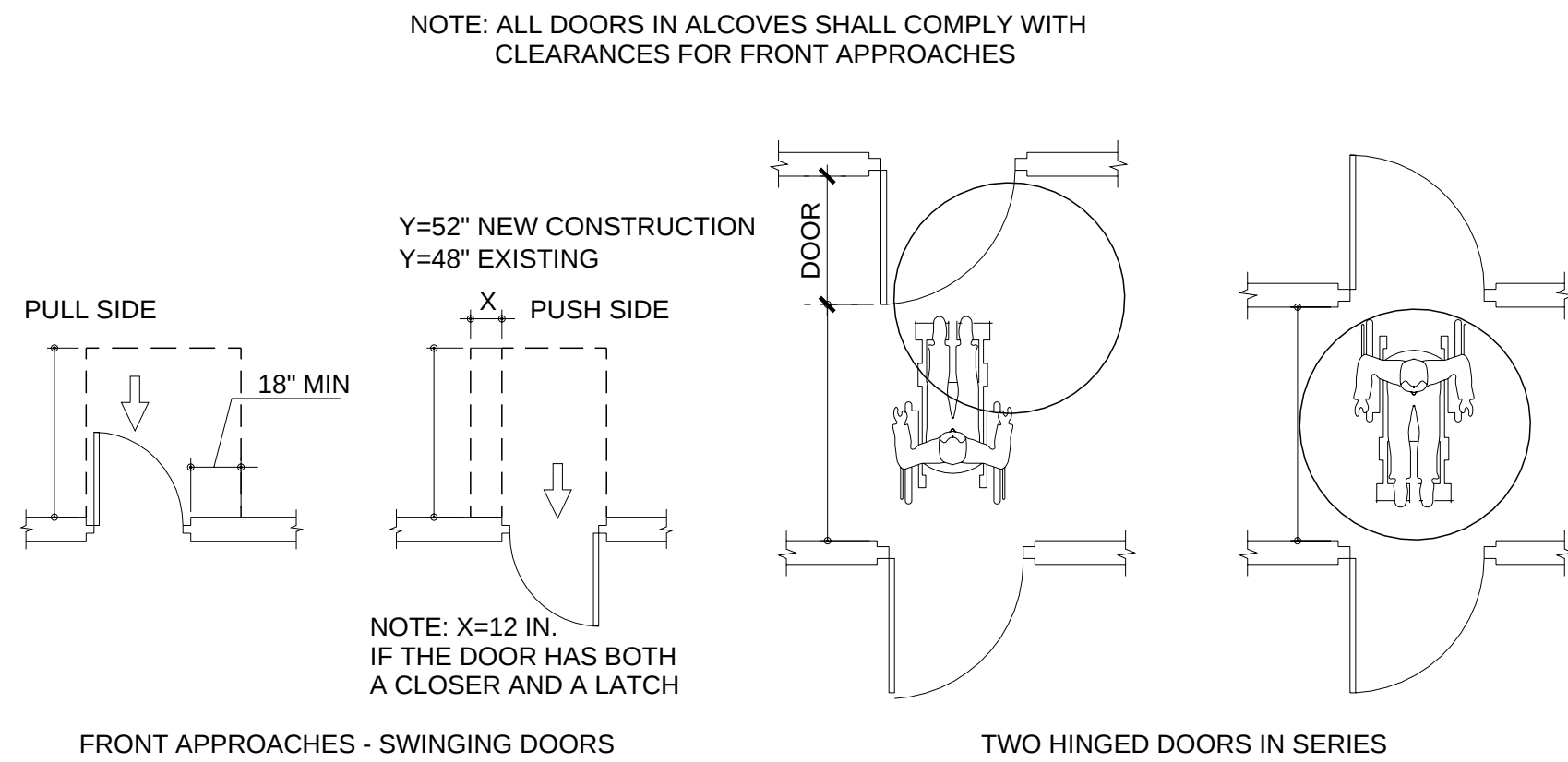
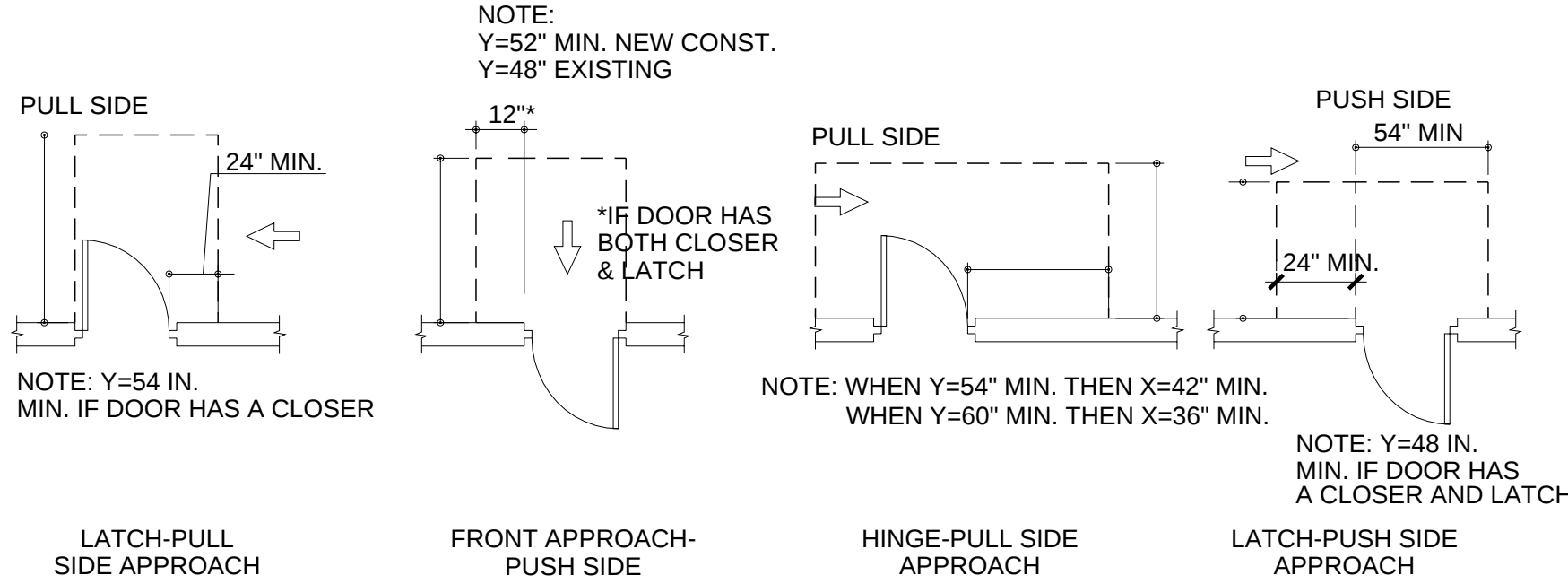


NOTE:

1. THE ABOVE DELINEATED MOUNTING HEIGHTS ARE TYPICAL, ONLY DETAILS MAY SHOW VARIATIONS FOR SPECIFIC CONDITIONS.
2. GENERAL CONTRACTOR SHALL COMPLY WITH THE 2021 STATE OF CONNECTICUT BUILDING CODE (WHICH CONSISTS OF: 2022 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF CONNECTICUT) AND 2017 ICC/ANSI A 117.1 ACCESSIBILITY AND USABLE BUILDINGS AND FACILITIES AND SHALL INFORM H&R DESIGN OF ANY AND ALL CONFLICTS WITH THE COMPLYING WITH THOSE MINIMUM CLEARANCES AND STANDARDS.

H.C. ACCESSIBILITY REQUIREMENTS

NOT TO SCALE



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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 8-5-24 Drawn By: JC
Scale: AS NOTED Approved By:
Job No: 24 /027 File: nh_irsuite.db

Drawing Title:

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& ACCESSIBILITY
REQUIREMENTS

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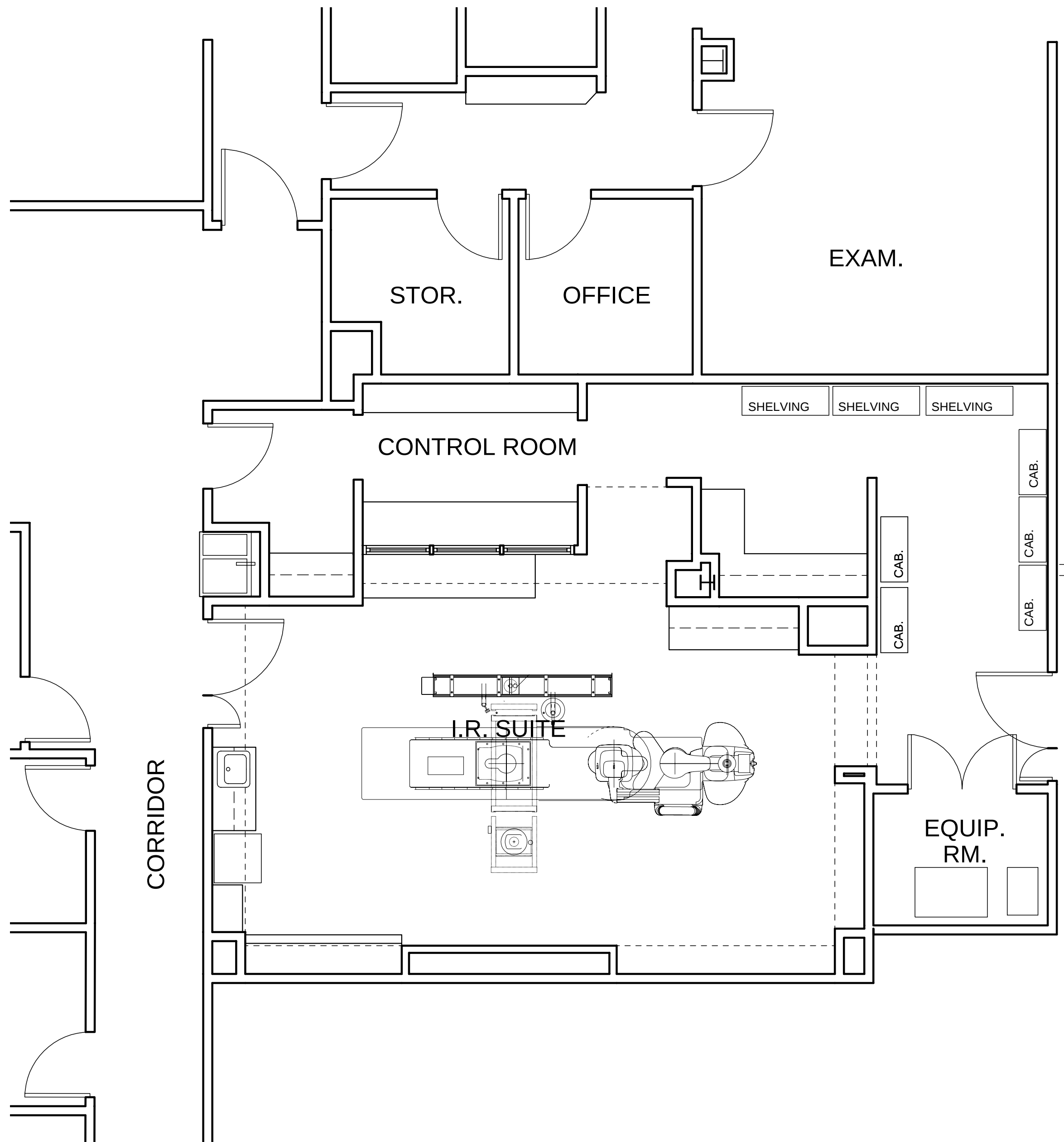
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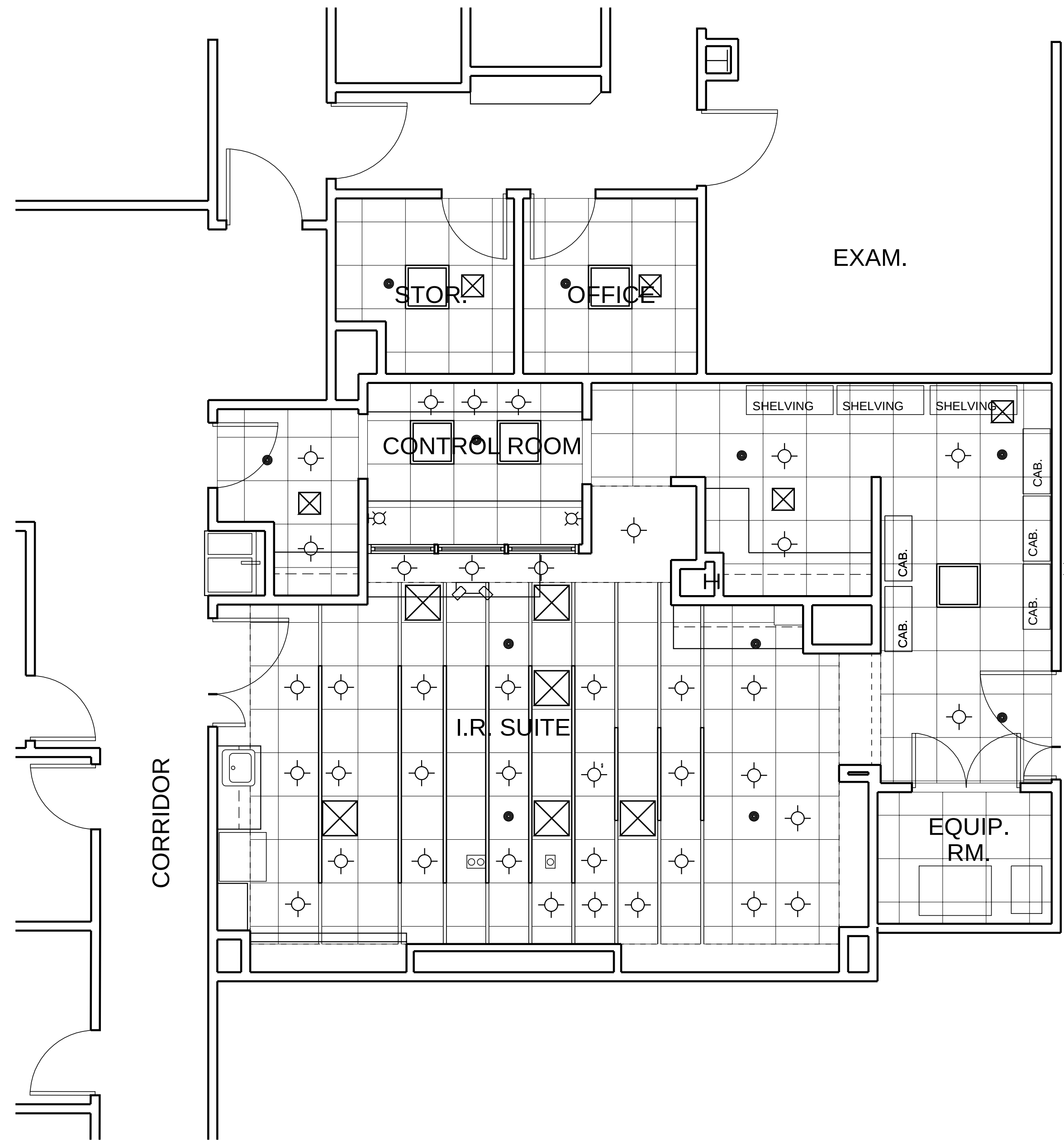


Drawing Number:

A002



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



2 EXISTING REFLECTED CEILING PLAN
SCALE: 1/4" = 1' - 0"

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 8-5-24	Drawn By: JC
Scale: 1/4"=1'-0"	Approved By:
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Drawing Title:
EXISTING
FLOOR PLAN &
REFLECTED CEILING
PLAN

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Revisions:

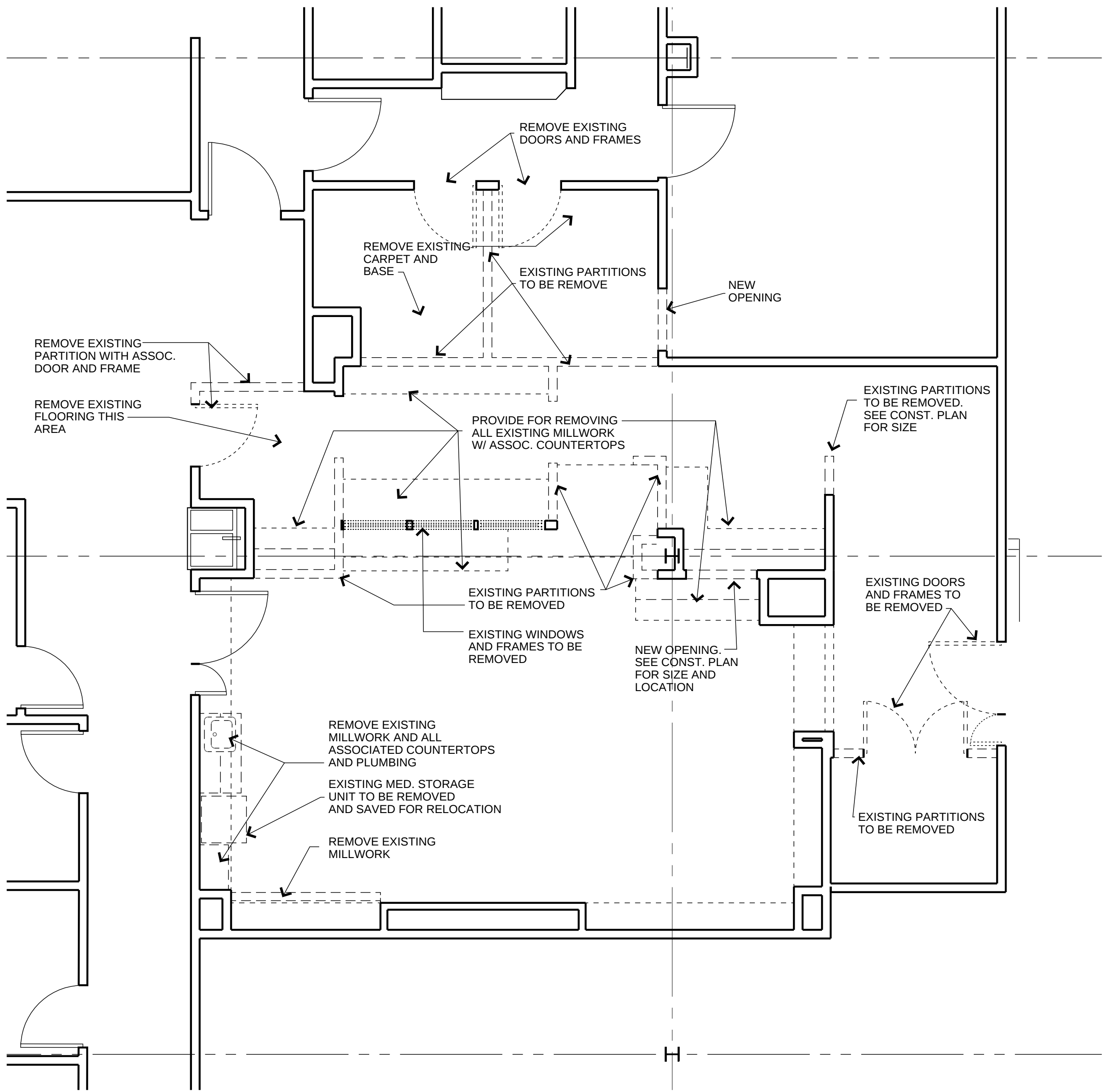


Drawing Number:

EX101

ELECTRICAL SYMBOL LEGEND

	2x4' LAY-IN LED TROFFER FIXTURES ARE NOTED (N) FOR NEW , (E) FOR EXISTING, (R) FOR RELOCATED		SUPPLY AIR DIFFUSERS ARE NOTED (N) FOR NEW , (E) FOR EXISTING, (R) FOR RELOCATED		DUAL FACE EXIT SIGN WITH DIRECTIONAL ARROWS AS SHOWN ON PLAN.		SPRINKLER HEAD TO BE REMOVED		WALL SCONCE		SMOKE DETECTOR
	2x4' LAY-IN FLUORESCENT TROFFER TO BE REMOVED		SUPPLY AIR DIFFUSER TO BE REMOVED		WALL OR CEILING MOUNTED SELF CONTAINED EMERGENCY LIGHT AND EXIT SIGN		EXISTING CEILING GRID TO REMAIN		WALL SCONCE TO BE REMOVED		CALL FOR AID LIGHT
	2x2' LAY-IN LED TROFFER FIXTURES ARE NOTED (N) FOR NEW , (E) FOR EXISTING, (R) FOR RELOCATED		RETURN AIR GRILLS ARE NOTED (N) FOR NEW , (E) FOR EXISTING, (R) FOR RELOCATED		WALL MOUNTED SELF CONTAINED EMERGENCY LIGHT		EXISTING CEILING GRID TO BE REMOVED		6" DIA. DOWNLIGHT		WALL MOUNTED FIRE HORN / STROBE
	2x2' LAY-IN FLUORESCENT TROFFER TO BE REMOVED		RETURN AIR GRILL TO BE REMOVED		WIRELESS ACCESS POINT BY OWNER		PENDANT FIXTURE		4" DIA. DOWNLIGHT		WALL MOUNTED FIRE STROBE
	UNDERCABINET LED TAPE LIGHTING		WALL OR CEILING MOUNTED SINGLE FACE EXIT SIGN WITH DIRECTIONAL ARROWS AS SHOWN ON PLAN.		WIFI		PENDANT FIXTURE TO BE REMOVED		4" DIA. PIN SPOT DOWNLIGHT		FIRE ALARM PULL STATION
			SPRINKLER HEAD, HEADS ARE NOTED (N) FOR NEW, (E) FOR EXISTING, (R) FOR RELOCATED		EXISTING RELOCATED SPRINKLER HEAD				RECESSED DOWNLIGHT TO BE REMOVED		EXHAUST FAN
									NEW WALL MOUNTED OCCUPANCY SENSOR		SPEAKER
									CEILING MOUNTED OCCUPANCY SENSOR		



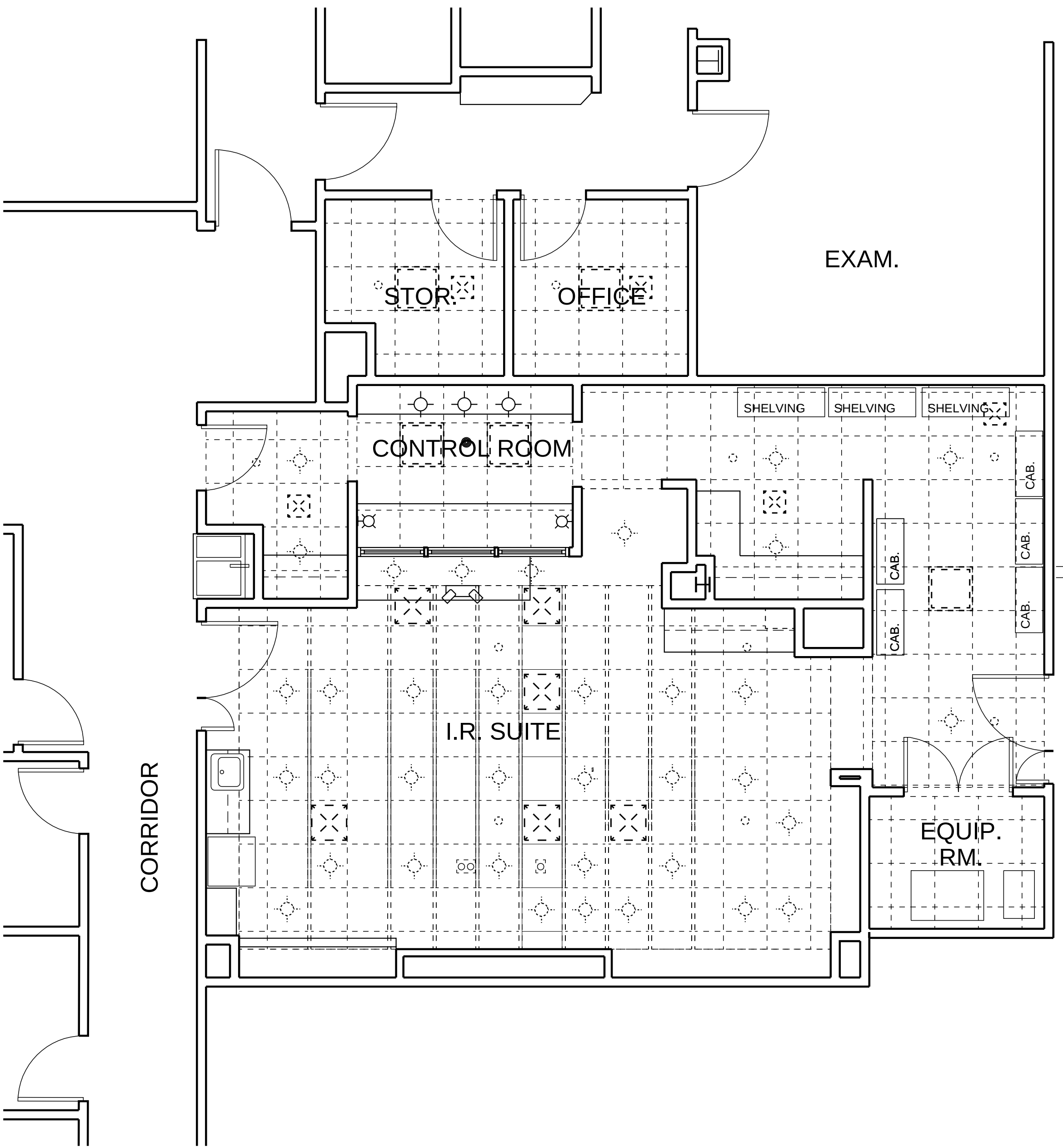
DEMOLITION LEGEND

	EXISTING WALLS TO REMAIN
	EXISTING CONSTRUCTION TO BE REMOVED
	EXISTING DOOR AND FRAME TO REMAIN
	DOOR AND FRAME TO BE REMOVED

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

DEMOLITION NOTES

1. REMOVE ALL WALL RECEPTACLES, DATA JACKS, SWITCHES, ETC., ON WALLS BEING DEMOLISHED. PULL CIRCUITS BACK TO THEIR RESPECTIVE SOURCES AND TERMINATE. SEE ELECTRICAL DRAWINGS FOR MORE INFORMATION.
2. GEN. CONTRACTOR SHALL BRING PROJECT AREA TO A BROOM CLEAN CONDITION DAILY AND IS RESPONSIBLE FOR FINAL CLEAN UP OF AREA.
3. REMOVE ALL ABANDONED ELECTRICAL, PIPING AND MECHANICAL DEVICES FROM PROJECT AREA. CAP OFF AT THEIR RESPECTIVE SOURCES. SEE M.E.P. PLANS
4. PROVIDE DUMPSTER AS REQUIRED FOR DEMOLISHED AND CONSTRUCTION MATERIALS.
5. ALL CONTRACTORS TO VISIT THE PROJCT SITE TO FAMILIARIZE THEMSELVES WITH EXISTING PROJECT CONDITIONS. PRIOR TO BID OF THE PROJECT. IF CONDITIONS VARY FROM DESIGN DOCUMENTS THE CONTRACTOR SHALL MAKE THE DESIGN TEAM AWARE OF THE INFORMATION PRIOR TO BID.
6. ALL LIFE / SAFTEY DEVICES TO REMAIN OPERATIONAL DURING DEMOLITION AND CONSTRUCTION
7. SEE MECHANICAL, ELECTRICAL & PLUMBING PLANS FOR FURTHER INFORMATION & COORDINATION
8. ALL FREE STANDING FURNITURE TO BE REMOVED FROM THE AREA OF WORK BY THE GC. COORDINATE WITH NORWALK HOSP. FACILITIES DEPT.



2 REFLECTED CEILING DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

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INTERIOR ALTERATIONS
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Date: 8-5-24	Drawn By: JC
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DEMOLITION
FLOOR PLAN &
REFLECTED CEILING
PLAN

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Revisions:



Drawing Number:

D101

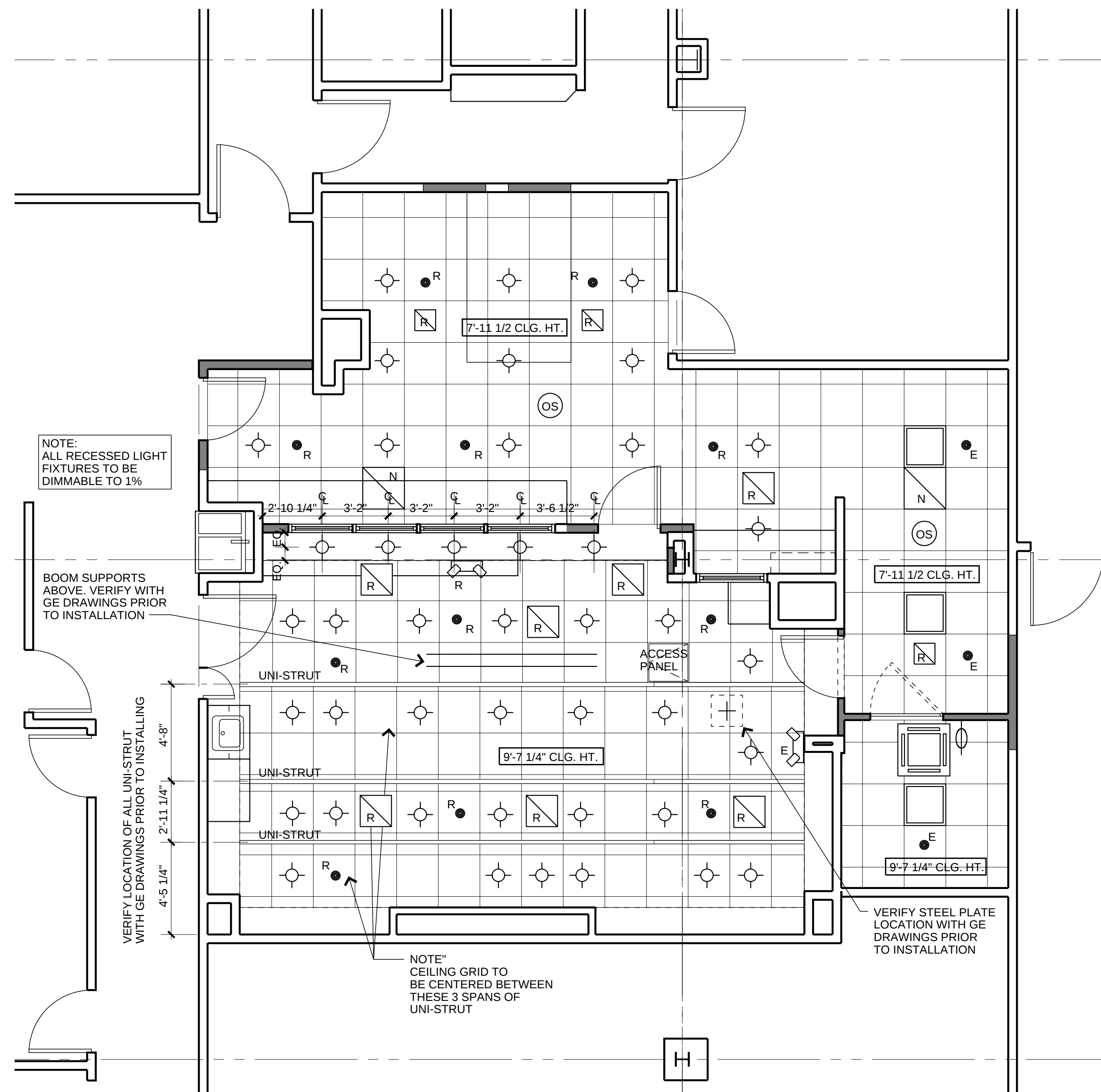
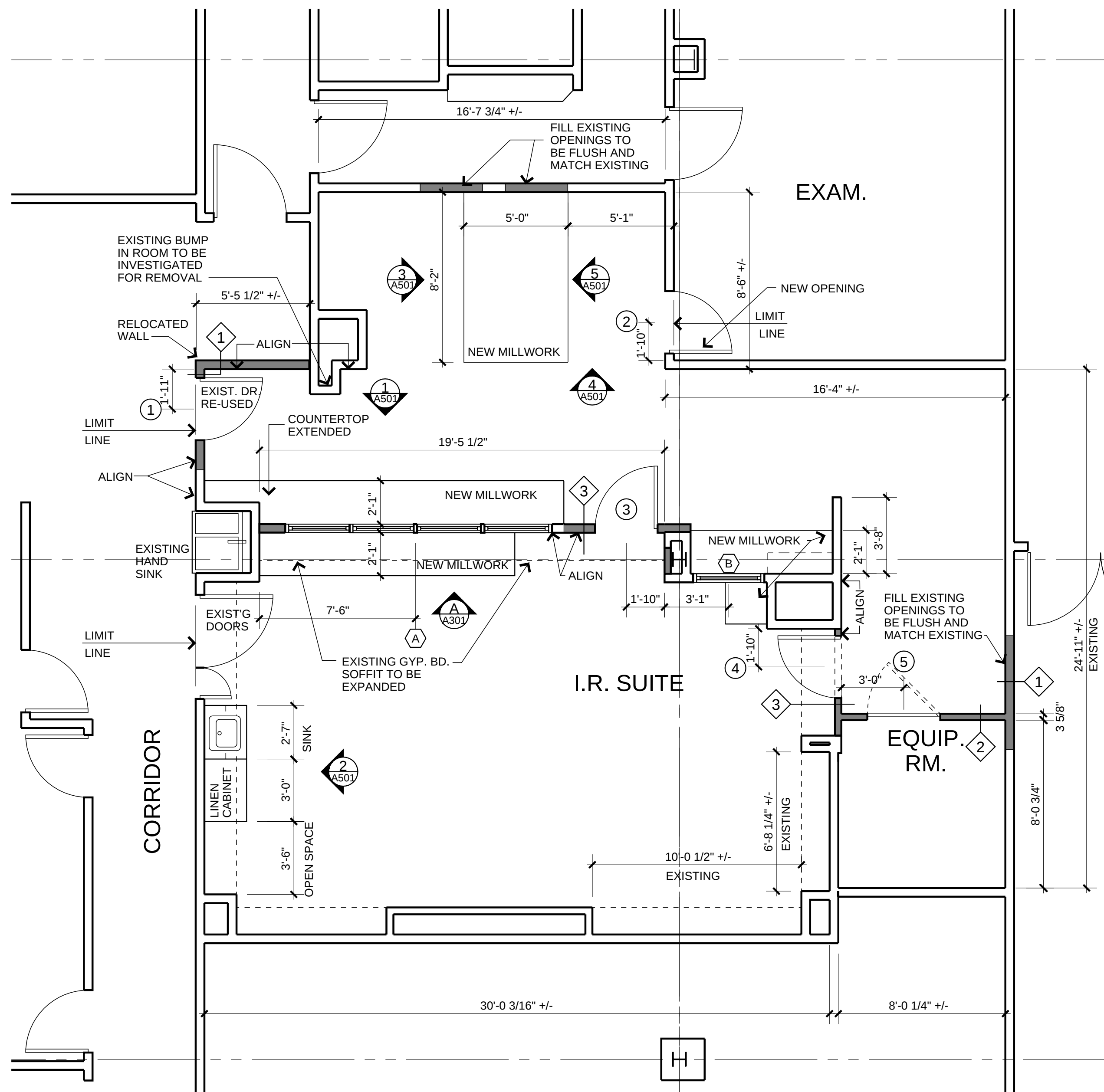
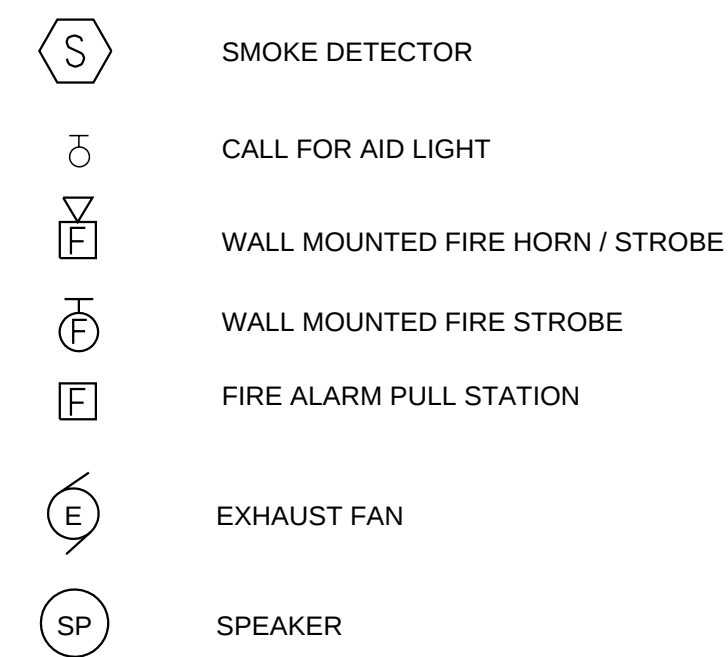
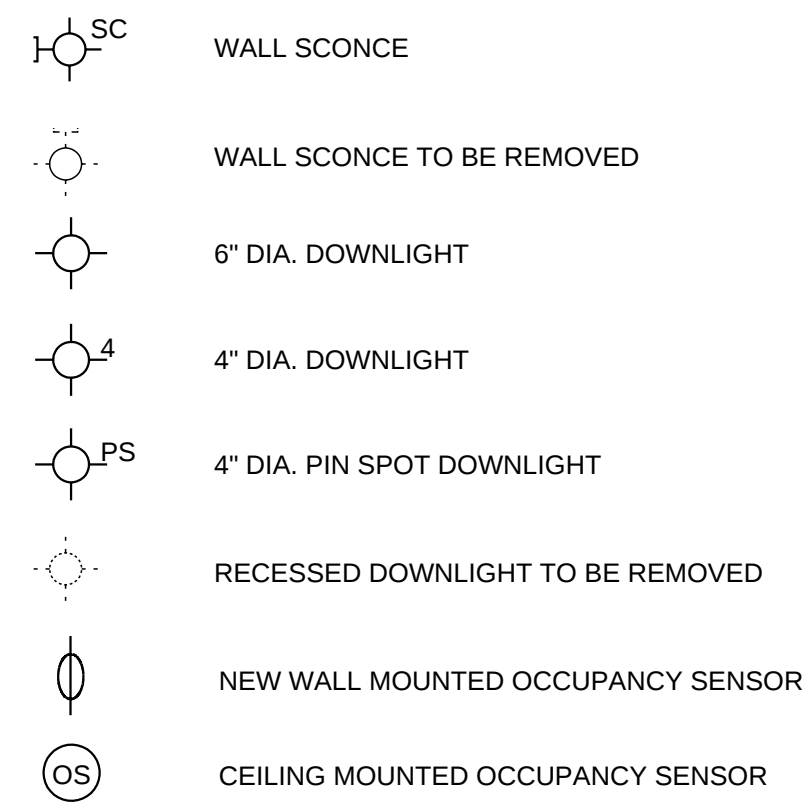
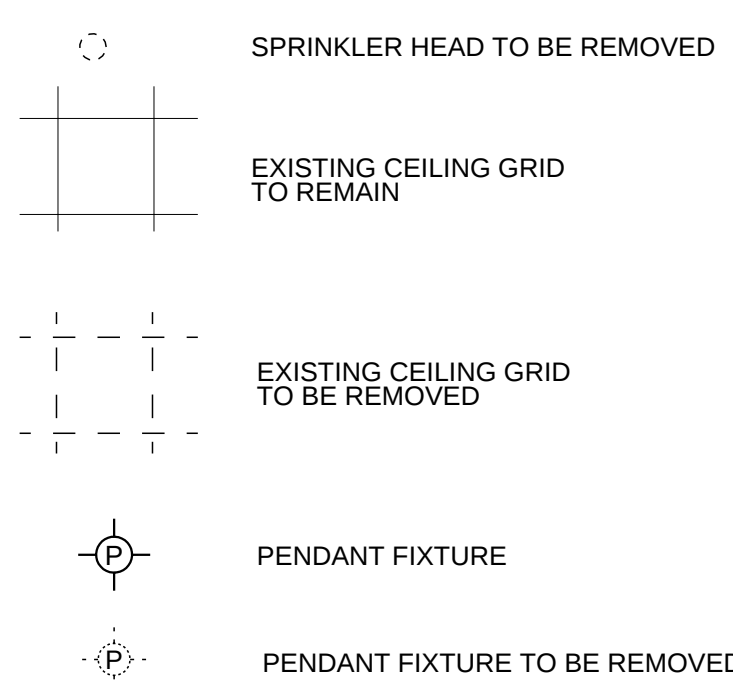
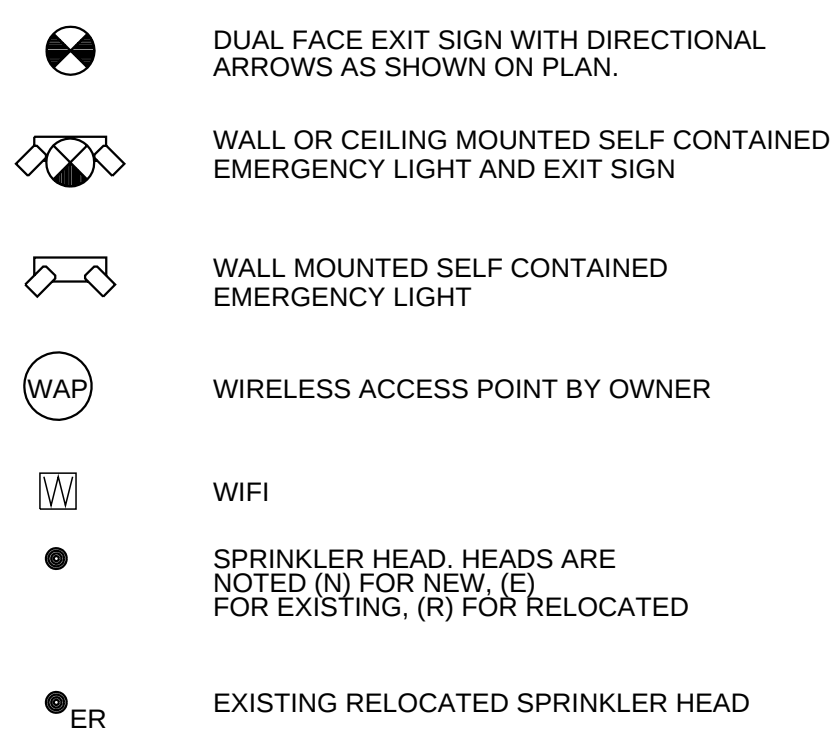
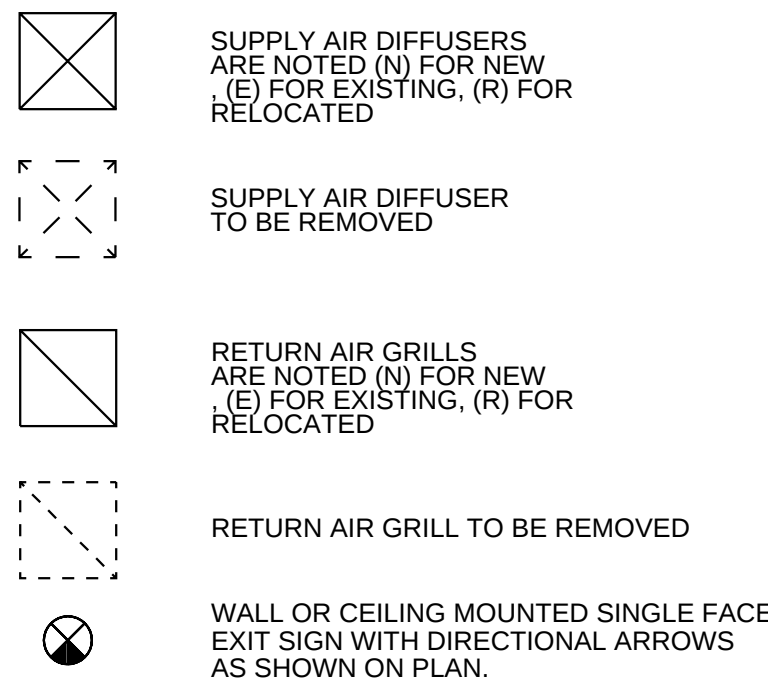
 2'x4' LAY-IN LED TROFFER
FIXTURES ARE NOTED (N) FOR NEW
, (E) FOR EXISTING, (R) FOR RELOCATED

 2'x4' LAY-IN FLUORESCENT
TROFFER TO BE REMOVED

 2'x 2' LAY-IN LED TROFFER
FIXTURES ARE NOTED (N) FOR NEW
, (E) FOR EXISTING, (R) FOR RELOCATED

 2'x2' LAY-IN FLUORESCENT
TROFFER TO BE REMOVED

 UNDERCABINET LED
TAPE LIGHTING



	EXISTING WALL TO REMAIN		EXISTING DOOR AND FRAME TO REMAIN. ALL DOORS WITHOUT NEW DOOR NUMBER ARE EXISTING, UNLESS NOTED OTHERWISE.
	NEW CONSTRUCTION WALL TYPE NUMBER SEE SHEET A401		NEW DOOR AND FRAME. SEE DOOR SCHEDULE.

1. CONTRACTOR TO PROVIDE DUSTPROOF PARTITION AS REQUIRED DURING DEMOLITION AND CONSTRUCTION WORK. VERIFY LOCATIONS WITH ATM1 / ENTEGRIS FACILITIES DEPT.
2. PATCH EXISTING WALLS AS NEEDED FOLLOWING COMPLETION OF DEMOLITION AND CONSTRUCTION. MATCH EXISTING MATERIALS AND FINISH.
3. ALL NEW AND EXISTING WALLS IN PROJECT AREA ARE TO RECEIVE ONE (1) COAT PRIMER AND (2) COATS OF FINISH PAINT, UNLESS NOTED OTHERWISE.
4. ALL PATCHED AREAS OF WALLS AND PARTITIONS SHALL HAVE NEW WALL BASE TO MATCH ADJACENT EXISTING BASE.
5. DIMENSIONS ARE TO FACE OF FINISHED WALL, UNLESS NOTED OTHERWISE.

CONTRACTOR TO PROVIDE FIRE RATED WOOD BLOCKING IN WALLS AS REQUIRED FOR ALL WALL MOUNTED DEVICES.

7. PROVIDE CORNER GUARDS AT ALL EXPOSED CORNERS OF WALLS AND COLUMN ENCLOSURES, BUILDING STANDARD.

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

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Date: 8-5-24	Drawn By: JC
Scale: 1/4"=1'-0"	Approved By:
Job No: 24 /027	File: nh_irsuite.db

Drawing Title:

CONSTRUCTION PLAN & REFLECTED CEILING PLAN

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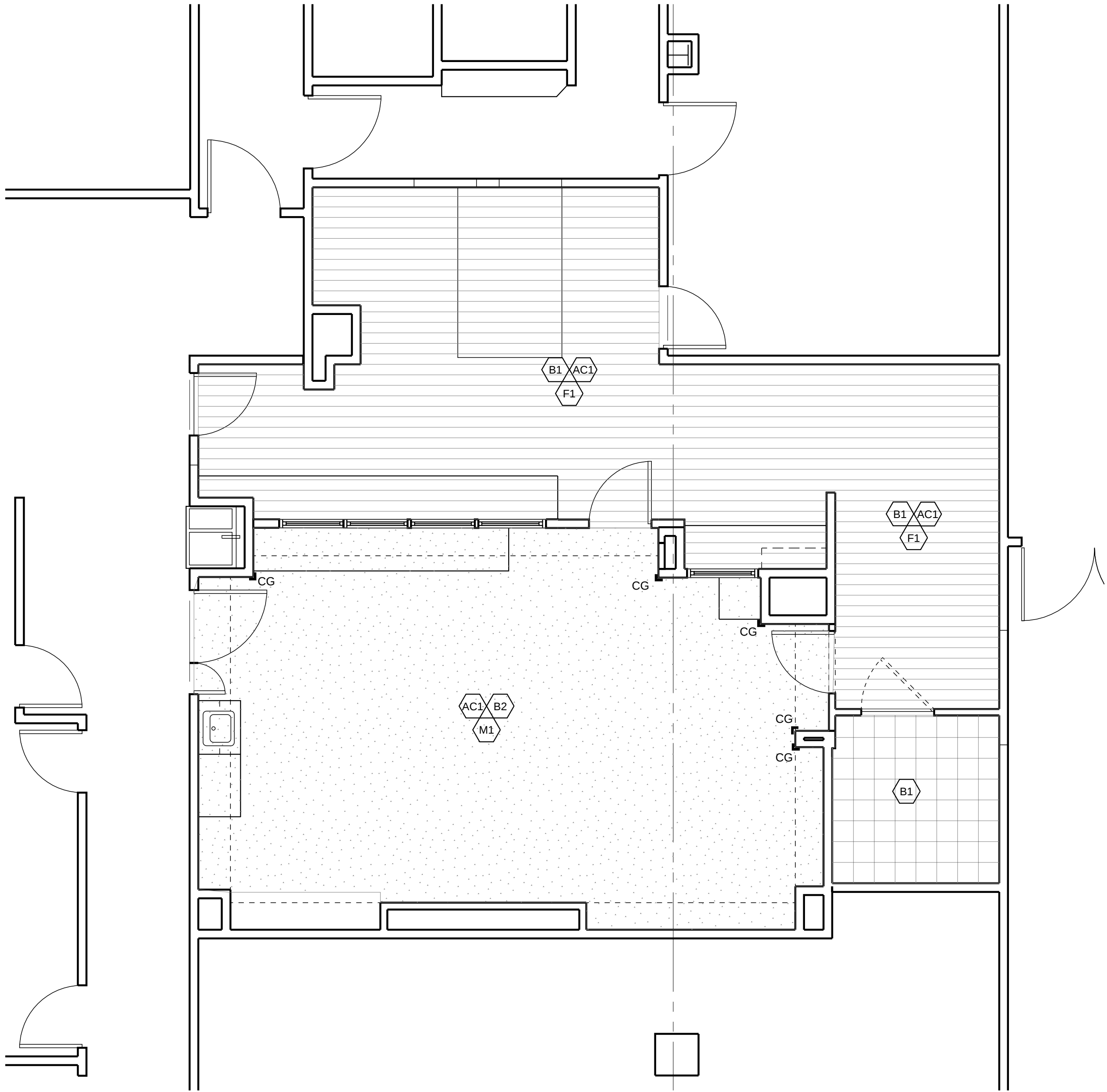
Revisions:



Drawing Number:

A101

FINISH SPECIFICATIONS				
FLOORS:	BASE:		CEILING:	
F1 MOHAWK - LIVING LOCAL COLLECTION COLOR: STUDIO #095 SIZE: 7.75" x 52" PLANK	B1 RUBBER BASE (GENERAL) TARKETT - JOHNSITE 4" VINYL COVE BASE COLOR: 197 SHADED WG	B2 SHERWIN-WILLIAMS HEALTHCARE COLLECTION "RESUFLOOR" COLOR: TO BE DETERMINED	P2 PAINT 2 (ACCENT WALL) SHERWIN WILLIAMS ECO-SELECT ZERO VOC COLOR: #SW 716 FANTASY BLUE FINISH: EGGSHELL	AC1 SUSPENDED CEILING GRID USG 15/16" WHITE SUSPENDED CEILING TILES USG MARS CLIMA PLUS HEALTHCARE, 24" x 24" x 3/4" SLT REGULAR EDGE COLOR: WHITE
	WALLS:	COUNTERTOPS	MILLWORK:	
M1 SHERWIN-WILLIAMS HEALTHCARE COLLECTION "RESUFLOOR" COLOR: TO BE DETERMINED	P1 PAINT 1 (MAIN WALL COLOR) SHERWIN WILLIAMS ECO-SELECT ZERO VOC COLOR: #SW 6253 OLYMPUS WHITE FINISH: EGGSHELL	SS1 SOLID SURFACING 1 (MILLWORK COUNTERTOPS) LG HI-MACS COLOR: MILKY WAY T009	PL1 PLASTIC LAMINATE 1 (ALL UPPER AND LOWER) WILSONART COLOR: WILD CHERRY #7054-60 FINISH: FINE GRAIN NOTE: GRAIN SHALL BE INSTALLED VERTICALLY	PROVIDE FOR SUBMITTING SAMPLES FOR APPROVAL TO MATCH EXISTING HOSPITAL MILLWORK



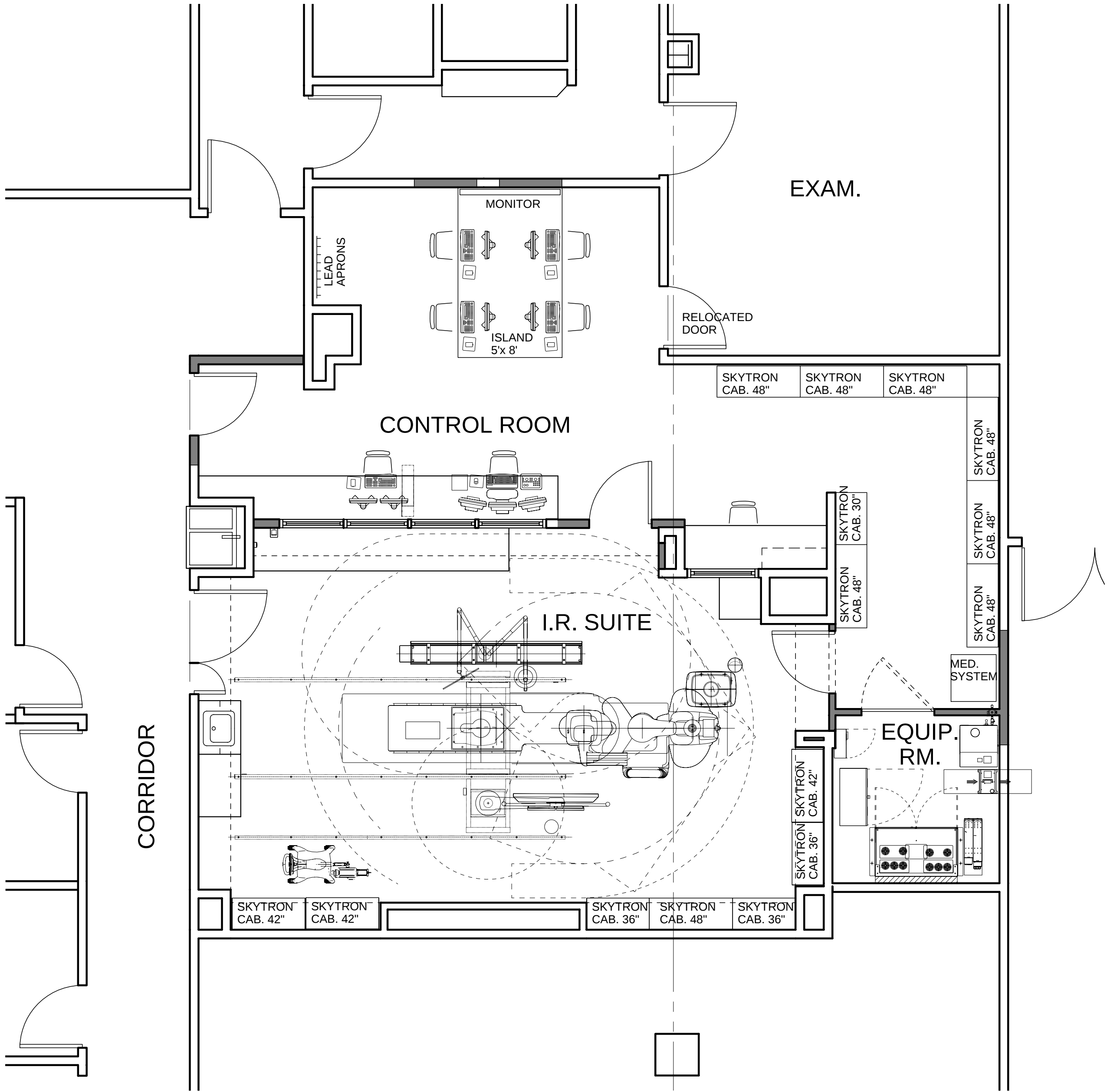
FINISH NOTES:

1. ALL FINAL REVIEW FINISHES AND COLORS TO BE APPROVED BY OWNER. CONSULT WITH NUVANCE HOSPITAL
2. ALL EXPOSED P.LAM EDGES SHALL HAVE 3MM PVC EDGE BANDING BY CHARTER INDUSTRIES, T-MOLD, 90 DUROMETER, COLORS AS INDICATED IN FINISH SCHEDULE.
3. ALL MELAMINE AT INTERIOR OF MILLWORK SHALL BE COLOR: WHITE UNLESS NOTED OTHERWISE

4. ALL FLOOR TRANSITION STRIPS SHALL BE JOHNSONITE, COLOR:283 TOAST.
5. ALL TOILET ROOM THRESHOLDS SHALL BE SCHLUTER, FLOOR TRANSITIONS COLOR: E-STAINLESS STEEL.
6. $\longleftrightarrow$ INDICATES INSTALL DIRECTION OF LENGTH AND / OR GRAIN OF FLOOR MATERIAL.
7. ADHESIVE FOR VINYL FLOORING TO BE AS RECOMMENDED BY MANUFACTURER, CARPET ADHESIVE

TO BE AS RECOMMENDED BY MANUFACTURER
8. DOOR FRAMES TO BE PAINTED THE SAME COLOR AS THE WALL IN A SEMI-GLOSS FINISH.
9. ALL NEW WOOD DOORS FINISH TO MATCH VT INDUSTRIES, SPECIES: TO MATCH HOSPITAL STANDARD
10. SEE MILLWORK PLANS AND DETAILS FOR FINISHES.
11. CUBICLE CURTAINS FABRIC TO HAVE 1/2" HOLES W/ ANTI-RUST GROMMETS,

BOTTOM OF CURTAIN SHALL HANG 12" A.F.F. , MANUFACTURE CURTAIN ONE PIECE, SIZED 10% WIDER THAN TRACK LENGTH AND NO LESS THAN 12" EXTRA FULLNESS
12. SEE REFLECTED CEILING PLANS FOR CEILING HEIGHTS AND EXTENT OF CEILING TYPES.
13. SEE FLOOR PLANS FOR LOCATION OF W ALL PROTECTION, HANDRAILS, CRASH RAILS, AND CORNER GUARDS.



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

2 FURNITURE & EQUIPMENT PLAN
SCALE: 1/4" = 1' - 0"

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INTERIOR ALTERATIONS THIRD FLOOR

Date: 8-5-24 Drawn By: JC
Scale: 1/4"=1'-0" Approved By:
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Drawing Title:

FINISH
PLAN & FURNITURE /
EQUIPMENT PLAN

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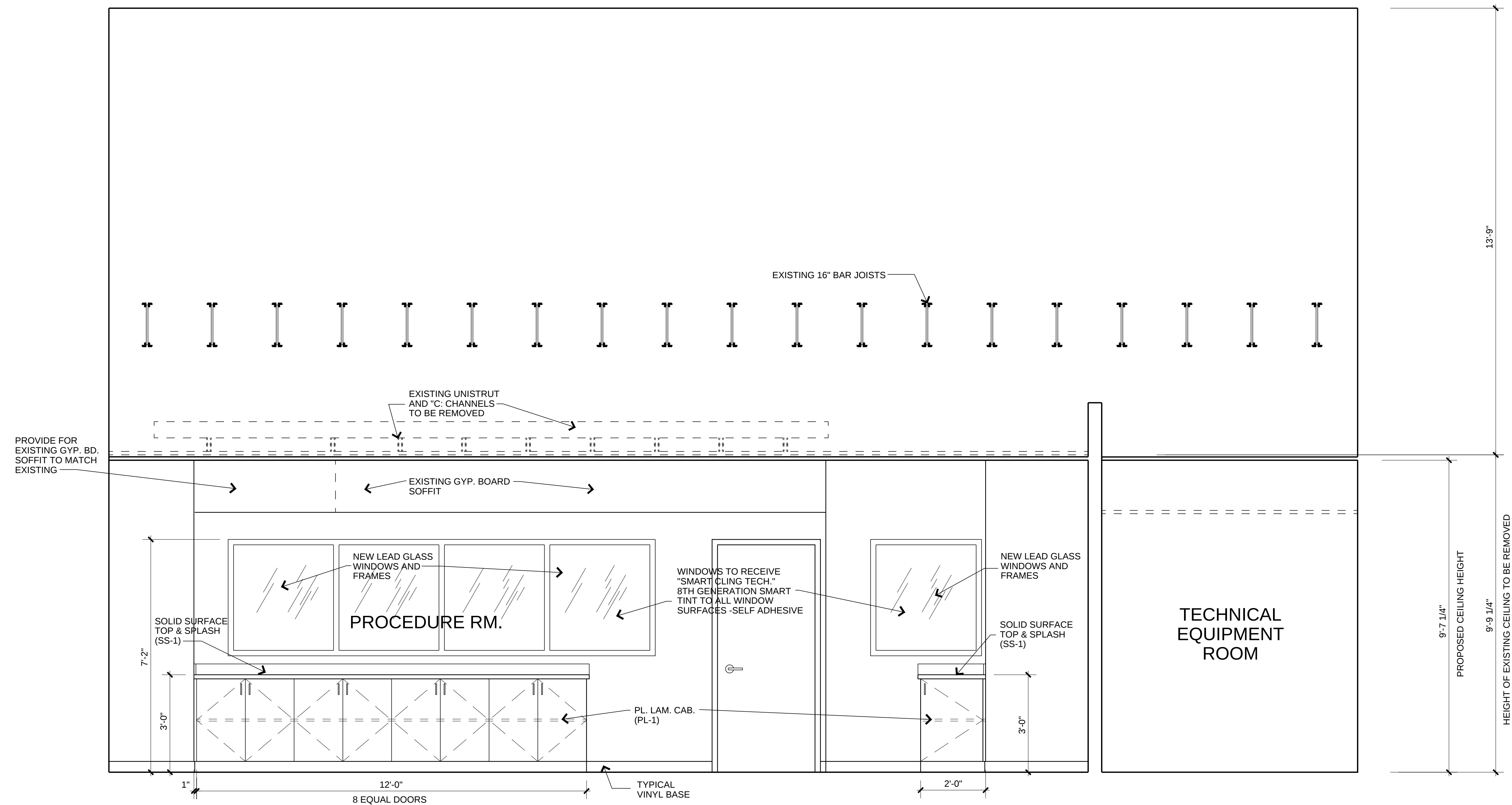
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Revisions:



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

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INTERIOR ALTERATIONS
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Date:	8-5-24	Drawn By:	JC
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Drawing Title:

BUILDING
SECTION

Copyright:

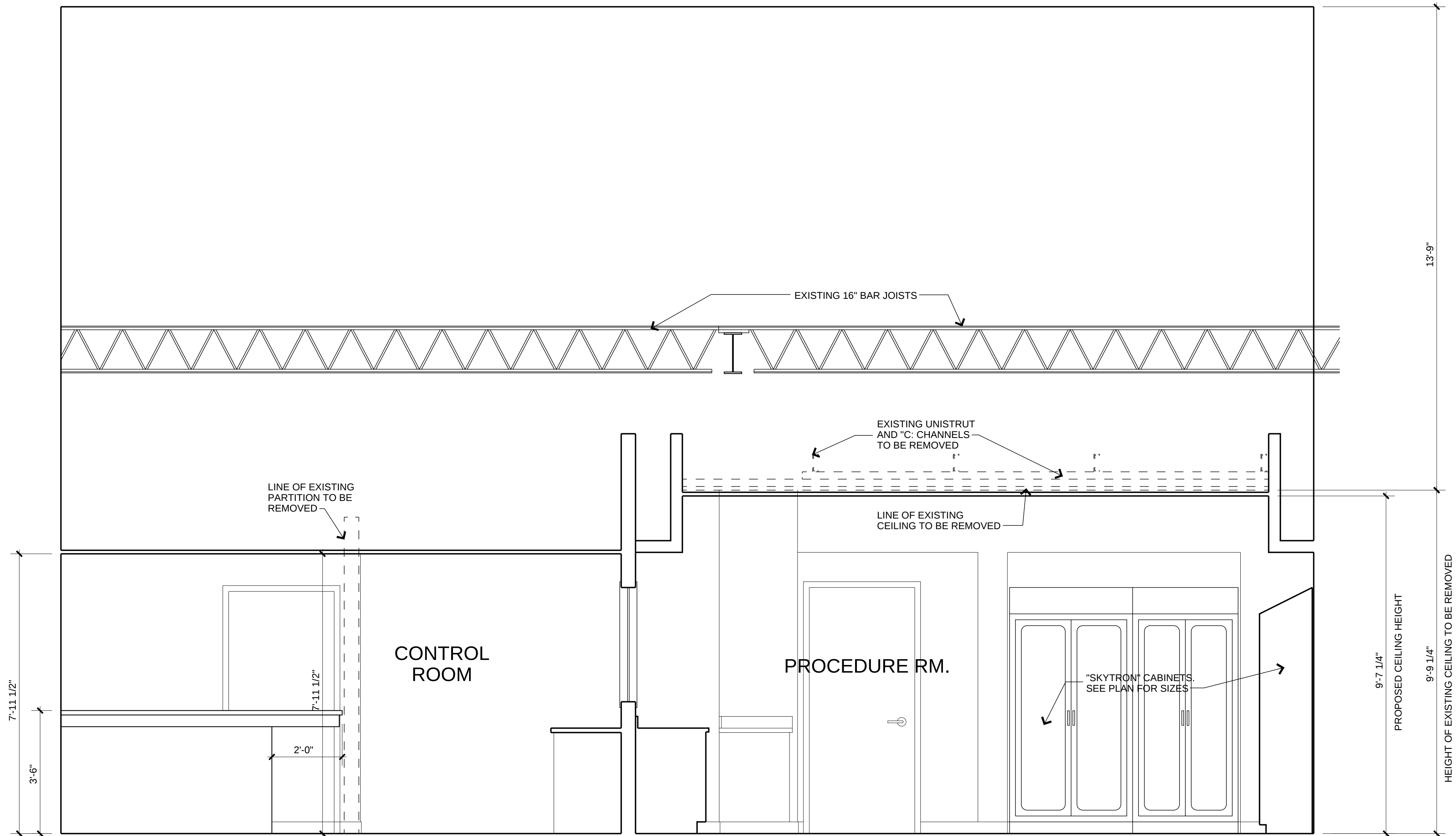
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Revisions:



Drawing Number:

A301



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

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INTERIOR ALTERATIONS
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BUILDING
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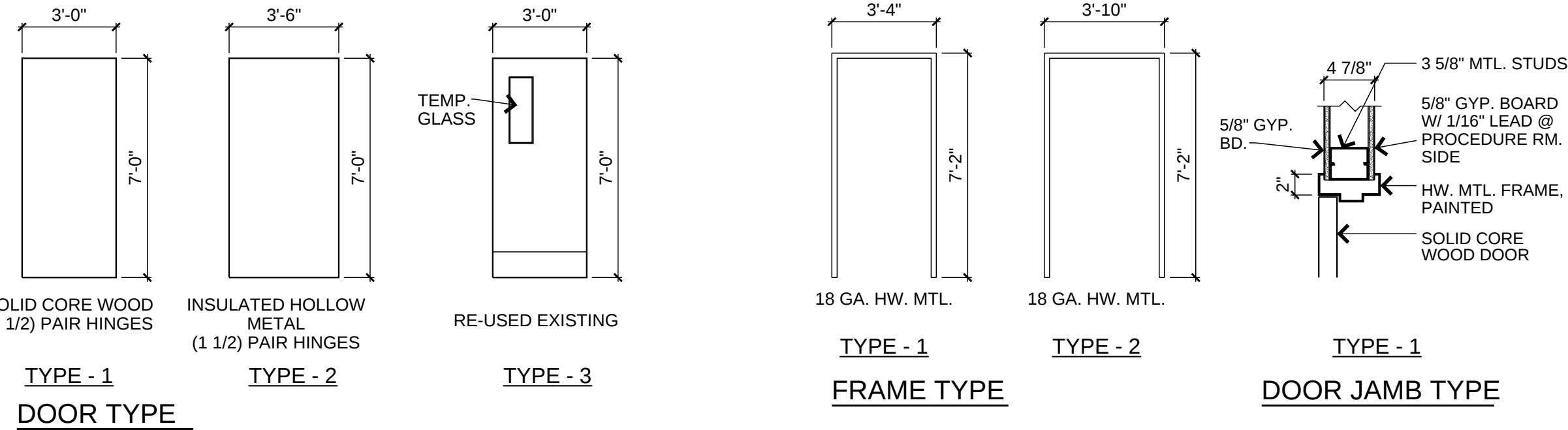
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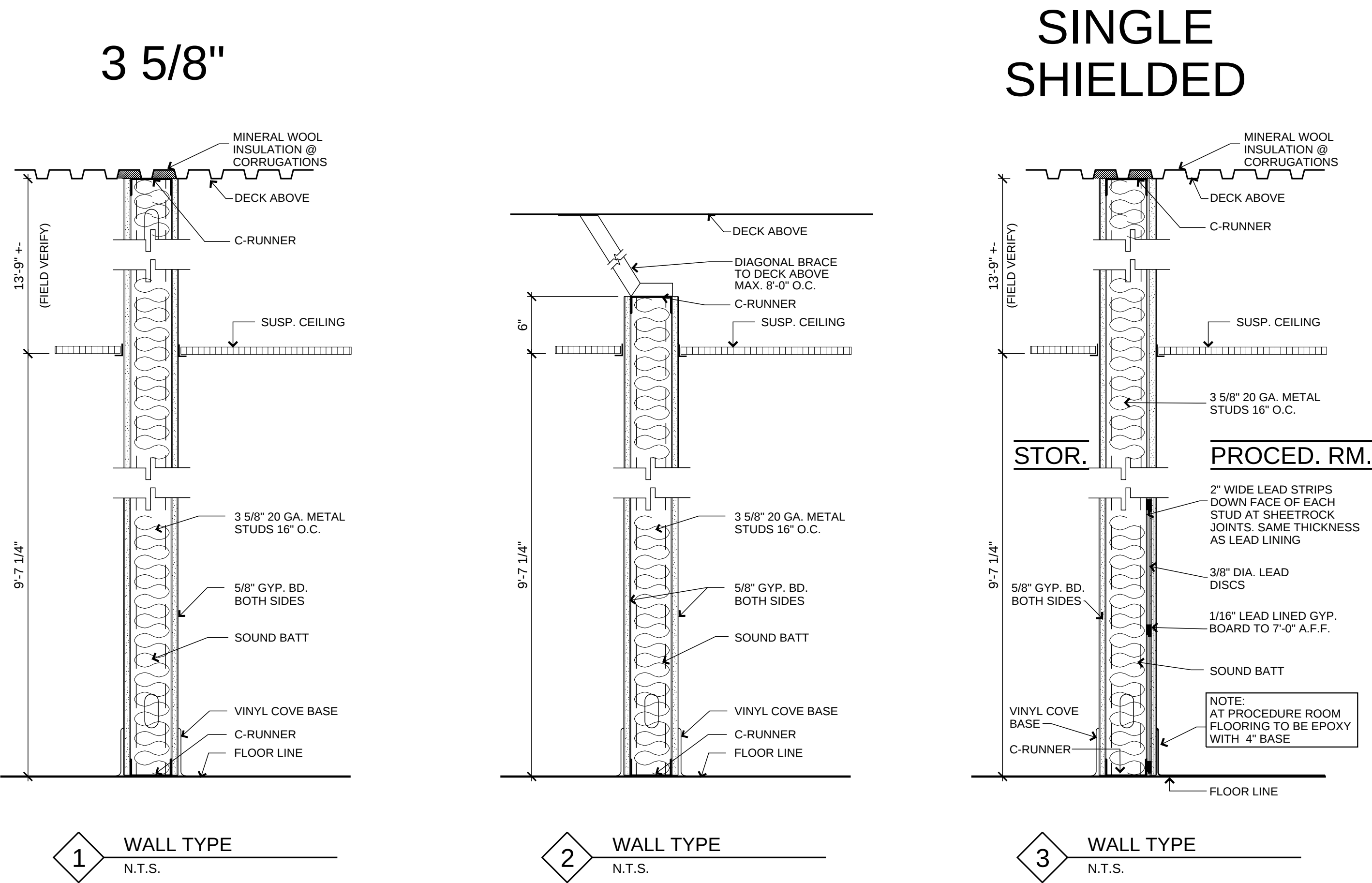
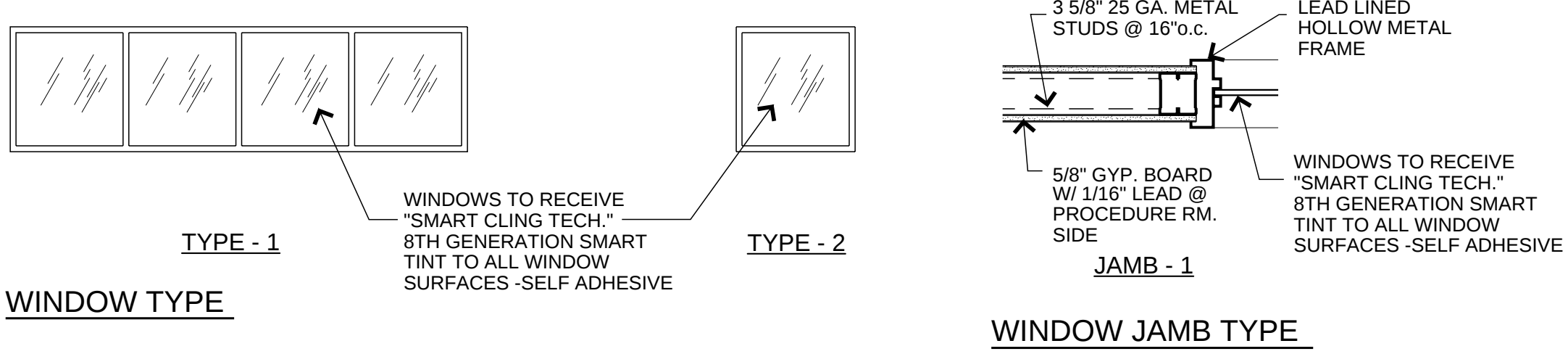
Drawing Number:

A302

DOOR SCHEDULE											
DOOR NUM.	DOOR TYPE	DOOR SIZE	MATERIAL	FINISH	FRAME TYPE	JAMB TYPE	MATERIAL	FINISH	LABEL	HARDWARE	REMARKS
1	3	EXISTING	EXISTING	PRE-FINISHED	EXISTING	EXISTING	EXISTING	EXISTING			
2	1	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD	PRE-FINISHED	1	1	HW. MTL.	PAINT	---	LEVER TYPE, OFFICE SET	
3	1	3'-0" x 7'-0" x 1 3/4"	S.C. WOOD	PRE-FINISHED	1	1	HW. MTL.	PAINT	---	LEVER TYPE, PASSAGE SET	1/16" LEAD SHIELDING
4	2	3'-6" x 7'-0" x 1 3/4"	S.C. WOOD	PRE-FINISHED	2	1	HW. MTL.	PAINT	---	LEVER TYPE, OFFICE SET	1/32" LEAD SHIELDING
ALL HARDWARE TO MEET ADA SPECIFICATIONS											
NOTE: CONTRACTOR TO VERIFY WALL THICKNESS PRIOR TO PURCHASE OF FRAMES.											
KEY SYSTEM IN ACCORDANCE WITH THE HOSPITALS LOCKSMITH AND FACILITIES DEPARTMENT MANAGEMENT AND THE HOSPITALS SECURITY DEPARTMENT MANAGEMENT.											
CONTRACTOR TO PROVIDE DOOR AND FRAME SCHEDULE WITH SUBMITTALS FOR DOOR ACCESSORIES.						PROVIDE WALL STOP FOR ALL DOORS.					



WINDOW SCHEDULE									
WIND. NUM.	WIND. TYPE	WINDOW SIZE	MATERIAL	FINISH	JAMB TYPE	LABEL	HARDWARE	REMARKS	
A	1	13'-2" x 3'-7 1/2" R.O.	LEAD LINED HOLLOW MTL.	PT.	1	---	FIXED		
B	2	3'-5 1/2" x 3'-7 1/2" R.O.	LEAD LINED HOLLOW MTL.	PT.	1	---	FIXED		



MECHANICAL FASTENERS FOR LIGHT GAUGE METAL FRAMING

ALL FASTENERS CONNECTING LIGHT GAUGE FRAMING TO METAL DECK OR STRUCTURAL STEEL SHALL BE POWER DRIVEN FASTENERS (PDF) OF .177 INCH DIAMETER MINIMUM.

ALL FASTENERS CONNECTING LIGHT GAUGE FRAMING TO CONCRETE SHALL BE POWER DRIVEN FASTENERS OF .177 INCH DIAMETER MINIMUM AND EMBEDMENT OF 1 1/4" INCH.

ALL FASTENERS TO BE SPACED AT 16 INCHES ON CENTER MINIMUM.

PDF TO SLAB: MINIMUM 2" FROM EDGE OF SLAB, TWO ROWS AT 16" O.C., STARTER 8" O.C. MINIMUM.

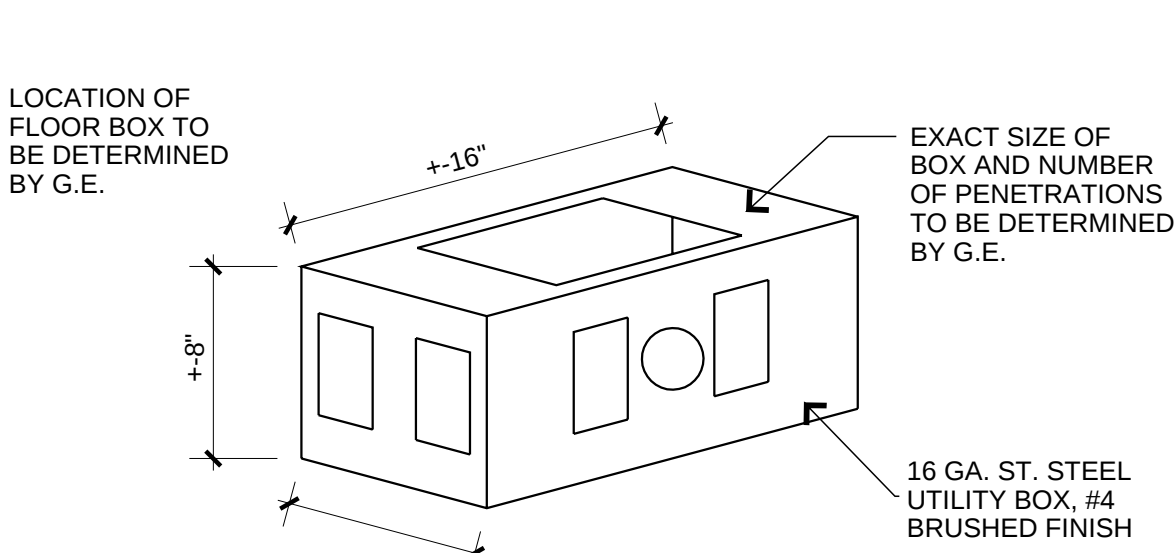
PDF TO BEAM: MINIMUM 3/4" FROM EDGE OF BEAM, 8" O.C. MINIMUM.

STUD TO STUD FASTENERS:

CONNECTIONS SHALL BE ACCOMPLISHED WITH SELF-DRIVING SCREWS. ALL CONNECTIONS SHALL BE MADE USING A MINIMUM OF FOUR #12-16 SCREWS, UNLESS OTHERWISE SHOWN ON DRAWINGS. SCREW SPACING AND EDGE DISTANCE SHALL NOT BE LESS THAN 1".

GENERAL NOTES

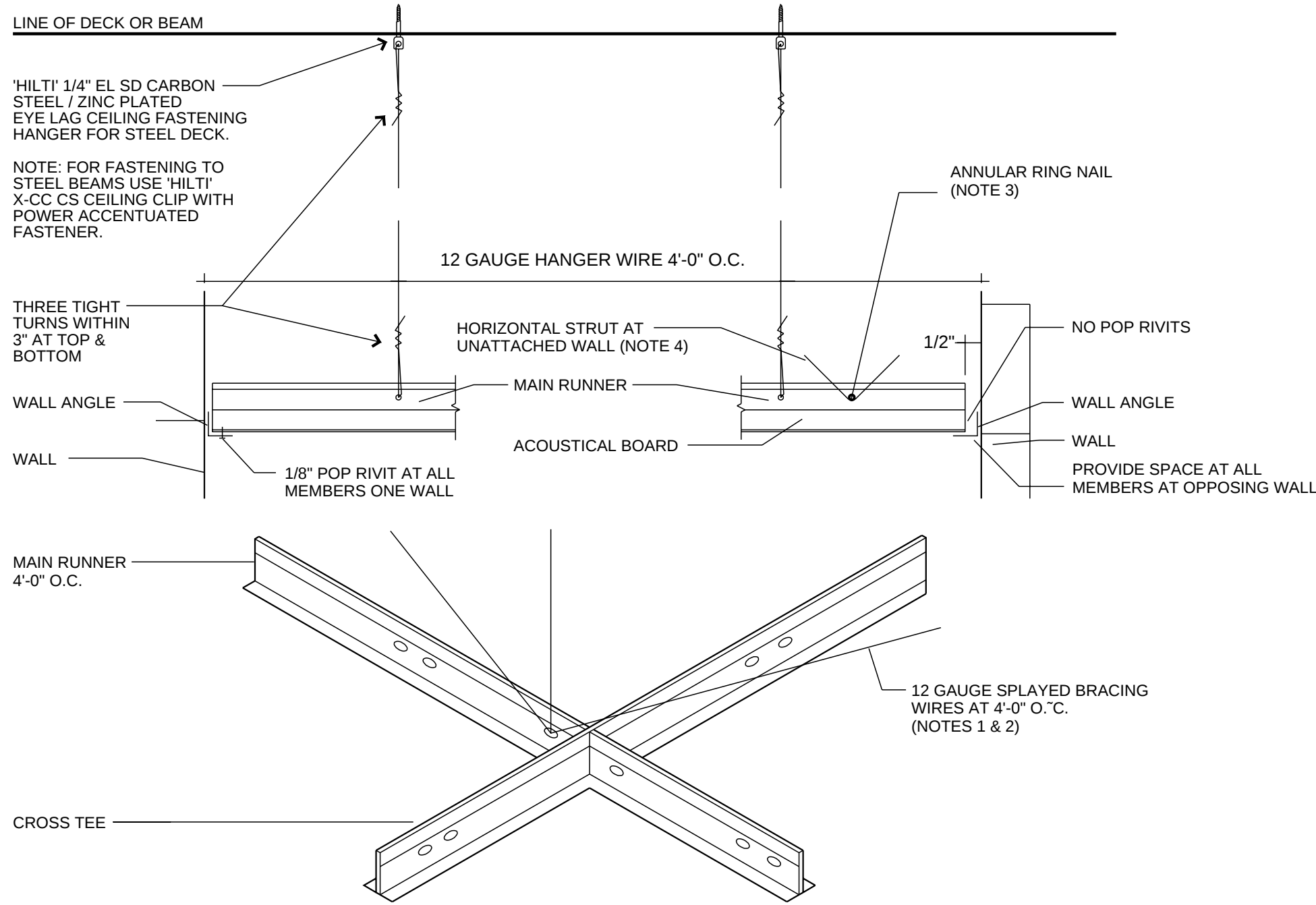
GENERAL CONTRACTOR TO COORDINATE ALL FRAMING WITH MECHANICAL PLUMBING AND ELECTRICAL CONTRACTORS. PROVIDE FIRE RETARDANT BLOCKING IN WALLS AS REQUIRED FOR ALL WALL MOUNTED HARDWARE AND DEVICES. FRAME AROUND ALL STRUCTURAL STEEL, PIPES, DUCKWORK, ETC., AS REQUIRED BY FIELD CONDITIONS.



1 WALL TYPES
SCALE: NTS

2 FLOOR BOX DETAIL
SCALE: NTS

4 CEILING DETAIL
SCALE: NTS



- NOTES:**
- ALL BRACING WIRES TO BE ATTACHED PARALLEL TO THE COMPONENT AND AT MAXIMUM OF 45 DEGREE TO THE PLANE OF CEILING.
 - ALL BRACING WIRES TO BE TAUT AND TIED BOTH ENDS WITH A MINIMUM OF THREE TURNS.
 - RING NAILS SHALL BE INSTALLED AT ALL COMPONENT INTERSECTIONS WITH HORIZONTAL STRUT AT UNATTACHED WALLS.
 - THE HORIZONTAL STRUT SHALL RUN CONTINUOUS AT ALL PERIMETERS AND POP RIVETED TO THE WALL ANGLE.
 - LIGHTING FIXTURES, EGRESS LIGHTING, SPEAKERS, AIR TERMINALS OR MECHANICAL SERVICES WEIGHING UP TO 56 POUNDS AND DIRECTLY SUPPORTED BY THE CEILING GRID SYSTEM SHALL BE POSITIVELY ATTACHED TO CEILING SYSTEM. ATTACHMENT SHALL BE MADE WITH A MINIMUM OF 4 APPROVED FASTENERS LOCATED WITHIN 3 INCHES OF THE GRID INTERSECTIONS TO SUSPENSION MAIN RUNNERS, OR TO CROSS RUNNERS WITH THE SAME CARRYING CAPACITY AS THE MAIN RUNNERS. IN ADDITION TO THE ABOVE GRID CONNECTION FIXTURES WEIGHING 20 POUNDS BUT NOT MORE THAN 56 POUNDS, SHALL HAVE TWO 0.080 (12 GAUGE A.W.G.) HANGERS CONNECTED FROM THE FIXTURE TO THE CEILING SYSTEM HANGERS OR TO THE STRUCTURE ABOVE. THESE WIRES MAY BE SLACK
 - SUSPENDED CEILING TO COMPLY WITH ASTM 636.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 8-5-24 Drawn By: JC
Scale: 1/2"=1'-0" Approved By:
Job No: 24 /027 File: nh_irsuite.db

Drawing Title:

DOOR SCHEDULE & WALL TYPES

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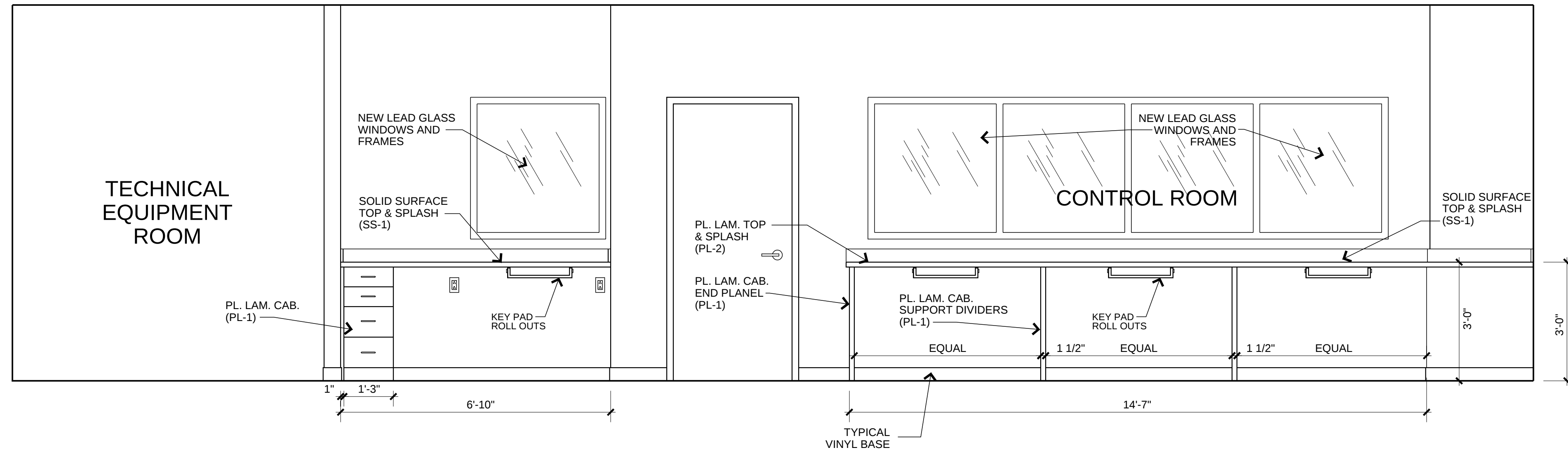
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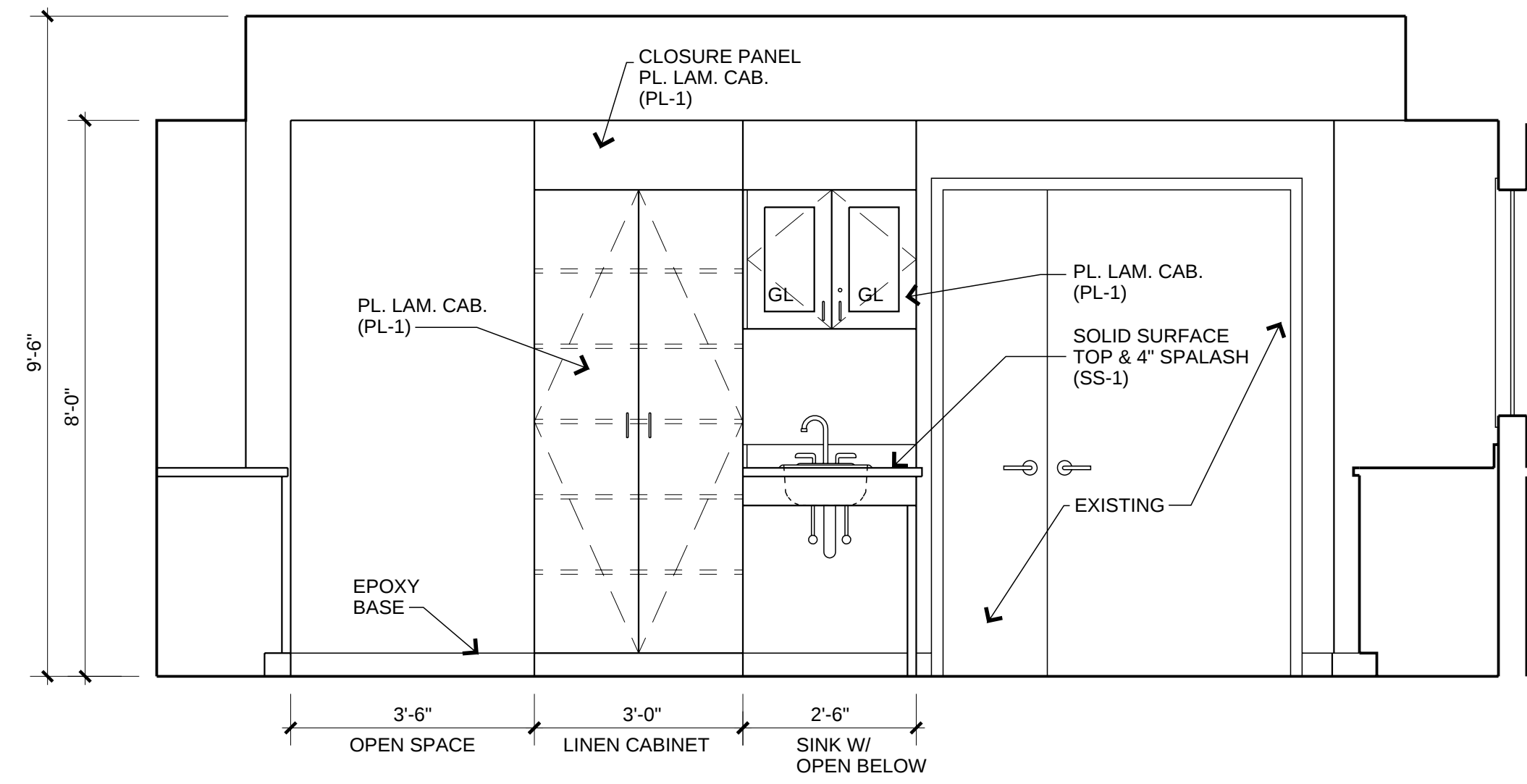


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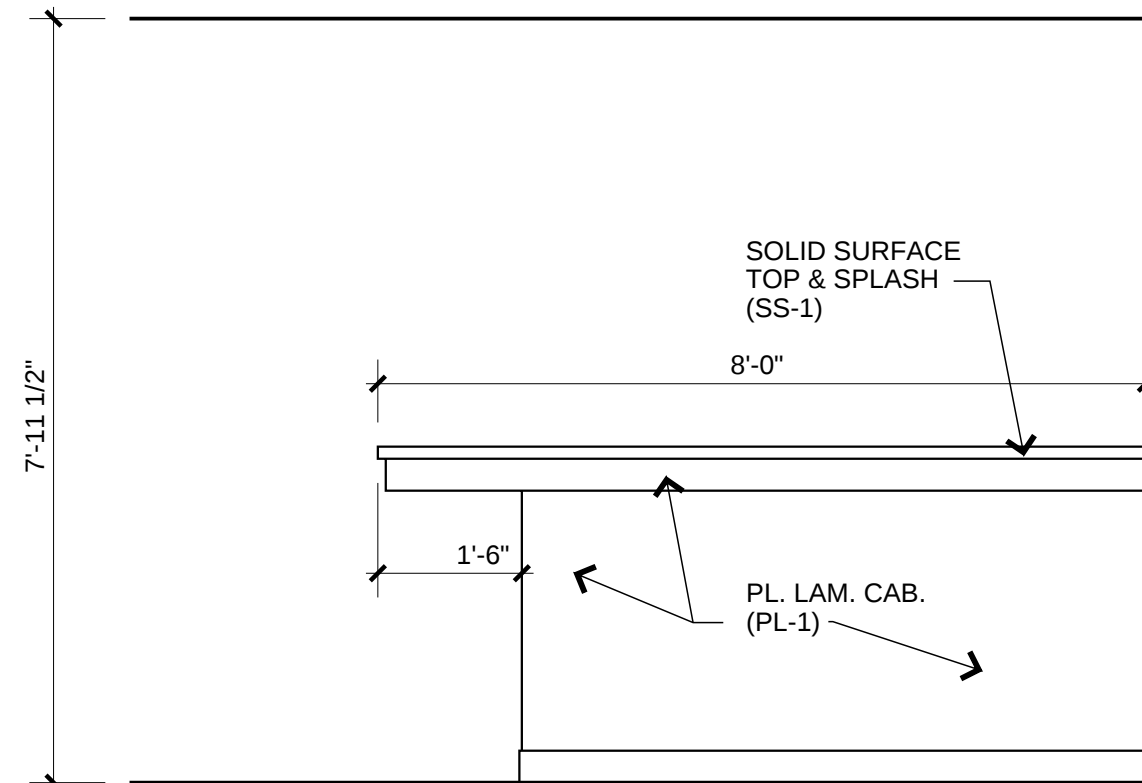
A401



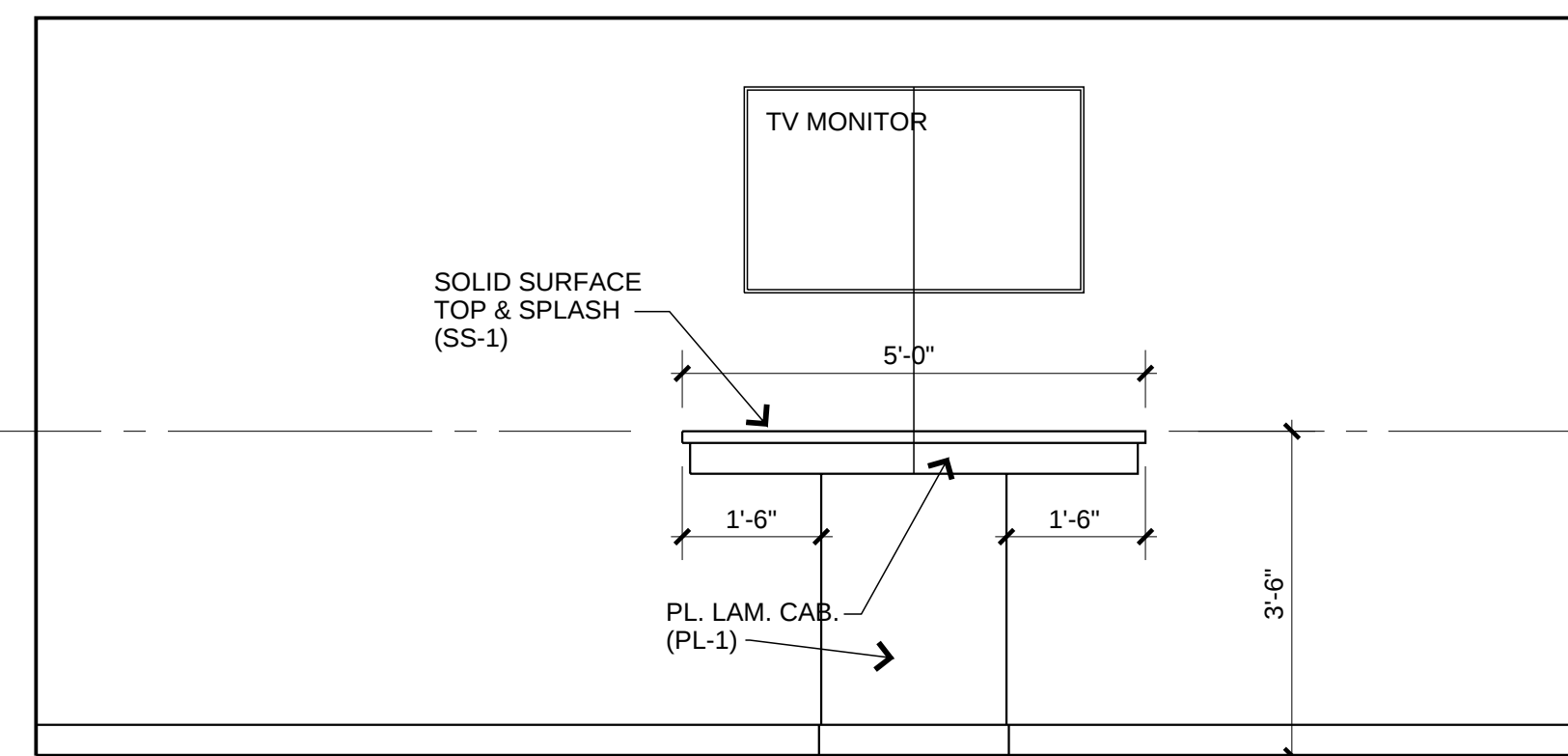
1 CONTROL RM.
SCALE: 1/2" = 1' - 0"



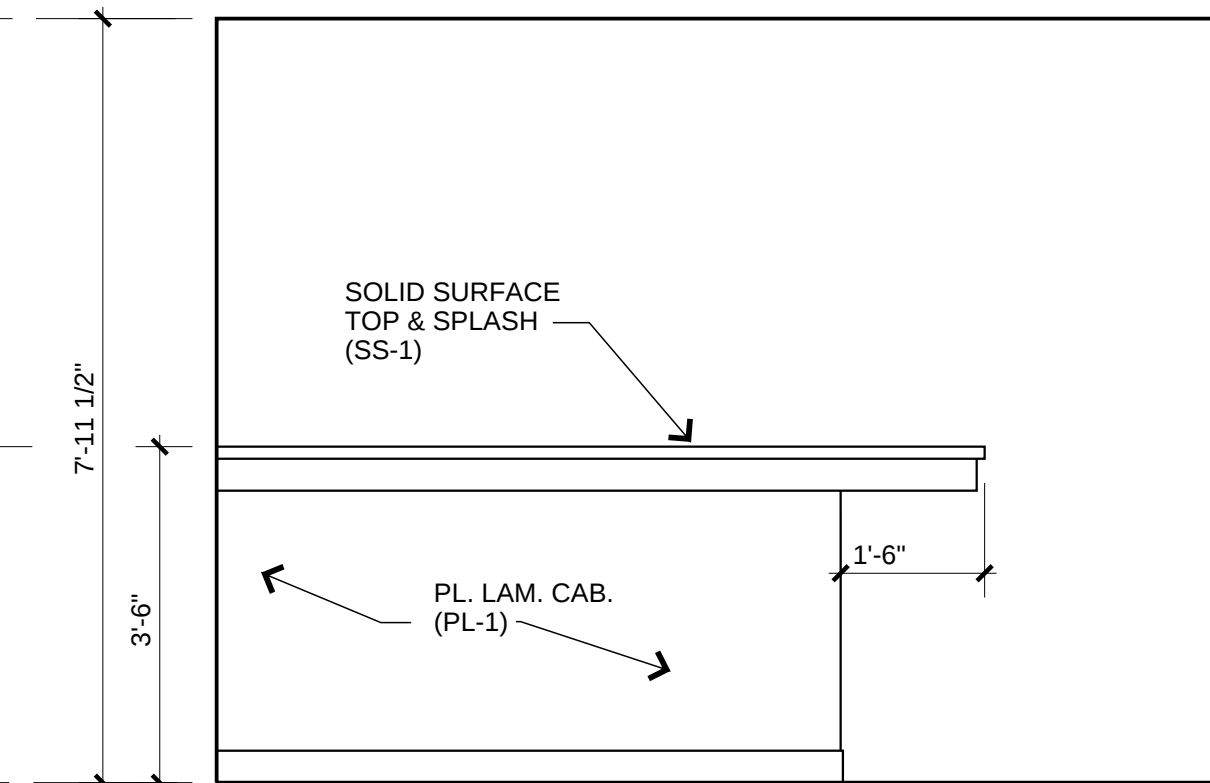
2 PROCEDURE RM.
SCALE: 1/2" = 1' - 0"



3 CONTROL RM.
SCALE: 1/2" = 1' - 0"



4 CONTROL RM.
SCALE: 1/2" = 1' - 0"



5 CONTROL RM.
SCALE: 1/2" = 1' - 0"

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INTERIOR ALTERATIONS
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Revisions:



Drawing Number:

A501

DEMOLITION NOTES

1. DEMOLITION NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
2. ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
3. AFTER REMOVING PIPING THROUGH FLOOR SLABS, PENETRATIONS SHALL BE PATCHED WITH APPROVED FIRE-RATED MATERIAL.
4. THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF HVAC WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
5. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
6. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
7. THE CONTRACTOR SHALL REMOVE ALL DUCT & PIPING SUPPORTS, ECT. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
8. ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERNATION WORK SHALL BE REROUTED CONCEALED BEHIND FINISHED SURFACES.
9. PORTIONS OF PIPING & DUCTWORK TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR, AS DIRECTED BY THE OWNER.
12. ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
13. THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH THE OWNER, MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
14. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS.

GENERAL NOTES

1. THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK AND PIPING FABRICATION DRAWING APPROVAL.
2. ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
3. DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS, WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED. DUCT DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING.
4. ALL LOW PRESSURE TERMINAL BRANCH DUCTWORK (SUPPLY AND RETURN) SHALL BE PROVIDED WITH VOLUME CONTROL DAMPERS. ALL BRANCH DUCT VOLUME DAMPERS SERVING DIFFUSERS IN GYPSUM BOARD CEILINGS (OTHERWISE INACCESSIBLE) SHALL BE REMOTELY (CORD OR CABLE) OPERABLE THROUGH THE FACE OF THE DIFFUSER.
5. THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS, FINISHED PAINT COLOR TO BE SELECTED BY THE ARCHITECT. 48" ABOVE FINISHED FLOOR.
6. WHERE PIPING CONNECTIONS FOR EQUIPMENT SUCH AS PUMPS, AC UNITS, COIL, ECT, DIFFER FROM THE LINE SIZE PIPING. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
7. ALL FIRE DAMPERS SHALL BE 2 HOUR FIRE RATED PER U.L. 555.
8. PROVIDE FIRE DAMPERS AND ACCESS DOORS IN ALL DUCTWORK PENETRATING FIRE RATED WALLS AND FLOORS. ALL ACCESS DOORS SHALL BE 18X18. ALL FIRE DAMPERS SHALL BE PROVIDED WITH END SWITCH FOR STATUS SIGNAL TO THE BMS AND FIRE SMOKE CONTROL PANEL.
9. PROVIDE ONE THERMOSTAT FOR EACH FAN COIL UNIT, ATTIC VENT AIR FAN UNIT, VAV, FPB, CABINET UNIT HEATER AND ELECTRIC BASEBOARD RADIATION. THERMOSTAT LOCATIONS SHALL BE AS SHOWN ON PLANS AND/OR WHERE DIRECTED AND APPROVED BY THE ARCHITECTS AND ENGINEERS.
10. BORDER TYPES AND METHOD OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH THE ARCHITECTURAL CEILING DETAILS AND SPECIFICATIONS.
11. REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN ON THE DRAWINGS.
12. ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
13. ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.

MECHANICAL ABBREVIATIONS

AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
ATC	AUTOMATIC TEMPERATURE CONTROL
CD-A	DIFFUSER TYPE - REFER TO SCHEDULE
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNITS
CFM	CUBIC FEET PER MINUTE
E	EXISTING
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
ER	EXISTING TO REMAIN
ETR	EXISTING TO BE RELOCATED
FC	FAN COIL
FD	FIRE DAMPER WITH ACCESS DOOR
FLA	FULL LOAD AMPS
HZ	HERTZ
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MD	MOTORIZED DAMPER
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OED	OPEN ENDED DUCT
PH	PHASE
PSI	POUNDS PER SQUARE INCH
SHC	SENSIBLE COOLING (IN MBH)
SD	SMOKE DETECTOR
TC	TOTAL COOLING (IN MBH)
TYP	TYPICAL
V	VOLTS
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

MECHANICAL DUCTWORK
SYMBOL LIST

	NEW SUPPLY DUCT
	EXISTING SUPPLY DUCT TO REMAIN
	EXISTING SUPPLY DUCT TO BE REMOVED
	NEW RETURN DUCT
	EXISTING RETURN DUCT TO REMAIN
	EXISTING RETURN DUCT TO BE REMOVED
	ACOUSTICALLY LINED DUCT
	NEW EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE RELOCATED
	DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
	ROUND DUCT DIAMETER
	TRANSITION FROM RECTANGULAR TO ROUND OR OVAL DUCT
	FLEXIBLE CONNECTION
	VOLUME DAMPER
	FIRE DAMPER W/ DUCT ACCESS DOOR
	MOTORIZED DAMPER W/DUCT ACCESS DOOR
	COMBINATION FIRE/SMOKE DAMPER W/DUCT ACCESS DOOR
	SUPPLY REGISTER
	RETURN OR EXHAUST REGISTER OR GRILLE
	SUPPLY CEILING DIFFUSER
	RETURN CEILING GRILLE OR REGISTER
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN OR EXHAUST DUCT UP
	RETURN OR EXHAUST DUCT DOWN
	ELBOW WITH TURNING VANES
	RADIUS ELBOW
	DUCT SPLIT OR BRANCH TAKEOFF
	THERMOSTAT - WALL OR DUCT MOUNTED
	TEMPERATURE SENSOR - WALL OR DUCT MOUNTED
	HUMIDISTAT - WALL OR DUCT MOUNTED
	MECHANICAL PLAN NOTE TAG
	REVISION SYMBOL
	POINT OF NEW CONNECTION TO EXISTING WORK
	REMOVE AND SAFE OFF EXISTING WORK FOR RECONNECTION

MECHANICAL DRAWING INDEX

DRAWING NO.	DRAWING TITLE
M001	MECHANICAL NOTES, LEGEND, AND INDEX
M100	MECHANICAL FLOOR PLANS
M200	MECHANICAL SCHEDULES AND DETAILS
M300	MECHANICAL SPECIFICATIONS (SHEET 1 OF 2)
M301	MECHANICAL SPECIFICATIONS (SHEET 2 OF 2)

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INTERIOR ALTERATIONS
THIRD FLOOR

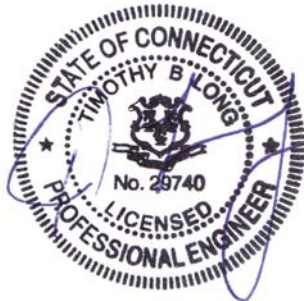
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Drawing Title:
MECHANICAL NOTES,
LEGEND, AND INDEX

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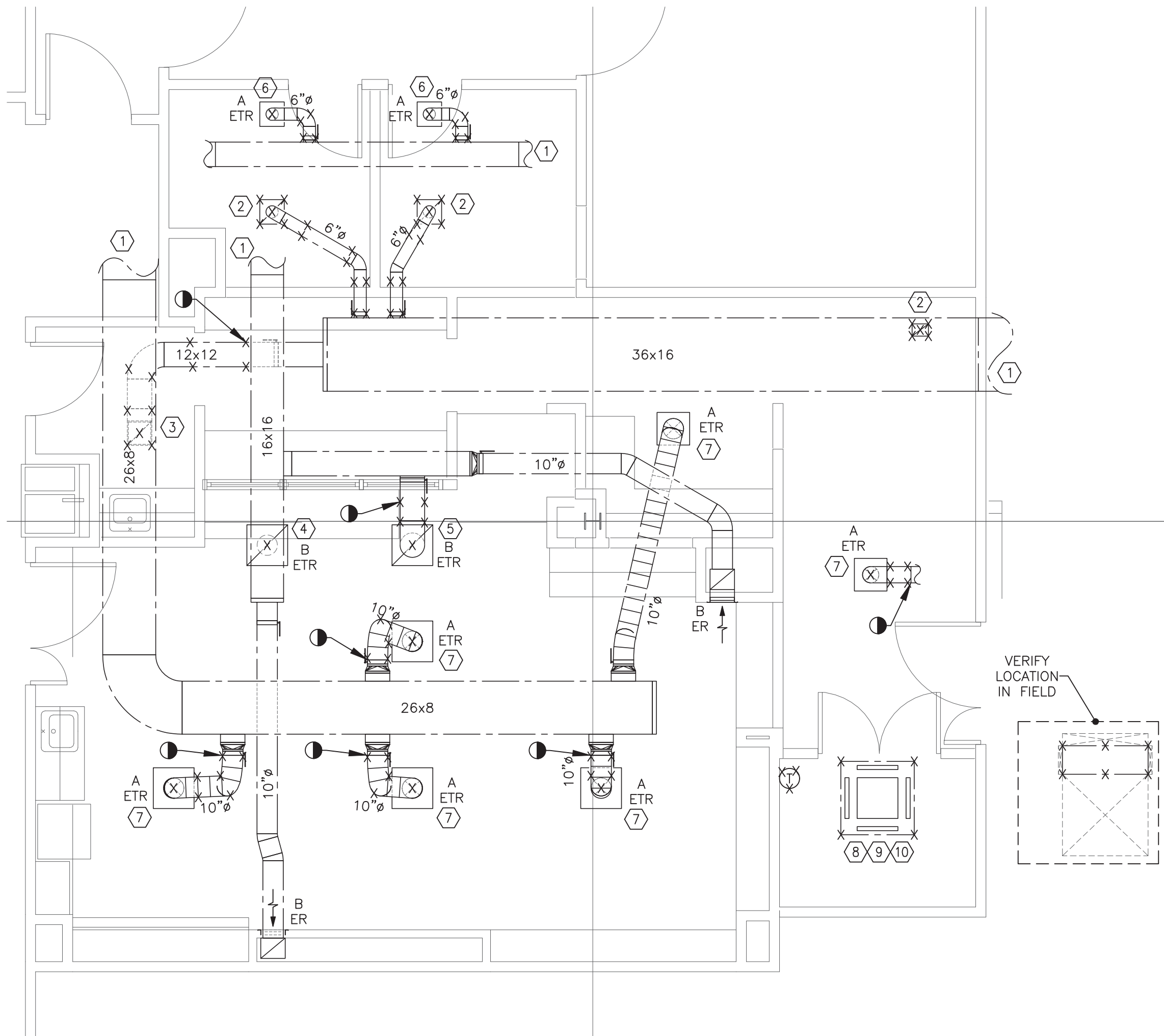
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Revisions:



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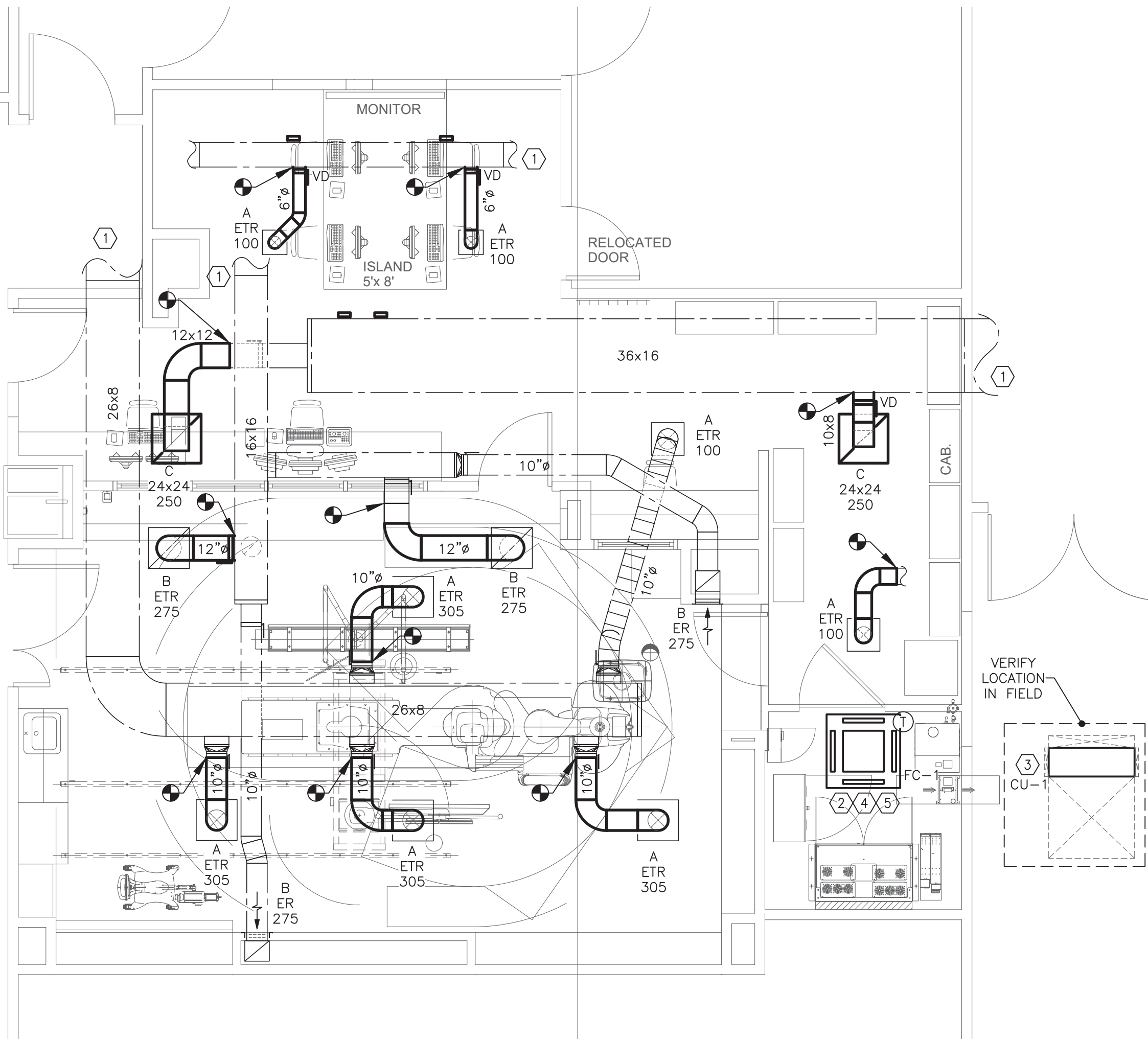
M001



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

MECHANICAL DEMOLITION PLAN NOTES

- 1 PERFORM PRE-CONSTRUCTION AIR BALANCING OF EXISTING SYSTEM. FULLY OPEN ALL DIFFUSERS TO DETERMINE EXACT AIRFLOW AVAILABLE.
- 2 EXISTING RETURN GRILL TO BE DEMOLISHED. DEMOLISH ASSOCIATED BRANCH DUCTWORK. CAP AND SEAL.
- 3 EXISTING RETURN GRILL TO BE DEMOLISHED. DEMOLISH ASSOCIATED BRANCH DUCTWORK AS SHOWN FOR NEW ROUTING.
- 4 EXISTING RETURN GRILL TO BE RELOCATED. DEMOLISH ASSOCIATED BRANCH DUCTWORK. CAP AND SEAL.
- 5 EXISTING RETURN GRILL TO BE RELOCATED. DEMOLISH ASSOCIATED BRANCH DUCTWORK AS SHOWN FOR NEW ROUTING.
- 6 EXISTING SUPPLY DIFFUSER TO BE RELOCATED. DEMOLISH ASSOCIATED BRANCH DUCTWORK. CAP AND SEAL.
- 7 EXISTING SUPPLY DIFFUSER TO BE RELOCATED. DEMOLISH ASSOCIATED BRANCH DUCTWORK AS SHOWN FOR NEW ROUTING.
- 8 EXISTING CEILING CASSETTE FAN COIL TO BE DEMOLISHED AND REPLACED WITH NEW. DEMOLISH ASSOCIATED CONDENSER, REFRIGERANT PIPING, AND CONTROLS AND REPLACE WITH NEW. NEW REFRIGERANT PIPING TO FOLLOW SAME ROUTING AS DEMOLISHED EXISTING LINESETS.
- 9 DEDUCT ALTERNATE: FIELD VERIFY CONDITION AND SIZE OF EXISTING LINESETS. LINESETS CAN REMAIN AND BE REUSED IF THEY ARE IN FAIR OR BETTER CONDITION AND ARE OF PROPER SIZE FOR USE WITH NEW FAN COIL FC-1 PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 10 DEDUCT ALTERNATE: FIELD VERIFY CONDITION AND COOLING SIZE OF EXISTING FAN COIL UNIT. IF UNIT IS MINIMUM 3-TONS AND IN FAIR OR BETTER CONDITION, EXISTING FAN COIL UNIT CAN BE RELOCATED AND REUSED. EXTEND EXISTING CONTROLS, SERVICES AND REFRIGERANT PIPING TO NEW LOCATION. ASSOCIATED EXISTING THERMOSTAT TO BE RELOCATED. EXISTING CONDENSER TO REMAIN AND BE REUSED.



2 MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0"

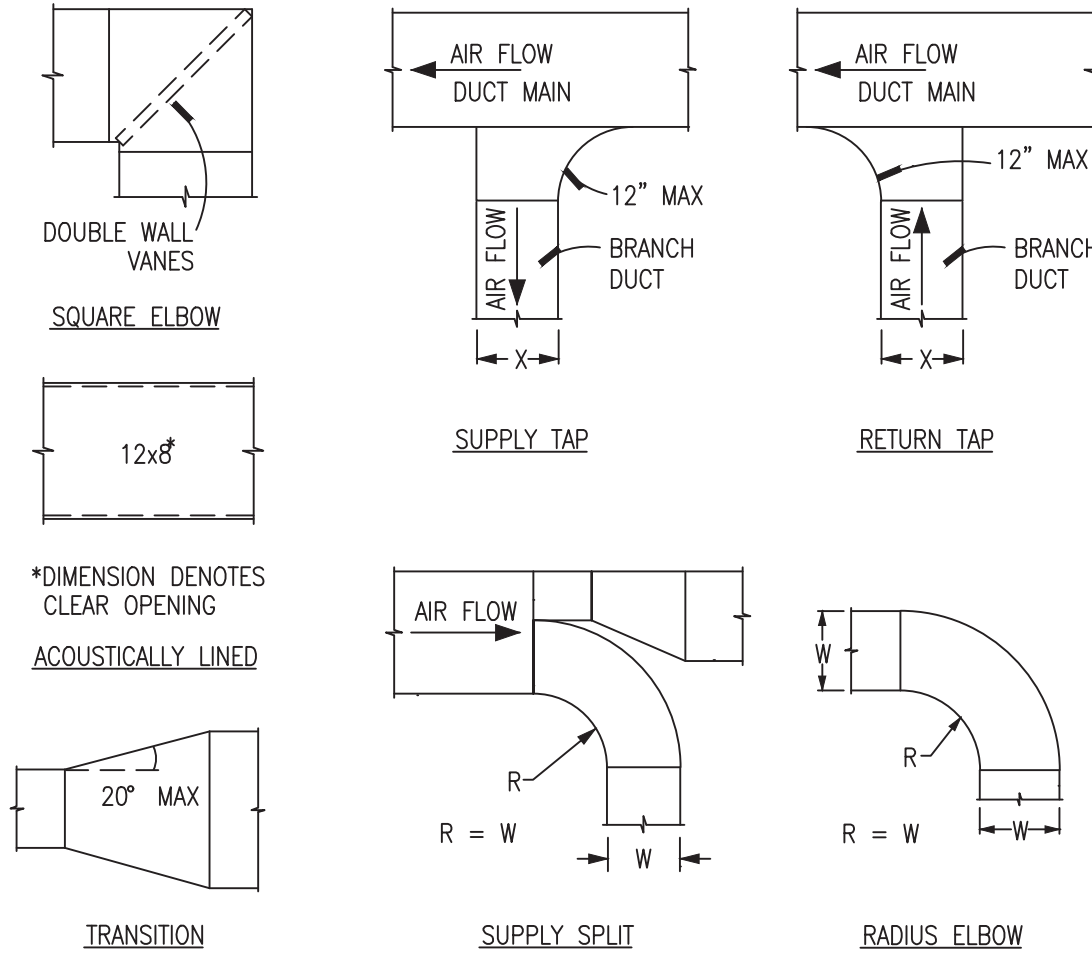
MECHANICAL PLAN NOTES

- 1 PROPORTIONALLY BALANCE SYSTEM PER AIRFLOW AVAILABLE PER PRE-CONSTRUCTION AIR BALANCE REPORT.
- 2 PROVIDE NEW CEILING CASSETTE FAN COIL UNIT. PROVIDE WITH NEW REFRIGERANT PIPING ROUTED FOLLOWING SAME ROUTE AS EXISTING DEMOLISHED LINESET. PROVIDE WITH MINI CONDENSATE PUMP AND 7-DAY PROGRAMMABLE THERMOSTAT WITH BACNET COMMUNICATION FOR BMS INTEGRATION. COORDINATE CEILING GRID WITH ARCHITECT TO PROVIDE SPACE FOR 37'-1/2"x37'-1/2" UNIT GRILL INSTALLATION.
- 3 PROVIDE NEW CONDENSER TO SERVE NEW FAN COIL FC-1 IN SAME LOCATION AS EXISTING DEMOLISHED CONDENSER UNIT. MOUNT UNIT ON NEW 24" EQUIPMENT STAND. PROVIDE WITH OPTIONAL WIND BAFFLES FOR LOW AMBIENT COOLING. SIZE AND INSTALL REFRIGERANT PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 4 DEDUCT ALTERNATE: FIELD VERIFY CONDITION AND SIZE OF EXISTING LINESETS. LINESETS CAN REMAIN AND BE REUSED IF THEY ARE IN FAIR OR BETTER CONDITION AND ARE OF PROPER SIZE FOR USE WITH NEW FAN COIL FC-1 PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 5 DEDUCT ALTERNATE: FIELD VERIFY CONDITION AND COOLING SIZE OF EXISTING FAN COIL UNIT. IF UNIT IS MINIMUM 3-TONS AND IN FAIR OR BETTER CONDITION, EXISTING FAN COIL UNIT CAN BE RELOCATED AND REUSED. EXTEND EXISTING CONTROLS, SERVICES AND REFRIGERANT PIPING TO NEW LOCATION. ASSOCIATED EXISTING THERMOSTAT TO BE RELOCATED. EXISTING CONDENSER TO REMAIN AND BE REUSED. COORDINATE CEILING GRID WITH ARCHITECT TO PROVIDE SPACE FOR 37"x37" UNIT GRILL INSTALLATION.

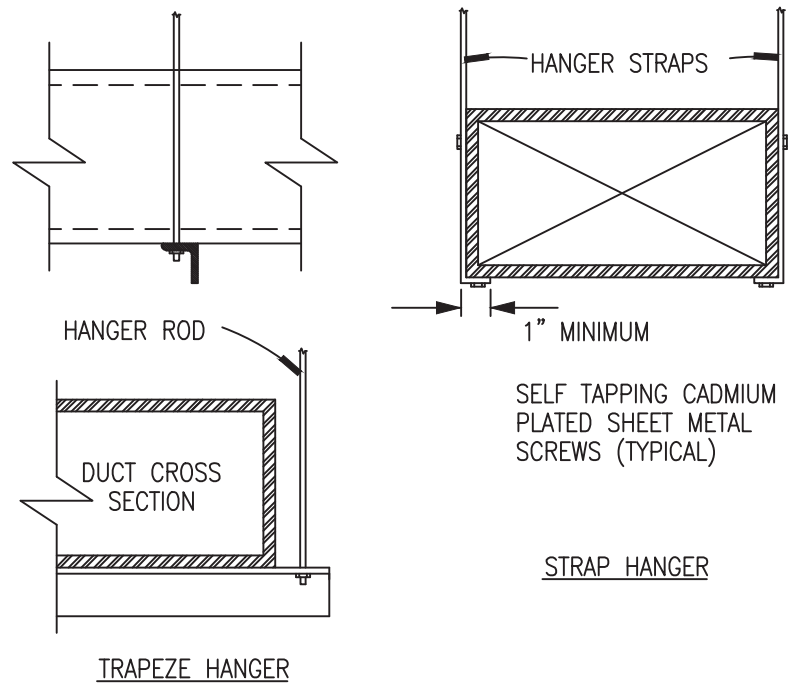
OUTDOOR CONDENSING UNIT														
UNIT TAG	SERVICE	TOTAL COOLING	HEATING	OPERATING COOLING	TEMP RANGE HEATING	#FANS #COMP	REFRIG	SEER2	WEIGHT	ELECTRICAL DATA			MANUFACTURER MODEL	REMARKS
	LOCATION									MCA	VOLTS	PHASE		
CU-1	FC-1 ROOF	36 MBH	—	-40°F-115°F	—	2 1	R-410A	19.5	211 LBS	25.0	208	1	MITSUBISHI PUY-A36NKA7	NOTES 1-3
NOTES: 1. MOUNT UNIT ON NEW ROOFTOP SUPPORT SYSTEMS RTSEQ-R-1 24" EQUIPMENT STAND. 2. SIZE AND INSTALL REFRIGERATION PIPING PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. 3. PROVIDE WITH MANUFACTURER OPTIONAL WIND BAFFLE FOR LOW AMBIENT COOLING.														

FAN COIL UNITS												
UNIT TAG	LOCATION	NOM	TOTAL	HEATING	CFM	OA	SP	REFRIG	ELECTRICAL DATA			REMARKS
	SERVICE	TONS	COOLING						MCA	VOLTS	PHASE	
FC-1	CEILING PHARMACY	3.0	36 MBH	-	850	-	-	R-410A	POWERED BY OUTDOOR UNIT			NOTES 1-2
NOTES: 1. PROVIDE WITH MANUFACTURER OPTIONAL MINI CONDENSATE PUMP MODEL X87-721. 2. PROVIDE WITH MANUFACTURER WIRED PROGRAMMABLE 7-DAY THERMOSTAT. PROVIDE WITH BACNET COMMUNICATION FOR INTEGRATION WITH EXISTING BMS.												

DIFFUSERS, REGISTERS, GRILLES									
UNIT TAG	SERVICE	MATERIAL	MANUFACTURER	REMARKS	UNIT TAG	SERVICE	MATERIAL	MANUFACTURER	REMARKS
		FINISH	MODEL				FINISH	MODEL	
A	SUPPLY	-	-	EXISTING	B	-	-	-	EXISTING
C	RETURN	STEEL WHITE	PRICE 530	NOTE 1	D	-	-	-	-
NOTES: 1. PROVIDE SIZE INDICATED IN DRAWINGS.									

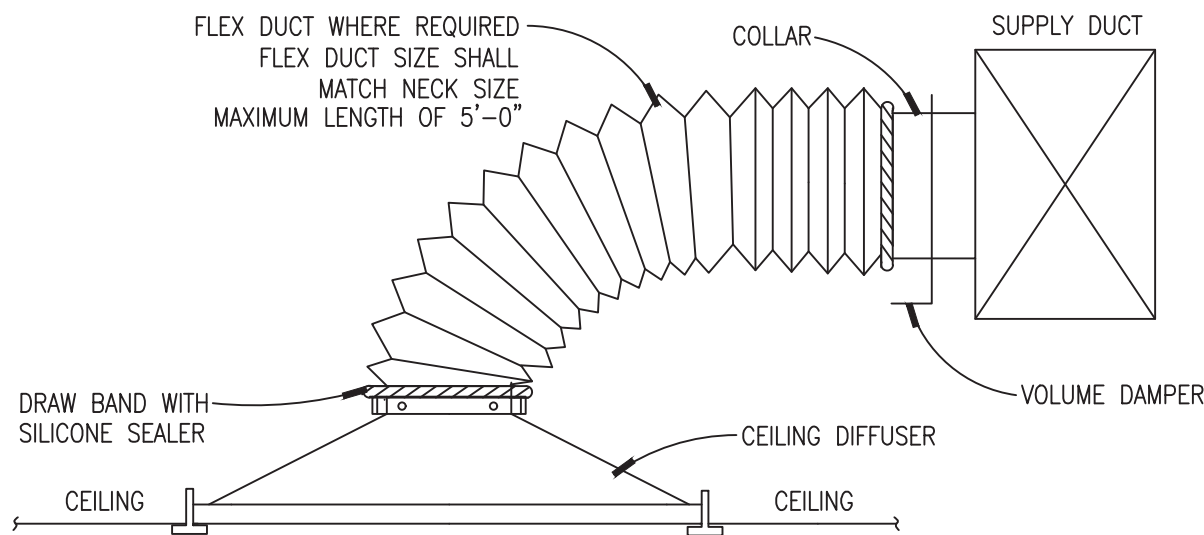


1 DUCT FITTING DETAIL
SCALE: NONE

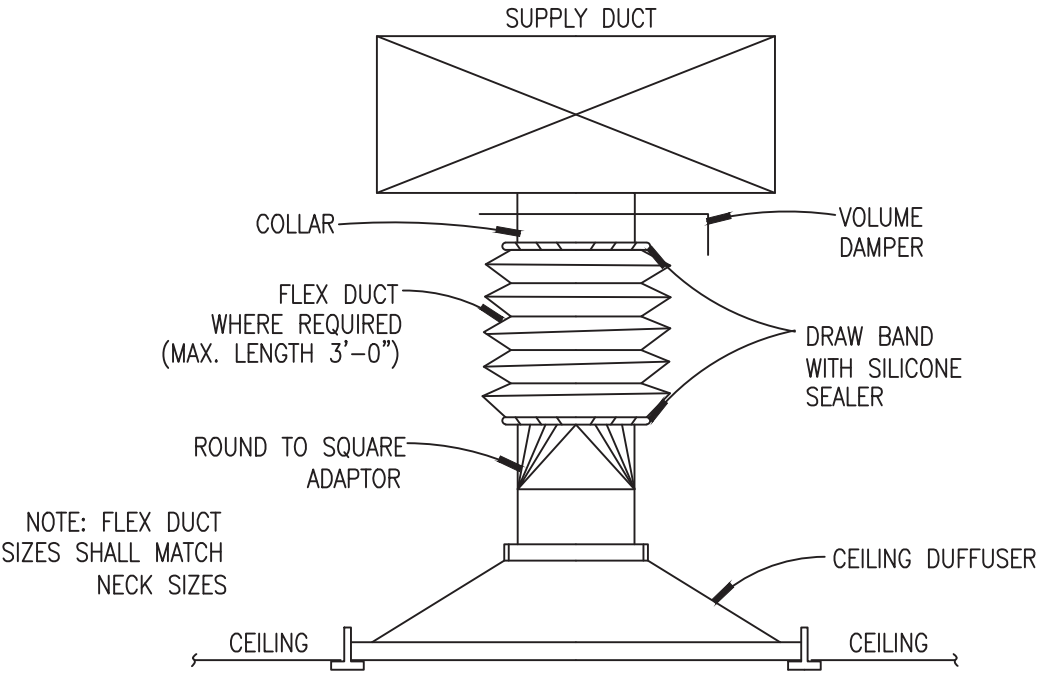


HANGER SIZES FOR RECTANGULAR DUCT			
MAX SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x16 GAUGE STRAP	NONE	8'-0"
36"	1/4" ROUND ROD	1-1/2"x1-1/2"x1/8"	8'-0"
48"	1/4" ROUND ROD	2"x2"x1/8"	8'-0"
60"	5/16" ROUND ROD	2"x2"x1/8"	8'-0"
84"	3/8" ROUND ROD	2"x2"x1/8"	8'-0"

2 DUCT HANGER DETAIL
SCALE: NONE



3 TYPICAL SIDE DIFFUSER CONNECTION
SCALE: NONE



4 TYPICAL DIFFUSER CONNECTION
SCALE: NONE

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INTERIOR ALTERATIONS THIRD FLOOR

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MECHANICAL SCHEDULES AND DETAILS

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Revisions:



Drawing Number:

M200

- MECHANICAL SPECIFICATIONS
- PART 1 – GENERAL
- 1.01 GENERAL REQUIREMENTS
- A. INSTALL ALL NEW WORK IN A NEAT WORKMANLIKE MANNER READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.
- B. CODES, PERMITS AND INSPECTIONS:
1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF CONNECTICUT BUILDING CODE, NORWALK BUILDING DEPARTMENT, BUILDING MANAGEMENT, AND ALL AUTHORITIES HAVING JURISDICTION AND APPLICABLE NATIONAL, STATE AND LOCAL CODES. LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.
2. THIS CONTRACTOR SHALL OBTAIN ALL EQUIPMENT APPROVALS AS REQUIRED BY STATE AND LOCAL AUTHORITIES. PERMITS SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
- C. SITE VERIFICATION:
1. PRIOR TO SUBMISSION OF THE BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE BID, AND IF NOT RESOLVED TO SATISFACTION, SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
- D. CONTRACT DOCUMENTS:
1. PRIOR TO SUBMISSION OF A FORMAL BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.
2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND COORDINATE FINAL LOCATIONS OF DIFFUSERS, GRILLES, REGISTERS, THERMOSTATS, SENSORS, SWITCHES AND ANY WALL MOUNTED DEVICES. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT.
3. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.
- E. GUARANTEE:
1. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE MECHANICAL WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE SYSTEM.
2. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL INCLUDE RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THIS CONTRACTOR.
3. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK.
4. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5–YEAR WARRANTY.
- F. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A201, LATEST EDITION, OR AS REQUIRED BY THE ARCHITECT'S DOCUMENTS, AND/OR THE STRUCTURAL ENGINEER'S DOCUMENTS, AS APPLICABLE, ARE PART OF THIS CONTRACT.
- G. DEFINITIONS:
1. MECHANICAL CONTRACTOR, "THIS CONTRACTOR" – THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE MECHANICAL WORK AS DESCRIBED HEREIN.
2. "THIS CONTRACT", "THE CONTRACT" – THE AGREEMENT COVERING THE WORK TO BE PERFORMED BY THIS CONTRACTOR.
3. "APPROVED", "EQUAL", "SATISFACTORY", "ACCEPTED", "ACCEPTABLE", "EQUIVALENT" – SUITABLE FOR USE ON THE PROJECT, AS DETERMINED BY THE ENGINEER BASED ON DOCUMENTS PRESENTED FOR SUCH DETERMINATION.
4. "THESE SPECIFICATIONS", "THIS SECTION, PART, DIVISION" (OF THE SPECIFICATION) – THE DOCUMENT SPECIFYING THE WORK TO BE PERFORMED BY "THIS CONTRACTOR".
5. "THE MECHANICAL WORK", "THIS WORK" – ALL LABOR MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES, AND OTHER ITEMS REQUIRED FOR A PROPER AND COMPLETE INSTALLATION BY THE MECHANICAL CONTRACTOR.
6. "ARCHITECT", "ENGINEER", "OWNER'S REPRESENTATIVE" – THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
7. "FURNISH" – PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE MECHANICAL WORK.
8. "INSTALL" – UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE MECHANICAL WORK.
9. "PROVIDE" – "FURNISH" AND "INSTALL".
10. "NEW" – MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED.
11. "RELOCATE" – MOVE EXISTING EQUIPMENT AND ALL ACCESSORIES AS REQUIRED.
12. "REMOVE" – DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL ITEMS SHALL BE LEGALLY DISPOSED OF. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY AFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.
- 1.02 SCOPE OF WORK
- A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL MECHANICAL WORK. THE SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
1. DEMOLITION AND REMOVAL OF ITEMS AS REQUIRED.
2. DUCTWORK AND DUCTWORK ACCESSORIES.
3. INSULATION OF PIPING, EQUIPMENT AND DUCTWORK.
4. TESTING AND BALANCING.
5. CUTTING AND PATCHING.
6. SHOP DRAWINGS.
7. AS–BUILT DRAWINGS.
8. OPERATING AND MAINTENANCE MANUALS.
9. FULL COORDINATION WITH OTHER TRADES.
10. WARRANTY AND GUARANTY.
11. PHASING AS REQUIRED BY OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR BUILDING MANAGEMENT.
12. PREMIUM TIME FOR WORK TO BE PERFORMED AFTER–HOURS AS REQUIRED BY BUILDING MANAGEMENT AND/OR OWNER.
13. FILING, PERMITS, CONTROLLED INSPECTIONS.
14. FULL TESTING AND STARTUP OF ALL SYSTEMS.
- B. SECURE CERTIFICATES, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED, CERTIFYING COMPLIANCE WITH ALL AUTHORITIES. DELIVER CERTIFICATES TO OWNER FOR SIGNING BEFORE FILING
- 1.03 COORDINATION WITH BUILDING MANAGEMENT
- A. THIS CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE THE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING.
- B. THIS CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING RULES AND REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW WITH BID SUBMISSION.
- C. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS, OR CONTRACTOR TO PROVIDE A MINIMUM OF TWO (2) DAYS NOTICE PRIOR TO ANY WORK BEING PERFORMED, WHICHEVER IS THE MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME, IF SO DIRECTED BY BUILDING OWNER, SO AS NOT TO DISTURB EXISTING TENANTS ON OTHER FLOORS.
- 1.04 SHOP DRAWINGS
- A. SUBMIT SHOP DRAWINGS CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN COMPLETED. SUBMIT ALL CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS AND AUTOMATIC TEMPERATURE CONTROL REQUIREMENTS. SHOP DRAWINGS SUBMISSION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
1. DUCTWORK – PROVIDE DUCT SHOP STANDARDS AND LEAKAGE TEST CERTIFICATION, AS REQUIRED, AND 1/4 SCALE DUCT LAYOUT.
2. PIPING LAYOUT AND APPURTENANCES – PROVIDE PIPING, VALVING, CHEMICAL TREATMENT, SHOP STANDARDS AND 1/4 SCALE PIPING LAYOUT WITH ALL VALVING.
3. INSULATION FOR DUCTWORK, PIPING AND EQUIPMENT.
4. EQUIPMENT CATALOG CUTS FOR ALL ITEMS TO BE UTILIZED ON PROJECT (FANS, PUMPS, AC UNITS, VARIABLE FREQUENCY DRIVES, VAV BOXES, ETC.).
5. AIR OUTLETS (DIFFUSERS, REGISTERS, GRILLES, ETC.).
6. AUTOMATIC TEMPERATURE CONTROL DIAGRAMS, DEVICES AND SEQUENCE OF OPERATION.
7. CERTIFIED AIR AND WATER BALANCING REPORT.
8. AS–BUILT DRAWINGS AT PROJECT COMPLETION OF THE INSTALLED CONDITION OF WORK.
- B. THE QUANTITY OF SHOP DRAWINGS SHALL AS A MINIMUM BE FOUR (4) COPIES OF 8–1/2" X 11" SUBMISSIONS AND FIVE (5) PRINTS OF ALL DRAWINGS. SPECIFIC JOB REQUIREMENTS MAY BE MORE STRINGENT AND CONTRACTOR IS RESPONSIBLE TO OBTAIN REQUIREMENTS FROM OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR ARCHITECT.
- 1.05 MAINTENANCE MANUALS
- A. SUBMIT FOUR (4) LOOSE–LEAF BOUND OPERATING AND MAINTENANCE MANUALS WITH INDEX AND INDEX TABS TO INCLUDE THE FOLLOWING:
1. OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL SYSTEMS.
2. MANUFACTURERS= CATALOG CUTS ON ALL EQUIPMENT.
3. AUTOMATIC TEMPERATURE CONTROL SYSTEMS WITH SEQUENCE OF OPERATIONS, CATALOG CUTS OF ALL DEVICES AND POINT–TO–POINT WIRING DIAGRAMS.
4. CERTIFIED FINAL AIR AND WATER BALANCING REPORT.
5. DUCT AND PIPING AS–BUILT DRAWINGS WITH VALVE CHART AND KEY PLAN DRAWINGS INSERTED IN BINDER.
6. ALL ITEMS SUBMITTED FOR REVIEW IN SHOP DRAWING SECTION.
- 1.06 ACCESS DOORS IN GENERAL CONSTRUCTION
- A. THIS CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL A PLAN INDICATING THE SIZE AND LOCATION OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DEVICES, VALVES, DAMPERS AND CONTROLS. CONTRACTOR SHALL ARRANGE FOR FURNISHING AND INSTALLATION OF ALL ACCESS DOORS IN FINISHED CONSTRUCTION AND INCLUDE COSTS IN THE BID. ACCESS DOORS SHALL BE OF ADEQUATE SIZE TO PROVIDE ACCESS TO CONCEALED ITEMS FOR OPERATION AND MAINTENANCE, WITH A MINIMUM SIZE OF 18" X 18".
- PART 2 – PRODUCTS/APPLICATIONS
- 2.01 DUCTWORK AND ACCESSORIES
- A. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, LATEST EDITION, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL, LATEST EDITION, NFPA 90A LATEST EDITION, AND CONNECTICUT MECHANICAL CODE. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.
- B. PROVIDE ALL SUPPORTING AND HANGING DEVICES IN ACCORDANCE WITH CONNECTICUT BUILDING CODE AND SMACNA.
- C. DUCTWORK LAYOUT AND ROUTING IS SCHEMATIC AND THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DUCT SIZE CHANGES AND RELOCATIONS TO ACCOMMODATE SPACE AND STRUCTURAL CONDITIONS. OFFSETS AND TRANSFORMATIONS SHALL PRESERVE THE FULL INSIDE CROSS–SECTIONAL AREA OF DUCTWORK SHOWN ON THE DRAWINGS.
- D. DUCTWORK (NEW AND EXISTING TO BE REUSED) SHALL HAVE PRESSURE CLASSIFICATION, SEALING REQUIREMENTS AND LEAKAGE TESTING IN ACCORDANCE WITH SMACNA AND AS LISTED BELOW UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.
1. 2" CLASS: ALL OTHER LOW PRESSURE DUCTWORK. SEAL CLASS C, LEAKAGE CLASS 24 (RECTANGULAR) OR CLASS 12 (ROUND).
2. LEAKAGE TESTING:
- ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE ENGINEER OR OWNER'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL COLLARS, CAPS, ELECTRIC POWER, ETC. NECESSARY TO PERFORM THE TESTS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR SCHEDULING THE TEST NO LESS THAN THREE (3) BUSINESS DAYS PRIOR TO ITS INTENDED OCCURRENCE. LOW PRESSURE DUCTWORK (2" CLASS) SHALL BE TESTED ON AN AS–NEEDED BASIS AT THE ENGINEER'S DIRECTION. LEAKAGE TEST PROCEDURES SHALL FOLLOW THE OUTLINES AND CLASSIFICATIONS IN THE SMACNA HVAC DUCT LEAKAGE TEST MANUAL. IF SPECIMEN FAILS TO MEET ALLOTTED LEAKAGE LEVEL, THE CONTRACTOR SHALL MODIFY TO BRING IT INTO COMPLIANCE AND SHALL RETEST IT UNTIL ACCEPTABLE LEAKAGE IS DEMONSTRATED. TESTS AND NECESSARY REPAIR SHALL BE COMPLETED PRIOR TO CONCEALMENT OF DUCTS.
- E. MATERIALS:
1. SHEETMETAL: UNLESS OTHERWISE SPECIFIED OR INDICATED, DUCTS SHALL BE CONSTRUCTED OF HOT–DIPPED GALVANIZED SHEETMETAL WITH 60 COMMERCIAL COATING ACCORDING TO ASTM 653 AND A924.
2. FLEXIBLE CONNECTIONS AT FANS SHALL BE NEOPRENE COATED, FLAME RETARDANT GLASS FABRIC (COMPLYING WITH NFPA 90 AND 96), 30 OZ./SQ. YD. WITH SOWN AND CEMENTED SEAMS.
- F. FABRICATION:
1. CONFORM TO SMACNA REQUIREMENTS FOR METAL THICKNESS, REINFORCING, JOINTS, AND SEALING FOR MAXIMUM STATIC PRESSURES INVOLVED. ALL SEAMS AND JOINTS SHALL BE SEALED AND TAPED.
- G. VOLUME DAMPERS:
1. GALVANIZED STEEL OR SAME AS DUCT CONSTRUCTION. CONFORM TO LATEST EDITION SMACNA HVAC DUCT CONSTRUCTION STANDARDS, OPPOSED BLADE TYPE. PROVIDE BEARING AT BOTH ENDS OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW, AT ONE END. INSTALL WITH LEVERS ACCESSIBLE THROUGH INSULATION. SPLITTER DAMPER OR AIR EXTRACTORS SHALL NOT BE USED ON THIS PROJECT.
2. PROVIDE MANUAL BALANCING VOLUME DAMPERS AS REQUIRED TO PROPERLY BALANCE THE AIR DISTRIBUTION SYSTEM. IF THE LOCATION OF BALANCING DAMPERS ARE NOT DEFINED ON THE DRAWINGS, THE FOLLOWING MINIMUM STANDARDS SHALL GOVERN:
- A) LOW PRESSURE: ALL SUPPLY AIR MAIN BRANCHES FROM TRUNK, EACH SPLIT, AND ALL SUB–BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
- B) LOW PRESSURE: ALL EXHAUST AND RETURN BRANCHES FROM TRUNK, EACH SPLIT AND ALL SUB–BRANCHES FROM MAINS SHALL BE PROVIDED WITH BALANCING DAMPERS.
- C) MEDIUM PRESSURE: ALL BRANCHES AND TAKEOFFS DOWNSTREAM OF TERMINAL BOXES (VAV OR FAN POWERED) SHALL BE PROVIDED WITH BALANCING DAMPERS.
- D) AS NOTED ON PLANS.
- H. DUCT ACCESS DOORS:
1. CONFORM TO SMACNA WITH PIANO HINGES, TWO SASH LOCKS AND DOOR GASKETS. SCREWED ACCESS PANELS ARE NOT PERMITTED. PROVIDE REMOVABLE ACCESS DOORS WHERE DOOR SWING CANNOT BE ACCOMMODATED.
2. SIZE: MINIMUM 20"x14" EXCEPT DUCTS LESS THAN 16", ONE DIMENSION 20" AND THE OTHER DIMENSION, 2" LESS THAN THE DUCT WIDTH.
3. PROVIDE ACCESS DOORS: AT ENTERING AND LEAVING SIDES OF COILS IN DUCTS; AUTOMATIC DAMPERS ON LINKAGE SIDE, MANUAL VOLUME DAMPERS 2 SQ. FT. AND LARGER, FIRE DAMPERS, SMOKE DAMPERS, COMBINATION FIRE/SMOKE DAMPERS, SMOKE DETECTION HEADS, FAN BEARINGS ENCLOSED IN DUCTS, SUCTION AND DISCHARGE SIDES OF CEILING MOUNTED FANS, FILTERS, REHEAT COILS, AT ALL EQUIPMENT REQUIRING ACCESS AND AS INDICATED ON DRAWINGS.
- I. SEAL OPENINGS AROUND DUCTS THROUGH WALLS WITH MINERAL WOOL OR OTHER NON–COMBUSTIBLE MATERIAL. SEAL ALL DUCT PENETRATIONS THROUGH WALLS AIRTIGHT.
- J. ALL DUCTS EXPOSE TO MOISTURE SHALL BE ALUMINUM, SLOPED AND DRAINED AND SHALL NOT BE INTERNALLY LINED.
- K. EXISTING DUCTWORK TO BE REUSED:
1. THIS CONTRACTOR SHALL INSPECT, SEAL PER SMACNA REQUIREMENTS, LEAK TEST, AND INSULATE ALL EXISTING DUCTWORK TO BE REUSED. EXISTING DUCTWORK TO BE REUSED SHALL CONFORM TO SPECIFICATIONS FOR NEW DUCTWORK LISTED HEREIN. ALL REQUIRED WORK SHALL BE PART OF BID.
- 2.02 INSULATION
- A. ALL INSULATION SHALL MEET THE REQUIREMENTS OF ASTM, NFPA, 2021 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL AUTHORITIES HAVING JURISDICTION. ALL MECHANICAL INSULATION (JACKETING, COVERINGS, ADHESIVES, MASTICS, FACINGS, TAPES, ETC.), SHALL HAVE RATINGS NOT EXCEEDING A AFLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS.
- B. BEFORE APPLYING INSULATION, ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED. FURNISH AND INSTALL AS PER MANUFACTURER'S REQUIREMENTS.
- C. INSULATION FOR FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.
- D. DUCT INSULATION:
1. GENERAL
- A) INSULATION SHALL BE APPLIED WITH MASTICS, ADHESIVES, COATINGS, WITH COVERS, WEATHER–PROTECTION AND OTHER WORK AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS. DO NOT INSULATE SOUND LINED DUCTWORK. MATERIALS SHALL MEET REQUIREMENTS OF ADHESIVE AND SEALANT COUNCIL STANDARDS AND SMACNA.
- B) ALL SUPPLY AND RETURN DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R–6 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES, A MINIMUM OF R–8 INSULATION SHALL BE INSTALLED WHEN LOCATED OUTSIDE OF THE BUILDING. WHEN A DUCT OR PLENUM IS LOCATED WITHIN THE BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM SHALL BE SEPERATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED SPACES BY A MINIMUM OF R–8 INSULATION.
2. CONCEALED DUCTWORK
- A) INSULATE SUPPLY AND FRESH AIR DUCTS AND PLENUMS IN CONCEALED SPACES AND RETURN DUCT NOT IN CEILING PLENUM WITH AT LEAST 1–1/2" THICK FIBROUS GLASS DUCT WRAP, WITH A MINIMUM R VALUE OF R–6 AND FOIL–KRAFT FLAME RESISTANT VAPOR BARRIER.
3. EXPOSED DUCTWORK
- A) INSULATE EXPOSED SUPPLY, RETURN AND FRESH AIR DUCTS AND EXPOSED PLENUM WITH 2" THICK, SEMI–RIGID FIBROUS GLASS BOARDS WITH A MINIMUM R VALUE OF R–8 AND A FACTORY APPLIED FIRE RETARDANT FOIL REINFORCED KRAFT VAPOR BARRIER FACING. PROVIDE WELD PINS AND VAPOR SEAL ALL JOINTS WITH TAPE.
- 2.03 TESTING AND BALANCING
- A. GENERAL:
1. TESTING AND BALANCING WORK SHALL BE PERFORMED BY AN INDEPENDENT COMPANY (NOT ASSOCIATED WITH THE HVAC CONTRACTOR), AABC CERTIFIED OR AS APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORK. APPROVED COMPANIES INCLUDE MERENDINO ASSOCIATES, R.H. MCDERMOTT, INTERNATIONAL TESTING AND BALANCING OR AS APPROVED BY THE ENGINEER AND BUILDING MANAGEMENT.
2. AFTER ALL PROJECT HVAC WORK IS COMPLETE, TESTED, AND IN FULL WORKING ORDER, THE AGENCY SHALL PERFORM THE BALANCING AND TESTING OF THE PROJECT HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.
3. UPON THE COMPLETION OF THE AIR CONDITIONING SYSTEM, THE BALANCING AGENCY SHALL PERFORM TESTING AND BALANCING AND COMPLETE ALL TEST DATA IN A CERTIFIED REPORT AND SUBMIT FOUR (4) COPIES FOR REVIEW AND APPROVAL TO THE ENGINEER.
4. THE REPORT SHALL INCLUDE DESIGN AND ACTUAL READINGS FOR ALL EQUIPMENT AND LOCATION PLAN INDICATING WHERE ALL WORK HAS BEEN PERFORMED, AND METHODS OF BALANCING AND DETAILS OF INSTRUMENTS USED.
5. IF DISCREPANCIES EXIST IN THE REPORT THAT REQUIRE FIELD VERIFICATION, THE TESTING AND BALANCING COMPANY IN THE PRESENCE OF THE ENGINEER SHALL VISIT THE JOBSITE FOR FIELD VERIFICATION OF THE REPORT.
6. AFTER SUBMISSION OF THE FIELD VERIFIED BALANCING REPORT, THE AIR BALANCING COMPANY SHALL RETURN TO THE JOB SITE TO PERFORM TWO (2) OCCUPANT COMFORT BALANCES AS DIRECTED BY THE OWNER OR ENGINEER.
7. THE FINAL REPORT AFTER THE COMFORT BALANCE IS TO BE INCLUDED IN PROJECT OPERATING AND MAINTENANCE MANUAL.
8. THE TESTING AND BALANCING AGENCY SHALL INCLUDE AS PART OF THEIR WORK AN EXTENDED WARRANTY OF 90 DAYS AFTER COMPLETION OF TEST AND BALANCE WORK. THE ENGINEER AT HIS DISCRETION DURING THE WARRANTY PERIOD MAY REQUEST A RECHECK OR RESETTING OF ANY EQUIPMENT. THE MECHANICAL CONTRACTOR AND THE BALANCING CONTRACTOR SHALL PROVIDE THE NECESSARY TECHNICIANS TO FACILITATE THIS WORK.
9. THE BALANCING AGENCY SHALL PERMANENTLY MARK ALL ADJUSTMENT DEVICES (VALVES, DAMPERS, ETC.) TO ENABLE THE SETTING TO BE RESTORED.
- B. AIR BALANCING
1. PRE–CONSTRUCTION AIR TESTING:
- MEASURE PRESSURE, TEMPERATURE, AND VOLUME OF AIR FROM THE EXISTING BASE BUILDING SYSTEM BEFORE STARTING WORK. TRAVERSE MAIN SUPPLY AND RETURN DUCTS BEFORE WORK TO OBTAIN TOTAL FLOW. SUBMIT REPORT TO THE ENGINEER IMMEDIATELY AFTER COMPLETION OF THE TEST.
2. HVAC CONTRACTOR SHALL ENSURE THAT A FIRST SET OF AIR FILTERS ARE IN PLACE, WHENEVER FANS ARE RUNNING AND REPLACED WITH A NEW CLEAN SET OF FILTERS BEFORE TESTING IS COMMENCED.
3. TEST, ADJUST, REPLACE SHEAVES, AND BALANCE ALL EQUIPMENT AND AIR DISTRIBUTION SYSTEMS TO PROVIDE AIR QUANTITIES INDICATED ON PLANS WITHIN PLUS OR MINUS 10 PERCENT.
4. TEST REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- A) FLOW, LEAKAGE CLASS, TEMPERATURE, STATIC PRESSURE OF AIR AT ALL TRUNK DUCTS SERVING AREAS OF WORK.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: CH
Scale: AS NOTED	Approved By: TL
Job No: 24 /--	File: nh_irsuite.db

Drawing Title:

MECHANICAL
SPECIFICATIONS
(SHEET 1 OF 2)

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Revisions:



Drawing Number:

M300

- B) TEMPERATURE OF AIR LEAVING OUTLETS AT TWO (2) TYPICAL AIR OUTLETS.
- C) QUANTITY OF AIR AT EACH AIR INLET AND OUTLET AFTER BALANCING.
- D) PROVIDE FOR ALL FANS, FAN MOTOR HP, AMPS, VOLTS, FAN RPM, CFM, INLET AND DISCHARGE STATIC PRESSURE, SHEAVE POSITION.
- E) PROVIDE FOR ALL AIR CONDITIONING UNITS, SUPPLY CFM, OUTSIDE AIR CFM, RETURN AIR CFM, MIXED AIR CFM. PROVIDE OUTSIDE AIR, MIXED AIR AND SUPPLY AIR TEMPERATURES (DRY BULB – COOLING AND HEATING, WET–BULB–COOLING). INDICATE UNIT OPERATING MODE DURING TEST.
- F) CALIBRATE ALL NEW AND EXISTING TO BE REUSED TERMINAL BOXES (VAV, FAN POWERED OR DUAL DUCT)AS REQUIRED TO MEET SPECIFIED MINIMUM/MAXIMUM CFM.
- G) LISTING OF DESIGN AND ACTUAL READINGS AS WELL AS ALL MANUFACTURER’S DATA FOR EQUIPMENT.

2.04 EQUIPMENT

- A. PROVIDE ALL EQUIPMENT AND ACCESSORIES OF THE SIZES AND CAPACITIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS.
- B. INSTALL EQUIPMENT IN ACCORDANCE WITH APPROVED SHOP DRAWINGS, MANUFACTURER’S RECOMMENDATIONS, INSTRUCTIONS, AND ALL AUTHORITIES HAVING JURISDICTION.
- C. PROVIDE EQUIPMENT SUPPORTS AND/OR MOUNTINGS AS INDICATED ON THE DRAWING, IN VIBRATION SPECIFICATION AND AS FOLLOWS:
1. CEILING MOUNTED EQUIPMENT – PROVIDE SUPPORTS WITH APPROVED SUITABLE ANCHORS SUSPENDED DIRECTLY FROM BUILDING STEEL STRUCTURE.
- D. EQUIPMENT SHALL BE INSTALLED WITH VIBRATION ISOLATION
- E. RE–USE OF EXISTING EQUIPMENT:
1. EXISTING SYSTEM SURVEY
- A) PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL PERFORM EXISTING CONDITIONS SURVEY OF SYSTEMS TO BE RE–USED AND PREPARE COMPLETE REPORT INDICATING PHYSICAL CONDITION OF UNITS AND ACCESSORIES AND NOTE ANY REPAIRS REQUIRED BEYOND ITEMS INCLUDED IN DESIGN DOCUMENTS TO RESTORE EQUIPMENT TO A FULLY OPERATIONAL CONDITION. REPORT TO BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ANY CORRECTIVE ACTION. COORDINATE THIS WORK WITH ANY NEW OR REFURBISHMENT WORK LISTED IN THE SPECIFICATIONS OR PLANS.
- B) PROVIDE A UNIT PRICE LIST TO BE SUBMITTED WITH YOUR BID FOR THE REPAIR OF ALL INTERNAL COMPONENTS OF ALL EQUIPMENT TO BE RE–USED AS WELL AS ALL ACCESSORIES.
- C) UPON COMPLETION OF THE PROUECT, THE CONTRACTOR SHALL WARRANTY ALL RE–USED EQUIPMENT FOR ONE (1) YEAR.
- F. DIFFUSERS, GRILLES AND REGISTERS

1. GENERAL
- A) GRILLES, REGISTERS AND DIFFUSERS SHALL BE TESTED IN ACCORDANCE WITH LATEST EDITION ASHRAE STANDARD 70. THE MANUFACTURER SHALL PROVIDE PUBLISHED PERFORMANCE DATA FOR ALL AIR INLETS AND OUTLETS TO BE USED ON PROJECT AS PART OF THE SUBMISSION.
- B) THE MECHANICAL CONTRACTOR TO COORDINATE THE LOCATION OF DIFFUSERS, GRILLES AND REGISTERS WITH OTHER TRADES AND WITH CEILING AND WALL CONSTRUCTION. THE MECHANICAL CONTRACTOR IS TO VERIFY THAT ALL DIFFUSERS, GRILLES AND REGISTERS ARE COMPATIBLE WITH CEILING CONSTRUCTION TO WHICH THEY ARE TO BE INSTALLED.
- C) COORDINATE ALL WORK WITH THE GENERAL CONTRACTOR AND REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION, LENGTHS AND FOR FRAMING AND MITERING ARRANGEMENTS THAT MAY DIFFER FROM THOSE SHOWN ON HVAC DRAWINGS. PROVIDE ALL REQUIRED GENERAL CONSTRUCTION, FRAMING, BLOCKING, PLASTERING AND SUPPORTS TO MATCH CEILING, SOFFIT OR WALL CONSTRUCTION AS PART OF THE PROJECT.
- D) INLETS AND OUTLETS SHALL HANDLE AIR QUANTITIES INDICATED AT OPERATING VELOCITIES WITH SOUND PRESSURE LEVEL NOT TO EXCEED NC–30, UNLESS NOTED OTHERWISE.
- E) DIFFUSERS, GRILLES AND REGISTERS SHALL BE INSTALLED WITH FACES SET LEVEL AND PLUM AND MOUNTED TIGHTLY AGAINST MOUNTING SERVICE.
- F) ALL AIR INLETS AND OUTLETS TO BE STEEL OR ALUMINUM IF EXPOSED TO MOISTURE UNLESS OTHERWISE INDICATED. FINISHES TO BE SELECTED BY THE ARCHITECT.
- G) DIFFUSERS, GRILLES AND REGISTERS SHALL BE MANUFACTURED BY TITUS, ANEMOSTAT OR APPROVED EQUAL.
- H) SUBMIT FOR APPROVAL A COMPLETE SCHEDULE OF ALL AIR INLETS AND OUTLETS TO BE USED ON PROJECT INCLUDING MANUFACTURER’S MODELS, SIZES, PERFORMANCES, ACCESSORIES, ACOUSTIC INFORMATION, FINISHES, ETC., BEFORE RELEASE FOR FABRICATION. NOTE ANY DEVIATIONS FROM SPECIFICATIONS AND SCHEDULES SHALL BE INDICATED ON SUBMITTAL.
2. AIR INLET AND OUTLET DEVICES:
- A) PROVIDE DIFFUSERS, GRILLES AND REGISTERS FOR SUPPLY, RETURN AND EXHAUST INLETS AND OUTLETS, OF THE SIZE, TYPE AND DESIGN INDICATED ON DRAWINGS.
- B) ALL SUPPLY RETURN AND EXHAUST AIR INLETS AND OUTLETS SHALL BE PROVIDED WITH AN OPPOSED BLADE DAMPER AND GRID (ADJUSTABLE THROUGH THE FACE) FOR TRIM BALANCING.
- C) SUPPLY REGISTERS SHALL HAVE TWO SETS OF DIRECTIONAL CONTROL BLADES.
- D) ONLY 4–WAY DIFFUSERS SHALL BE USED. PROVIDE BLANK–OFF SHEETMETAL BAFFLE FOR ALL 1–WAY, 2–WAY AND 3–WAY DIFFUSERS.
- E) ALL LINEAR DIFFUSERS SHALL BE PROVIDED WITH CABLE OPERATED OPPOSED BLADE DAMPER ADJUSTABLE THROUGH THE FACE OF THE DIFFUSER. DAMPERS AND PLENUM TAPS SHALL BE SPACED AT A MAXIMUM OF 4 FEET ON CENTER. PROVIDE DIFFUSERS WITH ADJUSTABLE AIR PATTERN CONTROL VALVES.

2.05 AUTOMATIC TEMPERATURE CONTROLS

- A. GENERAL:
1. FURNISH AND INSTALL AS HEREIN SPECIFIED, A COMPLETE AUTOMATIC TEMPERATURE CONTROL SYSTEM AS REQUIRED FOR THE OPERATION OF ALL HVAC EQUIPMENT. ALL CONTROLS SHALL BE MANUFACTURED AND INSTALLED BY BASE BUILDING CONTROLS VENDOR. CONTACT CHRIS SCHOONERMAN AT JOHNSON CONTROLS – CHRISTOPHER.D.SCHOONERMAN@JCI.COM, (860) 604–2014.
2. ALL TEMPERATURE CONTROL SYSTEMS AND COMPONENTS UNDER THIS SUBCONTRACT ARE TO BE FULLY MODULATING TYPE, EXCEPT WHERE NOTED OTHERWISE. THE SYSTEM SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL ASSOCIATED CONTROL EQUIPMENT, THERMOSTATS, CONTROL VALVES, VALVE ACTUATORS, DAMPER OPERATORS, RELAYS, PILOT POSITIONERS, CONTROL WIRING, CONTROL AIR PIPING, SWITCHES, INTERLOCK WIRING, ELECTRICAL OR PNEUMATIC CONTROL COMPONENTS AND ASSOCIATED PIPING OR WIRING, APPURTENANCES, ETC., TO PROVIDE THE FUNCTIONS DESCRIBED IN THESE SPECIFICATIONS AND PLANS, REGARDLESS OF WHETHER OR NOT SAID DEVICE RELAY, ETC. IS SPECIFICALLY MENTIONED HEREAFTER.
3. THE SYSTEM SHALL BE SUPERVISED AND CHECKED OUT COMPLETELY IN ALL RESPECTS BY COMPETENT MECHANICS, REGULARLY EMPLOYED BY THE MANUFACTURER.
4. THE CONTROL SYSTEMS SHALL BE IN ACCORDANCE WITH THE FOLLOWING DESCRIPTION OF SYSTEM OPERATIONSAND/OR DETAIL INFORMATION SHOWN ON THE PLANS AND AS DESCRIBED HEREIN.
- A) THE MANUFACTURER OF THE AUTOMATIC CONTROL EQUIPMENT SHALL SUBMIT THE FOLLOWING FOR APPROVAL: A SCHEMATIC DIAGRAM OF EACH CONTROL SYSTEM WHICH SHALL INDICATE THE PROPER SEQUENCE OF OPERATION AND RANGE OF THE CONTROLS FOR ALL CYCLES. A COMPLETE DESCRIPTION OF THE AUTOMATIC OPERATION OF EACH SYSTEM. THE DESCRIPTION SHOULD INCLUDE THE DUTY OF EACH THERMOSTAT, VALVE, SWITCH, ETC., INCORPORATED IN THE CONTROL SYSTEM WITH A SCHEDULE AND ILLUSTRATION OF ALL CONTROL INSTRUMENTS AND EQUIPMENT INCLUDING CONTROL PANELS AND DEVICES FOR EACH SYSTEM.

- B. ELECTRIC WIRING:
1. ALL ELECTRICAL WORK (EXCEPT FOR MOTOR FEEDERS, WIRING BETWEEN MOTORS, MOTOR CONTROLLERS, FEEDER PANELS, FUSES, CIRCUIT BREAKERS AND BUS BARS) REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR. WORK SHALL INCLUDE BUT NOT BE LIMITED TO TIME SWITCHES, DAMPER MOTORS, DAMPER SWITCHES, ELECTRIC THERMOSTATS, ELECTRIC RELAYS, E/P SWITCHES, INTERLOCKING WIRING, WIRE, CONDUIT, ETC.
2. ALL 115 VOLT POWER REQUIRED FOR CONTROL PURPOSES SHALL BE PROVIDED BY THE CONTROL CONTRACTOR FROM A SOURCE ESTABLISHED BY THE ELECTRICAL CONTRACTOR.
3. THE CONTROL MANUFACTURER SHALL INCLUDE WIRING DIAGRAMS IN HIS SHOP DRAWINGS SUBMITTALS FULLY COORDINATED WITH THE ELECTRICAL CONTRACTOR’S WORK. IT SHALL BE THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR’S RESPONSIBILITY TO PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO ACHIEVE THE FUNCTION CALLED FOR IN THESE SPECIFICATIONS, CONFORMING WITH LOCAL CODES FOR MATERIAL AND INSTALLATION. THE ELECTRICAL SPECIFICATION FOR THE PROJECT’S ELECTRICAL WORK IS TO BE FOLLOWED.
4. FURNISH A CERTIFICATE INDICATING THE METHOD OF WIRING COMPLIANCE WITH LOCAL CODES AS PART OF THE FIRST SHOP DRAWING SUBMITTAL.
- C. ROOM THERMOSTAT AND SWITCH LOCATIONS:
1. ALL ROOM THERMOSTATS AND SWITCH LOCATIONS (WHETHER SHOWN ON PLANS OR NOT) SHALL BE SELECTED AND SUBMITTED BY THE TEMPERATURE CONTROL MANUFACTURER FOR APPROVAL BY THE ARCHITECT AND ENGINEER PRIOR TO ACTUAL INSTALLATION.
- D. AUTOMATIC DAMPERS:
1. PROVIDE CONTROLS FOR ALL THE AUTOMATIC DAMPERS, AS SPECIFIED IN THE DUCTWORK SECTION, AND SHOWN ON THE DRAWINGS.
2. CONTROL MOTORS OR ACTUATORS SHALL BE OF THE ELECTRONIC OR PNEUMATIC TYPE, UNLESS OTHERWISE NOTED, OR APPROPRIATE SIZE AND QUANTITIES TO PROVIDE TWO–POSITION OR PROPORTIONING CONTROL ACTION AS SPECIFIED. PROPORTIONING TYPE SHALL BE EQUIPPED WITH PILOT TYPE POSITIONERS. PILOT POSITIONERS SHALL BE SELECTED FOR VARIED SPRING RANGES AND ADJUSTABLE WITHOUT DISMANTLING POSITIONER AND CONTROL MOTOR.
3. AUTOMATIC DAMPERS EXPOSED TO THE ELEMENTS SHALL HAVE ELECTRIC ACTUATORS WITH ALL REQUIRED ACCESSORIES.
- E. CONTROL PANELS:
1. FURNISH AND INSTALL IN THE MECHANICAL ROOM, AS HEREIN SPECIFIED, CONTROL PANELS OF STEEL, WITH WELDED ANGLE IRON BRACKETS, FOR WALL OR FLOOR MOUNTING.
2. THE BASIC BACKGROUND COLOR OF THE PANEL SHALL BE AS APPROVED BY THE ARCHITECT AND ENGINEER.
3. PANELS SHOULD BE FULLY ENCLOSED WITH HINGED LOCKING FRONT DOOR FOR EACH PANEL. THE PANEL SHALL CONTAIN ALL CONTROLLERS, RELAYS, SWITCHES, ETC. PROVIDE ENGRAVED NAMEPLATES TO LABEL THE CONTROLLED EQUIPMENT AND FOR EACH PANEL MOUNTED CONTROL DEVICE. PLASTIC LAMINATED CONTROL SCHEMATIC DRAWINGS FOR THE SYSTEM SHALL BE HUNG AT EACH LOCAL CONTROL PANEL.
4. DETAILS OF EACH OF THESE PANELS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION. LOCATIONS OF EACH PANEL ARE TO BE CONVENIENT FOR ADJUSTMENT AND SERVICE AND ALL SUCH LOCATIONS ARE TO BE APPROVED PRIOR TO INSTALLATION.
- F. SEQUENCE OF OPERATIONS:
1. ALL HVAC SYSTEMS SHALL BE CONTROLLED ACCORDING TO THE POINT LIST CONTAINED IN THE SECTION OF THE SPECIFICATIONS AND SHALL BE STAND–ALONE. ADDITIONAL POINTS OR SOFTWARE PROGRAMMING NOT LISTED IN THE POINT LIST BUT WHICH ARE REQUIRED TO MEET THE FOLLOWING SEQUENCES OF OPERATION SHALL BE PROVIDED.

PART 3 – EXECUTION

3.01 DEMOLITION, REMOVAL AND RELOCATION

- A. REMOVAL, TEMPORARY CONNECTIONS AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT TO BE COMPLETELY DETAILED ON THE DRAWINGS. THE CON–TRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.
- B. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT, AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- C. EQUIPMENT REQUIRED TO BE TEMPORARILY DISCONNECTED AND RELOCATED SHALL BE CAREFULLY REMOVED, STORED, CLEANED, REINSTALLED, RECONNECTED, AND MADE OPERATIONAL.
- D. ALL EXISTING WORK NOT INDICATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE. WHERE EXISTING WORK TO REMAIN IS DAMAGED OR DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE TO OWNER’S AND BUILDING MANAGER’S SATISFACTION AT NO COST TO THE OWNER OR BUILDING MANAGEMENT.
- E. GENERAL CONTRACTOR REMOVE ALL CEILING IN AREAS WHERE NEW DUCTWORK OR PIPING IS TO BE INSTALLED OR EXISTING IS ALTERED, AS PER ARCHITECT’S INSTRUCTIONS.
- F. ALL NECESSARY CUTTING AND PATCHING TO ACCOMMODATE THE NEW HVAC WORK SHALL BE PERFORMED BY THIS CONTRACTOR AND COORDINATED WITH BUILDING MANAGEMENT SO AS TO MINIMIZE DISRUPTION OF EXISTING TENANTS AND SERVICES. RESTORE ALL ITEMS TO MATCH EXISTING CONDITIONS.
- G. ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED UNDER THIS CONTRACT WILL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE LEGALLY DISPOSED OF BY THIS CONTRACTOR AS DIRECTED BY THE ARCHITECT OR OWNER. REFRIGERATION CONTAINED IN EXISTING EQUIPMENT TO BE REMOVED SHALL BE RECLAIMED OR LEGALLY DISPOSED OF IN ACCORDANCE WITH EPA REQUIREMENTS AND ASHRAE.
- H. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE. COORDINATE ALL DEMOLITION AND REMOVALS WITH BUILDING MANAGEMENT.

3.02 CONNECTION TO EXISTING WORK

- A. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING MANAGEMENT. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. INSTALL ISOLATION DAMPERS AT CONNECTION TO EXISTING DUCTWORK. PROVIDE TEMPORARY DUCTWORK AND PIPING CONNECTIONS AS REQUIRED TO MINIMIZE SHUTDOWN TIME.
- B. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT AND BUILDING MANAGER.
- C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES.

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INTERIOR ALTERATIONS
THIRD FLOOR

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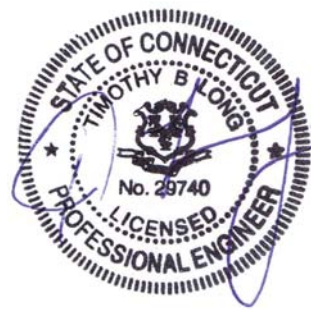
Drawing Title:

MECHANICAL
SPECIFICATIONS
(SHEET 2 OF 2)

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Revisions:



Drawing Number:

M301

ELECTRICAL ABBREVIATIONS			
A	AMPERE	GFI	GROUND FAULT INTERRUPTING
AFF	ABOVE FINISHED FLOOR	HP	HORSEPOWER
AHJ	AUTH. HAVING JURISDICTION	HZ	HERTZ
BLDG	BUILDING	IC	INTERRUPTING CAPACITY
C	CONDUIT	JB	JUNCTION BOX
CB	CIRCUIT BREAKER	KVA	KILOVOLT AMPERE
CKT	CIRCUIT	KW	KILOWATT
CLG	CEILING	LTG	LIGHTING
CLOS	CLOSET	MAX	MAXIMUM
CO	CONDUIT ONLY	MCB	MAIN CIRCUIT BREAKER
COMM	COMMUNICATION	MIN	MINIMUM
CONT	CONTINUATION	MLO	MAIN LUGS ONLY
CORR	CORRIDOR	MTD	MOUNTED
CP	CONDENSATE PUMP	MTG	MOUNTING
CU	COPPER	MW	MICROWAVE
DED	DEDICATED	N	NEW DEVICE
DISC	DISCONNECT	NEC	NATIONAL ELECTRICAL CODE
DN	DOWN	NTS	NOT TO SCALE
DW	DISHWASHER	OC	ON CENTER
DWG	DRAWING	P	POLE
E	EXISTING DEVICE	PB	PULL BOX
EC	ELECTRICAL CONTRACTOR	Ø	PHASE
ELEC	ELECTRICAL	PNL	PANEL
ELEV	ELEVATOR	PWR	POWER
EMERG	EMERGENCY	R	RELOCATED DEVICE
EP	ELECTRICAL PANEL	RECEPT	RECEPTACLE
EQPT	EQUIPMENT	RM	ROOM
ER	EXISTING TO BE RELOCATED	SECT	SECTION
EXIST	EXISTING	SW	SWITCH
FA	FIRE ALARM	TELE	TELEPHONE
FBO	FURNISHED BY OTHERS	TYP	TYPICAL
FCO	FUSED CUTOUT	UON	UNLESS OTHERWISE NOTED
FDR	FEEDER	V	VOLT OR VOLTAGE
FL	FLOOR	W	WATT
G, GRD	GROUND	WM	WIREMOLD
GC	GENERAL CONTRACTOR	WP	WATER PROOF

ELECTRICAL GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE (NEC), NATIONAL FIRE CODE (NFPA), STATE BUILDING CODES, CODES AND REQUIREMENTS OF THE LOCAL CITY, AND OWNERS REQUIREMENTS.
2. ALL CONDUITS AND EQUIPMENT SHALL BE INSTALLED AND GROUND IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE APPLICABLE LOCAL AND NATIONAL CODES.
3. ALL MATERIAL SHALL BE UNDERWRITERS' LABORATORIES LISTED FOR ITS APPLICATION WHERE SUCH LISTING IS APPLICABLE.
4. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS.
5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK), NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
6. PASS RACEWAYS OVER WATER, STEAM OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED. NO RACEWAY WITHIN 3 INCHES OF STEAM OR HOT WATER PIPES OR APPLIANCES (EXCEPT PIPE CROSSINGS WHERE RACEWAY SHALL BE AT LEAST 1 INCH FROM PIPE COVERS).
7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE.
8. NO CONDUIT SMALLER THAN 3/4", NOR WIRE SIZE SMALLER THAN NO. 12 A.W.G. FOR POWER SHALL BE USED UNLESS OTHERWISE NOTED.
9. ALL 120V BRANCH CIRCUITS GREATER THAN 100 LINEAR FEET SHALL BE #10AWG MIN.
10. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
11. SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
12. PROVIDE ELECTRICAL OUTLET PLATE GASKET SEALS AT RECEPTACLES, SWITCHES, AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND ON INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.
13. COVERS OF JUNCTION AND PULLBOXES SHALL BE READILY ACCESSIBLE.
14. PROVIDE PULLBOXES WHERE INDICATED, WHERE REQUIRED BY CODE AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE. COORDINATE PULLBOX LOCATIONS WITH OTHER TRADES.
15. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF NORMAL AND EMERGENCY CIRCUITS. COMMON BOXES: PROVIDE BARRIERS BETWEEN EMERGENCY AND NORMAL WIRING.
16. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
17. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS: ONLY WITH WRITTEN CONSENT OF OWNER. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS ARE NOT TO BE INTERRUPTED.
18. FIRESTOPPING SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED CONSTRUCTION. PUTTY PADS SHALL BE INSTALLED AT RECEPTACLES IN FIRE RATED WALLS AS REQUIRED BY CODE.
19. ALL CIRCUIT NUMBERS INDICATED ON PLANS ARE FOR CLARITY ONLY, FIELD CONDITIONS PREVAIL.
20. ALL TERMINATION LUGS SHALL BE SIZED ACCORDINGLY TO ACCOMMODATE INDICATED CONDUCTORS.
21. CONTRACTOR SHALL TEST AND BALANCE ELECTRICAL PANELS ASSOCIATED WITH NEW WORK TO A MAXIMUM IMBALANCE OF 10%.
22. ALL CUTTING AND PATCHING SHALL BE FULLY COORDINATED WITH THE GENERAL CONTRACTOR.
23. PANEL DIRECTORIES SHALL BE UPDATED TO CONFORM TO WORK COMPLETED UNDER THIS CONTRACT. UPDATED DIRECTORIES TO BE TYPE-WRITTEN.
24. UPON COMPLETION OF THE WORK, THREE MARKED UP SETS OF "AS-BUILT" DRAWINGS SHALL BE SUBMITTED TO THE OWNER.
25. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK PRIOR TO SUBMISSION OF A PROPOSAL.
26. THE CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILINGS, PLASTER, PARTITIONS, WALLS, ETC., AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS.
27. CONTRACTOR SHALL PROVIDE ARC FLASH WARNING LABELING ON ELECTRICAL EQUIPMENT AS REQUIRED BY NEC 2020 ARTICLE 110.16 AND 110.24.

ELECTRICAL POWER LEGEND

- NEW WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE.
'GFI' – DENOTES GROUND FAULT INTERRUPTER
'+XX' – DENOTES MOUNTING HEIGHT XX" AFF.
'1' – DENOTES CIRCUIT NUMBER
'HG' – DENOTES HOSPITAL GRADE
- RELOCATED WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE. RELOCATE EXISTING CONDUIT AND WIRING TO NEW DEVICE LOCATION.
- EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO REMAIN.
- NEW CEILING MOUNTED 20A, 120V DUPLEX RECEPTACLE.
'1' – DENOTES CIRCUIT NUMBER
'HG' – DENOTES HOSPITAL GRADE
- NEW WALL MOUNTED 20A, 120V QUADRUPLEX RECEPTACLE.
'GFI' – DENOTES GROUND FAULT INTERRUPTER
'+XX' – DENOTES MOUNTING HEIGHT XX" AFF.
'1' – DENOTES CIRCUIT NUMBER
'HG' – DENOTES HOSPITAL GRADE
- EXISTING WALL MOUNTED 20A, 120V QUADRUPLEX RECEPTACLE TO REMAIN.
- NEW WALL MOUNTED VOICE/DATA DEVICE WITH 1"C. STUBBED UP TO 6" ABOVE NEAREST ACCESSIBLE FINISH CEILING.
'+XX' – DENOTES MOUNTING HEIGHT XX" AFF.
- EXISTING WALL MOUNTED VOICE/DATA DEVICE TO REMAIN.
- NEW BRANCH CIRCUIT HOMERUN TO ELECTRIC PANEL. HALF ARROWS INDICATE NUMBER OF CIRCUITS.
- NEW SWITCH WITH THERMAL OVERLOAD PROTECTION FOR FRACTIONAL HORSEPOWER MOTORS.
- NEW UNFUSED DISCONNECT SWITCH
30/3 – DENOTES 30 AMP/3–POLE SWITCH
- NEW 'IN USE' LIGHT FIXTURE FOR NEW RADIOLOGY MACHINE. INSTALL LIGHT FIXTURE PER RADIOLOGY EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
- EMERGENCY POWER-OFF (EPO) SWITCH MOUNTED AT 48" AFF. (IN THE EVENT OF EMERGENCY, SHUT THE POWER OFF AT LOCATION FOR RADIOLOGY EQUIPMENT). INSTALL EPO SWITCH PER RADIOLOGY EQUIPMENT MANUFACTURER'S SPECIFICATIONS.

ELECTRICAL LIGHTING LEGEND

- '0' – FIXTURE CONTROLLED BY SWITCH/OCCPANCY SENSOR '0'
'1' – DENOTES CIRCUIT NUMBER
- RELOCATED WALL MOUNTED EMERGENCY LIGHTING UNIT. EXTEND ALL ASSOCIATED CONDUIT AND WIRING TO NEW LOCATION.
- EXISTING WALL MOUNTED EMERGENCY LIGHTING UNIT TO REMAIN.
- NEW CEILING MOUNTED VACANCY SENSOR INFRARED/ULTRASONIC DUAL TECHNOLOGY. HUBBELL #OMNI DT" OR APPROVED EQUAL.
'0' – CONTROLS LIGHTING FIXTURES DESIGNATED '0'
- NEW CEILING MOUNTED VACANCY SENSOR OVERRIDE SWITCH. PROVIDE ROOM CONTROLLER COMPATIBLE OVERRIDE SWITCH FOR ALL ROOMS EQUIPPED WITH A LIGHTING CONTROL ROOM CONTROLLER.
'0' – CONTROLS LIGHTING FIXTURES DESIGNATED '0'
- NEW WALL MOUNTED VACANCY SENSOR INFRARED/ULTRASONIC DUAL TECHNOLOGY WITH MANUAL SWITCH. HUBBELL #LIGHTHAWK2' OR APPROVED EQUAL.
'0' – CONTROLS LIGHTING FIXTURES DESIGNATED '0'
- NEW WALL MOUNTED DIMMER SWITCH.
'0' – CONTROLS LIGHTING FIXTURES DESIGNATED '0'
- NEW WALL MOUNTED LIGHT SWITCH
'3' – DENOTES THREE WAY SWITCH
'0' – CONTROLS LIGHTING FIXTURES DESIGNATED '0'

LIGHTING FIXTURE SCHEDULE

- NEW RECESSED 2'X2' LED LIGHTING FIXTURE. COLUMBIA LIGHTING MODEL#: 'LCAT-22-35-ML-G-RFA-E-U-AM' OR APPROVED EQUAL.
- NEW 6" RECESSED LED DOWNLIGHT FIXTURE. PRESCOLITE MODEL#: 'LC6SLDM-6LCSL14L35KBHWT-B6' OR APPROVED EQUAL.

ELECTRICAL DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
E001	ELECTRICAL NOTES AND LEGEND
E100	ELECTRICAL DEMOLITION PLAN
E200	ELECTRICAL LIGHTING PLAN
E201	ELECTRICAL POWER PLAN
E300	ELECTRICAL PANEL SCHEDULES
E301	ELECTRICAL DETAILS
E400	ELECTRICAL SPECIFICATIONS (1 OF 2)
E401	ELECTRICAL SPECIFICATIONS (2 OF 2)

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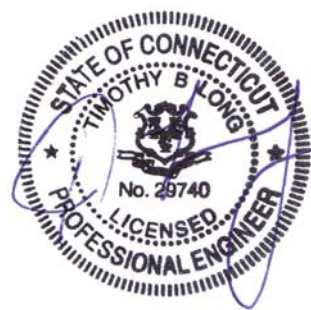
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ELECTRICAL
NOTES & LEGEND

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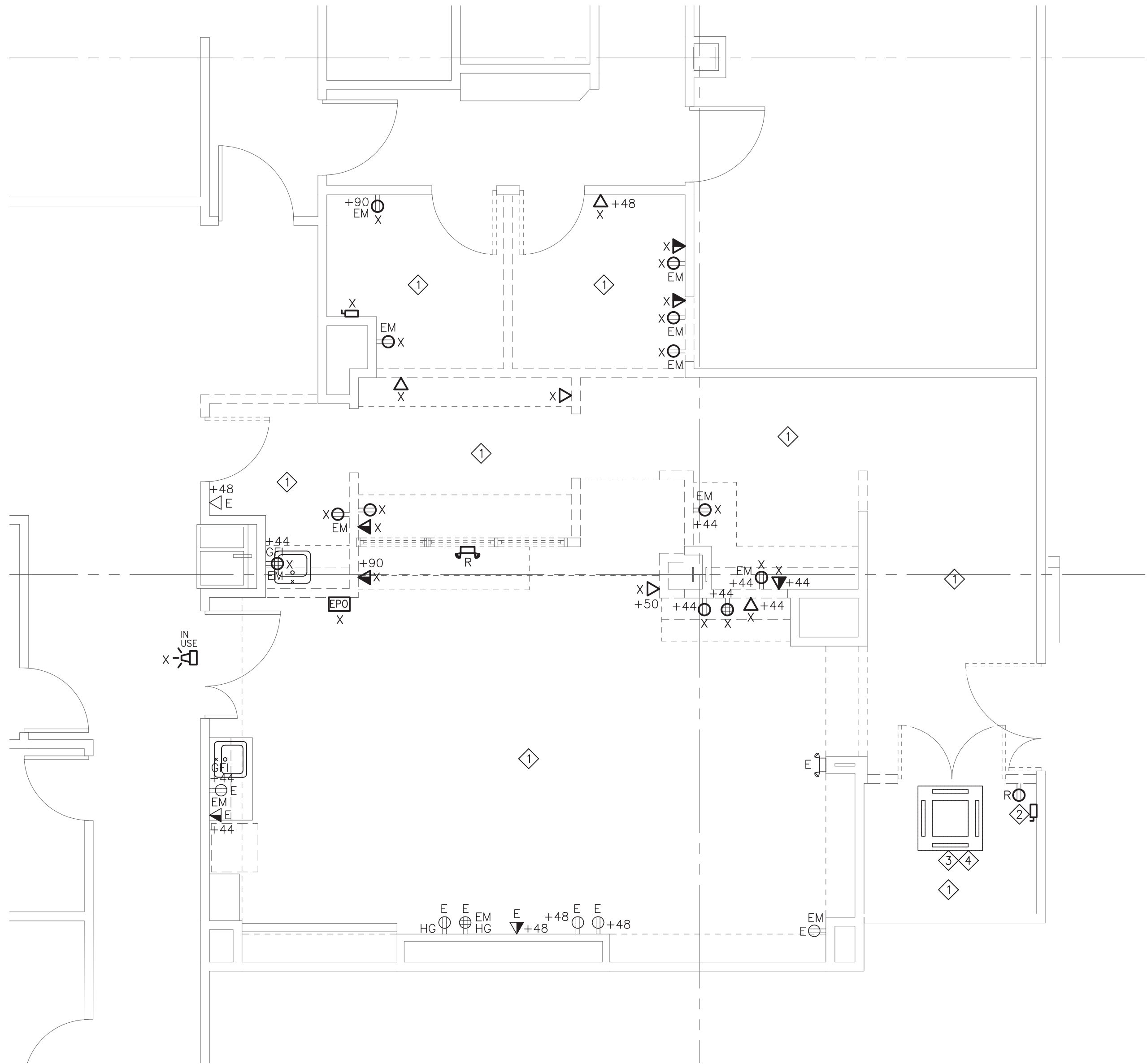
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Revisions:



Drawing Number:

E001



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

ELECTRICAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF ELECTRICAL WORK AS DESCRIBED IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORSEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT WHERE CONSIDERED JUSTIFIABLE BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL AND ELECTRICAL LAYOUTS IN FULL COORDINATION WITH THE ENGINEER'S DEMOLITION PLANS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE SOURCE OF POWER SUPPLY.
3. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING ELECTRICAL SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
4. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED BUILDING SURFACE TO ITS ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL LIGHTING, RECEPTACLES SWITCHES AND OTHER DEVICES, COMPLETE WITH ASSOCIATED WIRING, CONDUITS, ETC., FROM PARTITIONS OR CEILING THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST ELECTRICAL JUNCTION BOX THAT IS TO REMAIN OR TO PANELBOARD.
6. ALL REUSED RACEWAYS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
7. ALL UNUSED CONCEALED OUTLET BOXES OR FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING BLANK COVERS.
8. EXISTING PANEL DIRECTORIES AFFECTED BY THE ALTERATION WORK SHALL BE MODIFIED TO REFLECT THE BRANCH CIRCUIT WIRING CHANGES.
9. PORTIONS OF FEEDER RUNS TO BE REMOVED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ENERGIZED, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED. NEW FEEDER EXTENSIONS SHALL MATCH EXISTING ONES IN ALL RESPECTS, CABLE TYPE, CONDUCTOR AMPACITY, CONDUIT SIZES, ETC.
10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. THE CONTRACTOR SHALL FOLLOW CLOSELY THE ENGINEER'S DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.
11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR, AS DIRECTED BY THE OWNER.
12. EXISTING CONDUITS ROUTED IN SLAB AND TURNING OUT OF SLAB SHALL BE CUT BACK TO 1" INTO SLAB AND OPENING PATCHED.
13. ALL EXISTING UNUSED WIRING SHALL BE DISCONNECTED AT EACH END AND REMOVED.
14. CONTRACTOR SHALL DISCONNECT POWER TO ALL MECHANICAL EQUIPMENT BEING TAKEN OUT OF OPERATION, COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO DEMOLITION.

ELECTRICAL DEMOLITION LEGEND

- | | |
|-------------|--|
| X
⊙ | EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE. |
| R
⊙ | EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO BE RELOCATED. RELOCATE EXISTING CONDUIT AND WIRING TO NEW DEVICE LOCATION. REFER TO DRAWING E201 FOR NEW DEVICE LOCATION. |
| E
⊙ | EXISTING WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE TO REMAIN. |
| X
⊙ | EXISTING WALL MOUNTED 20A, 120V QUADRUPLUX RECEPTACLE TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE. |
| E
⊙ | EXISTING WALL MOUNTED 20A, 120V QUADRUPLUX RECEPTACLE TO REMAIN. |
| X
▽ | EXISTING WALL MOUNTED VOICE/DATA DEVICE TO BE REMOVED. REMOVE ALL WIRING BACK TO LOCAL HUB. |
| E
▽ | EXISTING WALL MOUNTED VOICE/DATA DEVICE TO REMAIN. |
| X
▽ | EXISTING WALL MOUNTED VOICE DEVICE TO BE REMOVED. REMOVE ALL WIRING BACK TO LOCAL HUB. |
| E
▽ | EXISTING WALL MOUNTED VOICE DEVICE TO REMAIN. |
| X
EPO | EXISTING EMERGENCY SHUT-OFF SWITCH TO BE REMOVED. REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE. |
| X
IN USE | EXISTING 'IN USE' LIGHT FIXTURE FOR RADIOLOGY MACHINE TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE. |
| X
DISC | EXISTING DISCONNECT SWITCH TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE. |
| R
E | EXISTING WALL MOUNTED EMERGENCY LIGHTING UNIT TO BE RELOCATED. EXTEND ALL ASSOCIATED WIRING TO NEW LOCATION. REFER TO DRAWING E201 FOR NEW LOCATION. |
| E
E | EXISTING WALL MOUNTED EMERGENCY LIGHTING UNIT TO REMAIN. |

ELECTRICAL DEMOLITION KEYNOTES

- | | |
|---|--|
| 1 | ALL EXISTING LIGHTING AND SWITCH IN THIS AREA TO BE REMOVED. SAFE-OFF EXISTING LIGHTING CIRCUIT ABOVE CEILING FOR REUSE DURING NEW WORK. |
| 2 | EXISTING MAIN DISCONNECT CONTROL PANEL FOR THE EXISTING RADIOLOGY MACHINE TO BE REMOVED. REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT AND WIRING FOR EXISTING RADIOLOGY MACHINE BEING REMOVED. RELOCATE EXISTING CONDUIT AND WIRING FOR RADIOLOGY MACHINE FEED FROM PANEL TO THE EQUIPMENT ROOM TO PROVIDE POWER TO NEW RADIOLOGY MACHINE. REFER TO DRAWING E201 FOR NEW RADIOLOGY MACHINE MAIN DISCONNECT SWITCH LOCATION. EXTEND CONDUIT AND WIRING AS REQUIRED. |
| 3 | EXISTING SPLIT SYSTEM UNIT WITH FAN COIL UNIT TO BE REMOVED. REMOVE ALL ASSOCIATED CONDUIT AND WIRING BACK TO SOURCE. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR. |
| 4 | DEDUCT ALTERNATE: PROVIDE DEDUCT ALTERNATE IF EXISTING FC-1 IS REUSED AND RELOCATED IN PLACE OF NEW SPLIT SYSTEM UNIT. EXTEND EXISTING CONDUIT AND WIRING OF EXISTING FAN COIL UNIT TO NEW LOCATION. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR. |

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INTERIOR ALTERATIONS THIRD FLOOR

Date: 7-31-24	Drawn By: VH
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ELECTRICAL DEMOLITION PLAN

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Revisions:



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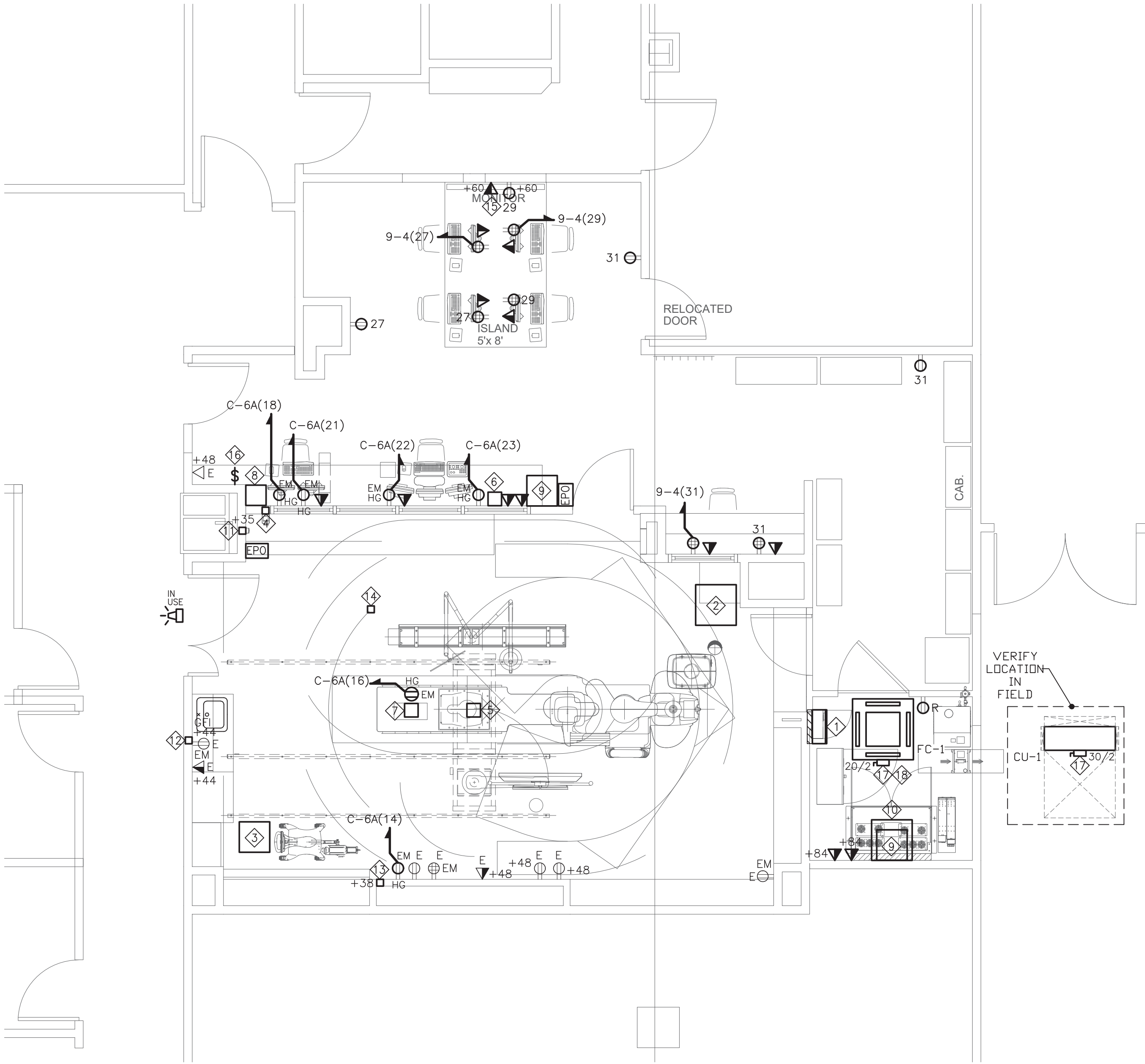
E100



- ELECTRICAL KEYNOTES**

1. CONNECT NEW LIGHTING FIXTURES TO THE EXISTING LIGHTING CIRCUIT IN THIS AREA.
 PROVIDE NEW SWITCHING AS SHOWN ON DRAWINGS.

E200



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

ELECTRICAL POWER NOTES

1. CONTRACTOR SHALL REFER TO DRAWING E100 FOR DEMOLITION WORK AND NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY.
3. CONTRACTOR SHALL CIRCUIT (2) #12+ #12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
4. CONTRACTOR SHALL REUSE EXISTING 20A, 1 POLE CIRCUIT BREAKERS FREED BY DEMOLITION IN EXISTING PANELS. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED. NEW CIRCUIT BREAKERS TO BE BOLT-ON TYPE MATCHING EXISTING TYPE & KAIC RATING.
5. ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
6. CONTRACTOR SHALL RUN 1" EMPTY CONDUIT TO NEAREST ACCESSIBLE HUNG CEILING WITH GROMMETED END FITTING FOR NEW TELEPHONE/DATA DEVICE LOCATIONS.
7. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITING TO ELECTRICAL DEVICES TO REMAIN. ELECTRICAL CONTRACTOR SHALL EXTEND AND RECONNECT ANY BRANCH CIRCUITING THAT BECOME DISCONNECTED DUE TO DEMOLITION.
8. CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS AND WITH EQUIPMENT SPECIFICATIONS.
9. SECURITY DEVICES LOCATIONS SHOWN ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION AND QUANTITY OF ALL DEVICES WITH SECURITY CONSULTANT AND ARCHITECT.
10. ALL WIRING PROVIDING POWER TO LIGHTING AND RECEPTACLES IN EXAM ROOMS, ULTRASOUND ROOMS, BLOOD DRAW ROOMS, AND MEDICAL LABS ALONG WITH WIRING TO ALL OTHER AREAS REQUIRED BY CODE SHALL BE HOSPITAL GRADE WIRING AND SHALL BE ROUTED IN EMT CONDUIT. HCF WIRING MAY BE USED ONLY WITH PRIOR APPROVAL FROM THE HOSPITAL FACILITIES PERSONNEL AND ONLY ON NON-EMERGENCY CIRCUITS.
11. ALL NEW RECEPTACLES SHALL HAVE THE CIRCUIT THEY ARE BEING FED FROM CLEARLY IDENTIFIED ON THEIR FACEPLATES PER BUILDING STANDARD.
12. COORDINATE ALL WORK WITH RADIOLOGY EQUIPMENT MANUFACTURER'S SITE SPECIFIC INSTALLATION DRAWINGS. PROVIDE ALL EMPTY CONDUIT, CABLE TRAYS, CABLE DUCT, AND GROUNDING AS OUTLINED ON SITE SPECIFIC DRAWINGS.
17. ALL TELE/DATA DEVICE LOCATIONS SHALL BE FED BY A PLENUM RATED CAT 6A WIRE THAT SHALL BE RUN FROM THE DEVICE BACK TO THE LOCAL HUB. ALL LOW VOLTAGE WIRING SHALL BE PLENUM RATED. COORDINATE EXACT LOCATION OF LOCAL HUB IN THE FIELD.
18. EXISTING PANELS '9-4' AND 'C-6A' ARE LOCATED IN 4TH FLOOR EAST MECHANICAL AREA. COORDINATE EXACT LOCATION IN THE FIELD.

ELECTRICAL KEYNOTES

1. NEW MAIN DISCONNECT PANEL (MDP) FOR RADIOLOGY MACHINE. EXTEND EXISTING MAIN CONDUIT AND FEEDERS FOR REMOVED RADIOLOGY MACHINE TO THIS NEW LOCATION. CONFIRM EXISTING FEEDERS ARE PROPERLY SIZED FOR RADIOLOGY MACHINE BASED ON GE SITE SPECIFIC DRAWINGS (AT LEAST 2 AWG CU). IF NOT, INSTALL NEW FEEDERS AND CONDUIT BACK TO PANEL 'DP-01' IN THE 2ND FLOOR MECHANICAL SPACE. REPLACE EXISTING 125A, 480V, 3-POLE CIRCUIT BREAKER IN PANEL WITH A NEW 100A, 480V, 3-POLE CIRCUIT BREAKER TO MEET MANUFACTURER'S SITE SPECIFIC DRAWING REQUIREMENTS.
2. 24"x24"x12" JUNCTION BOX ABOVE CEILING.
3. 18"x18"x6" CEILING MOUNTED JUNCTION BOX.
4. 4"x4"x4" JUNCTION BOX BELOW FINISHED CEILING FOR X-RAY BUZZER.
5. 8"x8"x6" JUNCTION BOX BELOW FLOOR FOR TABLE.
6. 8"x8"x6" JUNCTION BOX BELOW FLOOR FOR PATIENT MONITORING EQUIPMENT.
7. 8"x8"x6" JUNCTION BOX BELOW FLOOR FOR PDM/TRAM.
8. 12"x12"x6" JUNCTION BOX ABOVE CEILING.
9. 18"x18"x6" JUNCTION BOX BELOW FLOOR.
10. 24"x24"x12" JUNCTION BOX ABOVE CEILING.
11. 4"x4"x4" FLUSH JUNCTION BOX WITH SINGLE GANG MUD RING FOR V-POINT #1.
12. 4"x4"x4" FLUSH JUNCTION BOX WITH SINGLE GANG MUD RING FOR V-POINT #2.
13. 4"x4"x4" FLUSH JUNCTION BOX WITH SINGLE GANG MUD RING FOR AW WIRELESS MOUSE.
14. 4"x4"x4" CEILING JUNCTION BOX FOR LED LAMP TRANSFORMER.
15. COORDINATE EXACT HEIGHT OF DEVICES WITH MONITOR HEIGHT IN FIELD.
16. NEW LOW VOLTAGE SWITCH/CONTROLLER FOR SMART TINT SYSTEM. SMART TINT CONTROL PANEL SHALL BE MOUNTED ABOVE DROP CEILING AND SHALL BE POWERED FROM CIRCUIT 9-4(27). INSTALL SYSTEM PER MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
17. CONTRACTOR SHALL PROVIDE POWER TO NEW 'FC-1/CU-1' FROM CIRCUIT EQ-E38(40,42) BY (2) #10+ #10 GRD. IN 3/4"C. PROVIDE A SEPARATE 3/4"C. BETWEEN FAN COIL UNIT 'FC-1' AND CONDENSING UNIT 'CU-1' FOR CONTROL WIRING. REFER TO DRAWING E301 FOR "SPLIT SYSTEM TYPE HVAC UNIT DETAIL". COORDINATE EXACT LOCATION OF CU-1 WITH MECHANICAL CONTRACTOR IN THE FIELD. COORDINATE ALL WORK AND REQUIREMENTS WITH MANUFACTURER'S SPECIFICATIONS.
18. DEDUCT ALTERNATE: PROVIDE DEDUCT ALTERNATE IF EXISTING FC-1 IS REUSED AND RELOCATED IN PLACE OF NEW SPLIT SYSTEM UNIT. EXTEND EXISTING CONDUIT AND WIRING OF EXISTING FAN COIL UNIT TO NEW LOCATION. COORDINATE ALL WORK WITH MECHANICAL CONTRACTOR.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: VH
Scale: AS NOTED	Approved By: TL
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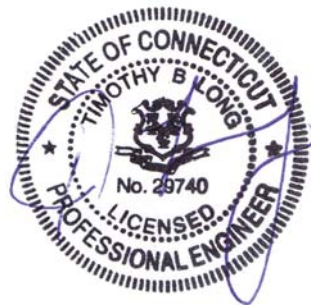
Drawing Title:

ELECTRICAL
POWER PLAN

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Revisions:



Drawing Number:

E201

PANEL: DP-EQ1 (EMERGENCY) (EXISTING)			277/480 VOLTS, 3 PHASE, 4 WIRE					MAIN BUS 400 AMPS		
LOCATION: 2ND FLOOR EAST MECHANICAL								■ MCB □ MLO		
BUILDING: 34 MAPLE ST								MAIN BRK 600 AMPS 3 P		
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
1	— 3P.	EXISTING	—	A	B	C	—	NEW RADIOLOGY MACHINE	100 3P.	2
			—	■	■	■	—			
			—	■	■	■	—			
3	— 3P.	EXISTING	—	A	B	C	—	EXISTING	— 3P.	4
			—	■	■	■	—			
			—	■	■	■	—			
5	— 3P.	SPACE	—	A	B	C	—	SPACE	— 3P.	6
			—	■	■	■	—			
			—	■	■	■	—			
			—	A	B	C	—			
			—							

NOTES:

- * 1. REPLACE EXISTING 125A, 480V, 3-POLE CIRCUIT BREAKER IN PANEL WITH A NEW 100A, 480V, 3-POLE CIRCUIT BREAKER TO MEET MANUFACTURER'S SITE SPECIFIC DRAWING REQUIREMENTS. REUSE EXISTING FEEDERS AND CONDUIT IF SUFFICIENTLY SIZED BASED ON SITE SPECIFIC DRAWINGS (#2 AWG. MINIMUM). IF NOT, INSTALL (4)#2+ #2 GRD. IN 1-1/2"C. FROM PANEL TO NEW RADIOLOGY MACHINE MAIN DISTRIBUTION PANEL LOCATION.

PANEL: 9-4 (NORMAL) (EXISTING)			120/208 VOLTS, 3 PHASE, 4 WIRE					MAIN BUS 125 AMPS		
LOCATION: 4TH FLOOR EAST MECHANICAL			MOUNTING : ☒ SURFACE ☐ FLUSH					☐ MCB ☒ MLO		
BUILDING: 34 MAPLE ST								MAIN BRK _ _ AMPS _ _ P		
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
				A	B	C				
1	-	EXISTING	-	-	-	-	-	EXISTING	-	2
3	-	EXISTING	-	-	-	-	-	EXISTING	-	4
5	-	EXISTING	-	-	-	-	-	EXISTING	-	6
7	-	EXISTING	-	-	-	-	-	EXISTING	-	8
9	-	EXISTING	-	-	-	-	-	EXISTING	-	10
11	-	EXISTING	-	-	-	-	-	EXISTING	-	12
13	-	EXISTING	-	-	-	-	-	EXISTING	-	14
15	-	EXISTING	-	-	-	-	-	EXISTING	-	16
17	-	EXISTING	-	-	-	-	-	EXISTING	-	18
19	-	EXISTING	-	-	-	-	-	EXISTING	-	20
21	-	EXISTING	-	-	-	-	-	EXISTING	-	22
23	-	EXISTING	-	-	-	-	-	EXISTING	-	24
25	-	EXISTING	-	-	-	-	-	EXISTING	-	26
27	20	RECEPTACLES	-	-	-	-	-	SPACE	-	28
29	20	RECEPTACLES	-	-	-	-	-	SPACE	-	30
31	20	RECEPTACLES	-	-	-	-	-	SPACE	-	32
33	-	SPACE	-	-	-	-	-	SPACE	-	34
35	-	SPACE	-	-	-	-	-	SPACE	-	36
37	-	SPACE	-	-	-	-	-	SPACE	-	38
39	-	SPACE	-	-	-	-	-	SPACE	-	40
41	-	SPACE	-	-	-	-	-	SPACE	-	42
			-	-	-	-				
			-							

PANEL: EQ-E38 (EMERGENCY) (EXISTING)			120/208 VOLTS, 3 PHASE, 4 WIRE					MAIN BUS 100 AMPS		
LOCATION: 4TH FLOOR EAST MECHANICAL			MOUNTING : ☒ SURFACE ☐ FLUSH					☐ MCB ☒ MLO		
BUILDING: 34 MAPLE ST								MAIN BRK _ _ AMPS _ _ P		
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
				A	B	C				
1	—	EXISTING	—	—	—	—	—	EXISTING	—	2
3	—	EXISTING	—	—	—	—	—	EXISTING	—	4
5	—	EXISTING	—	—	—	—	—	EXISTING	—	6
7	—	EXISTING	—	—	—	—	—	EXISTING	—	8
9	—	EXISTING	—	—	—	—	—	EXISTING	—	10
11	—	EXISTING	—	—	—	—	—	EXISTING	—	12
13	—	EXISTING	—	—	—	—	—	EXISTING	—	14
15	—	EXISTING	—	—	—	—	—	EXISTING	—	16
17	—	EXISTING	—	—	—	—	—	EXISTING	—	18
19	—	EXISTING	—	—	—	—	—	EXISTING	—	20
21	—	EXISTING	—	—	—	—	—	EXISTING	—	22
23	—	EXISTING	—	—	—	—	—	EXISTING	—	24
25	—	EXISTING	—	—	—	—	—	EXISTING	—	26
27	—	EXISTING	—	—	—	—	—	EXISTING	—	28
29	—	EXISTING	—	—	—	—	—	EXISTING	—	30
31	—	EXISTING	—	—	—	—	—	EXISTING	—	32
33	—	EXISTING	—	—	—	—	—	EXISTING	—	34
35	—	EXISTING	—	—	—	—	—	EXISTING	—	36
37	—	EXISTING	—	—	—	—	—	EXISTING	—	38
39	—	EXISTING	—	—	—	—	—	FC-1 / CU-1	30	40
41	—	SPACE	—	—	—	—	—		2P	42
			—	—	—	—				
			—							

PANEL: C-6A (EMERGENCY) (EXISTING)			120/208 VOLTS, 3 PHASE, 4 WIRE				MAIN BUS 125 AMPS			
LOCATION: 4TH FLOOR EAST MECHANICAL			MOUNTING : ☒ SURFACE ☐ FLUSH				☐ MCB ☒ MLO			
BUILDING: 34 MAPLE ST							MAIN BRK __ AMPS __ P			
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA)			LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
1	-	EXISTING	-	-			-	EXISTING	-	2
3	-	EXISTING	-				-	EXISTING	-	4
5	-	EXISTING	-				-	EXISTING	-	6
7	-	EXISTING	-	-			-	EXISTING	-	8
9	-	EXISTING	-				-	EXISTING	-	10
11	-	EXISTING	-				-	EXISTING	-	12
13	-	EXISTING	-	-			-	RECEPTACLES	20	14
15	-	EXISTING	-	-			-	RECEPTACLES	20	16
17	-	EXISTING	-				-	RECEPTACLES	20	18
19	-	EXISTING	-	-			-	EXISTING	-	20
21	20	RECEPTACLES	-	-			-	RECEPTACLES	20	22
23	20	RECEPTACLES	-				-	EXISTING	-	24
25	-	EXISTING	-	-			-	EXISTING	-	26
27	-	EXISTING	-				-	SPACE	-	28
29	-	EXISTING	-				-	SPACE	-	30
			-	-	-					
			-							

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INTERIOR ALTERATIONS
THIRD FLOOR

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Drawing Title:
ELECTRICAL
PANEL SCHEDULES

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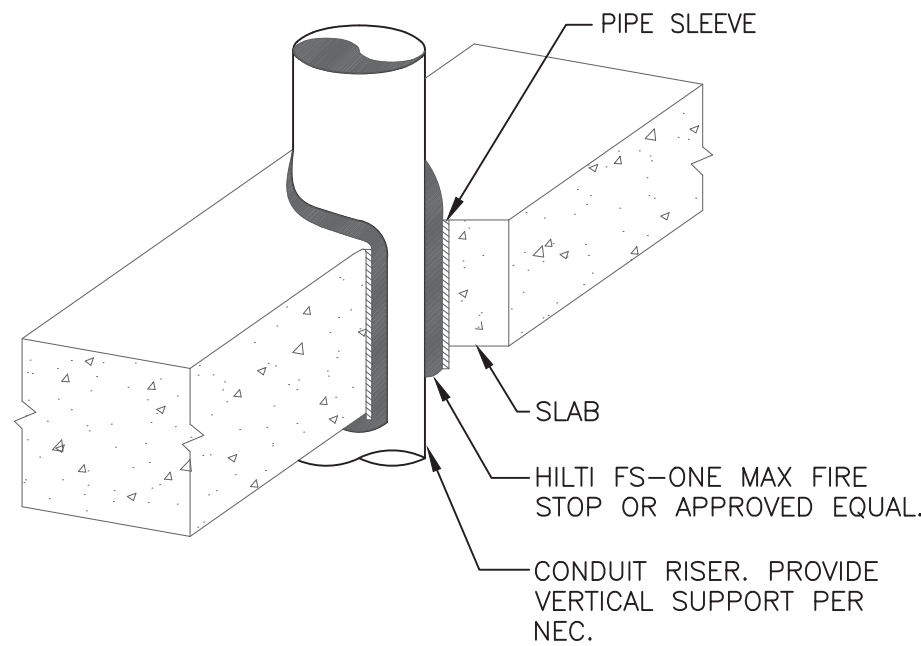
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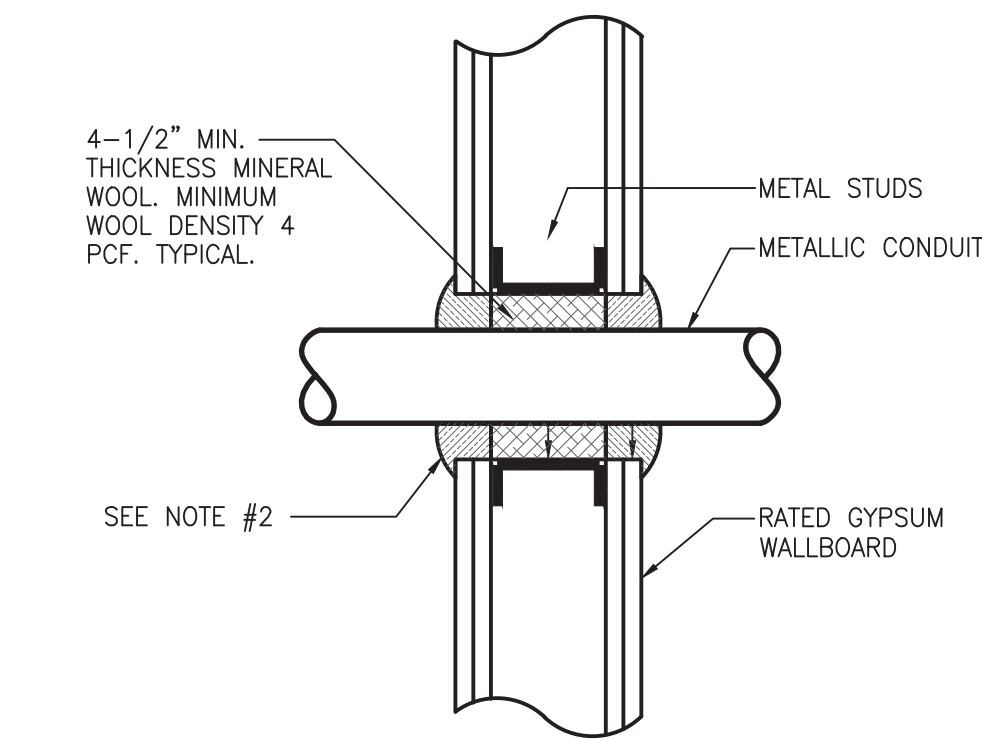


Drawing Number:

E300

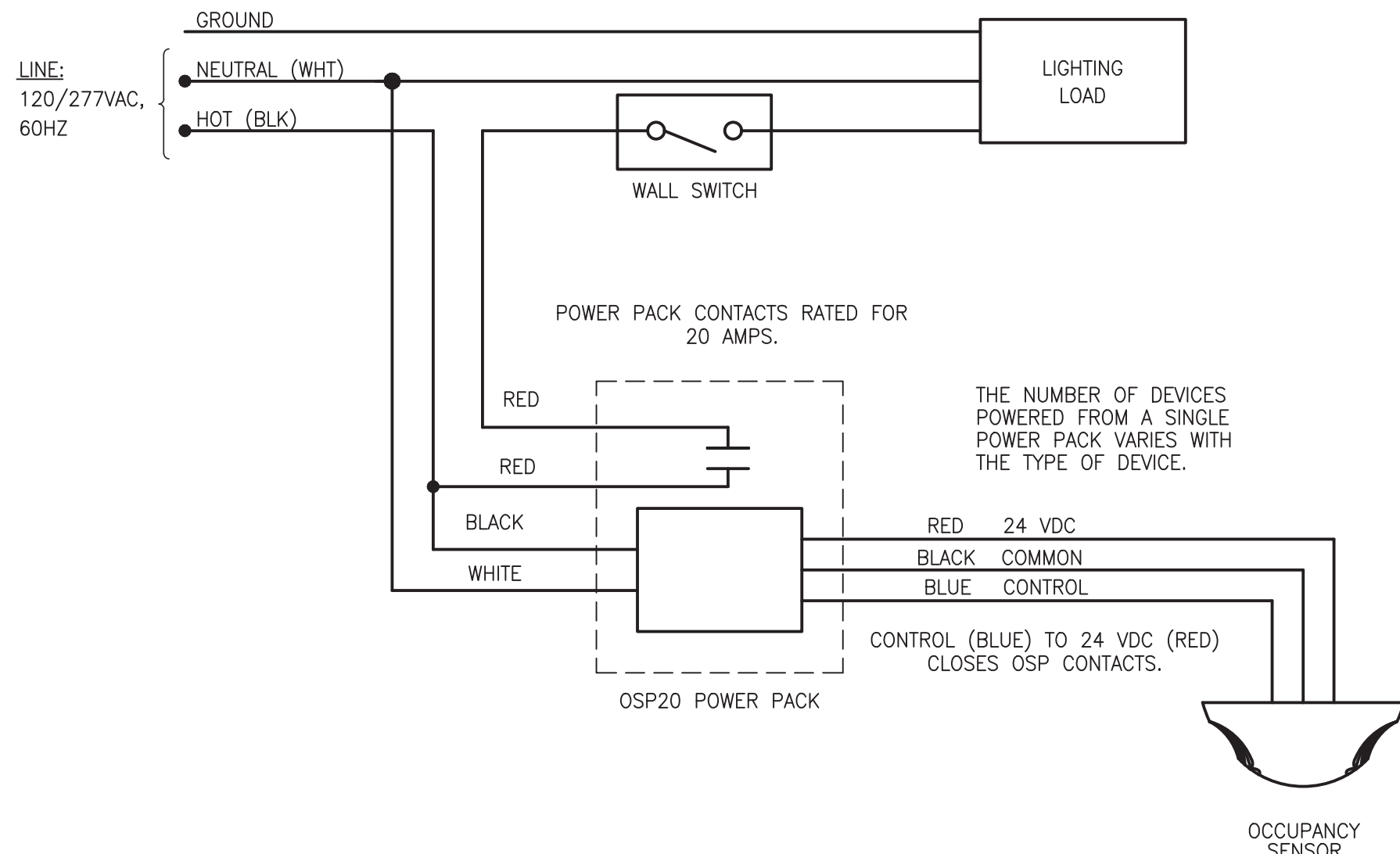


1 VERTICAL CONDUIT PENETRATION DETAIL
NOT TO SCALE

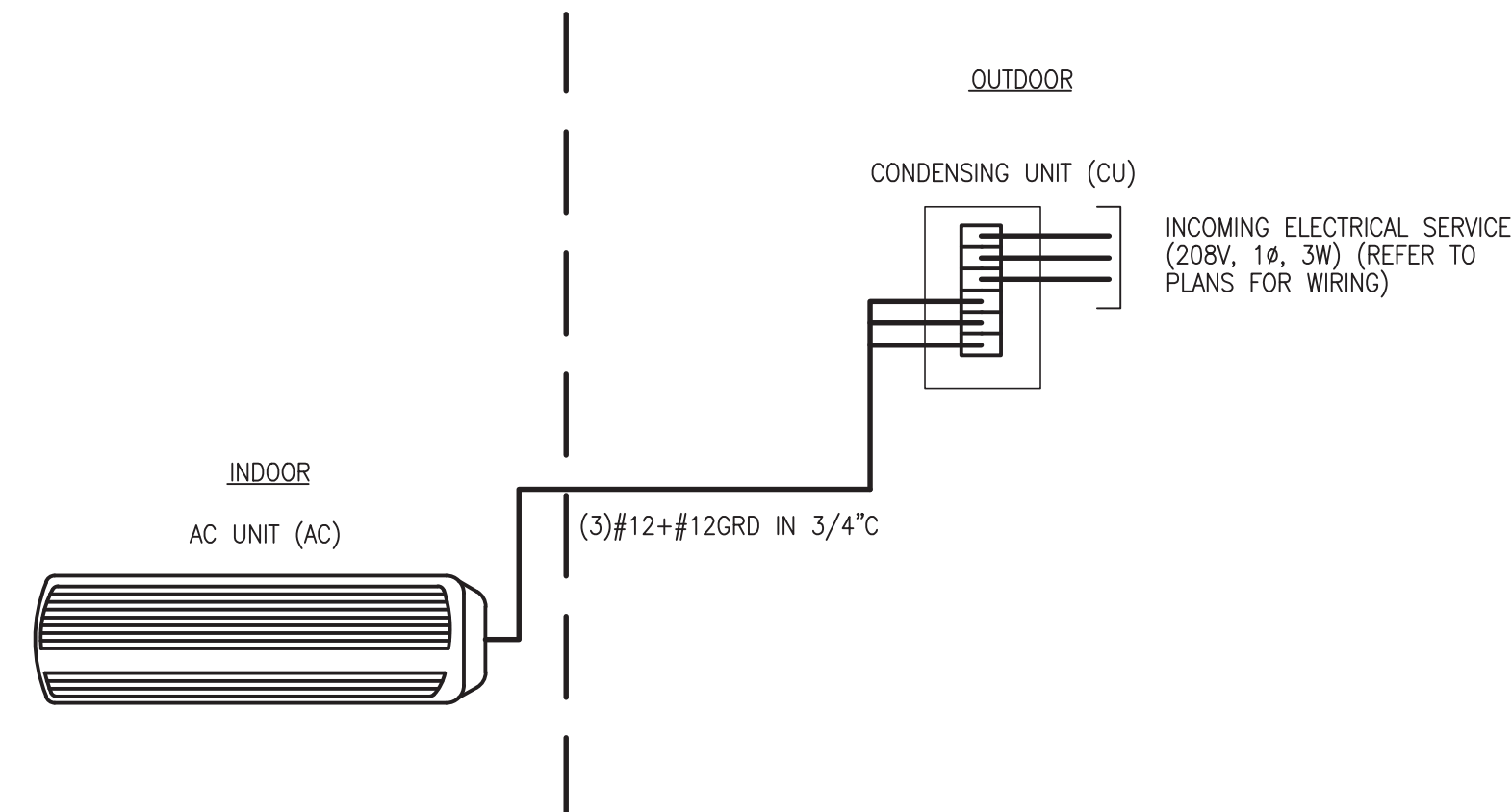


- NOTES:
- CONDUIT SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE ANNULAR SPACE BETWEEN CONDUIT AND WALL OPENING SHALL BE 0" TO A MAXIMUM OF 1"
 - HILTI FS-ONE MAX FIRESTOP PUTTY OR APPROVED EQUAL, MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT POINT CONTACT LOCATION BETWEEN PENETRANT AND WALL, A 1/4" CROWN OF FILL MATERIAL SHALL BE APPLIED AT THE CONDUIT/WALL INTERFACE ON BOTH SIDES OF THE ASSEMBLY. LAPPING 1/4" ON THE CONDUIT AND 1/4" BEYOND THE PERIPHERY OF THE OPENING.
 - ASSEMBLY SHALL BE INSTALLED TO COMPLY WITH UL FIRESTOP ASSEMBY WL1175.

2 TYPICAL CONDUIT GYPSUM FIRE RATED WALL PENETRATION DETAIL
NOT TO SCALE



3 OCCUPANCY SENSOR WIRING DIAGRAM
NOT TO SCALE



- NOTES:
- PROVIDE LOCAL MANUAL MOTOR STARTER WITH THERMAL OVERLOAD PROTECTION AT INDOOR UNIT.
 - REFER TO FLOOR PLANS AND MECHANICAL DRAWINGS FOR LOCATION OF EQUIPMENT.
 - ALL WIRING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - RUN AN ADDITIONAL 3/4" FROM CONDENSING UNIT TO AC UNIT FOR CONTROL WIRING.

4 SPLIT SYSTEM TYPE HVAC UNIT DETAIL
NOT TO SCALE

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: VH
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Drawing Title:
**ELECTRICAL
DETAILS**

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Revisions:



Drawing Number:

E301

ELECTRICAL SPECIFICATIONS (CONT'D)

- 4) AMBIENT LIGHT LEVEL SENSOR: ADJUSTABLE FOR SETTING A LEVEL OF AMBIENT ILLUMINATION ABOVE WHICH THE SENSOR WILL NOT TURN THE LIGHTS ON.
- E. INFRARED SENSORS: DETECTS OCCUPANCY BY A COMBINATION OF HEAT AND MOVEMENT IN ZONE COVERAGE.
- F. ULTRASONIC SENSORS: EMITS A BEAM OF ULTRASONIC ENERGY AND DETECTS OCCUPANCY BY A SENSING A CHANGE IN PATTERN OF REFLECTED ULTRASONIC ENERGY.
- G. DUAL TECHNOLOGY SENSORS: USES A COMBINATION OF INFRARED AND ULTRASONIC DETECTION METHODS TO DISTINGUISH BETWEEN OCCUPIED AND UNOCCUPIED CONDITIONS FOR THE AREA COVERED.
- H. ALL OCCUPANCY SENSORS SHALL BE SET AT FULL SENSITIVITY AND MAXIMUM FOOT CANDLES. COVERAGE SHALL REMAIN CONSTANT AFTER SENSITIVITY CONTROL HAS BEEN SET. SENSOR TIME DELAY SHALL BE SET.
- I. FOR ADDITIONAL INFORMATION, INCLUDING MOUNTING REQUIREMENTS AND WIRING DIAGRAMS, REFER TO MANUFACTURER'S TECHNICAL LITERATURE AND DETAILS ON DRAWINGS.
- J. SENSORS TO BE PROVIDED WITH MASKING TAPE FOR INFRARED COMPONENTS TO PREVENT FALSE TRIPPING OUTSIDE THE COVERAGE AREA.
- K. BEFORE TENANT MOVE-IN DATE AND TURN OVER OF THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH SENSOR TECHNICAL REPRESENTATIVE TO FIELD ADJUST SENSOR SENSITIVITY AND LOCATION TO ENCOMPASS ENTIRE ROOM OR AREA WITHOUT NUISANCE TRIPPING FROM ADJACENT AREAS.
- L. OCCUPANCY SENSORS SHALL DERIVE POWER FROM LIGHTING CIRCUIT SERVING LIGHT FIXTURES IT CONTROLS.
10. SELF-POWERED EXIT SIGNS:
- A. FURNISH AND INSTALL SELF-POWERED EXIT SIGNS COMPLETE WITH INTEGRAL BATTERY/CHARGER CAPABLE OF OPERATING THE SIGN FOR 90 MINUTES IN THE EVENT OF A POWER FAILURE.
- B. UNIT TO HAVE SEALED NICKEL CADMIUM BATTERY, LED ILLUMINATORS, TEST BUTTON, AND INDICATING LIGHT.
- C. BATTERY/CHARGER PACK SHALL BE MOUNTED ABOVE THE SIGN. CEILING MOUNTED SIGNS SHALL BE ARRANGED SO THAT THE PACK IS RECESSED ABOVE THE CEILING. WALL MOUNTED SIGNS SHALL HAVE CONCEALED BATTERY PACKS.
- D. EXIT SIGNS SHALL MATCH BUILDING STANDARD OR BE MANUFACTURED BY DUAL-LITE, ATLITE, LIGHT ALARMS, OR APPROVED EQUAL.
11. CIRCUIT BREAKERS AND DISCONNECTS:
- A. CIRCUIT BREAKERS
- 1) ANY CIRCUIT BREAKER ADDED IN TO ANY EXISTING PANELBOARD MUST BE UL LISTED AND MANUFACTURER APPROVED FOR USE IN THAT PANELBOARD.
- 2) NO TANDEM OR TWIN CIRCUIT BREAKERS DEVICES SHALL BE USED.
- B. MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO MORE THAN ONE DEVICE OR EQUIPMENT SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES. COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION THE MEANS REQUIRED TO MEET NEC SECTION 210.4(B).
- C. DISCONNECTS
- 1) DISCONNECTS SHALL BE GE SPEC SETTER HEAVY DUTY UNLESS OTHERWISE NOTED OR REQUIRED.
- 2) NO PULLER TYPE DISCONNECTS ARE TO BE USED.
- D. OUTDOOR DISCONNECT SWITCHES SHALL BE SIMILAR TO INDOOR, EXCEPT LISTED FOR OUTDOOR APPLICATIONS (NEMA 3R OR 4, AS REQUIRED).
12. MULTI-OUTLET SYSTEMS:
- N. MULTI-OUTLET SYSTEM SHALL BE SURFACE MOUNTED AND ALL STEEL WITH DIVIDER TO SEPARATE POWER AND TELE DATA WIRES AND CABLES. SYSTEM SHALL BE COMPLETE WITH ALL FITTINGS REQUIRED FOR A COMPLETE INSTALLATION.
- O. MULTI-OUTLET SYSTEM SHALL BE SURFACE MOUNTED WITH SNAP-ON COVER AND SHALL CONTAIN BRACKETS FOR MOUNTING GROUNDED TYPE WIRING DEVICES AS INDICATED AND SPACED ON PLANS. ALL BRANCH CIRCUIT WIRING SHALL BE RUN WITHIN THE RACEWAY. PROVIDE DEVICE COVER PLATES HAVING FINISH TO MATCH THAT OF RACEWAY AND LABEL EACH OUTLET WITH EQUIPMENT DESIGNATION, PANEL, AND CIRCUIT ASSIGNED.
13. TELEPHONE AND DATA SYSTEM:
- A. DEFINITIONS
- 1) INTERNAL STRUCTURED CABLING – IS DEFINED AS INTRA-BUILDING DISTRIBUTION OF CABLE MEDIA, SUCH AS BOTH FIBER AND COPPER STATION CABLE, STATION JACK HARDWARE, BUILDING DISTRIBUTION FRAMES (BDF), INTRA BUILDING DISTRIBUTION FRAME (IDF) TERMINALS, SLEEVES, CONDUIT, RACEWAYS, DISTRIBUTION FRAME HARDWARE, ETC. ALL OTHER PHYSICAL PLANT SUCH AS GROUNDING, POWER, CONDUIT, AND RACEWAY NOT CONSIDERED OUTSIDE PLANT (OSP) ARE PART OF THE ISP.
- 2) BDF – BUILDING DISTRIBUTION FRAME – PRIMARY TELECOMMUNICATIONS CLOSET FOR A BUILDING OR FUNCTIONALLY-GROUPED AREA OF A BUILDING.
- 3) IDF – INTRA-BUILDING DISTRIBUTION FRAME – SUB-CLOSET FOR INSTALLATION OF ELECTRONIC EQUIPMENT AND CABLE TERMINATION WHEN, AND ONLY WHEN, THE DISTANCE BETWEEN ANY TELECOMMUNICATIONS OUTLET AND THE BDF EXCEEDS 290 CABLE FT.
- 4) VOICE CABLE – CABLING WHICH CARRIES TELECOMMUNICATIONS SYSTEM SIGNALS, EITHER INTEGRATED VOICE/DATA OR VOICE ONLY SIGNALS.
- 5) DATA CABLE – CABLING WHICH CARRIES ONLY DATA COMMUNICATIONS SIGNALS.
- 6) VIDEO CABLE – CABLING WHICH CARRIES ONLY VIDEO OR TV COMMUNICATIONS SIGNALS.
- 7) FIBER "CABLE" – FIBER OPTIC CABLING CARRYING HIGH SPEED DATA SIGNALS.
- 8) NH – NORWALK HOSPITAL
- B. CODES AND STANDARDS
- 1) ALL WORK SHALL MEET ALL APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO:
- a) LOCAL FIRE PROTECTIVE CODES
- b) BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL (BICS) STANDARDS
- c) NATIONAL ELECTRICAL MANUFACTURERS ASSOC. (NEMA) STANDARDS
- d) ELECTRONICS INDUSTRY ASSOC. /TELECOM. INDUSTRY ASSOC. (EIA/TIA)
- e) NORWALK HOSPITAL REQUIREMENTS.
- C. COMMUNICATIONS CABLING
- 1) THE FOLLOWING ARE APPROVED CABLE MANUFACTURERS:
- a) BER-TEK
- b) MOHAWK
- c) COMMSCOPE
- d) SUPERIOR-ESSEX
- 2) FOR ALL HOSPITAL APPLICATIONS STANDARD IS CAT6A SHIELDED, UNLESS OTHERWISE SPECIFIED.
- 3) THE PATCH PANELS AND JACKS ARE TO BE EITHER SIEMONS OR ORTRONICS. SIEMONS Z-MAX OR ORTRONICS TRACJACK. THIS IS PRIMARILY DRIVEN BY AVAILABILITY. VENDOR IS TO CARRY THE 25 YEAR WARRANTY END TO END.
- 4) PROVIDE CABLE TEST REPORT ELECTRONICALLY AT THE COMPLETION OF THE JOB.
- 5) CABLE SPECIFICATIONS
- a) COORDINATION WITH ITG IS REQUIRED PRIOR TO ALL PROJECTS TO DETERMINE WHAT TYPE CABLING IS NECESSARY IN DIFFERENT PARTS OF THE BUILDINGS AND WHERE IT IS TO BE TERMINATED. THIS INCLUDES BUT IS NOT LIMITED TO.
- CAT 6A VS CAT 6
- LEGACY COAX FOR TV VS CAT 6A
- LEGACY PHONE BOARDS VS VOIP
- b) UNLESS OTHERWISE NOTED OR APPROVED THE FOLLOWING CABLE IS TO BE USED.
- CAT 6A ESSEX SUPERIOR 6F-272-2B
- CAT 6A ESSEX SUPERIOR 6A-272-2B
- CAT 6 BELDEN 2413 PLENUM RATED GREEN
- c) UNLESS OTHERWISE NOTED OR APPROVED THE FOLLOWING PARTS FROM THE SIEMON COMPANY ARE TO BE USED TO TERMINATE THE ABOVE LISTED CABLES.
- CAT 6A
- JACKS 7-MAX Z6A-20 (UNSHIELDED) Z6A-S20 (SHIELDED)
- PLATES MX-FP-S-02-20 (1 GANG, 2 DEVICES. ADJUST AS NECESSARY)
- WALL PHONES MX-WP-Z6A-SS (UNSHIELDED) MX-WP-Z6AS-SS (SHIELDED)
- CAT 6 (FOR EXISTING WIRES TO BE RE-USED)
- CT-F-C5-20
- CT-F-C5-C5-20
- PHONE (LEGACY PHONE LINES TO BE RE-USED IF ALLOWABLE)
- CT-F-C5-20
- CT-F-C5-C5-20
- 2) CABLE COMPONENT SPECIFICATIONS
- a) 4 PAIR F/UTP CABLE
- FOUR (4) TWISTED PAIRS OF SOLID, 23 AWG, COPPER CONDUCTORS. EACH CONDUCTOR INDIVIDUALLY INSULATED.
- MINIMUM MECHANICAL AND ELECTRICAL CHARACTERISTICS: EQUAL TO OR BETTER THAN INDIVIDUAL CHARACTERISTICS ESTABLISHED IN EIA/TIA TSB-36 FOR CATEGORY 6 CABLE.
- MANUFACTURER: SUPERIOR ESSEX
- PART NO.: 6F-272-XB
- b) CATEGORY 6A SHIELDED STRANDED (S/FTP) MODULAR CORD
- MINIMUM MECHANICAL AND ELECTRICAL CHARACTERISTICS: EQUAL TO OR BETTER THAN INDIVIDUAL CHARACTERISTICS ESTABLISHED IN EIA/TIA TSB-36 AND EIA/TIA 568A FOR CATEGORY 6A CABLES.
- MANUFACTURER: SIEMON
- PART NO.: ZM6A-S(XX)-XX
- c) 8-PIN MODULAR JACKS
- CATEGORY 6A SHIELDED MODULE HYBRID (FLAT/ANGLED) MOUNTED FEMALE JACKS CAPABLE OF TERMINATING BOTH SOLID AND STRANDED CONDUCTORS. JACKS MOUNT INTO A MOLDED PLASTIC FACEPLATE.
- MINIMUM MECHANICAL AND ELECTRICAL CHARACTERISTICS: EQUAL TO OR BETTER THAN INDIVIDUAL CHARACTERISTICS ESTABLISHED IN EIA/TIA 568A AND TSB-40A CATEGORY 6, ISO 8877 AND BELL PUB 47102 FOR TERMINATION AND MODULAR CONNECTING HARDWARE.
- MANUFACTURER: SIEMON
- PART NO.: Z6A-S(XX)
- d) FACEPLATES: ALL FACEPLATES SHALL BE IVORY. COORDINATE COLOR WITH ARCHITECT PRIOR TO PURCHASE.
- ONE POSITION FACEPLATE:
- MANUFACTURER: SIEMON
- PART NO.: MX-FP-S-01-(XX)
- TWO POSITION FACEPLATE:
- MANUFACTURER: SIEMON
- PART NO.: MX-FP-S-02-(XX)
- THREE POSITION FACEPLATE:
- MANUFACTURER: SIEMON
- PART NO.: MX-FP-S-03-(XX)
- FOUR POSITION FACEPLATE:
- MANUFACTURER: SIEMON
- PART NO.: MX-FP-S-04-(XX)
- SIX POSITION FACEPLATE:
- MANUFACTURER: SIEMON
- PART NO.: MX-FP-S-06-(XX)
- TV OUTLET: ACCOMMODATE ONE FLUSH MOUNTED CONNECTOR FOR SINGLE COAXIAL OUTLET. ATTACHES TO STANDARD SINGLE GANG FLUSH-MOUNTED PLASTIC RING, OR NEMA BOX, UON.
- MANUFACTURER: SIEMON
- PART NO.: 10GMX-FPS02-(XX) OR APPROVED EQUAL
- e) PATCH PANELS / CABLE MANAGEMENT HARDWARE
- 48 PORT MODULAR PATCH PANEL FOR 6A SHIELDED RACK MOUNTED PATCHING, WITH MOUNTED CLIPS, LABELS, AND HARDWARE.
- MANUFACTURER: SIEMON
- PART NO.: Z6AS-PNL(X)-U48K
- f) FIBER OPTICS CABLE
- INTERLOCKED ARMOR FIBER OPTIC CABLES – 6 FIBER COUNT
- MANUFACTURER: SUPERIOR ESSEX
- PART NO.: L40063401
- INTERLOCKED ARMOR FIBER OPTIC CABLES – 12 FIBER COUNT
- MANUFACTURER: SUPERIOR ESSEX
- PART NO.: L4012B401
- 3) CABLE INSTALLATION
- a) ALL DATA AND VOICE CABLE RUNS SHALL CONSIST OF CONTINUOUS, UNBROKEN, UN-SPLICED CABLES OF MAXIMUM 290 FT. LENGTH BETWEEN BDF/IDF AND OUTLET TERMINATIONS. DUSTY-CHANNING IS NOT PERMITTED.
- b) TELECOM ROOMS SHALL BE A MINIMUM OF 100 SQUARE FEET IN SIZE, WITH A MINIMUM OF ONE TELECOM ROOM ON EACH FLOOR, WHERE ANY STRUCTURED CABLING STATION CABLE RUN'S TOTAL LENGTH, INCLUDING COMING DOWN WALLS AND SERVICE LOOPS, EXCEEDS 90 METERS ON A PARTICULAR FLOOR, AN ADDITIONAL TELECOM ROOM SHALL BE ESTABLISHED IN THAT AREA OF THE BUILDING, IN ORDER TO REDUCE THE LENGTHS OF THOSE LONG CABLE RUNS.
- c) CABLE SHALL NOT BE BENT IN RADI LESS THAN 1 INCH OR THAT SPECIFIED IN INSTALLATION STANDARDS FOR THE CATEGORY RATING.
- d) CABLE JACKETS SHALL BE PROTECTED DURING INSTALLATION, AND INSTALLED IN SUCH A MANNER, TO AVOID NICKS, ABRASIONS, BURNING, KINKS AND SCUFFING.
- e) RECOMMENDED CLEARANCE FROM ELECTRICAL CABLES AND SOURCES OF ELECTROMAGNETIC INTERFERENCE.

- f) CABLE SHALL NOT BE RUN WITHIN CLOSE PROXIMITY TO ELECTRICAL WIRING, TRANSFORMERS, ELECTRIC MOTORS, AND FLUORESCENT LIGHTING. THE FOLLOWING SEPARATIONS ARE REQUIRED FOR VOICE/DATA CABLE RUNS: UNSHIELDED POWER LINES OR ELECTRICAL EQUIPMENT IN PROXIMITY TO OPEN OR NON-METAL PATHWAYS: <2KVA 5 INCHES; 2-SKVA 12 INCHES; >SKVA –24 INCHES OR TO MEET STATE OF CONNECTICUT CODE. POWER LINES ENCLOSED IN A GROUNDED METAL CONDUIT (OR EQUIVALENT SHIELDING) IN PROXIMITY TO GROUNDED METAL: <2KVA 2.5 INCHES; 2-SKVA 6 INCHES; >SKVA 12 INCHES. NEVER TIE TELECOMMUNICATIONS CABLES TO ELECTRICAL CONDUIT, TRANSFORMERS AND ELECTRIC MOTORS: 40 INCHES. FLUORESCENT LIGHTING: 12 INCHES.
- g) WHEN ALLOWED BY CABLE STANDARD, CABLE WILL HAVE A SERVICE LOOP LEFT IN THE BDF/IDF AND AT THE OUTLET END TO ALLOW FOR MOVING OR RE-TERMINATION. SERVICE LOOPS MUST CONFORM TO SPECIFICATIONS TO INCLUDE TOTAL LENGTH AND BEND RADI. SERVICE LOOP WILL BE 10 FEET AT THE STATION (DEVICE) END AND IF POSSIBLE 10 FEET AT THE DISTRIBUTION CLOSET END.
- h) IF BUILDING IS RENOVATED OR REWIRED, ABANDONED CABLE SHALL BE REMOVED FROM THE BUILDING IN ACCORDANCE WITH NATIONAL ELECTRIC CODE, ONCE IT IS NO LONGER IN SERVICE. UNUSED, UN-TERMINATED CABLE IS ONLY ALLOWED IF THERE IS A PLANNED PURPOSE FOR THE CABLE.
- 4) CABLE PATH
- a) WHEREVER POSSIBLE CABLE SHALL BE GROUPED TOGETHER IN PATHWAYS.
- b) CABLE PATHWAYS SHALL BE RUN DOWN MAIN CORRIDORS WHENEVER POSSIBLE. THIS WILL ALLOW FOR FUTURE PULLING OF ADDITIONAL CABLE.
- c) ALL NEW CABLE PATHWAYS USING LADDERS, TRAYS, J-HOOKS, OR CONDUITS SHALL BE DESIGNED AND INSTALLED FOR 25% FREE CAPACITY.
- d) WHENEVER CONDUITS ARE USED, A 200LB-TEST (MINIMUM) PULL CORD WILL BE INSTALLED IN THE CONDUIT ALONG WITH THE CABLE.
- e) THE MINIMUM SIZE CONDUIT IS 1" DIAMETER.
- f) RIGID GALVANIZED STEEL CONDUIT MUST BE USED IN CONCRETE EMBEDDED INSTALLATIONS (DOES NOT APPLY TO SIMPLE PENETRATION OF A CONCRETE BARRIER)
- g) CONDUITS AND CABLES PENETRATING FIRE WALLS WILL BE FIRE-STOPPED IN ACCORDANCE WITH APPLICABLE CODES.
- h) INTUMESCENT NON-HARDENING FIRESTOP PUTTY OR FIRESTOP PLUG SHALL BE USED WITH A MINERAL WOOL BACKING TO FILL THE INTERIOR AREA OF THE SLEEVE PENETRATING THE WALL OR FLOOR.
- i) INTUMESCENT FIRESTOP CAULK SEALANT SHALL BE USED TO FILL ANY VOID AROUND THE OUTSIDE PERIMETER OF THE SLEEVE PENETRATING WALLS OR FLOORS
- j) ENDS OF ALL CONDUITS WILL BE FITTED WITH PLASTIC BUSHINGS TO PROTECT EMERGING CABLES FROM ABRASION DURING INSTALLATION AND USE.
- 5) CABLE SUPPORT
- a) PATHWAYS WILL BE CONSTRUCTED FROM APPROPRIATE CABLE SUPPORTS SUCH AS J-HOOKS, CABLE LADDERS, TRAYS/RACEWAYS, CONDUITS, ETC. SUCH SUPPORTS WILL BE ATTACHED INDEPENDENTLY TO THE BUILDING STRUCTURE AND SHALL NOT BE ATTACHED TO THE SUSPENDED CEILING GRID SUPPORTS. THE ADDED WEIGHT TO THE CEILING GRID SYSTEM CAN CAUSE DISTORTION IN THE GRID SYSTEM.
- b) CABLE LADDERS OR TRAYS/RACEWAYS SHALL BE USED FOR MAIN RUNS WHENEVER PRACTICAL.
- c) THE MINIMUM CABLE SUPPORT SHALL BE J-HOOKS. THESE ARE QUITE ACCEPTABLE FOR MOST INDIVIDUAL CABLES ENTERING ROOMS.
- d) CABLE SUPPORT SHALL BE AT A MAXIMUM OF 5 FT. INTERVALS.
- e) CABLE TIES SHALL NOT BE CINCHED SO TIGHTLY THAT IT DEFORMS THE CABLE JACKET.
- f) CABLE TIES SHALL BE TRIMMED OF ANY EXCESS LENGTH. VELCRO CABLE TIES MAY BE USED IN NON-WEIGHT-BEARING LOCATIONS.
- 6) CABLE TERMINATION SPECIFICATIONS
- a) ALL TERMINATIONS FOR VOICE AND DATA CABLING WILL BE IN ACCORDANCE WITH THE CURRENT TIA/EIA STANDARDS.
- b) ALL VOICE AND DATA OUTLETS WILL USE RJ-45 INSERTS WITH APPROPRIATE FACEPLATES.
- c) ALL VOICE AND DATA OUTLETS WILL BE TERMINATED UTILIZING THE 568A WIRING CONFIGURATION.
- d) ALL VOICE DATA RACKS WILL UTILIZE 1U WIRE MANAGEMENT.
- e) TERMINATION OF VOICE/DATA CABLES IN THE BDF/IDF SHALL BE IN CAT 6 E APPROVED PATCH BAYS/PANELS. THESE PATCH BAYS SHALL BE RACK MOUNTED.
- f) FIBER CABLE SHALL BE TERMINATED AND TESTED, TO MEET MANUFACTURER'S SPECIFICATIONS FOR BANDWIDTH.
- 7) WIRELESS ACCESS POINT CABLE INSTALLATION
- a) A SUFFICIENTLY SIZED SERVICE LOOP SHALL BE PLACED IN THE CEILING TO ALLOW FOR PROPER PLACEMENT AND MOVEMENT OF WAP.
- b) CABLE WILL BE TERMINATED IN AN UN-MOUNTED SURFACE MOUNT CAT 6 RECEPTACLE.
- 8) CABLE LABELING
- a) ALL LABELING WILL BE WITH MACHINE LABELERS AS TO BE NEAT AND LEGIBLE
- b) ALL CABLE OUTLETS AND CLOSET TERMINATIONS WILL BE APPROPRIATELY LABELED TO MATCH THE CABLE USING THE LABELING SCHEME SPECIFIED BY NH TELECOMMUNICATIONS DEPARTMENT.
- c) ALL PATCH PANELS, FACEPLATES, OR OTHER TERMINATIONS WILL BE ELECTRONICALLY LABELED WITH THE FULL AND COMPLETE LOCATION IDENTIFIER.
- d) ALL CABLES THEMSELVES WILL BE LABELED WITHIN 12 INCHES OF EACH END OF TERMINATION POINTS.
- e) FACEPLATE LAYOUT : BLUE (VOICE) MODULE TOP LEFT , BLANK MODULE TOP RIGHT, GREEN MODULES (DATA) BOTTOM LEFT AND BOTTOM RIGHT.
- 9) COMMUNICATION IDENTIFICATION
- a) USING THE SIEMON COMPANY ICONS, PHONES SHALL BE RED, NETWORK BLUE, AND "OTHER" IVORY.
- b) PHONES SHALL TONED OUT AND LABELED ACCORDING TO WHERE THAT ARE CUT DOWN IN THE CLOSET, INCLUDING PAIR COLOR IF APPLICABLE.
- c) DATA SHALL BE TESTED AFTER TERMINATION AND LABELED USING; THE CLOSET, PATCH PANEL AND PORT NUMBER.
- EXAMPLE T02A-PP9-23
14. SECURITY SYSTEM:
- A. CONTRACTOR SHALL FURNISH OUTLET BOXES AND EMPTY CONDUITS REQUIRED FOR INSTALLATION OF SECURITY SYSTEM HARDWARE AND CABLING.
- B. CONTRACTOR SHALL REFER TO SECURITY DRAWINGS OR DETAILS ON THESE DRAWINGS FOR ALL REQUIREMENTS FOR SECURITY HARDWARE AND CABLING.

15. FIRE AND SMOKE SEALING:

- A. THE FIRE AND OR SMOKE RATING ON ANY WALL MUST BE MAINTAINED BOTH DURING CONSTRUCTION AND UPON COMPLETION.
- B. ANY ALTERATIONS TO A RATED WALL MUST BE RECTIFIED WITH A UL RATED ASSEMBLY.
- C. INSTALLERS MUST BE ABLE TO PROVIDE THE UL SYSTEM NUMBER FOR EACH ASSEMBLY UPON REQUEST.
- D. ALL FIRESTOP SYSTEMS PRODUCTS USED IN THE UL RATED ASSEMBLIES MUST BE HILTI.
- E. ALL SLEEVES (NEW AND EXISTING) FOR CABLING AND LOW VOLTAGE WIRES SHALL NOT BE FILLED MORE THAN 40%.
- F. ALL STEEL SLEEVES THAT REQUIRE A FIRE OR SMOKE SEAL SHALL BE SEALED WITH A PROPERLY SIZED AND INSTALLED HILTI CFS-PL FIRESTOP PLUG.
- G. ALL NEW SLEEVES INSTALLED IN CLOSET WALLS, ABOVE FIRE DOORS, IN CORRIDORS AND IN AREAS THAT WILL REQUIRE MULTIPLE USE AND OR ACCESS OF THE SLEEVE SHALL BE HILTI CP 653 SPEED SLEEVES IN 4" OR 2".
- H. WHERE APPLICABLE TO THE UL RATED ASSEMBLY, THE FIRE CAULK SHALL BE HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT.

PART 3– EXECUTION

1. GENERAL:

- A. PERFORM THE WORK AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCE WITH BUILDING'S NORMAL OPERATION. NOTIFY BUILDING MANAGEMENT REPRESENTATIVES IN ADVANCE EACH TIME A SERVICE OUTAGE OR INTERRUPTION WILL BE REQUIRED. SCHEDULE SUCH SERVICE OUTAGE OR INTERRUPTION ONLY AFTER HAVING RECEIVING APPROVAL OF DATE, HOUR, AND TIME INTERVAL REQUIRED THEREOF. SCHEDULE OF WORK AS DIRECTED SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.
- B. COORDINATE WITH THE BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS OR A MINIMUM OF FIVE (5) DAYS PRIOR TO ANY WORK, WHICHEVER IS MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME SO AS TO NOT DISTURB EXISTING TENANTS ON OTHER FLOORS.
- C. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS. SEALANT SHALL BE RATED FOR 3 HOURS. TELECOMMUNICATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FIRE STOPPING IN 'IT' CONDUITS/SLEEVES/PENETRATIONS AFTER 'IT' WIRES ARE PULLED.
- D. PROVIDE 277/480V DANGER LABELING AT ALL EQUIPMENT AND JUNCTION/PULL BOXES PER CODE.
- E. MAINTAIN GROUND CONTINUITY THROUGHOUT ALL SYSTEMS.
- F. MAINTAIN CONTINUITY AND PROTECT ALL EXISTING CIRCUITS TO REMAIN SERVING EQUIPMENT WITHIN THE BASE BUILDING CORE AREAS OR OTHER TENANT AREAS AFFECTED BY THE ALTERATION WORK. WHENEVER IT IS REQUIRED THAT AN EXISTING CIRCUIT BE MODIFIED, REVISED, DISCONNECTED, OR REMOVED IT SHALL BE UNDERSTOOD THAT THE CIRCUIT SHALL BE RECONNECTED AND SERVICE RE-ESTABLISHED IN THE REMAINING PORTION OF THE CIRCUIT AFFECTED BY THE ALTERATION.
- G. PRIOR TO ANY CHASING, CHOPPING, OR CORE DRILLING BEING PERFORMED, THE CONTRACTOR SHALL FIELD INVESTIGATE CONDITIONS AND COORDINATE WITH ALL APPROPRIATE TRADES TO ENSURE THAT WORK WILL BE IN HARMONY WITH OTHER WORK AND NOT AFFECT ANY EXISTING BUILDING SYSTEMS. X-RAY SLABS IF REQUIRED. THIS WORK MUST BE APPROVED BY BUILDING MANAGEMENT PRIOR TO PROCEEDING. ALL CORING/CHASING SHALL BE DONE ON OVERTIME.
- H. FOR TEMPORARY POWER, FURNISH AND INSTALL WIRING FOR ADEQUATE LIGHT AND SMALL TOOLS POWER FOR THE PROJECT. THIS SHALL INCLUDE STRINGERS, LAMPS, OUTLETS, BREAKERS, AND FUSING, AS IT IS NECESSARY. ALL TEMPORARY WIRING SHALL BE REMOVED FROM SPACE AT COMPLETION OF PROJECT.
- I. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. CONNECTIONS TO EXISTING STAIRWELL AND EXIT LIGHT SYSTEMS ARE NOT PERMITTED. TEMPORARY LIGHT STREAMERS, WHERE SPLICED, ARE TO HAVE COMPRESSION FITTINGS OR BE SOLDERED.
- J. THE CONTRACTOR SHALL CUT BACK TO THE FLOOR, WALL OR CEILING, REMOVE WIRING AND PLUG BOTH ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY THIS ALTERATION. EXPOSED CONDUITS, WIRWAYS, OUTLET BOXES, PULL BOXES, HANGERS, ETC. MADE OBSOLETE BY THE ALTERATION WORK SHALL BE REMOVED, UNLESS OTHERWISE NOTED.
- K. IT IS POSSIBLE THAT THERE WILL BE CERTAIN REMOVALS AND RELOCATIONS OF THE EXISTING ELECTRICAL INSTALLATION NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE WORK. THESE CHANGES CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS, BUT MUST BE CONSIDERED BY THE CONTRACTOR WHILE REVIEWING THE EXISTING CONDITIONS AT THE SITE AND PREPARING THE PROPOSAL.
- L. ALL CONSTRUCTION AND DEMOLITION OPERATION ELECTRICAL WIRING AND EQUIPMENT FOR LIGHT, HEAT, OR POWER PURPOSES SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF NFPA 70, NATIONAL ELECTRICAL CODE.
- M. ELECTRICAL DEVICES SHALL BE MAINTAINED IN A SAFE CONDITION.
- N. EXTENSION CORDS SHALL BE MAINTAINED FREE FROM DAMAGE.
- O. DAMAGED EQUIPMENT AND CORDS SHALL BE REMOVED FROM SERVICE UNTIL RENDERED SAFE.
- P. DURING CONSTRUCTION OR DEMOLITION ACTIVITIES, ALL TEMPORARY AND PERMANENT SERVICE EQUIPMENT DISCONNECTING MEANS SHALL BE READILY ACCESSIBLE TO EMERGENCY SERVICE PERSONNEL AND SHALL BE LABELED AS TO WHICH EQUIPMENT IS CONTROLLED BY SUCH DISCONNECTS.
- Q. THE ELECTRICAL CONTRACTOR SHALL ESTABLISH SAFEGUARDING PLANS RELATED TO THE INSTALLATION OF SPECIFIC EQUIPMENT.

2. DEMOLITION:

- A. ALL DEMOLITION WORK MUST BE DONE WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES.
- B. TEMPORARY SHUTDOWNS OF EXISTING SERVICES MUST BE DONE AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH APPROVAL.
- C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES WITH TEMPORARY CONNECTIONS OF POWER AND OR SYSTEMS IF NECESSARY.
- D. UNLESS REMOVED IN THEIR ENTIRETY, PROPERLY LABEL ALL POWER CIRCUITS, PHONE LINES, DATA DROPS AND OTHER ELECTRICAL SYSTEM ELEMENTS FOR FUTURE RE-USE. POWER SHOULD BE LABELED BY VOLTAGE, PANEL AND CIRCUIT NUMBER. PHONES AND DATA SHOULD BE LABELED BY CLOSET AND PORT. ALL OTHER SYSTEMS SHOULD BE LABELED BY SOURCE AND USAGE.
- E. ALL OUTDATE OR UNUSED ELECTRICAL SYSTEM COMPONENTS MUST BE REMOVED IN THEIR ENTIRETY.
- F. ANY REMAINING ELECTRICAL SYSTEM COMPONENTS WITHIN, OR PASSING THROUGH THE AREA UNDER CONSTRUCTION MUST BE BROUGHT UP TO THE CURRENT CODE STANDARDS.

3. PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.

- B. ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS SHALL BE PERMITTED. CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.

4. EXISTING EQUIPMENT REFURBISHMENT:

- A. WHERE PANELBOARDS, SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, ETC. ARE EXISTING TO BE REUSED THE CONTRACTOR SHALL CLEAN AND REFURBISH THE EQUIPMENT. THIS SHALL INCLUDE TIGHTENING ALL CONNECTIONS, REPLACING DEFECTIVE MECHANISMS, EXERCISING MECHANISMS AND PROVIDING ANY MISCELLANEOUS COMPONENTS SO THE EQUIPMENT IS IN FIRST CLASS WORKING ORDER.
- B. ALL EXISTING LIGHTING FIXTURES TO REMAIN AND RELOCATED LIGHTING FIXTURES IN AREA OF WORK IS TO BE CLEANED AND RELAMPED.

5. PROTECTION:

- A. CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL FINALLY INSPECTED, TESTED, AND ACCEPTED. MATERIALS AND EQUIPMENT SHALL BE CAREFULLY STORED WHICH ARE NOT IMMEDIATELY INSTALLED AFTER DELIVERY TO SITE. CLOSE EXPOSED PARTS OF THE WORK WITH TEMPORARY COVERS OR PLUGS DURING CONSTRUCTION TO PREVENT ENTRY OF MOISTURE OR OBSTRUCTING MATERIALS.
- B. PROTECT THE WORK AND MATERIAL OF OTHERS FROM DAMAGE INSTALLED AS PART OF THIS CONTRACT. RESTORE ANY WORK DAMAGED AND BE RESPONSIBLE FOR ALL CURRENT WORK AND ASSOCIATED COSTS.

- C. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.

6. TEMPORARY WIRING

- A. ALL BRANCH CIRCUITS SHALL ORIGINATE IN AN APPROVED POWER OUTLET OR PANEL BOARD.
- B. CONDUCTORS SHALL BE PERMITTED WITHIN MULTI CONDUCTOR CORD OR CABLE ASSEMBLIES OR AS OPEN CONDUCTORS.
- C. ALL CONDUCTORS SHALL BE PROTECTED BY OVERCURRENT DEVICES RATED FOR THE AMPACITY OF THE CONDUCTORS.
- D. RUNS OF OPEN CONDUCTORS SHALL BE LOCATED WHERE THE CONDUCTORS ARE NOT SUBJECT TO PHYSICAL DAMAGE, AND THE CONDUCTORS SHALL BE FASTENED AT INTERVALS NOT EXCEEDING 10 FEET.
- E. EACH BRANCH CIRCUIT THAT SUPPLIES RECEPTACLES OR FIXED EQUIPMENT SHALL CONTAIN A SEPARATE EQUIPMENT GROUNDING CONDUCTOR WHERE RUN AS AN OPEN CONDUCTOR.

7. TEMPORARY LIGHTING

- A. TEMPORARY LIGHTS SHALL BE EQUIPPED WITH GUARDS TO PREVENT ACCIDENTAL CONTACT WITH THE BULB UNLESS THE CONSTRUCTION OF THE REFLECTOR IS SUCH THAT THE BULB IS DEEPLY RECESSED.
- B. TEMPORARY LIGHTING FIXTURES, SUCH AS QUARTZ, THAT OPERATE AT TEMPERATURES CAPABLE OF IGNITING ORDINARY COMBUSTIBLES SHALL BE FASTENED SECURELY SO THAT THE POSSIBILITY OF THEIR COMING IN CONTACT WITH SUCH MATERIALS IS PRECLUDED.
- C. TEMPORARY LIGHTS SHALL BE EQUIPPED WITH HEAVY-DUTY ELECTRICAL CORDS WITH CONNECTIONS AND INSULATION MAINTAINED IN SAFE CONDITION.
- D. TEMPORARY LIGHTS SHALL NOT BE SUSPENDED BY THEIR ELECTRICAL CORDS UNLESS SUCH CORDS AND LIGHTS HAVE BEEN DESIGNED FOR THAT PURPOSE.
- E. SPLICES SHALL HAVE INSULATION EQUIVALENT TO THAT OF THE CABLE.
- F. TEMPORARY WIRING AND LIGHTS SHALL BE REMOVED IMMEDIATELY UPON THE COMPLETION OF THE CONSTRUCTION OR PURPOSE FOR WHICH THE WIRING AND LIGHTS WERE INSTALLED.
- G. CONSTRUCTION RELATED TEMPORARY LIGHTING SUPPLEMENTED BY PERSONAL LIGHTING SHALL BE PROVIDED AS EMERGENCY LIGHTING FOR EGRESS.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: VH
Scale: AS NOTED	Approved By: TL
Job No: 24 /--	File: nh_irsuite.db

Drawing Title:

ELECTRICAL SPECIFICATIONS
(2 OF 2)

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Revisions:



Drawing Number:

E401

ELECTRICAL SPECIFICATIONS

PART 1 – GENERAL

1. GENERAL REQUIREMENTS:

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
- B. ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIAL WHICH VIOLATES ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
- C. ITEMS AND SERVICES NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS, OR VISE VERSA, OR ITEMS AND SERVICES NECESSARY TO RENDER THE WORK COMPLETE AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST.
- D. ALL CONTRACTORS MUST BE LICENSE IN THE STATE OF CONNECTICUT OR INDENTURED APPRENTICES AND MUST BE ABLE TO PROVIDE COPIES OF THE APPROPRIATE DOCUMENTATION.
- E. ALL CONTRACTORS ARE RESPONSIBLE TO SIGNING IN DAILY WITH THE HOSPITAL AND ARRANGING ALL NECESSARY HOSPITAL PERMITS OR SYSTEM DISABLES.
- F. ALL CONTRACTORS ARE TO PROVIDE THEIR OWN TOOLS INCLUDING LADDERS.
- G. ALL SAFETY LOCKS AND SYSTEM DISABLES MUST BE REMOVED AS SOON AS IT IS SAFE TO DO SO.
- H. ALL CONTRACTORS SHALL HAVE THE NECESSARY MEANS TO ABIDE BY ALL IRCA AND HEALTH AND SAFETY PLANS INCLUDING BUT NOT LIMITED TO MAINTAINING NEGATIVE AIR PRESSURE AND PROPER "TENTING" WHEN IN PATIENT AREAS.
- I. ALL CONTRACTORS MUST COORDINATE WITH THE HOSPITAL FOR PLANNED OUTAGES AND OTHER INCREASED RISK ACTIVITIES SUCH AS CORE DRILLING.
- J. ALL POWER STRIPS MUST BE MEDICAL GRADE IN PATIENT CARE AREAS AND HOSPITAL GRADE IN NON-PATIENT AREAS.
- K. ALL CORD CAPS MUST BE HOSPITAL GRADE.
- L. ALL ALTERATIONS TO ANY PANELBOARD'S CIRCUITRY MUST BE SUBMITTED IN WRITING TO THE HOSPITAL SO THAT THE PANEL SCHEDULES CAN BE UPDATED AND RE-PRINTED.
- M. AT THE COMPLETION OF ANY ELECTRICAL WORK, DETAILED AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE HOSPITAL. THE AS-BUILT RECORD DRAWING MUST REFLECT ALL ADDITIONS AND CHANGES TO THE CURRENT ELECTRICAL SYSTEM, CIRCUITRY DETAILS, HOME RUN JUNCTION BOX LOCATIONS, ELECTRICAL AND LOW VOLTAGE SLEEVE LOCATIONS, FIRE ALARM WIRING DETAILS AND ALL OTHER PERTINENT INFORMATION, THE LOCATION OF ANY SERVICEABLE ELECTRICAL COMPONENT CONCEALED IN A CEILING OR WALL MUST BE INDICATED.
- N. PRIOR TO SUBMISSION OF BID THE CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN.
- O. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO INDICATE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO SUBMITTAL OF BID. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON-SITE INSPECTION SHALL VERIFY EXISTING CONDUIT (SIZES, CLEARANCES, ETC) AND CONDITIONS.
- P. INVESTIGATE EACH SPACE THOROUGHLY TO DETERMINE WHICH EQUIPMENT MUST BE MOVED, WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM THE MANUFACTURER IN SECTIONS IN SIZES SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES. DETERMINE FROM BUILDING OWNER AND/OR TENANT AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
- Q. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED. MAINTAIN HEADROOM AND SPACE CONDITIONS.
- R. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- S. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.
- T. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
- U. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
- V. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- W. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AS REQUIRED.
- X. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
- Y. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- Z. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- AA. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- AB. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
- AC. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.
- AD. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
- AE. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

2. SCOPE OF WORK:

- A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
- B. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- 1) DISCONNECTION AND REMOVAL OF ELECTRICAL EQUIPMENT AS REQUIRED FOR NEW INSTALLATION, INCLUDING ALL CONDUCTORS AND CONDUIT BACK TO THEIR SOURCE.
 - 2) PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.
 - 3) PROVIDING FOR NEW RACEWAYS AND CONDUCTORS FOR LIGHTING AND POWER.
 - 4) CUTTING, CHANNELING, AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.
 - 5) ADDITIONS AND MODIFICATIONS TO EXISTING POWER DISTRIBUTION EQUIPMENT AND RELATED FEEDERS.
 - 6) PROVIDING OF HVAC POWER AND WIRING AND FINAL CONNECTIONS TO HVAC EQUIPMENT.
 - 7) PROVIDING OF ELECTRICAL CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT.
 - 8) GROUNDING OF ALL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC) AND AS SHOWN ON THE DRAWINGS.
 - 9) MAINTAIN CONTINUITY OF EXISTING CIRCUITING TO ADJACENT AREAS NOT AFFECTED BY THE NEW WORK.
 - 10) PROVIDING TELEPHONE/DATA AND SIGNAL CONDUIT, JUNCTION BOXES, PULLBOXES, SLEEVES, WIRING, AND DEVICES.
 - 11) PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, FUSES, DIMMERS, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.
 - 12) PROVIDING TEMPORARY LIGHT AND POWER DURING CONSTRUCTION.
- C. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLEMENTED OR SPECIFIED HEREIN.
- D. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.
- E. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- F. SHOP DRAWINGS:
- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.
 - B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:
 - 1) PROJECT NAME AND LOCATION
 - 2) NAME OF ARCHITECT AND ENGINEER
 - 3) ITEM IDENTIFICATION
 - 4) APPROVAL STAMP OF PRIME CONTRACTOR
 - C. SUBMISSIONS:
 - 1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES. OTHERWISE, HE SHALL SUBMIT THREE COPIES. THE ARCHITECT WILL FORWARD THE ORIGINAL AND ONE COPY (TWO COPIES WHEN NO ORIGINAL IS RECEIVED) TO THE ENGINEER. ALL CATALOG CUTS SHALL BE COMPLETE.
 - 2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS TO THE ARCHITECT. THE ARCHITECT WILL FORWARD ONE PRINT TO THE ENGINEER.
 - 3) SUBMISSIONS MAY BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.
 - D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS AND ASSOCIATED COMPONENTS:
 - 1) CIRCUIT BREAKERS
 - 2) LIGHTING FIXTURES AND LAMPS
 - 3) DISCONNECT SWITCHES AND FUSES
 - 4) WALL SWITCHES
 - 5) WIRING DEVICES
 - 6) TELE/DATA WIRING AND DEVICES

- A. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.
- B. DEFINITIONS:
- 1) "ELECTRICAL CONTRACTOR", "THE CONTRACTOR": THE PARTY OR PARTIES THAT HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.
 - 2) "ARCHITECT", "ENGINEER", "OWNERS REPRESENTATIVE": THE PARTY OR PARTIES RESPONSIBLE, FOR INTERPRETING, ACCEPTING, AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
 - 3) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
 - 4) "INSTALL": TO ERRECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
 - 5) "FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

- 6) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
 - 7) "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.
 - 8) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
 - 9) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
 - 10) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
- C. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING HOURS OF ALL TRADES. COST OF ENERGY WILL BE PAID FOR BY OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.
- D. QUALITY ASSURANCE:
- 1) QUALITY AND GAUGE OF MATERIALS: NEW, BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS AND LISTED BY UNDERWRITERS LABORATORIES, INC., OR OTHER NATIONALLY APPROVED TESTING AGENCY AND BEARING THEIR LABEL. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
 - 2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PART 1 PARAGRAPH 2.D.
 - 3) HEIGHTS OF OUTLETS:
 - a) FROM FINISHED FLOOR TO CENTER LINE OF OUTLETS FOR:
 - RECEPTACLES AND TELEPHONES: 1 FT.-6 IN. (U.O.N.)
 - WALL SWITCHES: 4 FT.-0 IN.
 - WALL FIXTURES: 7 FT.-0 IN.
 - MOTOR CONTROLS: 5 FT.-0 IN.
 - b) EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

PART 2 – PRODUCTS/APPLICATION

1. LOW-VOLTAGE DISTRIBUTION EQUIPMENT:

- A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.
- B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.
2. ELECTRICAL DEVICES, PLATES, AND LABELING:
- A. DIMMERS SHALL BE RATED AT VOLTAGE COMPATIBLE WITH FIXTURE, WATTAGE SIZE AS REQUIRED. WHERE DIMMER SWITCHES ARE LOCATED NEXT TO SINGLE POLE OR VARIABLE SPEED TYPE SWITCHES, THE SINGLE POLE/VARIABLE SPEED SWITCHES SHALL MATCH THE DIMMING SWITCH STYLE. DIMMERS, WHERE GANGED TOGETHER, SHALL BE PROPERLY DERATED BASED ON MANUFACTURERS RECOMMENDATIONS. FINS OF DIMMERS SHALL NOT BE REMOVED IN MULTIGANG INSTALLATIONS. PROVIDE OVER-SIZED JUNCTION BOX FOR MOUNTING OF WALL DIMMERS.
- B. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI-GANG COMMON BRAND NAME RECEPTACLE. DERATE DIMMER SWITCHES PER MANUFACTURER'S REQUIREMENTS WHEN GANGED.
- C. THE FOLLOWING ARE THE STANDARD ELECTRICAL DEVICES TO BE USED FOR NEW INSTALLS UNLESS OTHERWISE NOTED BELOW ALL DEVICES ARE HUBBELL.

- 1) NORMAL POWER DUPLEX = HBL8300I
- 2) NORMAL POWER SINGLE RECEPTACLE = HBL8310I
- 3) NORMAL POWER SINGLE POLE SWITCH = HBL1221I
- 4) NORMAL POWER THREE WAY SWITCH = HBL1223I
- 5) NORMAL POWER FOUR WAY SWITCH = HBL1224I
- 6) NORMAL POWER GFCI = GFR8300HIA
- 7) NORMAL POWER TAMPER PROOF DUPLEX = HBL8300SGIA
- 8) WALL MOUNT OCCUPANCY SWITCH = ATP1277I
- 9) WALL MOUNT OCCUPANCY 3 WAY SWITCH = ATP200I
- 10) CEILING MOUNT OCCUPANCY SENSOR = ATP200C
- 11) POWER PACK FOR CEILING MOUNTED OCCUPANCY SENSOR = CU300A
- 12) EMERGENCY POWER DUPLEX = HBL8300RED
- 13) EMERGENCY POWER SINGLE RECEPTACLE = HBL8310R
- 14) EMERGENCY POWER SINGLE POLE SWITCH = HBL1221C
- 15) EMERGENCY POWER THREE WAY SWITCH = HBL12231C
- 16) EMERGENCY POWER FOUR WAY SWITCH = HBL1224R
- 17) EMERGENCY POWER GFCI = HBL8300HLRA
- 18) EMERGENCY POWER TAMPER PROOF RECEPTACLE = HBL8300SGRA
- 19) KEY OPERATED SWITCHES = HBL1221L
- 20) EMERGENCY BYPASS LIGHTING RELAYS = LVS EMERGENCY POWER CONTROLS
- 21) LOW VOLTAGE LIGHT CONTROL RELAY = CURRELL LC-040
- 22) DIMMERS SHALL BE MATCHED TO THE SPECIFIC BALLAST OR DRIVER TO BE CONTROLLED

- D. UNLESS OTHERWISE NOTED ALL WALL PLATES SHALL BE 420 SATIN STAINLESS STEEL FINISH.
- E. ALL DEVICES MUST BE LABELED AT THE DEVICE ON THE WALL PLATE. THE STANDARD MARKING WILL LIST THE PANEL THEN THE CIRCUIT NUMBER.
- 1) EXAMPLE 15-3-2 CIR #23
- F. IN ADDITION TO BEING TESTED FOR VOLTAGE AND POLARITY, ALL STRAIGHT BLADE DEVICES MUST BE TESTED TO ABOVE MINIMUM TENSION LEVELS FOR HOSPITAL GRADE DEVICES. A RECORD OF TEST RESULTS MUST BE TURNED OVER TO FACILITIES MANAGEMENT.
- G. ALL NEW GFCI RECEPTACLES MUST BE PROPERLY TESTED TO VERIFY ACCEPTABLE TRIP LEVELS. A RECORD OF THE TEST RESULTS MUST BE TURNED OVER TO FACILITIES MANAGEMENT.

3. RACEWAYS:

- A. PROVIDE RACEWAYS ONLY AS HERE-IN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED.
- B. PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS. PROVIDE U-BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB. FOR THROUGH-THE-FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.
- C. SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS ON METAL. BEAM CLAMPS ON FRAMWORK. WOOD SCREWS ON WOOD. AND PAN THROUGH STRAPS IN METAL DECK. NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED. WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPATES.
- D. EXPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUNS). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.
- E. MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS.

- F. EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL WIRE, GALVANIZED OR NYLON ROPE.
- G. PROVIDE RACEWAYS COMPLETE WITH BOXES, FITTINGS, AND ACCESSORIES CONDUIT OR TUBING SIZES REFERRED TO IN SPECIFICATIONS AND ON DRAWINGS ARE NOMINAL DIAMETERS. MINIMUM DIAMETER SHALL BE 3/4 IN.
- H. THE INSTALLATION OF ALL RACEWAYS SHALL BE IN COMPLIANCE WITH THE NEC.
- I. ALL WIRES TO BE RUN IN CONDUIT ONLY. NO HEALTHCARE FACILITY CABLE (HCF) OR METALLIC CABLE (MC) ALLOWED. FIXTURE WHIPS ALLOWED AS REQUIRED.
- J. RIGID METAL CONDUIT SHALL BE USED:
- 1) WHERE EXPOSED ON THE EXTERIOR OF THE BUILDING OR ELSEWHERE ON SITE.
 - 2) WHERE EXPOSED TO A POTENTIAL FOR PHYSICAL DAMAGE INSIDE THE BUILDING.
 - 3) WHERE VOLTAGE IS TO EXCEED 600 VOLTS.
 - 4) WHERE REQUIRED BY THE NEC.

- J. ELECTRICAL METALLIC TUBING SHALL BE USED (WHERE RMC IS NOT REQUIRED):
- 1) FOR ALL BRANCH CIRCUIT AND MOTOR FEEDERS INCLUDING ASSOCIATED CONTROL CIRCUITS.
 - 2) FOR ALL BRANCH CIRCUIT HOME RUNS.
 - 3) FOR ALL CONCEALED WORK RELATED TO NEW WALL ROUGH IN.
 - 4) FOR ALL FEEDERS AND SUB FEEDERS UNLESS NOTED.
 - 5) FOR ALL LOW-VOLTAGE WORK FOR TELE-COMMUNICATIONS, DATA, NURSE CALL, AV, TV AND ANY OTHER LOW VOLTAGE WORK.
 - 6) FOR ALL RACEWAY WIRING WHERE EXPOSED INCLUDING MECHANICAL ROOMS.
 - 7) FOR ALL FIRE ALARM WORK.
 - 8) MINIMUM CONDUIT SIZE 3/4 INCH TRADE SIZE.

- K. RIGID NONMETALLIC POLYVINYL CHLORIDE SHALL BE USED:
- 1) FOR ALL WORK BELOW GRADE OR UNDER SLAB ON GRADE CONSTRUCTION UNLESS OTHERWISE NOTED.
 - 2) RMC 90 DEGREE SWEEPS SHALL BE USED AT THE FINAL ELBOW OR RISER TO GRADE.

- L. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED:
- 1) FOR FINAL CONNECTIONS TO VIBRATING EQUIPMENT AND MOTORS IN LENGTHS NOT TO EXCEED 36 INCHES.

- M. FLEXIBLE METALLIC CONDUIT SHALL BE USED:
- 1) IN LIEU OF LFMC IN DRY NON- OILY CONDITIONS FOR FLEXIBLE CONNECTIONS EXCLUDING MOTORS AND GENERATORS.
 - 2) WHERE FISHED INTO AND CONCEALED IN EXISTING WALLS.
 - 3) FOR LIGHTING WHIPS.
 - 4) FOR CONNECTION BETWEEN FIRE ALARM JUNCTION AND DEVICE BOXES.
 - 5) LENGTHS OF GREATER THAN 6' ARE NOT TO BE USED IN DROP CEILINGS.

- N. HEALTHCARE FACILITY CABLE SHALL NOT BE USED EXCEPT:
- 1) IN LIMITED CASES, WITH PRIOR APPROVAL, FOR OLD WORK AND OTHER SITUATIONS WHERE PIPE AND FLEXIBLE CONDUIT CANNOT BE USED.

- O. SURFACE METAL RACEWAY SHALL BE:
- 1) USED ONLY FOR OLD WORK SITUATIONS WHERE AN EXISTING WALL IS UNABLE TO BE FISHED WITH RMC.
 - 2) GALVANIZED STEEL WITH SNAP ON COVERS IN COLOR SELECTED BY OWNER.
 - 3) WIREMOLD 500/700 SERIES FOR SPECIAL DEVICES.
 - 4) WIREMOLD 2000/3000/4000 FOR OTHER APPLICATION WHEN CALLED FOR (POWER POLE, WORKTOP, ETC.).
 - 5) SURFACE NON-METALLIC RACEWAY SHALL BE USED AS A LOW VOLTAGE WIRE MANAGEMENT AUXILIARY GUTTER ONLY IN SELECT LOCATIONS.

4. CONDUIT FITTINGS AND BOXES:

- A. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.
- B. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.
- C. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.
- D. USE WEATHERPROOF BOXES, JUNCTION BOXES AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.
- E. OUTLET BOXES SHALL BE PROVIDED FOR ALL LOW VOLTAGE DEVICES (I.E. TELEPHONE/DATA, SECURITY, FIRE ALARM, ETC.) COORDINATE BOX SIZE AND DEPTH WITH RESPECTIVE VENDOR.
- F. FITTINGS FOR ALL RACEWAYS LISTED ABOVE SHALL BE UL LISTED FOR THE TYPE AND SIZE RACEWAY THEY ARE INSTALLED ON, AND FOR APPLICATION AND ENVIRONMENT IN WHICH THEY ARE INSTALLED.
- 1) CONDUIT FITTINGS FOR HAZARDOUS LOCATIONS SHALL COMPLY WITH UL 886.
 - 2) FITTINGS FOR EMT SHALL BE STEEL SET SCREW.
 - 3) FITTINGS SHALL BE CONCRETE TIGHT WHERE EMBEDDED IN CONCRETE.
 - 4) NO DIE-CAST FITTINGS SHALL BE USED FOR ANY TYPE OF RACEWAY, STEEL ONLY.
 - 5) ALL CLAMPS STRAPS AND HANGERS MUST BE UL LISTED FOR THE INSTALLATION.

- G. IN ADDITION TO BEING SIZED CORRECTLY ACCORDING TO THE NEC, BOXES SHALL COMPLY WITH THE FOLLOWING.

- 1) BOXES SHALL BE STAMPED OR WELDED STEEL, MINIMUM SIZE 4 INCH SQUARE OR OCTAGON BY 2-1/8 INCH DEEP FOR ALL JUNCTION AND DEVICE LOCATIONS.

5. IDENTIFICATION OF RACEWAYS, BOXES, AND CONDUCTORS:

- A. THE FOLLOWING SHALL BE USED TO IDENTIFY RACEWAYS AND BOXES ABOVE DROP CEILINGS AND WHERE EXPOSED.
- 1) COLOR CODE FOR BOX COVERS.
 - a) RED = FIRE ALARM
 - b) BLACK = NORMAL POWER
 - c) GREEN = CRITICAL POWER
 - d) YELLOW = LIFE SAFETY POWER
 - e) ORANGE = 277/480 VOLT POWER
 - f) BLUE = NURSE CALL
 - g) WHITE = TELECOMMUNICATIONS
 - 2) ALL JUNCTION BOX COVERS SHALL BE MARKED WITH THE SOURCE OF POWER, VOLTAGE AND CIRCUIT NUMBERS.
 - 3) ALL CONDUCTORS INCLUDING NEUTRAL CONDUCTORS IN JUNCTION BOXES AND AT PANELS SHALL BE MARKED WITH CIRCUIT NUMBERS.
6. CONDUCTORS, CABLES, AND SPLICES:
- A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.
- B. FOR BUILDING WIRES AND CABLES RATED 600V OR LESS, TO BE USED AS FEEDERS OR BRANCH CIRCUITS:
- 1) CONDUCTORS SHALL BE STRANDED COPPER.
 - 2) MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG.
 - 3) INSULATION SHALL BE DETERMINED BY THE NEC BASED ON USAGE.
 - 4) WIRE SIZES SHALL BE ADJUSTED FOR VOLTAGE DROP, AND DERATED AS REQUIRED.
 - 5) WITH LIMITED EXCEPTIONS, CABLE TYPES HCF/MC/AC SHALL NOT BE USED.
- C. FOR WIRE SPLICES #10 AWG OR SMALLER:
- 1) WIRENUTS SHALL BE 3M PERFORMANCE PLUS WIRE CONNECTORS OR EQUIVALENT.

- 2) "SKOTCHLOK" OR OTHER IRREVERSIBLE CONNECTORS SHALL NOT BE USED.
- D. INSTALLATION
- 1) NOT MORE THAN THREE LIGHTING OR CONVENIENCE CIRCUITS IN ONE CONDUIT UNLESS OTHERWISE NOTED.
 - 2) PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EVERY CIRCUIT.
 - 3) PROVIDE SEPARATE RACEWAYS OR BARRIERS FOR CONDUCTORS OF DIFFERENT VOLTAGES AND SOURCES.
 - 4) PROVIDE ALL SPLICES AT DEVICES. DO NOT WIRE THROUGH A DEVICE.
- E. ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.
- F. COLOR CODE FOR CONDUCTORS:
- 1) 277/480 VOLTS
 - a) BROWN = "A" PHASE
 - b) ORANGE = "B" PHASE
 - c) YELLOW = "C" PHASE
 - d) GREY = GROUNDED NEUTRAL CONDUCTOR
 - e) GREEN = GROUNDING CONDUCTOR
 - 2) 120/208 VOLTS
 - a) BLACK = "A" PHASE
 - b) RED = "B" PHASE
 - c) BLUE = "C" PHASE
 - d) WHITE = GROUNDED NEUTRAL CONDUCTOR
 - e) GREEN = GROUNDING CONDUCTOR
 - 3) ISOLATED POWER
 - a) BROWN/ORANGE = UNGROUNDED PHASE CONDUCTORS
 - b) GREEN WITH YELLOW TRACER = GROUNDING CONDUCTOR

- G. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
- H. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS.
- I. ALL POWER, LIGHT, AND FEEDERS TO BE IN ELECTROMETALLIC TUBING (EMT) BACK TO SOURCE.
7. GROUNDING:
- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED TO PROVIDE AN ELECTRICALLY GROUNDING PATH TO THE GROUNDING ELECTRODE IN A CODE APPROVED MANNER.
- B. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND EQUIPMENT, LIGHTING FIXTURES AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED.
- C. PROPER HARDWARE REQUIRED FOR COMPLETE GROUNDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR. USE EXOTHERMIC WELDING PROCESS FOR INACCESSABLE CONNECTIONS.
- D. USE AN INTERNAL BONDING CONDUCTOR WHERE FLEXIBLE METALLIC CONDUITS ARE INSTALLED.
- E. GROUND MOTORS FROM GROUNDING BUSHING IN THE STARTER TO THE MOTOR FRAME.
- F. GROUNDING CONDUCTOR SHALL BE RUN WITH THE CIRCUIT CONDUCTORS AND TERMINATED TO AN APPROVED GROUNDING TERMINAL.
- G. PROVIDE SUPPLEMENTARY GROUND BONDING WHERE METALLIC CONDUITS TERMINATE AT METAL CLAD EQUIPMENT (OR AT THE METAL PULL BOX OF EQUIPMENT) FOR WHICH A GROUND BUS IS SPECIFIED WITH A BUSHING OF THE GROUNDING TYPE CONNECTED INDIVIDUALLY TO GROUND BUS.
- H. ALL GROUND WIRES SHALL BE SUITABLY PROTECTED FROM MECHANICAL INJURY.
- I. CONTRACTOR SHALL PROVIDE ALL REQUIRED GROUNDING AND BONDING FOR ALL NEW I.T. RACKS.

8. LIGHTING FIXTURES AND LAMPS:
- A. COORDINATE ALL WORK INCLUDING ALL LIGHT FIXTURE SPECIFICATIONS WITH ARCHITECTURAL DRAWINGS.
- B. FIXTURES
- 1) UNLESS OTHERWISE NOTED OR UNAVAILABLE, ALL BALLASTS, THERMAL OVERLOADS AND OTHER ASSOCIATED FIXTURE PARTS SHALL BE CONSIDERED UNIVERSAL OR RATED FOR 120 AND 277 VOLTS.
 - 2) UNLESS REQUIRED BY CODE, EMERGENCY LIGHTS SHALL NOT HAVE BATTERY BACKUP.
 - 3) ALL FIXTURES INSTALLED IN DROP CEILINGS MUST BE SUPPORTED INDEPENDENT FROM THE GRID ON TWO CORNERS.
- B. LIGHTING WHIPS
- 1) LIGHTING WHIPS SHALL BE ¾ OR 3/8 FLEX OR A UL LISTED PREMADE ASSEMBLY.
- C. FIXTURES IN COMMON USE IN THE HOSPITAL
- 1) CRESCENT RDJ 2X2 FLUORESCENT RECESSED
 - 2) PINNACLE CU22A-278-01-UNW-1C-W LENSED 2X2 RECESSED
 - 3) LIGHTOLIER OBL14W LED RECESSED LIGHT FRAME
 - 4) LIGHTOLIER OBL432120 OVER BED LIGHTS
 - 5) PHILIPS CHLORIDE T45V16W EXIT SIGNS
 - 6) PHILIPS POWERCORE LED UNDER CABINET
- D. LAMPS: PREFERABLY LIGHTING FIXTURES WILL UTILIZE LAMPS ALREADY STOCKED BY THE HOSPITAL. THESE INCLUDE:
- 1) T-8 FOUR FOOT
 - 2) T-8 UBENT
 - 3) T-5 LINEAR
 - 4) COMPACT FLUORESCENT
 - 5) METAL HALIDE MR-16
 - 6) METAL HALIDE PAR 30
- E. WHERE DIMMING OF FLUORESCENT FIXTURES IS REQUIRED, THE ELECTRONIC BALLAST INSTALLED MUST BE COMPATIBLE WITH THE DIMMING SPECIFIED.
- F. WHERE DIMMING OF LOW VOLTAGE FIXTURES IS REQUIRED, THE STEP DOWN VOLTAGE TRANSFORMER SHALL BE ELECTRONIC (OR MAGNETIC) AS NOTED BY THE LIGHTING DESIGNER/ARCHITECT SCHEDULE. CONTRACTOR WILL BE RESPONSIBLE FOR REVIEWING FIXTURE SPECIFICATION AND ENSURING DIMMER SWITCH INSTALLED IS COORDINATED WITH FIXTURE TYPE.
- G. ALL RECESSED FIXTURES SHALL BE SET FLUSH INTO ACOUSTIC TILE CEILINGS.

9. OCCUPANCY SENSORS:
- A. CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, APPLIANCES, CONTROL HARDWARE, SENSORS, WIRE, JUNCTION BOXES, AND EQUIPMENT NECESSARY FOR A COMPLETELY OPERATIONAL SENSOR CONTROL SYSTEM, AS DESCRIBED HEREIN.
- B. ALL SENSORS SHALL BE EITHER SELF-CONTAINED OR INSTALLED AS OF OTHER SPECIFIED SYSTEMS OF DUTY PROVIDING VOLUMETRIC COVERAGE WITHIN THE DETECTION AREA. SENSORS SHALL BE SOLID-STATE DESIGN AND BE DESIGNED FOR ENERGY CONSERVATION.
- C. SENSORS LOCATED IN ADJACENT ROOMS OR SPACES, OR SENSORS CONTROLLING DIFFERENT LIGHTING FIXTURES OR ZONES WITHIN THE SAME ROOM, SHALL OPERATE AT DIFFERENT FREQUENCIES IN ORDER TO PREVENT INTERFERENCE (CROSS TALK) BETWEEN SENSORS.
- D. SENSORS SHALL HAVE THE FOLLOWING FUNCTIONS:
- 1) TIMED DELAY FOR TURNING LIGHTS OFF: ADJUSTABLE OVER A RANGE OF 1 TO 30 MINUTES.
 - 2) MANUAL OVERRIDE SWITCH: TURNS LIGHTS OFF MANUALLY REGARDLESS OF TIMED DELAY.
 - 3) ISOLATED RELAY CONTACT: OPERATES ON DETECTION OF OCCUPANCY OR VACANCY, AS INDICATED, TO ACTIVATE AN INDEPENDENT FUNCTION.

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Norwalk Hospital

I.R. PROCEDURE ROOM

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: VH
Scale: AS NOTED	Approved By: TL
Job No: 24/--	File: nh_irsuite.db

Drawing Title:

ELECTRICAL SPECIFICATIONS
(1 OF 2)

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Revisions:

STATE OF CONNECTICUT
OFFICE OF THE REGISTERED PROFESSIONAL ENGINEER
No. 28740

Drawing Number:

E400

PLUMBING ABBREVIATIONS	
BOP	BOTTOM OF PIPE
BFP	BACKFLOW PREVENTOR
BTU	BRITISH THERMAL UNITS
CD	CONDENSATE DRAIN
CO	CLEAN OUT
CLG	CEILING
CM	COFFEE MAKER
CP	CONDENSATE PUMP
CW	DOMESTIC COLD WATER PIPING
DIA	DIAMETER
DCV	DOUBLE CHECK VALVE
DF	DRINKING FOUNTAIN
DN	DOWN (PENETRATES FLOOR SLAB)
E	EXISTING
ER	EXISTING TO REMAIN
ETR	EXISTING TO BE RELOCATED
FD	FLOOR DRAIN
FU	FIXTURE UNIT
FT	FEET
G	NATURAL GAS OR LIQUID PROPANE PIPING
GC	GENERAL CONTRACTOR
GAL	GALLONS
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSE POWER
HW	HOT WATER PIPING
HWH	HOT WATER HEATER
HWR	HOT WATER RETURN PIPING
IW	INDIRECT WASTE
KW	KILOWATT
LAV	LAVATORY
NC	NORMALLY CLOSED
NG	NATURAL GAS PIPING
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
MBH	THOUSAND BTU PER HOUR
MS	MOP SINK
O2	OXYGEN SUPPLY PIPING
PC	PUMPED CONDENSATE
PD	PUMPED DISCHARGE
PH	PHASE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTOR ASSEMBLY
SAN	SANITARY PIPING
SH	SHOWER
SK	SINK
SQ FT	SQUARE FEET
ST	STORM PIPING
TP	TRAP PRIMER
TYP	TYPICAL
UR	URINAL
V	VENT PIPING
VA	VACUUM AIR PIPING
VD	VOLUME DAMPER
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET

MEDICAL GAS ABBREVIATIONS	
N2O	NITROUS OXIDE SUPPLY PIPING
MA	MEDICAL AIR SUPPLY PIPING
O2	OXYGEN SUPPLY PIPING
VA	VACUUM AIR PIPING
ZVB	MEDICAL GAS ZONE VALVE BOX

PLUMBING PIPING SYMBOL LIST	
	NEW COLD WATER PIPING
	EXISTING COLD WATER PIPING TO REMAIN
	NEW HOT WATER PIPING
	EXISTING HOT WATER PIPING TO REMAIN
	NEW HOT WATER RETURN PIPING
	NEW SANITARY PIPING
	NEW SANITARY VENT PIPING
	EXISTING SANITARY VENT PIPING TO REMAIN
	NEW CONDENSATE DRAIN PIPING
	EXISTING CONDENSATE DRAIN PIPING TO REMAIN
	NATURAL GAS OR LIQUID PROPANE PIPING
	PIPING BELOW GRADE
	EXISTING PIPING TO BE DEMOLISHED
	FLOOR CLEANOUT
	CLEANOUT
	P-TRAP
	ELBOW TURNED UP
	ELBOW TURNED DOWN
	BOTTOM PIPE CONNECTION
	TOP PIPE CONNECTION
	CAPPED PIPE
	CAPPED AND VALVE CONNECTION
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	SHUT-OFF VALVE (GATE OR BALL VALVE SEE SPECS)
	GLOBE VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	PLUG VALVE
	WATER METER
	BACKFLOW PREVENTER
	OXYGEN WALL OUTLET
	MEDICAL AIR WALL OUTLET
	NITROUS OXIDE WALL OUTLET
	VACUUM INLET
	VACUUM SLIDE
	WAGO INLET
	MEDICAL GAS VALVE BOX
	MEDICAL GAS MASTER ALARM PANEL
	MEDICAL GAS AREA ALARM PANEL
	PUMP
	NEW EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	MECHANICAL PLAN NOTE TAG
	REVISION SYMBOL
	POINT OF NEW CONNECTION TO EXISTING WORK
	REMOVE AND SAFE OFF EXISTING WORK FOR RECONNECTION

GENERAL NOTES	
1.	THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT AND PIPING FABRICATION DRAWING APPROVAL.
2.	ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
3.	IT IS NOT THE INTENT OF THE DRAWINGS TO SHOW INDIVIDUAL BRANCH PIPING TO EACH PLUMBING FIXTURE; ONLY BRANCH PIPING TO GROUPS OF FIXTURES IS INDICATED. EACH AND EVERY FIXTURE SHALL BE PROPERLY PIPED TO WATER, WASTE AND VENT PIPING SYSTEMS. FOR INDIVIDUAL PIPE SIZES TO EACH FIXTURE, REFER TO THE PLUMBING FIXTURE SCHEDULE.
4.	THE PLUMBING CONTRACTOR SHALL COORDINATE ALL PLUMBING WORK WITH ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, HVAC, SPRINKLER STRUCTURAL AND GENERAL ARCHITECTURAL.
5.	WHERE PIPING CONNECTIONS FOR EQUIPMENT DIFFER FROM THE LINE SIZE PIPING, IT SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR TO FURNISH AND INSTALL THE NECESSARY REDUCER/EXPANDER FITTINGS TO ENABLE CONNECTION BETWEEN THE PIPING SYSTEM AND THE EQUIPMENT.
6.	ALL PIPING LOCATED ABOVE GRADE SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT BE SUPPORTED BY THE CEILING TILES OR CEILING STRUCTURE.
7.	PROVIDE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON THE DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
8.	PROVIDE CLEANOUTS IN SANITARY AND STORM DRAINAGE SYSTEMS AT ENDS OF RUNS, AT CHANGES IN DIRECTION, NEAR THE BASE OF STACKS, EVERY 50 FEET IN HORIZONTAL RUNS AND ELSEWHERE AS INDICATED. ALL CLEANOUTS SHALL BE FULL SIZE OF PIPE FOR PIPE 6 INCHES AND SMALLER AND SHALL BE 6 INCHES FOR PIPE SIZES LARGER THAN 6 INCHES
9.	COORDINATE MOUNTING HEIGHTS OF PLUMBING FIXTURES WITH ARCHITECTURAL DRAWINGS.
10.	ALL PIPING SHALL SLOPE TO LOW POINTS. PROVIDE HOSE AND DRAIN VALVES AT THE BOTTOM OF ALL RISERS AND LOW POINTS.
11.	ALL WATER PIPING RUNNING ABOVE ELECTRICAL SERVICES SHALL BE PROVIDED WITH DRAIN PAN UNDERNEATH. PIPING FROM DRAIN PAN SHALL EXTEND TO NEAREST FLOOR DRAIN.
12.	ALL OPENINGS THRU FIRE RATED WALLS OR FLOORS SHALL BE SEALED WITH AN APPROVED FIREPROOFING MATERIAL TO MAINTAIN THE INTEGRITY OF THE WALL OR FLOORS.
13.	PROVIDE TRAP PRIMER FOR EACH FLOOR DRAIN AND HUB DRAIN. CONNECT TRAP PRIMER TO NEAREST COLD WATER MAIN; PROVIDE ISOLATION VALVE AND EXTEND TO FLOOR DRAIN AS REQUIRED.
14.	PROVIDE CONDENSATE DRAINS FOR ALL COOLING COILS; PIPE BY GRAVITY TO INDIRECT WASTE.
15.	PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRED VIBRATION ISOLATION, EXCEPT WATER COILS. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE.
16.	UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES AND IN LONG PIPING RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.
17.	MEDICAL GAS SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA-99 STANDARDS, APPLICABLE CODES, REGULATIONS AND EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
18.	ALL MEDICAL GAS OUTLETS QUICK-CONNECT ARE DIAMOND III STYLE. COORDINATE WITH OWNER EXACT STYLE OF MEDICAL GAS QUICK CONNECTS FOR THIS PROJECT BEFORE FINAL ORDER IS MADE. ALL NEW OUTLETS SHALL BE OF THE SAME MANUFACTURER AS EXISTING UNLESS OTHERWISE REQUIRED BY THE OWNER.
19.	AFTER COMPLETION OF THE MEDICAL GAS SYSTEM INSTALLATION, THE SYSTEM SHALL BE PURGED AND TESTED AS OUTLINED IN NFPA-99.
20.	PROVIDE MEDICAL GAS IDENTIFICATION MARKS WITH DIRECTION OF FLOW FOR ALL MEDICAL GAS PIPING. MAXIMUM DISTANCE BETWEEN MARKS SHALL BE 15'-0".
21.	ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
22.	INSTALL WATER HAMMER ARRESTERS ON ALL PIPING SERVING QUICK CLOSING VALVES.
23.	PROVIDE GAUGE FITTINGS AND THERMOMETER WELLS AT HOT WATER SUPPLY AND RETURN BRANCHES AND AT PUMP INLETS AND OUTLETS.
24.	ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.

DEMOLITION NOTES	
1.	DEMOLITION NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL PLUMBING DRAWINGS.
2.	ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
3.	AFTER REMOVING PIPING THROUGH FLOOR SLABS, PENETRATIONS SHALL BE PATCHED WITH APPROVED FIRE-RATED MATERIAL.
4.	THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF PLUMBING WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
5.	THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING PLUMBING SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
6.	DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
7.	THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS, ECT. FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
8.	THE CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS FOR ALL EXISTING PIPING TO REMAIN THAT IS AFFECTED BY DEMOLITION OF THE EXISTING CEILING AND PARTITIONS.
9.	ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERNATION WORK SHALL BE REROUTED CONCEALED BEHIND FINISHED SURFACES.
10.	PORTIONS OF PIPING TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED.
11.	THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
12.	ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE PLUMBING CONTRACTOR, AS DIRECTED BY THE OWNER.
13.	ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
14.	THE SHUTDOWN OF EXISTING BUILDING PLUMBING SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
15.	CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS.

PLUMBING DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
P001	PLUMBING NOTES AND LEGENDS
P100	PLUMBING PLANS
P200	PLUMBING SCHEDULES AND DETAILS
P300	PLUMBING SPECIFICATIONS

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24

Drawn By: AG,LH

Scale: NONE

Approved By: TL

Job No: 24 /---

File: nh_irsuite.db

Drawing Title:
PLUMBING NOTES AND LEGENDS

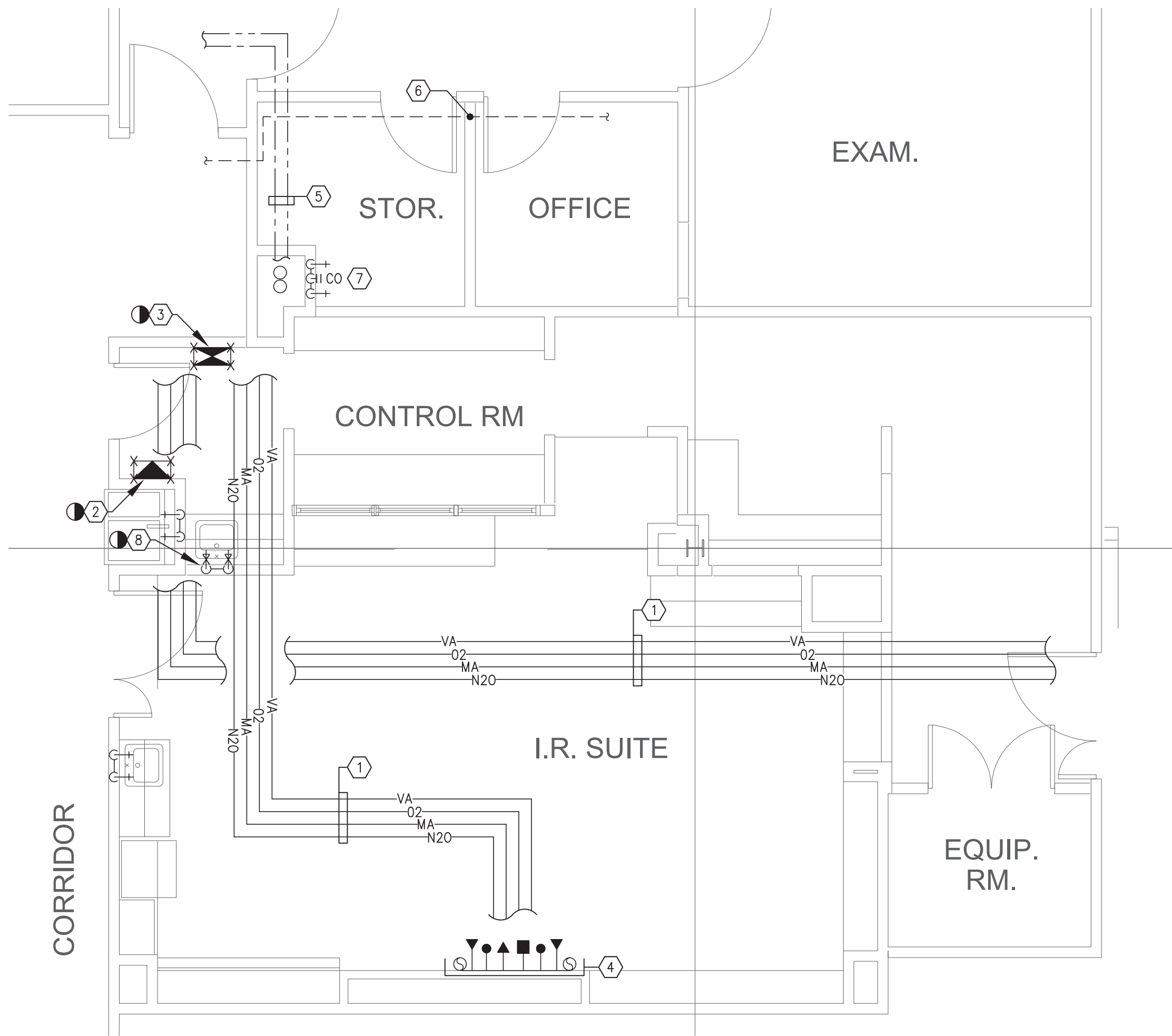
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Revisions:

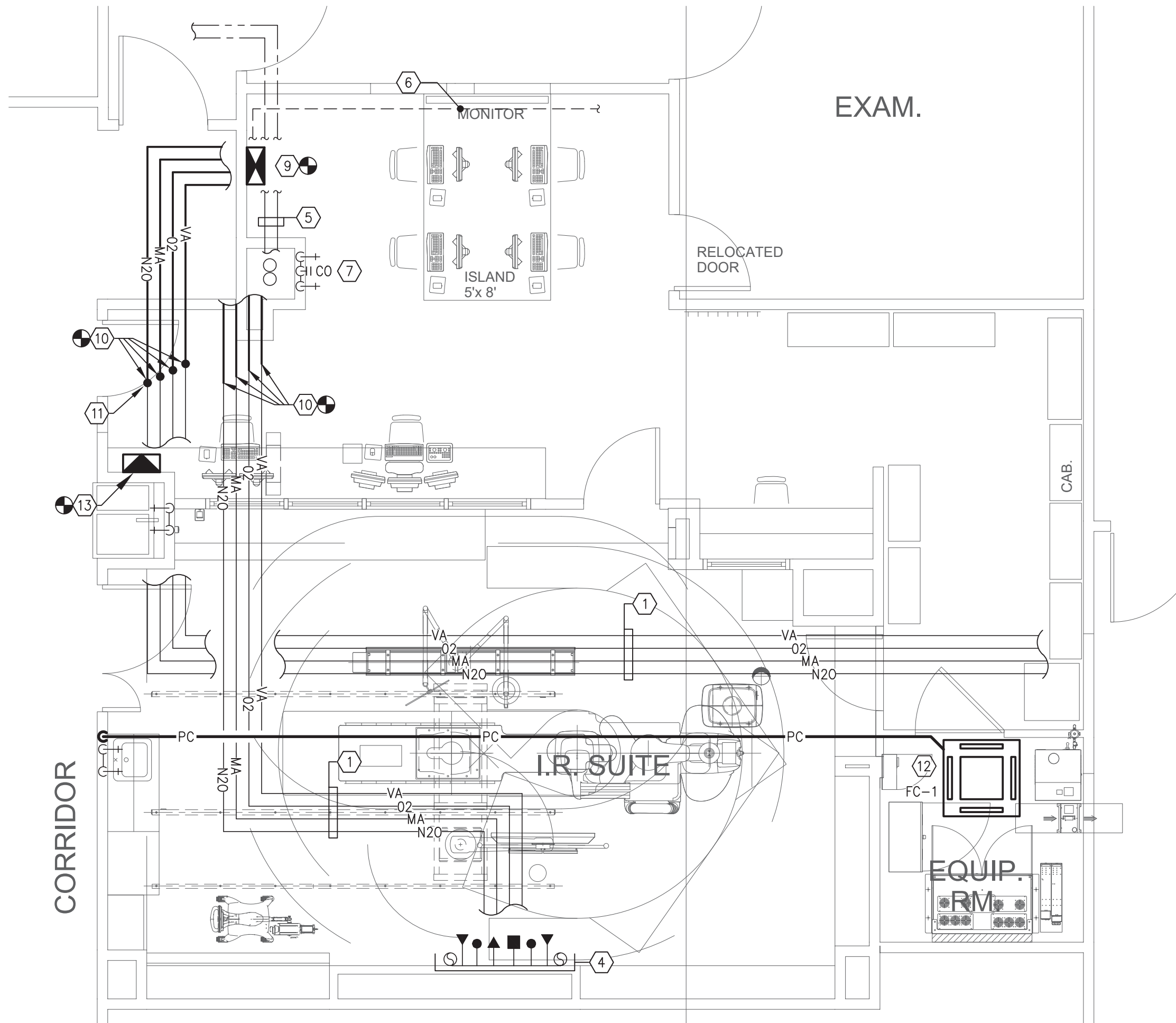
STATE OF CONNECTICUT
JENNIFER B. GORDON
No. 26740
LICENSED PROFESSIONAL ENGINEER

Drawing Number:

P001



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



2 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

PLUMBING PLAN NOTES

- EXISTING 3/4" VA, 1/2" O2, 1/2" MA AND 1/2" N2O ROUTED IN CEILING TO REMAIN.
- EXISTING MEDICAL GAS AREA ALARM PANEL TO BE DEMOLISHED.
~~DEDUCT/ALTERNATE:~~ PROVIDE DEDUCT TO REUSE AREA ALARM DEVICES AND RELOCATE SENSORS TO NEW ZONE VALVE BOX LOCATION.
- EXISTING ZONE MEDICAL GAS VALVE BOX WITH 3/4" VA, 1/2" O2, 1/2" MA AND 1/2" N2O TO BE DEMOLISHED. EXISTING SUPPLY SIDE OF MEDICAL GASES TO BE CAPPED. PATCH AND REPAIR WALL. ~~DEDUCT/ALTERNATE:~~ PROVIDE DEDUCT PRICING TO RELOCATE AND REUSE EXISTING ZONE MEDICAL GAS VALVE BOX.
- EXISTING (2) VA, (2) O2, (1) MA, (1) N2O AND (2) SLIDE MEDICAL GAS OUTLETS LOCATED ON WALL TO REMAIN.
- EXISTING 1/2" CW AND 1/2" HW MAINS ROUTED IN CEILING TO REMAIN.
- EXISTING 2" VENT MAIN ROUTED IN CEILING TO REMAIN.
- EXISTING CW AND HW VALVED WITH VACUUM BREAKER TO REMAIN.
- EXISTING PLUMBING FIXTURE TO BE DEMOLISHED. EXISTING CW, HW, SAN AND VENT TO BE DEMOLISHED BACK TO MAIN. EXISTING SAN SHALL BE DEMOLISHED AND CAPPED IN FLOOR. PATCH AND REPAIR SLAB.
- NEW BEACON MEDAES 3 ZONE MEDICAL GAS VALVE BOX CONNECTED TO NEW AREA ALARM PANEL. PROVIDE IN KIND REPLACEMENT OF EXISTING MEDICAL GAS ZONE VALVE BOX.
~~DEDUCT/ALTERNATE:~~ RELOCATE EXISTING MEDICAL GAS ZONE VALVE BOX AND CONNECT TO AREA ALARM PANEL.
- NEW 3/4" VA, 1/2" O2, 1/2" MA AND 1/2" N2O ROUTED FROM EXISTING MEDICAL GAS MAINS IN CEILING TO NEW MEDICAL GAS VALVE BOX.
- PROVIDE NEW SOURCE VALVES LOCATED IN CEILING.
- NEW CEILING CASSETTE FAN COIL UNIT FC-1 WITH INTEGRAL MINI-CONDENSATE PUMP. NEW 1/2" PC SHALL BE ROUTED TO UNDERSIDE TAILPIECE OF EXISTING FIXTURE SANITARY AND DISCHARGE INDIRECTLY. ~~DEDUCT/ALTERNATE:~~ EXISTING FAN COIL AND CONDENSATE DRAIN TO REMAIN AND BE REUSED.
- NEW BEACON MEDAES 'TOTAL ALERT INFINITY' MEDICAL GAS AREA ALARM PANEL TO REPLACE EXISTING AREA ALARMS FOR O2, MA AND VA. PROVIDE ALL NEW DEVICES REQUIRED FOR CONNECTION TO NEW MEDICAL GAS VALVE BOX LOCATION.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: AG, LH
Scale: AS NOTED	Approved By: TL
Job No: 24 /---	File: nh_irsuite.db

Drawing Title:
**PLUMBING
PLANS**

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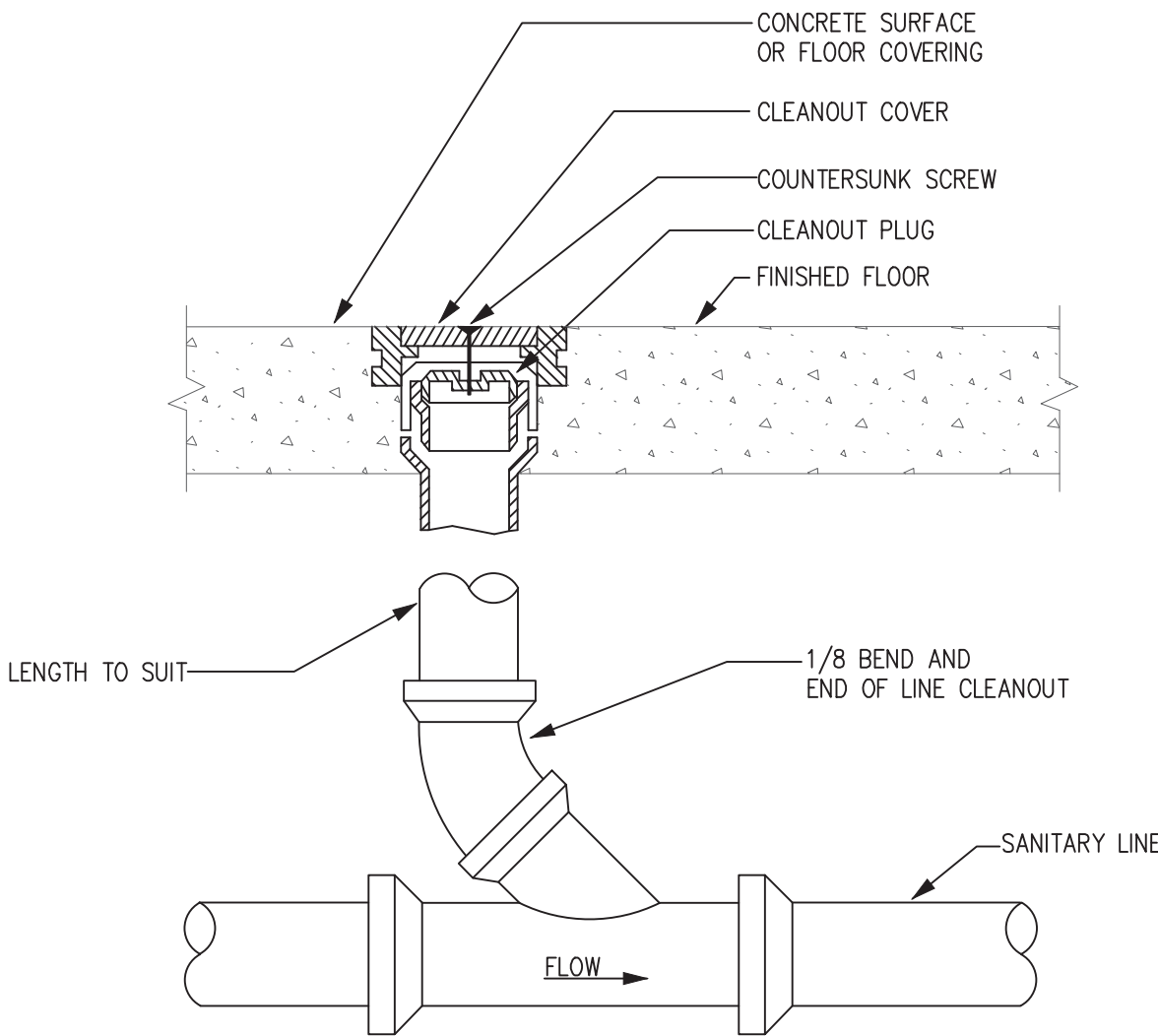
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Revisions:

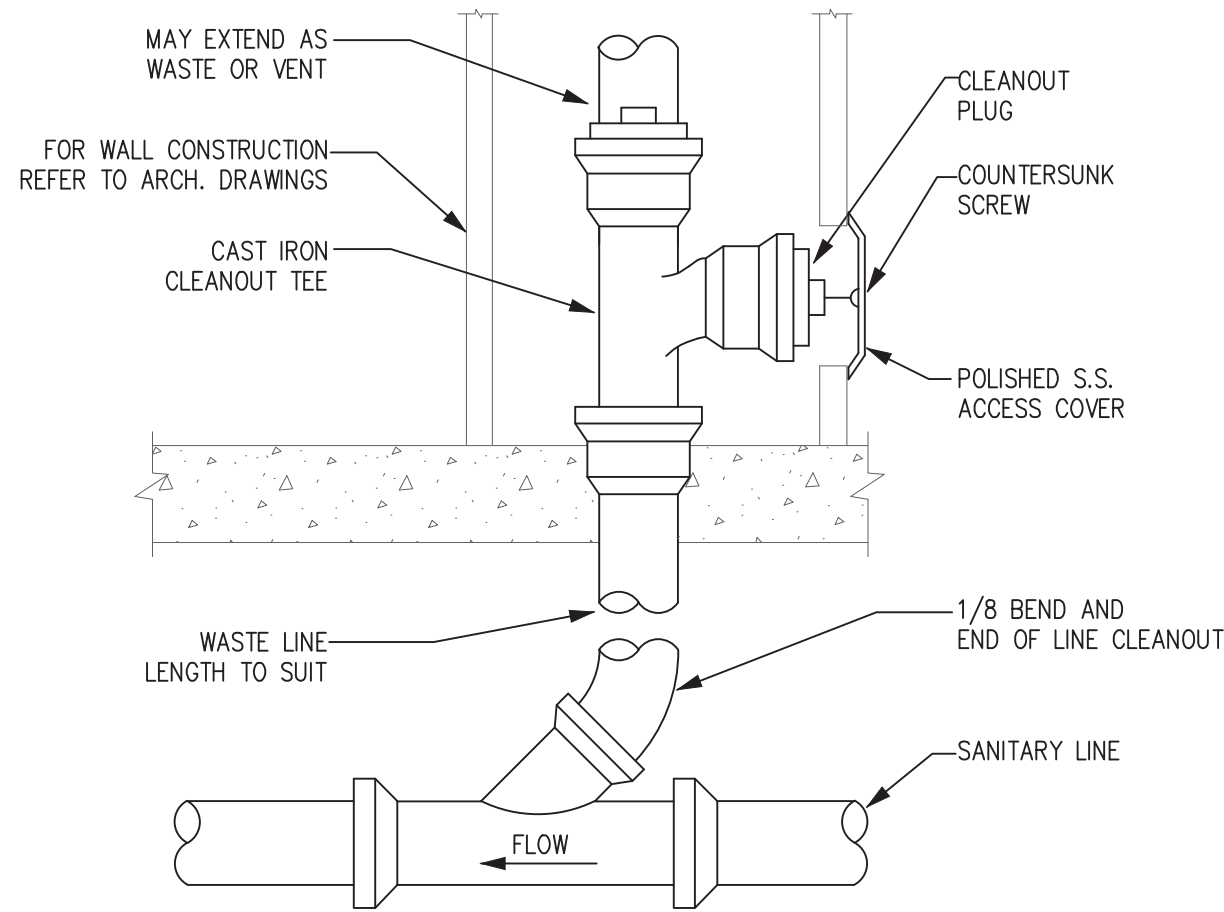


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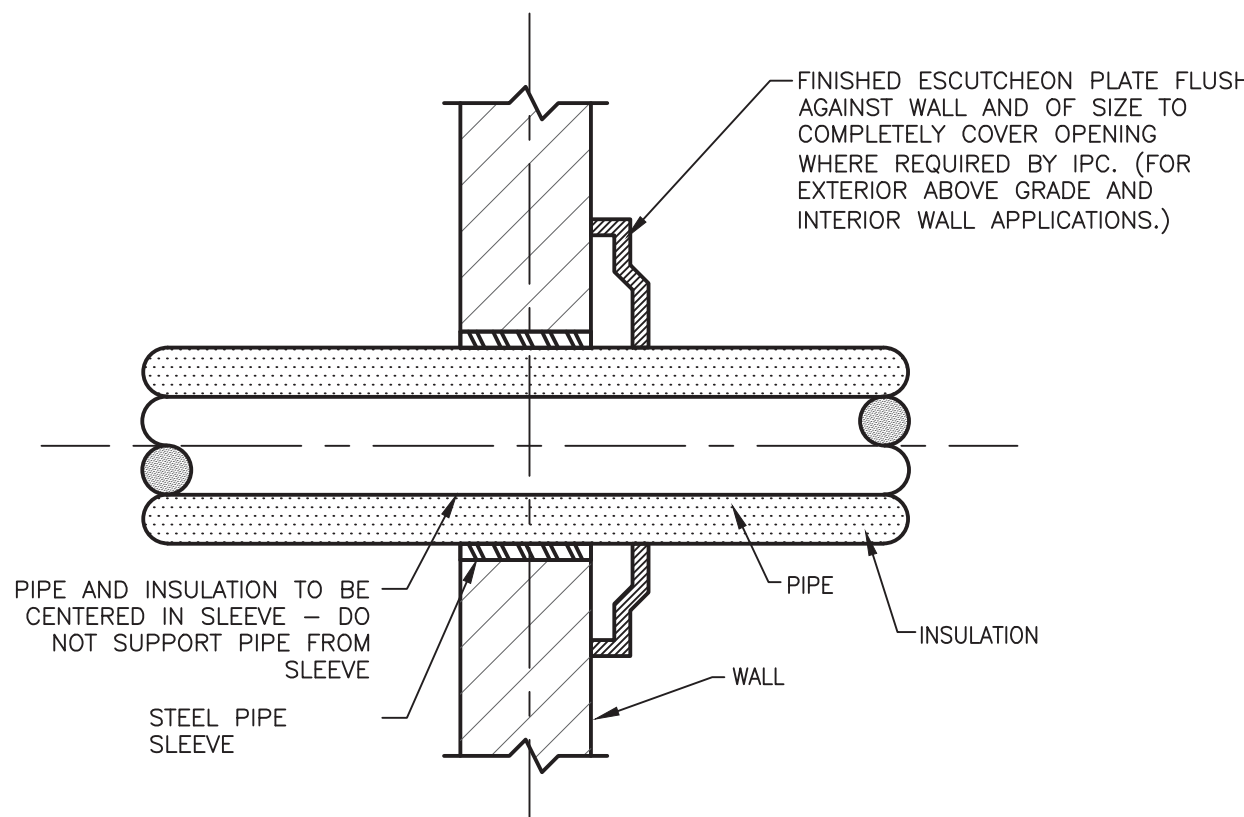
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1 FINISHED FLOOR CLEANOUT
SCALE: NONE



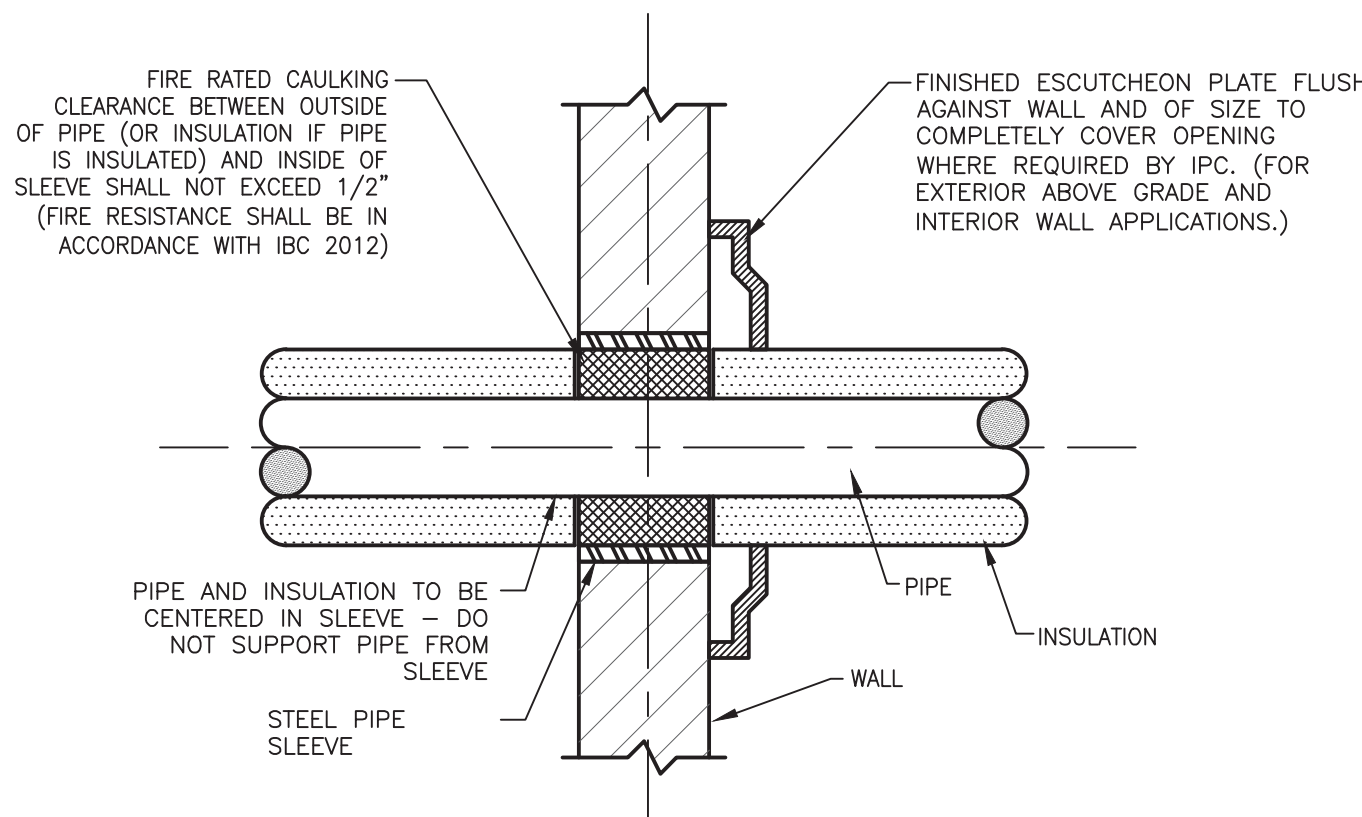
2 FINISHED ROOM WALL CLEANOUT
SCALE: NONE



NON-RATED NOTES:

- NONFIRE-RESISTANCE-RATED ASSEMBLIES:
 - ANNULAR SPACE MUST BE FILLED TO RESIST FREE PASSAGE OF FLAME AND THE PRODUCTS OF COMBUSTION WITH AN APPROVED NONCOMBUSTIBLE MATERIAL OR WITH A FILL, VOID, OR CAVITY MATERIAL THAT IS TESTED AND CLASSIFIED FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS.

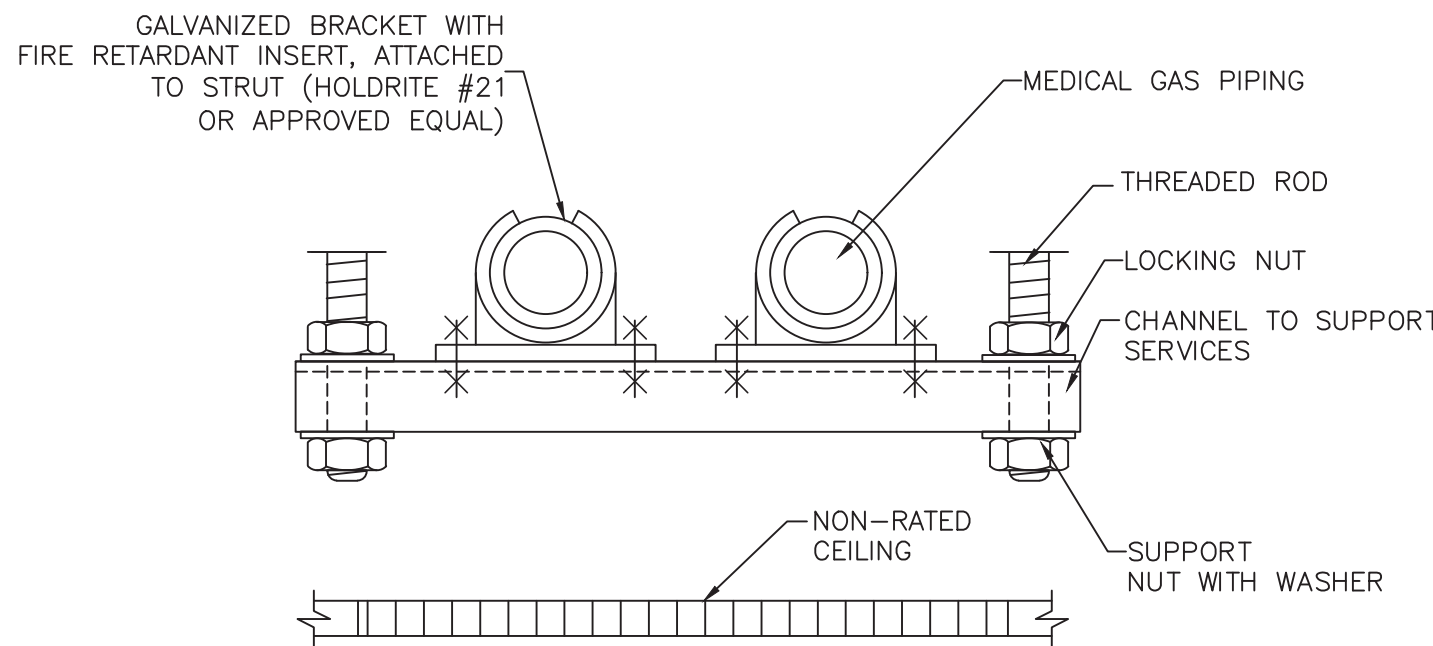
3 PIPE PENETRATION DETAIL NON-RATED WALL
SCALE: NONE



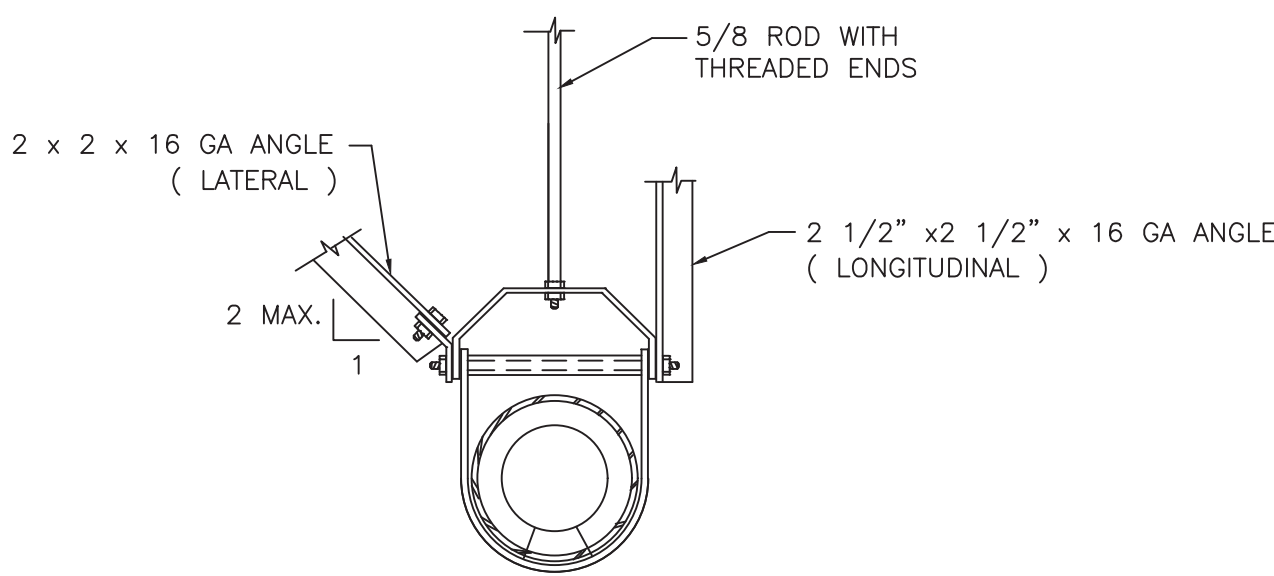
FIRE-RATED NOTES:

- THROUGH PENETRATIONS SHALL BE PROTECTED BY AN APPROVED THROUGH-PENETRATION FIRE STOP SYSTEM INSTALLED AND TESTED IN ACCORDANCE WITH ASTM E814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENCE OF 0.01 INCH OF WATER.
- THE SYSTEM SHALL HAVE A F-RATING OF NOT LESS THAN ONE HOUR, BUT NOT LESS THAN THE REQUIRED RATING OF THE FLOOR PENETRATING.

4 FIRE RATED WALL PIPE PENETRATION DETAIL
SCALE: NONE



5 MEDICAL GAS PIPING SUPPORT DETAIL
SCALE: NONE

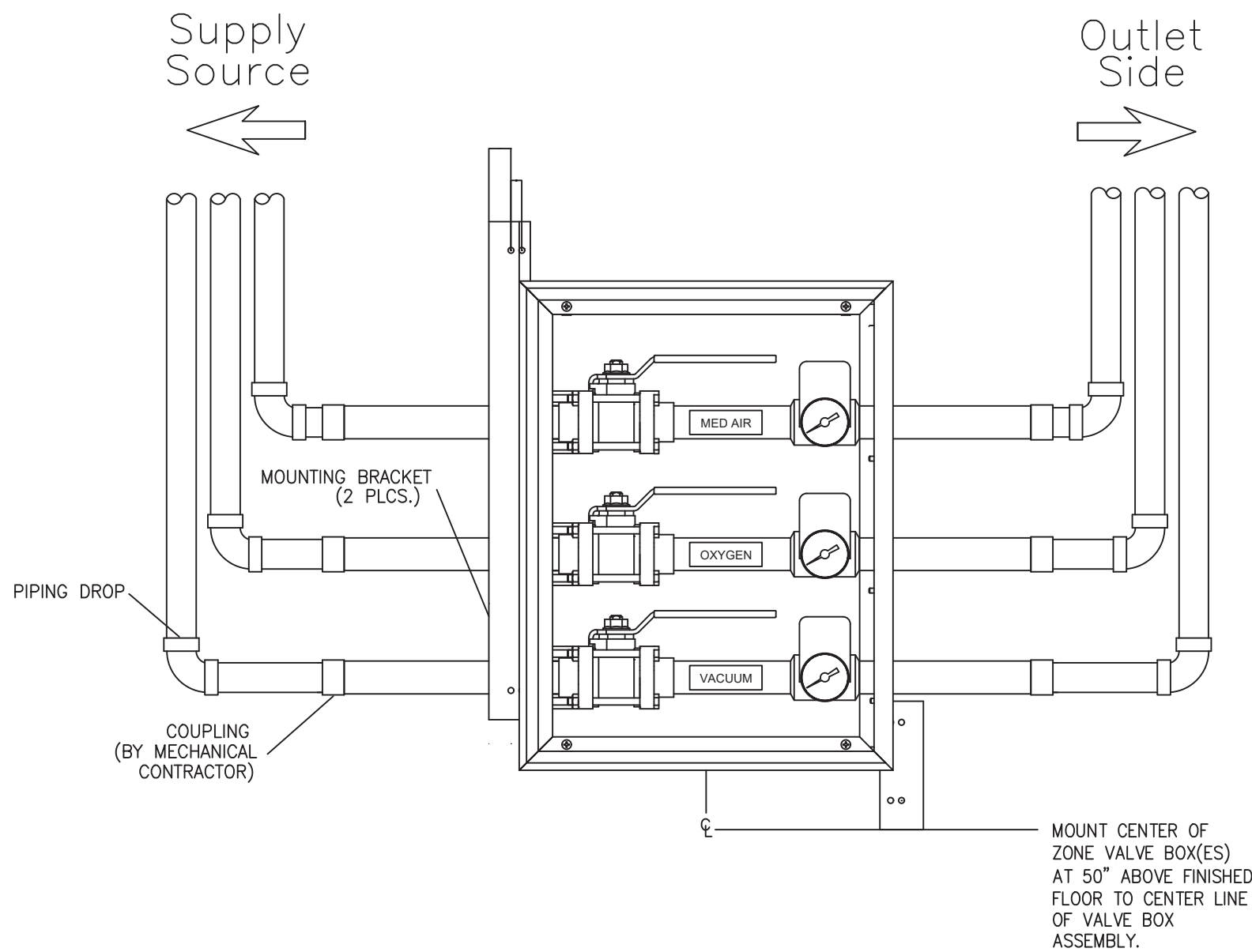


1. PROVIDE LONGITUDINAL AND LATERAL BRACING ON PIPING 2 1/2" AND GREATER, GAS PIPING 1" I.D. AND GREATER AND PIPING IN BOILER AND MECHANICAL ROOMS 1 1/4" AND GREATER, WHERE SUSPENDED 12" OR MORE FROM SUPPORTING STRUCTURE.
2. PROVIDE SIMILAR BRACING ON ALL DUCTWORK WITH CROSS-SECTIONAL AREA OF 6 SF OR GREATER OR DIAMETER OF 28 IN. OR GREATER WHERE SUSPENDED 12" OR MORE FROM SUPPORTING STRUCTURE.
3. MAKE END CONNECTIONS TO EXISTING STRUCTURAL STEEL WITH 1/2" BOLTS OR TO CONCRETE DECK PER CONNECTION TO CONCRETE DETAIL ABOVE.

6 PIPE SUPPORT DETAIL
SCALE: NONE

PIPING AND FITTINGS SCHEDULE			
SYSTEM	PIPING	FITTINGS	REMARKS
DOMESTIC WATER	TYPE L HARD DRAWN COPPER TUBING	COPPER – CAST BRONZE OR COPPER SWEAT FITTINGS JOINED WITH TIN/ANTIMONY LEAD-FREE SOLDER; COPPER CRIMPING AND COMPRESSION FITTINGS FOR PEX	PROVIDE WITH APOLLO 70-200 SERIES SOLDER END BRONZE BALL VALVES WHERE REQUIRED
SANITARY, WASTE, AND VENT	SERVICE WEIGHT HUBLESS CAST IRON; PVC (SCHED. 40) PIPING	SERVICE WEIGHT HUBLESS CAST IRON JOINED W/APPROVED STAINLESS MECHANICAL COUPLINGS W/NEOPRENE RESILIENT GASKETS; PVC (SCHED. 40) FITTINGS	ALL PVC PIPING LOCATED EXPOSED WITHIN THE CEILING PLENUM SHALL BE INSULATED WITH MATERIAL MEETING THE REQUIREMENTS OF ASTM E84
OXYGEN, MED AIR AND VACUUM PIPING	TYPE L OR K (ASTM B819) ACR COPPER TUBE CAPPED AND CLEAN	COPPER – SOLDER-TYPE ACR COPPER TUBE FITTINGS CLEANED AND BAGGED	

PIPE INSULATION SCHEDULE			
SYSTEM	PRODUCT MANUFACTURER	INSULATION THICKNESS	REMARKS
DOMESTIC HOT WATER AND HOT WATER RECIRCULATION PIPING, FITTINGS AND VALVES (105°F – 140°F)	JOHN MANVILLE MICRO-LOK HP OR APPROVED EQUAL; PROVIDE PVC COVERS ON ALL EXPOSED PIPING	LESS THAN 1-1/4" – 1-1/2" TO 4" – 1"	ALTERNATE PRODUCTS SHALL HAVE A CONDUCTIVITY OF 0.21-0.28 BTU-IN/(H-FT2-F). PROVIDE ALL EXPOSED PIPING WITH PVC PIPE COVERS
DOMESTIC COLD WATER PIPING, FITTINGS, AND VALVES (40°F – 60°F)	JOHN MANVILLE MICRO-LOK HP OR APPROVED EQUAL; PROVIDE PVC COVERS ON ALL EXPOSED PIPING	LESS THAN 1-1/4" – 1-1/2" TO 4" – 1/2" – 1"	ALTERNATE PRODUCTS SHALL HAVE A CONDUCTIVITY OF 0.21-0.27 BTU-IN/(H-FT2-F). PROVIDE ALL EXPOSED PIPING WITH PVC PIPE COVERS.
EXPOSED SANITARY, HOT WATER, AND COLD WATER PIPING BELOW LAVATORYS AND SINKS	TRUEBRO – LAV GUARD2	RESILIENT MOLDED VINYL	ALTERNATE PRODUCTS SHALL BE SHALL COMPLY WITH ASME A112.8.9-2001 AND ADA ARTICLE 4.19.4



7 TYPICAL ZONE VALVE BOX DETAIL
SCALE: NONE

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24 Drawn By: AG, LH

Scale: NONE Approved By: TL

Job No: 24 /--- File: nh_irsuite.db

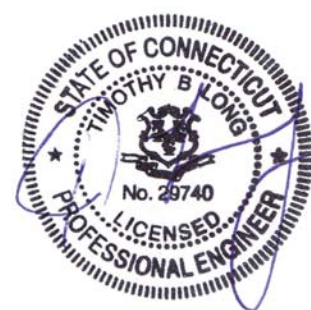
Drawing Title:

PLUMBING
SCHEDULES
AND DETAILS

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Revisions:



Drawing Number:

P200

PLUMBING SPECIFICATIONS

1. GENERAL REQUIREMENTS:
- A. PROVIDE ALL PLUMBING WORK SHOWN ON THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH THE LATEST LOCAL AND STATE CITY BUILDING.
- B. PATCH AND/OR REPLACE DAMAGED ARCHITECTURAL COMPONENTS AS A RESULT OF SYSTEM INSTALLATION. CLEAN UP THE CONSTRUCTION SITE DAILY DURING CONSTRUCTION SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES, AND AFTER THE COMPLETION OF INSTALLATION AND TESTING.
- C. THE CONTRACTOR SHALL EXAMINE THE PREMISED BEFORE SUBMITTING HIS BID, AND SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH CONDITIONS WHICH AFFECT HIS WORK.
- D. REPORT ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK TO THE ARCHITECT PRIOR TO STARTING ANY WORK.
- E. THE CONTRACTOR SHALL USE EXTREME CAUTION WHEN INSTALLING PIPING IN FINISHED WALLS, PARTITIONS, AND HUNG CEILINGS.
- F. INTERRUPTION OF EXISTING BUILDING SERVICES IN ORDER TO CONNECT NEW PIPING TO EXISTING SHALL BE MADE AT SUCH TIME AS TO CAUSE THE LEAST INTERFERENCE WITH ESTABLISHED BUILDING OPERATING PROCEDURE. ALL EXISTING SERVICE SHUTDOWNS SHALL BE SUPERVISED AS DIRECTED BY BUILDING MANAGEMENT. THE CONTRACTOR SHALL GIVE NOTICE 48 HOURS PRIOR TO ANY SHUTDOWN.
- G. LOCATION OF EXISTING BUILDING SERVICES IN ORDER TO CONNECT NEW PIPING TO EXISTING SHALL BE MADE AT SUCH TIME AS TO CAUSE THE LEAST PLUMBING CONTRACTOR SHALL PAY ALL FEES, OBTAIN ALL PERMITS AND APPROVALS NECESSARY FOR THE COMPLETION OF ALL WORK SHOWN ON THE CONTRACT DRAWINGS.
- H. THE PLUMBING CONTRACTOR SHALL PAY ALL FEES, OBTAIN ALL PERMITS AND APPROVALS NECESSARY FOR THE COMPLETION AND NEW WORK SHOWN ON THE CONTRACT DRAWINGS.
- I. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE EXISTING CONDITIONS AND NEW WORK OF ALL THE OTHER TRADES.
- J. PROVIDE NEW PLUMBING FIXTURES, PIPING AND EQUIPMENT WHERE SHOWN ON THE CONTRACT DRAWINGS. CONNECT NEW PIPING TO EXISTING STACKS AND RISERS.
- K. PREPARE AS-BUILT DRAWINGS INDICATING ACTUAL LOCATIONS OF PLUMBING FIXTURES AND PIPING. AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER UPON COMPLETION OF INSTALLATION AND TESTING. SUBMIT THREE SETS OF PRINTS AND ONE SET OF REPRODUCABLES. IN ADDITION PROVIDE ON DISK TO OWNER THE AS-BUILT CONDITIONS IN AUTOCAD 2004.
2. EXAMINATION OF CONTRACT DOCUMENTS:
- A. EXAMINE THE CONTRACT DOCUMENTS OF THIS TRADE AND ALL OTHER TRADES FOR THIS PROJECT. VERIFY ALL EXISTING CONDITIONS AT THE SITE, AND BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK IN THE BUILDING. SUBMITTAL OF A BID IS AN AGREEMENT THAT ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS ARE FULLY UNDERSTOOD.
- B. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS SPECIFIED, OR UNSPECIFIED, NECESSARY TO PROVIDE ALL WORK SHOWN ON THE CONTRACT DOCUMENTS IN ACCORDANCE WITH THE LOCAL BUILDING CODE.
- C. REPORT, IN WRITING, TO THE ARCHITECT ANY AND ALL CONDITIONS WHICH MAY INTERFERE WITH OR OTHERWISE AFFECT OR PREVENT THE PROPER EXECUTION AND COMPLETION OF THE WORK OF THIS SECTION. DO NOT COMMENCE WORK UNTIL ANY AND ALL SUCH CONDITIONS HAVE BEEN CORRECTED BY THE TRADE OR TRADES RESPONSIBLE.
- D. FAILURE TO NOTIFY THE ARCHITECT OF UNSATISFACTORY CONDITIONS WILL BE CONSIDERED AS AN ACCEPTANCE OF ALL CONDITIONS.
- E. THE EXECUTION OF THE WORK OF THIS SECTION CONSTITUTES ACCEPTANCE OF THE BASE OR ADJOINING WORK AND OTHER CONDITIONS AS BEING SATISFACTORY IN EVERY RESPECT AND LATER CLAIMS OF DEFECTS IN SUCH CASES WILL NOT BE ALLOWED.
- F. THE DRAWINGS INDICATE AND THE SPECIFICATIONS DESCRIBED THE GENERAL ARRANGEMENT AND THE APPROXIMATE LOCATION OF EQUIPMENT, FIXTURES, PIPING ETC. EXACT LOCATIONS MAY BE ADJUSTED IN THE FIELD TO SUIT EXISTING CONDITIONS.
- G. THE CONTRACTOR SHALL WITHOUT EXTRA COST TO THE OWNER, MAKE ALL REASONABLE MODIFICATIONS IN THE WORK AS MAY BE REQUIRED TO PREVENT CONFLICT WITH THE WORK OF OTHER TRADES, OR FOR THE PROPER INSTALLATION OF THE WORK.
3. QUALITY ASSURANCE:
- A. ALL PIPES SHALL BE MARKED TO INDICATE MANUFACTURER AND ASTM STANDARD. EACH FULL TYPE LENGTH SHALL HAVE THE MANUFACTURER'S NAME CAST, STAMPED OR ROLLED ON.
- B. EACH FIXTURE SHALL HAVE THE MANUFACTURER'S SYMBOL AND PRESSURE RATING CAST, STAMPED OR ROLLED ON.
4. SCOPE OF WORK:
- A. FURNISH AND INSTALL NEW PLUMBING FIXTURES, PIPING AND EQUIPMENT WHERE INDICATED ON THE CONTACT DRAWINGS. CONNECT TO EXISTING STACKS AND RISERS.
- B. PROVIDE AND INSTALL ALL NEW WORK IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS.
- C. PROVIDE ROUGH CUTTING AND PATCHING FOR THE INSTALLATION OF NEW PIPING.
5. SUBMITTALS:
- A. SUBMIT THE FOLLOWING ITEMS FOR APPROVAL:
1. PLUMBING FIXTURES, SUPPORTS AND TRIM
2. PIPE MATERIAL
3. FITTINGS
4. HANGERS, ESCUTCHEONS AND SLEEVES
5. INSULATION
6. VALVES
7. WATER HEATER
8. FLOOR DRAIN
9. VALVE TAGS & CHART
- B. PREPARE AND SUBMIT PIPING INSTALLATION DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. SUCH APPROVAL SHALL NOT RELIEVE CONTRACTOR OF INSTALLATION RESPONSIBILITIES.
6. PRODUCT DELIVERY, STORAGE AND HANDLING:
- A. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE ON-TIME DELIVERY OF HIS MATERIALS AND EQUIPMENT.
- B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE STORAGE OF ALL EQUIPMENT, FIXTURES, PIPES, VALVES, ETC., EITHER AT THE JOB SITE WHERE DIRECTED BY THE OWNER'S REPRESENTATIVE OR IN HIS OWN WAREHOUSE.
- C. ANY EQUIPMENT, FIXTURES OR PIPING DAMAGED DURING HANDLING, STORAGE OR INSTALLATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
7. GUARANTEE:
- A. AS PART OF THIS CONTRACT, THE PLUMBING CONTRACTOR SHALL GUARANTEE AND CERTIFY THAT ALL WORK INCLUDED IN THESE CONTRACT DOCUMENTS IS FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S FINAL ACCEPTANCE. THE PLUMBING CONTRACTOR SHALL REPAIR OR REPLACE ANY MATERIALS FOUND TO BE DEFECTIVE FOR THAT PERIOD OF TIME. OWNER'S FINAL ACCEPTANCE STARTS WHEN FINAL PAYMENT TO THE CONTRACTOR IS MADE.
8. PIPE AND FITTINGS:
- A. ALL MATERIALS SHALL BE NEW AND INSTALLED IN A FIRST CLASS MANNER.

- B. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ASA, ASTM, AND/OR FS STANDARD. IN ADDITION ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.
- C. REFER TO PIPING AND FITTINGS SCHEDULE ON DRAWING P001 FOR PIPING MATERIALS.
9. VALVES:
- A. ISOLATION CONTROL VALVES (2-1/2" AND SMALLER): BRONZE TWO-PIECE BALL TYPE 250 PSI WSP, THREADED ENDS, AND SOLDERED JOINT END SIMILAR TO CONBRACO, APOLLO 70-300 SERIES.
- B. CHECK VALVES: BRONZE SWING TYPE, 125 PSI, SIMILAR TO STOCKHAM NO. B-319.
- C. THROTTLING VALVES: GLOBE BRONZE, SOLDER ENDS, CLASS 125 SIMILAR TO STOCKHAM NO. B-14T.
- D. GAS VALVES:
1. FOR GAS PIPING, 2" SIZE AND SMALLER, A TOP ENTRY VALVE, CRANE "ACCESSO" WITH BUENA "N" SEAT IN CARBON STEEL BODY AND FIXED HANDLE, SHALL BE USED.
2. VALVES FOR GAS PIPING, 2-1/2" AND LARGER SHALL BE IRON, THREADED END CONSTRUCTION, LUBRICATED PLUG COCK WITH SQUARE HEAD OPERATING PLUG. VALVE SHALL BE RATED AT 2003 W.O.G. VALVE SHALL BE WALWORTH CO. NO. 1700F.
10. INSULATION (INDOORS):
- A. COLD, HOT WATER PIPING, HORIZONTAL STORM PIPING AND HORIZONTAL FLOOR DRAIN WASTE PIPING IN MECH. ROOMS.
1. JOHN MANSVILLE MICRO-LR 850 FIBERGLASS PIPE INSULATION TYPE AP-T, 1 INCH THICK COMPOSITE INSULATION. FIRE AND SMOKE HAZARD RATING NOT TO EXCEED A FLAME SPREAD OF 25 OR SMOKE DEVELOPMENT OF 50.
- B. COLD, HOT WATER, HORIZONTAL STORM PIPING FITTINGS AND VALVES.
1. JOHN MANSVILLE PRE-CUT, HI-LO TEMP INSULATION INSERTS AND ZESTON 25/50 RATING PVC INSULATED FITTING COVERS.
11. HANGERS:
- A. EXCEPT AS OTHERWISE INDICATED, PROVIDE FACTORY FABRICATED HANGERS, CLAMPS, RODS, BUILDING ATTACHMENTS, SADDLES AND SHIELDS COMPLYING WITH ANSI MSS-SP-58. CONTRACTOR SHALL SELECT AND APPLY HANGERS AND SUPPORTS IN ACCORDANCE WITH MSS-SP-69.
- B. ALL HANGER, ANCHORS AND SUPPORTS SHALL BE AS MANUFACTURES BY THE FEE AND MASON COMPANY OR APPROVED EQUAL AS FOLLOWS:
1. ALL BARE HORIZONTAL CAST IRON PIPING SHALL BE HUNG WITH FIG. #239 ADJUSTABLE GALVANIZED STEEL HANGERS.
2. ALL INSULATED HORIZONTAL PIPING SHALL BE HUNG WITH FIG. #239 ADJUSTABLE GALVANIZED STEEL CLEVIS HANGERS WITH FIG. #71 RIGID INSULATION SADDLE. SADDLE BA S 180' SECTION OF 1 INCH POLYURETHANE FOAM, ALUMINUM FACED, WATERPROOF JACK EXTENDING ALL AROUND A 180' SECTION OF GALVANIZED METAL SHIELD. SHIELD AND SECTION OF INSULATION SHALL BE FIBERGLASS AS SPECIFIED IN INSULATION SECTIONS OF THE SPECIFICATION.
3. VERTICAL LINES SHALL BE SUPPORTED BY MEANS OF RISER CLAMPS. RISER CLAMPS SHALL FIT EXACT PIPE SIZE OR BARE PIPES. FOR CAST IRON PIPES USE FIG. #241. TWO BOLT, GALVANIZED BLACK STEEL CLAMPS OR FIG. #368 CARBON STEEL COPPER PLATED RISER CLAMP.
4. RODS FOR PIPE HANGERS SHALL BE FIG. #263. CONTINUOUS THREADED ROD, GALVANIZED STEEL SIZED FOR THE LOAD REQUIRED.
- C. INSTALLATION
1. ATTACH HANGER RODS TO THE BUILDING IN A MANNER APPROVED BY THE ARCHITECT.
2. DO NOT HANG PIPING FROM DUCTWORK OR OTHER PIPING.
3. THE CONTRACTOR MAY COORDINATE WITH THE OTHER WORK OR EXISTING PIPING TO USE A COMMON MEANS OF SUPPORT. SUBMIT FOR APPROVAL ALL PERTINENT DESIGN DATA RELATING TO THE SUPPORT AS WELL AS VERIFICATION OF THE RESPONSIBILITY FOR THE SUPPORT.
4. HANGERS SHALL NOT PENETRATE INSULATION
- D. INTERVAL OF SUPPORTS
1. HORIZONTAL PIPING SHALL BE SUPPORTED AT INTERVALS AS FOLLOWS:
- a. CAST IRON PIPE SHALL BE SUPPORTED AT 5 FT. INTERVALS
- b. COPPER TUBING SHALL BE SUPPORTED AT 6 FT. INTERVALS
2. ADDITIONAL HANGERS TO PREVENT SAGGING WILL BE ADDED AS REQUIRED.
12. SLEEVES
- A. PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH FLOORS, WALLS AND PARTITIONS.
1. SLEEVES THROUGH WALLS, AND WHERE SERVING EXPOSED PIP PENETRATING FLOORS SHALL BE SCHEDULE 40 STEEL PROVIDED WHERE NECESSARY.
2. SLEEVES WITHIN FURRED OUT ENCLOSURE SHEET ROCK PARTITIONS AND BLOCK WALLS SHALL BE 18 GAUGE GALVANIZED SHEET METAL.
- B. PROVIDE OPENINGS WITH AN I.D. AT LEAST 1/2 INCH GREATER THAN THE OUTSIDE OF THE PIPE SERVED.
- C. DO NOT SUPPORT PIPES BY RESTING PIPE CLAMPS ON SLEEVES.
13. PLUMBING FIXTURES AND TRIM
- A. PLUMBING FIXTURES AND TRIM
1. FURNISH AND INSTALL NEW PLUMBING FIXTURES AND TRIM WHERE SHOWN ON THE CONTRACT DRAWINGS. THE ARCHITECT'S INTERIOR FINISH DRAWINGS SHALL BE FOLLOWED FOR THE LOCATION OF ALL NEW FIXTURES.
2. FIXTURES SHALL BE SET LEVEL AND SQUARE WITH RELATION TO FINISHED FLOOR AND WALL LINES.
3. FAUCETS SHALL BE CHROME-PLATED BRASS, MONEL OR STAINLESS MATERIALS SHALL BE THOROUGHLY CLEANED AND POLISHED BEFORE PLATING. PLATE SHALL BE HEAVY, THOROUGHLY AND EVENLY APPLIED, AND GUARANTEED NOT TO STRIP OR PEEL. PLATED WORK SHALL BE HIGHLY BUFFED. FAUCETS SHALL HAVE METAL INDICES AND SHALL BE OF THE RENEWABLE SEAT TYPE.
4. EACH FIXTURE SUPPLY CONNECTION SHALL BE PROVIDED WITH INDIVIDUAL SHUT-OFF OR STOP VALVES.
5. ESCUTCHEONS SHALL BE ONE PIECE CAST BRASS CHROMIUM-PLATES AND SHALL BE PROVIDED WITH SET SCREWS TO PROPERLY HOLD ESCUTCHEON IN PLACE.
6. BEFORE FINAL ACCEPTANCE, ADJUST FIXTURE STOPS FOR AN AMPLE NON-SPLASHING FLOW.
7. WHERE WASTE, VENT OR WATER SUPPLY PIPING IS EXPOSED TO VIEW AT FIXTURES, THE PIPES ALL BE CHROMIUM-PLATED. NO COVER TUBING WILL BE PERMITTED.
8. NECESSARY CARRIERS, BRACKETS, PLATES, CLEATS, BOLTS, ETC. SHALL BE FURNISHED FOR SECURING FIXTURES RIGIDLY IN PLACE.

9. SPACES BETWEEN PLUMBING FIXTURES AND FLOORS, WALLS OR COUNTERS SHALL BE SEALED WITH A WATERPROOF SEALANT TO PREVENT WATER SEEPAGE.
10. PROVIDE VACUUM BREAKERS WHERE REQUIRED FOR SUBMERGED INLETS.
- B. FIXTURES AND TRIM: SEE ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS.
- C. FIXTURE INSTALLATION
1. EACH FIXTURE SHALL BE INDIVIDUALLY CONTROLLED WITH INDIVIDUAL STOPS.
2. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLUMBING FIXTURES FROM DAMAGE.
3. UPON COMPLETION OF INSTALLATION AND TESTING, PLUMBING FIXTURES SHALL BE CLEANED AND LEFT IN FIRST CLASS CONDITION AND IN WORKING ORDER.
14. FLOOR DRAINS, FUNNEL FLOOR DRAINS, FUNNELS DRAINS FLOOR SINK
- A. FLOOR DRAIN (FD) — JAY R. SMITH MFG. CO. FIG. 2005Y-NB, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, DUCCO CAST IRON BODY, MEMBRANE CLAMP.
- B. FUNNEL FLOOR DRAIN (FFD) — JAY R. SMITH MFG. CO. FIG. 3510Y-NB, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, DUCCO IRON BODY, MEMBRANE CLAMP.
- C. FUNNEL DRAIN (ABOVE FLOOR) — JAY R. SMITH MFG. CO. FIG. 3822T, DUCCO COATED CAST IRON WITH THREADED OUTLET.
- D. FLOOR SINK DRAIN (FS) — JAY R. SMITH MFG. CO. FIG. 3100Y-12-C, 1-1/2 GRATE NICKEL BRONZE RIM, ALUMINUM DOME STRAINER, CAST IRON BODY AND FLASHING CLAMP.
- E. SHOWER DRAIN — JAY R. SMITH MFG. CO. FIG. 2055Y-NB, ADJUSTABLE ROUND NICKEL BRONZE STRAINER, DUCCO CAST IRON BODY, MEMBRANE CLAMP.
15. ESCUTCHEONS
- A. INSTALL ESCUTCHEONS ON BOTH SIDES OF CONSTRUCTION WHEREVER PIPES PASS THROUGH WALLS, FLOORS, PARTITIONS OR CEILINGS. ESCUTCHEONS SHALL BE HELD IN PLACE WITH SET SCREWS. TAKE SPECIAL CARE TO PROTECT ESCUTCHEONS DURING THE COURSE OF CONSTRUCTION.
- B. ESCUTCHEON APPLICATION SCHEDULE
1. FINISHED SPACES SHALL BE POLISHED BRASS.
2. UNFINISHED SPACES SHALL BE PLAIN BRASS OR CAST IRON.
16. WATER FILTER
- A. AQUA PURE WATER FILTER BY CUNO MODEL AP2000, 1/2" NPT. COMPACT DUAL ACTION WATER FILTER WITH DUAL ACTION FILTERING PROCESSES, PROVIDES 3 ADDITIONAL REPLACEMENT CARTRIDGES MODEL AP217.
17. VACCUUM BREAKER
- A. VACCUUM BREAKER (TYPE A) — CAST BRASS CHROME PIPE IS EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 800MCQT. (CONSTANT PRESSURE VACCUUM BREAKER).
- B. VACCUUM BREAKER (TYPE B) — CAST BRASS CHROME PIPE IF EXPOSED TO PUBLIC VIEW SIMILAR TO WATTS NO. 909-S.
- C. PROVIDE WHERE INDICATED ON THE DRAWINGS
18. DISINFECTION
- A. DISINFECTION INTERIOR POTABLE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH REQUIREMENTS OF LOCAL BUILDING CODE.
19. DISSIMILAR METALS
- A. PROVIDE ISOLATION FLANGES FOR CONNECTIONS WITH ANY DISSIMILATION METALS.
20. INSTALLATION
- A. ALL DRAINAGE PIPING 3" AND LARGER SHALL RUN AT A UNIFORM GRADE OF AT LEAST 1/8" PER FOOT, UNLESS OTHERWISE INDICATED. ALL DRAINAGE PIPING AT 2" AND SMALLER PITCH AT 1/4" PER FOOT MINIMUM.
- B. ALL DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE EASY BENDS WITH LONG TURN FITTINGS. DRAINAGE PIPING AT FIRST FLOOR CEILING SHALL BE RUN AS HIGH AS EXISTING CONDITIONS WILL PERMIT.
- C. ALL VENT PIPES SHALL BE GRADED TO FREE THEMSELVES OF ANY WATER OR CONDENSATION.
- D. ALL WATER PIPING SHALL RUN FREE OF TRAPS AND UNNECESSARY BENDS. ANY TRANSFORMED SHALL BE PROVIDED WITH VALVES TO COMPLETELY DRAIN THE SYSTEM. ALL HOT AND COLD WATER PIPING SHALL BE SEPERATED BY A MINIMUM OF 6" ON CENTER.
- E. ALL CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH DIELECTRIC UNIONS.
- F. ALL PIPING SHALL HAVE REDUCING FITTINGS. NO BUSHING WILL BE PERMITTED ON ANY PIPING.
- G. NO PIPING OR WORK OF ANY KIND SHALL BE CONCEALED OR COVERED UNTIL ALL REQUIRED TESTS HAVE BEEN SATISFACTORILY COMPLETED AND THE WORK HAS BEEN INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE AND ALL AUTHORITIES HAVING JURISDICTION.
- H. NO DEAD ENDS SHALL BE LEFT ON ANY DRAINAGE PIPE UPON COMPLETION OF THE WORK.
21. COORDINATION
- A. CERTAIN MATERIALS WILL BE FURNISHED, INSTALLED OR FURNISH INSTALLED, UNDER OTHER SECTIONS. EXAMINE THE CONTRACT DOCUMENTS TO ASCERTAIN THESE.
- B. TRASNMIT TO THE TRADES DOING THE WORK OF OTHER SECTIONS ALL THE INFORMATION REQUIRED FOR WORK TO BE PROVIDED UNDER THEIR RESPECTIVE SECTIONS IN AMPLE TIME FOR THEIR INSTALLATION.
- C. ALL NEW WORK SHALL BE COORDINATED WITH EXISTING CONDITIONS
22. TESTING AND BALANCING
- A. PROVIDE LABOR MATERIALS, INSTRUMENTS, POWER, ETC. AS REQUIRED FOR TESTING AND BALANCING. ALL PIPING AND EQUIPMENT SHALL BE TESTED AS REQUIRED BY THE LOCAL BUILDING CODE. TESTS SHALL BE PERFORMED IN THE PRESENCES OF THE OWNER'S REPRESENTATIVE AND SUCH OTHER PARTIES AS MAY HAVE LEGAL JURISDICTION.
- B. NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST 48 HOURS IN ADVANCE OF MAKING THE REQUIRED TESTS, SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS THE TESTS.
- C. TESTS SHALL BE APPLIED TO COMPLETED OR PARTIALLY COMPLETED SYSTEMS. IN NO CASE SHALL PIPING AND EQUIPMENT BE SUBJECTED TO PRESSURES EXCEEDING THEIR RATING.
- D. ALL DEFECTIVE WORK SHALL BE PROMPTLY REPAIRED OR REPLACED AND THE TESTS SHALL BE REPEATED UNTIL THE PARTICULAR SYSTEM AND ALL COMPONENTS PARTS RECEIVE THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- E. ANY DAMAGES RESULTING FROM TESTS SHALL BE REPAIRED AND/OR DAMAGED MATERIALS REPLACED. ALL TO THE SATISFACTION OF THE OWNER. THE DURATION OF TESTS SHALL NE AS DETERMINED BY ALL AUTHORITIES HAVING JURISDICTION.
23. SUBSTITUTION OR SPECIFIC MATERIALS
- A. THE PRODUCTS AND/OR MATERIALS LISTED IN THESE SPECIFICATIONS REPRESENT DESIRED MATERIALS AND CONSTRUCTION STANDARDS FOR THE VARIOUS ITEMS OR WORK. MANUFACTURER

- NAMES AND MODEL NUMBERS ARE USED TO DESCRIBE, TYPES, STYLES AND QUALITY. MATERIALS SUBMITTED FOR APPROVAL OTHER THAN SPECIFIED HEREIN MUST OR EXCEED THESE STANDARDS.
24. VALVE TAGS AND CHART
- A. EACH VALVE, EXCEPT VALVES AT FIXTURES, WILL HAVE A 2" DIAMETER. BRASS TAG WITH 1" HIGH NUMERAL STAMPED THEREON, SECURED TO THE VALVE BY MEANS OF BRASS S HOOK OR BRASS CHAIN. EACH SYSTEM TO HAVE A LETTER DESIGNATION AS WELL.
- B. THE CONTRACTOR SHALL FURNISH AN APPROVED, NEATLY DRAWN VALVE CHART, PROPERLY FRAMED SHOWING THE USE AND LOCATION OF EACH VALVE THAT IS TAGGED.
25. COFFEE MAKER (FURNISHED BY OTHERS)
- A. INSTALL WHERE INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE 1/2" COLD WATER CONNECTIONS WITH VACUUM BREAKER TYPE "A", CHECK VALVE AND GATE VALVE. VACUUM BREAKER TO BE INSTALLED 12" ABOVE FLOOD LEVEL RIM OF COFFEE MAKER.
26. DISHWASHER — RESIDENTIAL TYPE (FURNISHED BY OTHERS)
- A. RESIDENTIAL TYPE: INSTALL DISHWASHER WHERE INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE ALL ROUGHING AND 1/2" HW SUPPLY WITH GATE VALVE, CHECK VALVE AND VACUUM BREAKER. EXTEND AND CONNECT 1" WASTE HOSE TO TAILPIECE AT SINK WASTE.
27. REFRIGERATOR WITH ICE MAKER (FURNISHED BY OTHERS)
- A. INSTALL REFRIGERATOR WHERE INDICATED ON ARCHITECTURAL DRAWINGS PROVIDE 1/2" COLD WATER WITH GATE VALVE AND CHECK VALVE.
28. SLEEVE FIRE STOPPING
- A. ALL SLEEVES THROUGH RATED WALLS OR PARTITIONS SHALL FORM A U.L. (UL 1479 & ASTM E814 ASTM TESTED). CLASSIFIED FIRESTOP CAPABLE OF RETURNING THE WALL PARTITION BACK TO ITS UNPENETRATED FIRE RESISTANCE.
- B. FIRESTOPPING CAULK SHALL BE SIMILAR TO 3M CP 25WB + CAULK.
- C. FIRESTOPPING WRAP SHALL BE SIMILAR TO 3M FS-195 + WRAP/STRIP.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: AG, LH
Scale: NONE	Approved By: TL
Job No: 24 /---	File: nh_irsuite.db

Drawing Title:

PLUMBING
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Revisions:



Drawing Number:

P300

DEMOLITION NOTES	
1.	DEMOLITION NOTES, SYMBOL LISTS AND DETAILS ARE APPLICABLE TO ALL FIRE PROTECTION DRAWINGS.
2.	ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
3.	AFTER REMOVING PIPING THROUGH FLOOR SLABS, PENETRATIONS SHALL BE PATCHED WITH APPROVED FIRE-RATED MATERIAL.
4.	THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF FIRE PROTECTION WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
5.	ALL EXISTING WORK REQUIRED TO REMAIN BUT INTERFERING WITH THE PROPOSED NEW FIRE PROTECTION SYSTEM SHALL BE RELOCATED AND RECONNECTED USING MATERIALS CONFORMING TO THE STANDARDS AND SPECIFICATIONS OF THESE CONTRACT DOCUMENTS.
6.	REMOVE ALL WET SPRINKLER HEADS AND ASSOCIATED BRANCH PIPING, HANGERS, ETC IN AREA OF DEMOLITION WORK BACK TO EXISTING SPRINKLER MAIN. CAP ALL REMAINING PIPE OPENINGS AT MAIN. EXISTING BRANCH PIPING CONNECTED TO SPRINKLER HEADS TO REMAIN SHALL BE RECONNECTED BACK TO EXISTING MAIN.
7.	THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF FIRE PROTECTION WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED.
8.	PROVIDE ADDITIONAL SUPPORT AND HANGERS FOR ALL EXISTING PIPING TO REMAIN THAT IS AFFECTED BY THE DEMOLITION OF EXISTING CEILINGS AND INTERIOR PARTITIONS.
9.	DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
10.	ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REROUTED TO BE CONCEALED BEHIND FINISHED SURFACES.
11.	ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
12.	THE SHUTDOWN AND DRAINING OF THE EXISTING BUILDING FIRE PROTECTION SYSTEM SHALL BE COORDINATED WITH THE OWNER AND/OR BUILDING MANAGEMENT. THE OWNER AND/OR BUILDING MANAGEMENT SHALL BE CONTACTED AT LEAST 2 BUSINESS DAYS PRIOR TO THE SYSTEM SHUTDOWN.
13.	THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING FIRE PROTECTION SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
14.	WHEN EXISTING SPRINKLER SYSTEM IS DEACTIVATED THE SPRINKLER CONTRACTOR SHALL PROVIDE A TEMPORARY SPRINKLER LOOP AROUND THE CORE OF THE BUILDING OR PROVIDE A 24 HOUR FIRE WATCH UNTIL THE NEW SPRINKLER SYSTEM BECOMES ACTIVE AT NO ADDITIONAL COST TO THE OWNER.
15.	THE CONTRACTOR SHALL REMOVE ALL PIPING SUPPORTS FROM PARTITIONS THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN. THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
16.	THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
17.	ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE FIRE PROTECTION CONTRACTOR, AS DIRECTED BY THE OWNER.
18.	CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS.

GENERAL NOTES	
1.	THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK AND PIPING FABRICATION DRAWING APPROVAL.
2.	ANY MATERIAL, WORK OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
3.	PRIOR TO SUBMISSION OF BID THE CONTRACTOR SHALL VISIT THE SITE TO REVIEW THE EXISTING CONDITIONS ASSOCIATED WITH THE SCOPE OF WORK AND ADJACENT AREAS TO ASCERTAIN THE DIFFICULTIES WHICH WILL AFFECT THE EXECUTION OF THE WORK OF THIS CONTRACT.
4.	SUBMISSION OF A BID WILL BE CONSTRUED AS EVIDENCE THAT A INSPECTION OF THE SITE HAS TAKEN PLACE AND LATER NO CLAIMS FOR ADDITION LABOR, EQUIPMENT, OR MATERIALS DUE TO DIFFICULTIES ENCOUNTERED FROM TO EXISTING CONDITIONS SHALL BE ACCEPTED.
5.	THIS CONTRACTOR SHALL PROVIDE PROTECTION THROUGHOUT THE ENTIRE SPACE WITHIN THE SCOPE OF WORK AS REQUIRED BY THE LOCAL CODES, LOCAL FIRE DEPARTMENT REGULATIONS, BUILDING MANAGEMENT REQUIREMENTS, AND NFPA 13 FOR THE DURATION OF THE PROJECT. ANY TEMPORARY FIRE PROTECTION SYSTEM SHALL BE REMOVED UPON ACTIVATION OF THE PERMANENT FIRE PROTECTION SYSTEM.
6.	SPRINKLER HEADS SHALL BE ±1/2" FROM CENTER OF CEILING TILE. THE CONTRACTOR SHALL PROVIDE FOR ALL ADDITIONAL FITTING TO ACHIEVE THIS AND INCLUDE THE COST FOR ADDITIONAL FITTING IN THEIR CONTRACT PRICE.
7.	THE CONTRACTOR SHALL COORDINATE ALL NEW WORK WITH NEW WORK OF ALL OTHER TRADES AS WELL AS EXISTING CONDITIONS.
8.	THE MINIMUM PIPE SIZE FOR ANY SPRINKLER HEAD SHALL BE 1 INCH.
9.	ALL SPRINKLER PIPE SIZES SHOWN ARE FOR COST ESTIMATING PURPOSES ONLY. THIS CONTRACTOR IS TO PROVIDE THERE OWN HYDRAULIC CALCULATIONS TO DETERMINE PIPE SIZES AND INCLUDE ANY INCREASED/DECREASED PIPING SIZING WITHIN THEIR CONTRACT PRICE.
10.	ALL PIPING SHALL BE INSTALLED TIGHT TO THE BOTTOM OF STEEL AT ALL TIMES UNLESS OTHERWISE INDICATED OR REQUIRED BY FIELD CONDITIONS.
11.	ALL PIPING OF DISSIMILAR MATERIALS SHALL HAVE DIELECTRIC FITTINGS.

SPRINKLER DESIGN CRITERIA	
LIGHT HAZARD OCCUPANCY	
AREAS OF APPLICATIONS:	1500 SQ FT
MAXIMUM COVERAGE PER SPRINKLER:	225 SQ FT
DESIGN DENSITY:	0.10 GPM PER SQ FT
SPACING BETWEEN SPRINKLERS:	15'-0" MAXIMUM
DISTANCE BETWEEN SPRINKLERS & WALLS:	1/2 OF ALLOWABLE DISTANCE BETWEEN SPRINKLERS
ORDINARY HAZARD (GROUP 1) OCCUPANCY (STORAGE ROOMS, MECHANICAL & ELECTRICAL EQUIPMENT SPACES)	
AREAS OF APPLICATIONS:	1500 SQ FT
MAXIMUM COVERAGE PER SPRINKLER:	130 SQ FT
DESIGN DENSITY:	0.15 GPM PER SQ FT
SPACING BETWEEN SPRINKLERS:	15'-0" MAXIMUM
DISTANCE BETWEEN SPRINKLERS & WALLS:	1/2 OF ALLOWABLE DISTANCE BETWEEN SPRINKLERS

SPRINKLER HEAD SCHEDULE								
SYMBOL	TYPE	STYLE	TEMP.	FINISH	RESPONSE	ORIFICE K-FACTOR	MANUFACTURER MODEL	REMARKS
●	PENDENT	CONCEALED	135°	WHITE	QUICK	1/2" 5.6	RELIABLE GS-56	--

FIRE PROTECTION SYMBOLS AND ABBREVIATIONS	
BFP	BACKFLOW PREVENTOR
E	EXISTING
ER	EXISTING TO REMAIN
ETR	EXISTING TO BE RELOCATED
FLA	FULL LOAD AMPS
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FHR	FIRE HOUSE RACK ASSEMBLY
FS	WATERFLOW SWITCH
GPM	GALLONS PER MINUTE
HZ	HERTZ
KW	KILOWATT
MCA	MINIMUM CIRCUIT AMPS
NTS	NOT TO SCALE
PH	PHASE
POC	POINT OF CONNECTION
SCA	SPRINKLER CONTROL ASSEMBLY
SQ FT	SQUARE FEET
TS	TAMPER SWITCH
TYP	TYPICAL
V	VOLTS
●	NEW CONCEALED PENDENT SPRINKLER
⊙	EXISTING SPRINKLER TO REMAIN
⊗	EXISTING SPRINKLER TO BE REMOVED
——	NEW SPRINKLER PIPING
——	EXISTING SPRINKLER PIPING TO REMAIN
- - -	NEW SPRINKLER DRAIN PIPING
⌋	CAPPED PIPE
⌋⋈⌋	CAPPED AND VALVE CONNECTION
→	PITCH PIPE DOWN IN DIRECTION OF ARROW
⌋○	ELBOW TURNED UP
⌋⋈	ELBOW TURNED DOWN
⌋⋈⌋	BOTTOM PIPE CONNECTION
⌋⋈⌋	TOP PIPE CONNECTION
⌋⋈⌋	SHUT-OFF VALVE (GATE OR BALL VALVE SEE SPECS)
⌋⋈⌋	GLOBE VALVE
⌋⋈⌋	CHECK VALVE
⌋⋈⌋	WATERFLOW SWITCH
□	NEW EQUIPMENT
⊗-⊗ ⊗-⊗	EXISTING EQUIPMENT TO BE REMOVED
⌋⌋⌋	EXISTING EQUIPMENT TO REMAIN
⌋⌋⌋ETR	EXISTING EQUIPMENT TO BE RELOCATED
⊙	POINT OF NEW CONNECTION TO EXISTING WORK
⊙	REMOVE AND SAFE OFF EXISTING WORK FOR RECONNECTION
⊗	FIRE PROTECTION PLAN NOTE TAG
△	REVISION SYMBOL
⌋⌋	HYDRAULIC CALCULATIONS NODE

FIRE PROTECTION DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
FP001	FIRE PROTECTION NOTES AND LEGEND
FP100	FIRE PROTECTION PLANS
FP200	FIRE PROTECTION SPECIFICATIONS

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INTERIOR ALTERATIONS THIRD FLOOR

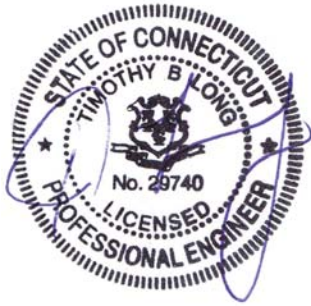
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**FIRE PROTECTION
NOTES AND LEGENDS**

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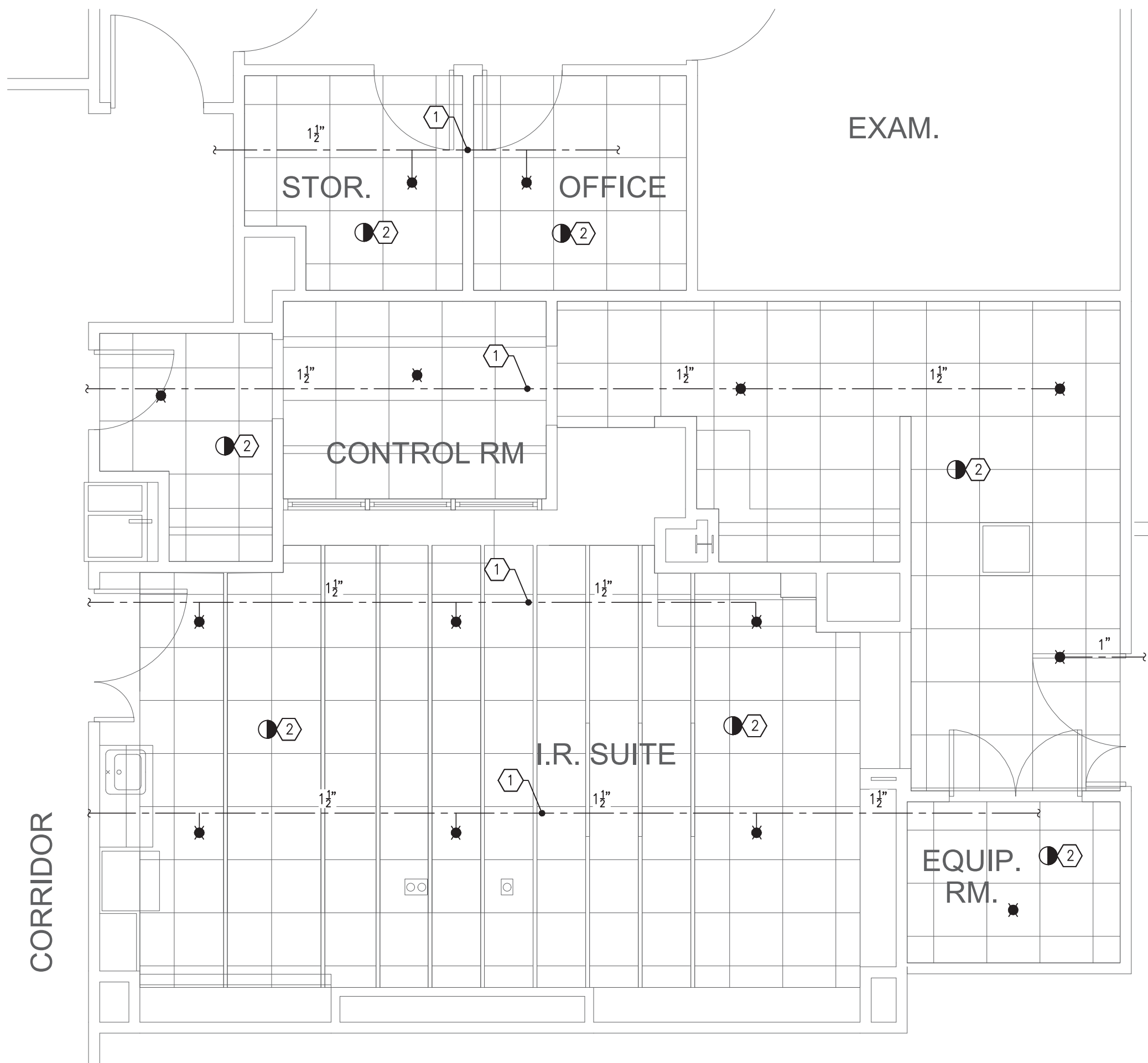
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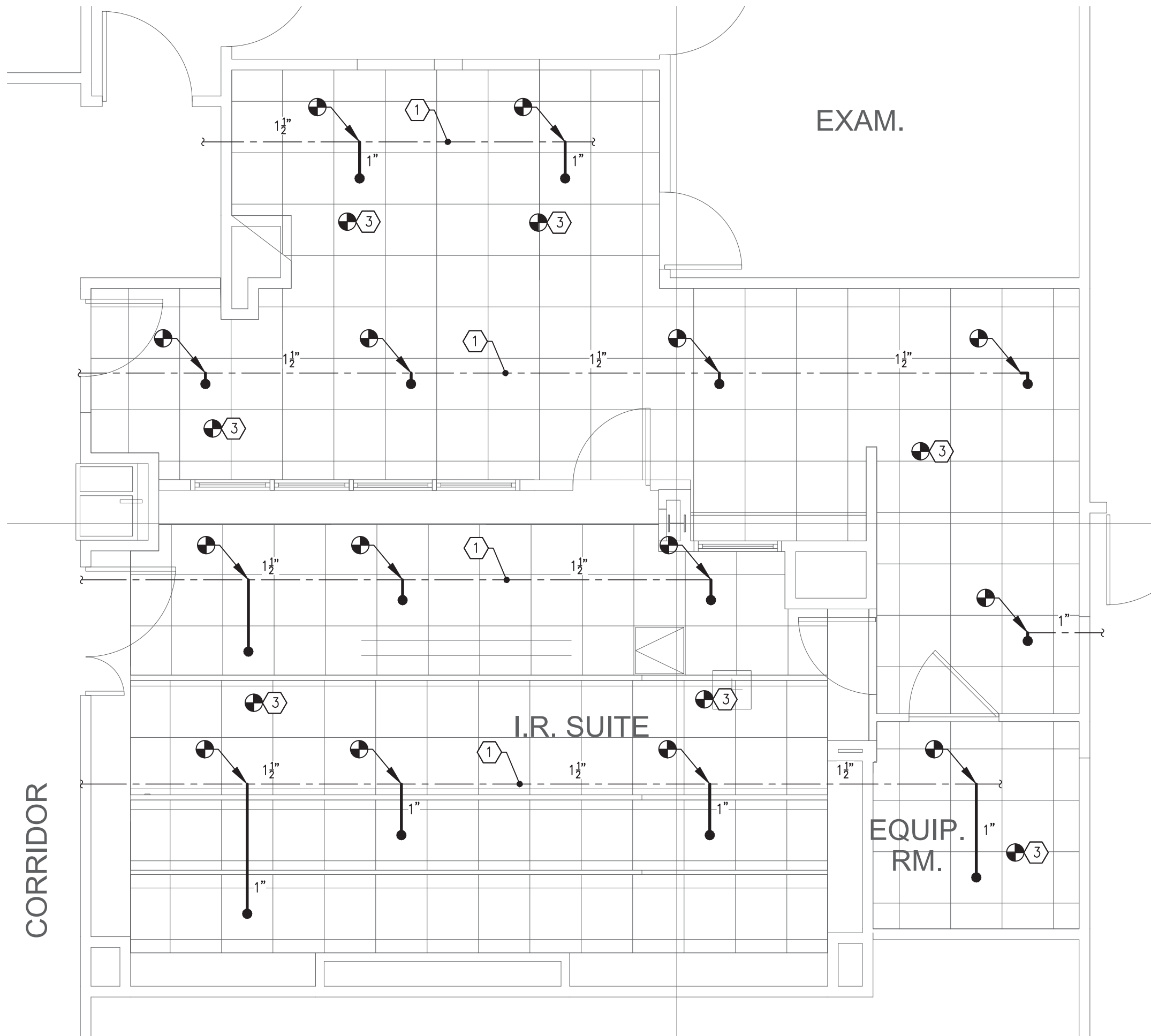


Drawing Number:

FP001



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



2 FIRE PROTECTION PLAN
SCALE: 1/4" = 1'-0"

FIRE PROTECTION PLAN NOTES

- EXISTING FIRE PROTECTION PIPING SERVING AREA OF WORK TO REMAIN.
- EXISTING SPRINKLERS IN AREA OF WORK TO BE DEMOLISHED AND REPLACED WITH NEW. REUSE EXISTING SPRINKLER BRANCH PIPING LOCATIONS AS POINTS OF CONNECTION FOR NEW SPRINKLER WORK.
- PROVIDE NEW SPRINKLER HEADS IN AREA OF WORK. REUSE EXISTING SPRINKLER BRANCH PIPING LOCATIONS AS POINTS OF CONNECTION FOR NEW SPRINKLER WORK.

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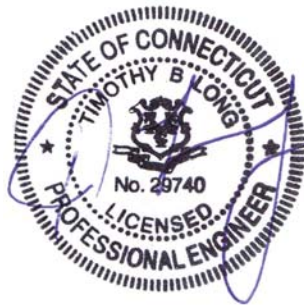
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**FIRE PROTECTION
PLANS**

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Drawing Number:

FP100

PART 1 – GENERAL

- 1.01 GENERAL REQUIREMENTS
- A. INSTALL ALL NEW WORK IN A NEAT WORKMANLIKE MANNER READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR.

B. CODES, PERMITS AND INSPECTIONS:

1. ALL WORK SHALL COMPLY WITH REQUIREMENTS OF CURRENT NFPA–13 STANDARD FOR THE "INSTALLATION OF SPRINKLER SYSTEMS", CURRENT NFPA–101 "LIFE SAFETY CODE", AND ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.

2. THIS CONTRACTOR SHALL OBTAIN ALL EQUIPMENT APPROVALS AS REQUIRED BY STATE AND LOCAL AUTHORITIES. PERMITS SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.

C. SITE VERIFICATION:

1. PRIOR TO SUBMISSION OF THE BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE BID, AND IF NOT RESOLVED TO SATISFACTION, SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.

D. CONTRACT DOCUMENTS:

1. PRIOR TO SUBMISSION OF A FORMAL BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.

2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND COORDINATE FINAL LOCATIONS OF SPRINKLER HEADS AND PIPING. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT

3. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.

E. GUARANTEE:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE FIRE PROTECTION WORK IS TAKEN OVER AND ACCEPTED BY THE OWNER, AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE SYSTEM.

2. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL INCLUDE RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THIS CONTRACTOR.

3. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK.

G. DEFINITIONS:

1. FIRE PROTECTION CONTRACTOR, "THIS CONTRACTOR" – THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE FIRE PROTECTION WORK AS DESCRIBED HEREIN.

2. "THIS CONTRACT", "THE CONTRACT" – THE AGREEMENT COVERING THE WORK TO BE PERFORMED BY THIS CONTRACTOR.

3. "APPROVED", "EQUAL", "SATISFACTORY", "ACCEPTED", "ACCEPTABLE", "EQUIVALENT" – SUITABLE FOR USE ON THE PROJECT, AS DETERMINED BY THE ENGINEER BASED ON DOCUMENTS PRESENTED FOR SUCH DETERMINATION.

4. "THESE SPECIFICATIONS", "THIS SECTION, PART, DIVISION" (OF THE SPECIFICATION) – THE DOCUMENT SPECIFYING THE WORK TO BE PERFORMED BY THIS CONTRACTOR.

5. "THE FIRE PROTECTION WORK", "THIS WORK" – ALL LABOR MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES, AND OTHER ITEMS REQUIRED FOR A PROPER AND COMPLETE INSTALLATION BY THE MECHANICAL CONTRACTOR.

6. "ARCHITECT", "ENGINEER", "OWNER'S REPRESENTATIVE" – THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.

7. "FURNISH" – PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE MECHANICAL WORK.

8. "INSTALL" – UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE MECHANICAL WORK.

9. "PROVIDE" – "FURNISH" AND "INSTALL".

10. "NEW" – MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED.

11. "RELOCATE" – MOVE EXISTING EQUIPMENT AND ALL ACCESSORIES AS REQUIRED.

12. "REMOVE" – DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL ITEMS SHALL BE LEGALLY DISPOSED OF. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY AFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.
- 1.02 SCOPE OF WORK
- A. EXISTING FIRE PROTECTION SYSTEM IS A "WET PIPE" SYSTEM, EMPLOYING AUTOMATIC SPRINKLERS ATTACHED TO A PIPING SYSTEM CONTAINING WATER. THE MODIFICATION OF THE EXISTING SPRINKLER SYSTEM SHALL INCLUDE THE FOLLOWING:

1. INSTALL AUTOMATIC SPRINKLERS AND PIPING WHERE SHOWN ON THE CONTRACT DRAWINGS.

2. REMOVE EXISTING SPRINKLER HEADS WHERE SHOWN ON THE CONTRACT DRAWINGS.

3. CONNECT NEW BRANCH PIPE TO EXISTING BRANCH PIPE AND MAIN PIPE.

4. TEST ALL NEW WORK IN THE PRESENCE OF THE OWNERS' REPRESENTATIVE AND ALL AUTHORITIES HAVING JURISDICTION.

5. PREPARE AS–BUILT DRAWINGS INDICATING ACTUAL LOCATIONS OF SPRINKLER HEADS AND PIPING.

B. SECURE CERTIFICATES, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED, CERTIFYING COMPLIANCE WITH ALL AUTHORITIES. CONTRACTOR TO COORDINATE WITH OWNER FOR REQUIRED SPECIAL INSPECTIONS AND OBTAIN ALL APPROVALS. DELIVER CERTIFICATES TO OWNER FOR SIGNING BEFORE FILING
- 1.03 COORDINATION WITH BUILDING MANAGEMENT
- A. THIS CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE THE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING.

B. THIS CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING RULES AND REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW WITH BID SUBMISSION.

- C. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME, IF SO DIRECTED BY BUILDING OWNER, SO AS NOT TO DISTURB EXISTING TENANTS ON OTHER FLOORS.
- 1.04 PERFORMANCE REQUIREMENTS
- A. THE FIRE PROTECTION SYSTEM SHALL BE DESIGNED IN COMPLETE ACCORDANCE WITH NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2015 EDITION.

B. STANDARD PIPING SYSTEM COMPONENT WORKING PRESSURE LISTED FOR AT LEAST 175 PSIG.
- 1.05 SHOP DRAWINGS
- A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT AND MATERIALS PROVIDE COMPLETE SET OF COORDINATED SHOP DRAWINGS OF ALL NEW EQUIPMENT AND MATERIALS FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER. SHOP DRAWINGS SUBMISSION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. PIPE AND FITTINGS

2. SPRINKLER HEADS

3. INSTALLATION DRAWINGS

4. PIPING HEADS

5. HYDRAULIC CALCULATIONS

6. SUPPORTS, HANGERS AND GUIDES

B. INSTALLATION DRAWINGS: PROVIDE HYDRAULICALLY CALCULATED DIMENSIONAL INSTALLATION PIPING LAYOUTS COORDINATED WITH ALL TRADES INDICATING ALL SPRINKLER PIPING, DRAINS, AND PIPE SIZES.

C. THE QUANTITY OF SHOP DRAWINGS SHALL AS A MINIMUM BE FOUR (4) COPIES OF 8–1/2" X 11" SUBMISSIONS AND FIVE (5) PRINTS OF ALL DRAWINGS. SPECIFIC JOB REQUIREMENTS MAY BE MORE STRINGENT AND CONTRACTOR IS RESPONSIBLE TO OBTAIN REQUIREMENTS FROM OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR ARCHITECT.
- 1.06 MAINTENANCE MANUALS
- A. SUBMIT FOUR (4) LOOSE–LEAF BOUND OPERATING AND MAINTENANCE MANUALS WITH INDEX AND INDEX TABS TO INCLUDE THE FOLLOWING:

1. SPRINKLER AS–BUILT DRAWINGS WITH KEY PLAN DRAWINGS INSERTED IN BINDER.

2. ALL ITEMS SUBMITTED FOR REVIEW IN SHOP DRAWING SECTION.

3. OPERATION AND MAINTENANCE DATA FOR SPRINKLER SPECIALTIES
- 1.07 AS–BUILT DRAWINGS
- A. CONTRACTOR SHALL MAINTAIN RECORD DRAWING PRINTS ON JOB SITE AND RECORD, AT TIME OF OCCURRENCE, DEVIATIONS FROM CONTRACT DOCUMENTS DUE TO FIELD COORDINATION, BULLETINS, OR ADDENDA.

B. CONTRACTOR SHALL REVISE SHOP DRAWINGS TO CONFORM TO RECORD DRAWINGS AND SUBMIT AS–BUILT CONDITION DRAWINGS UPON COMPLETION OF THE PROJECT. FINAL SUBMISSION OF REPRODUCIBLE AS–BUILT DRAWINGS ARE TO BE SIGNED AND CERTIFIED BY THE INSTALLING CONTRACTOR THAT THIS IS THE AS–BUILT CONDITION OF THE WORK.
- 1.08 SUBSTITUTIONS
- A. NO SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER WHICH INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, ELECTRICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM SUBSTITUTION. ALL ITEMS SHALL BE SUBMITTED FOR REVIEW IN CONJUNCTION WITH THE SUBMITTAL OF THE SUBSTITUTION. ANY SUBSTITUTION MUST BE SUBMITTED WITH AN EXPLANATION AS TO WHY A SUBSTITUTION IS BEING UTILIZED. IF THE SUBSTITUTED ITEM DEVIATES FROM THE SPECIFIED ITEM, THOSE DEVIATIONS ARE TO BE IDENTIFIED ON A LINE–BY–LINE BASIS. IF THE SUBSTITUTE IS BEING UTILIZED FOR FINANCIAL REASONS, THE ASSOCIATED CREDIT MUST BE SIMULTANEOUSLY SUBMITTED.

PART 2 – PRODUCTS/APPLICATIONS

- 2.01 PIPING
- A. PIPING 2" AND SMALLER SHALL BE ANSI/ASTM A 53; ASTM A126; ASTM A 135 SCHEDULE 40 STANDARD WEIGHT BLACK STEEL. PIPING SHALL BE THREADED OR GROOVED FOR MECHANICAL COUPLINGS.

B. PIPING 2–1/2" AND ABOVE SHALL BE SCHEDULE 10 STEEL WITH VICTAULIC COUPLINGS.
- 2.02 FITTINGS
- A. STEEL WELDING: STANDARD SEAMLESS STEEL, ANSI B–16.9 AND ASTM A–234

B. STEEL FLANGES: ANSI B–16.5

C. GROOVED END MALLEABLE IRON FITTINGS AND BOLTED CLAMP TYPE MALLEABLE IRON COUPLINGS WITH RUBBER SEALING GASKETS FOR ROLLED GROOVED END PIPE, MINIMUM WORKING PRESSURE OF 250 PSI, SIMILAR TO VICTAULIC CO. PROVIDE "FLUSH SEAL" TYPE GASKETS FOR ALL DRY SYSTEM FITTINGS.

D. CLOSE NIPPLES OR PLAIN END FITTINGS ARE NOT PERMITTED.
- 2.03 ESCUTCHEONS
- A. ALL EXPOSED PIPING PASSING THROUGH WALLS, FLOORS, PARTITIONS AND CEILINGS SHALL BE PROVIDED WITH A TWO PIECE HINGED, CHROME PLATED METAL ESCUTCHEON SIMILAR TO ARGCO SERIES.
- 2.04 PIPING SUPPORTS
- A. ALL PIPING SHALL BE SUPPORTED FROM BUILDING CONSTRUCTION BY INSERTS, BEAM CLAMPS, STEEL FISHPLATES AND ACCEPTABLE BRACKETS. SUBMIT ALL METHODS OF SUPPORT FOR REVIEW.

B. PROVIDE ADDITIONAL FRAMING TO SUPPORT PIPING WERE BUILDING CONSTRUCTION IS INADEQUATE.

C. PROVIDE MINIMUM PIPE SUPPORTS SPACING AS REQUIRED BY NFPA 13. ALL PIPING SUPPORT MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 13.

D. TOP BEAM CLAMPS AND RETAINING STRAPS

1. CARBON STEEL CLAMP BODY WITH HARDENED STEEL CUP POINT SET SCREW AND LOCKNUT. BODY SHALL BE TAPPED THROUGH TO PERMIT EXTENDED ADJUSTMENT OF THREADED ROD.

2. GALVANIZED ELECTRO OR HOT DIPPED FINISH

3. GALVANIZED RETAINING STRAPS SHALL BE USED WITH ALL BEAM CLAMPS.

E. HANGER RODS: CARBON STEEL, CONTINUOUS THREAD, ELECTRO–GALVANIZED SIZED IN ACCORDANCE WITH NFPA 13 REQUIREMENTS.

F. ADJUSTABLE HANGER RINGS: CARBON STEEL, MIL GALVANIZED TO G–90 SPECIFICATION WITH KNURLD SWIVEL NUT SIZED TO NFPA 13 REQUIREMENTS.

G. EXPANSION ANCHORS: MAXIMUM LOADING, INCLUDING PIPE CONTENTS, COVERING AND ALL REQUIRED LOADS, 75 PERCENT OF MAXIMUM RATED LOAD, SAE 110M, SLOTTED TYPE, PLATED WITH DULL ZINC FINISH SIZED PER NFPA 13 REQUIREMENTS. USE ONLY AT LOCATIONS APPROVED BY OWNER.

H. SIDE BEAM BRACKET: CARBON STEEL, GALVANIZED FLUSH BACK PLATE WITH THREADED EYE SOCKET, FOR PIPE SIZES 1" THROUGH 4".

- I. LAG BOLTS: CARBON STEEL, GALVANIZED, GIMLET POINT, HEX HEAD (MAXIMUM 6" LENGTH).
- J. SPLIT RING HANGERS: DUCTILE IRON, GALVANIZED, HINGED, SPLIT RING EXTENSION HANGER.
- K. COACH SCREW HANGER RODS: CARBON STEEL, GALVANIZED, MACHINE THREADED ON ONE END AND LAG THREADED ON THE OTHER END. IT IS MANDATORY THAT PILOT HOLES BE PRE–DRILLED TO PREVENT BEAM SPLITTING.
- L. STEEL ROD COUPLINGS: CARBON STEEL, GALVANIZED
- M. RISER CLAMPS: BOLTED ON EACH SIDE OF PIPE AND BEARING EQUALLY ON STRUCTURE.
- N. ALL HANGER MATERIAL MUST REMAIN CORROSION FREE. COORDINATE LOCATIONS WITH ANTICIPATED ENVIRONMENTAL CONDITIONS. PROVIDE NECESSARY MATERIALS AND FINISHES TO MEET OWNER'S REQUIREMENTS AND THE REQUIREMENTS OF NFPA 13.
- 2.05 SPRINKLER HEADS
- A. REFER TO SPRINKLER HEAD SCHEDULE ON DRAWING FP001 FOR MAKE, MODEL, AND SPRINKLER CHARACTERISTICS.
- 2.06 SPRINKLER TESTING
- A. TEST ALL PIPING SYSTEMS HYDROSTATICALLY AT A PRESSURE OF 200 PSI FOR A PERIOD TWO (2) HOURS. THE SYSTEM SHALL NOT LOSE PRESSURE FOR ENTIRE DURATION OF TESTING.

B. ALL DEFECTS IN THE SYSTEM DISCOVERED BY THE TEST SHALL BE REPAIRED OR REPLACED. THE TEST SHALL BE REPEATED UNTIL ALL WORK IS PROVEN ACCEPTABLE.

C. SUBMIT TEST RESULTS FOR REVIEW BY ENGINEER.

D. THE CONTRACTOR IS SHALL BE RESPONSIBLE TO REPAIR OR REPLACED ALL DAMAGES CAUSED TO THE BUILDING AND WORK OF OTHER TRADES DUE TO A FAILED TESTING OF THE SPRINKLER SYSTEM.

E. THE CONTRACTOR SHALL SCHEDULE SYSTEM TESTING WITH THE BUILDING OWNER OR BUILDING MANAGEMENT A MINIMUM OF 48 HOURS IN ADVANCE AND NOTIFY ARCHITECT AND ENGINEER OF DATE AND TIME OF TEST.

PART 3 – EXECUTION

- 3.01 DEMOLITION, REMOVAL AND RELOCATION
- A. REMOVAL, TEMPORARY CONNECTIONS AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT TO BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.

B. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT, AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.

C. ALL EXISTING WORK NOT INDICATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE. WHERE EXISTING WORK TO REMAIN IS DAMAGED OR DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE TO OWNER'S SATISFACTION AT NO COST TO THE OWNER.

E. GENERAL CONTRACTOR REMOVE ALL CEILING IN AREAS WHERE NEW DUCTWORK OR PIPING IS TO BE INSTALLED OR EXISTING IS ALTERED, AS PER ARCHITECT'S INSTRUCTIONS.

F. ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED UNDER THIS CONTRACT WILL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE LEGALLY DISPOSED OF BY THIS CONTRACTOR AS DIRECTED BY THE ARCHITECT OR OWNER.

H. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE. COORDINATE ALL DEMOLITION AND REMOVALS WITH BUILDING MANAGEMENT.
- 3.02 CONNECTION TO EXISTING WORK
- A. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH OWNER. PROVIDE TEMPORARY DUCTWORK AND PIPING CONNECTIONS AS REQUIRED TO MINIMIZE SHUTDOWN TIME.

B. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT AND OWNER.

C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES.
- 3.03 INSTALLATION OF NEW WORK
- A. DRAWINGS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING. INSTALL PIPING AS INDICATED. DEVIATION FROM APPROVED WORKING PLANS FOR PIPING REQUIRE WRITTEN APPROVAL FROM AUTHORITIES HAVING JURISDICTION. FILE WRITTEN APPROVAL WITH ARCHITECT AND ENGINEERING BEFORE DEVIATING FROM APPROVED WORKING PLANS.

B. INSTALL AS STRAIGHT AND DIRECT AS POSSIBLE ALL PIPING FORMING RIGHT ANGLE OR PARALLEL LINES WITH BUILDING WALLS AND OTHER PIPES. PIPING SHALL BE INSTALLED SO THAT EVERY PORTION OF THE SYSTEM CAN BE ENTIRELY DRAINED.

C. INSTALL PIPE AND ALL OTHER SYSTEM COMPONENTS IN A MANNER WHICH WILL NOT INTERFERE WITH THE FULL SWING OF ANY DOOR.

D. WHERE SPRINKLERS ARE INSTALLED IN AREAS WITHOUT A HUNG CEILING THIS CONTRACTOR SHALL INSTALL SPRINKLERS BOTH OVER AND UNDER EXISTING AND NEW DUCTWORK 4'–0" AND WIDER OR WHERE THE TOTAL AGGREGATE WIDTH OR LENGTH OF MULTIPLE DUCTS EXCEEDS 4'–0" OR LARGER.

E. REAM ALL PIPES SMOOTH BEFORE INSTALLATION. DO NOT BEND, SPLIT, FLATTEN OR DAMAGE PIPE IN ANY WAY. ANY PIPE DAMAGED SHALL BE REPLACED BY THIS CONTRACTOR AT NOT ADDITIONAL COST TO THE OWNER.

F. INSTALL A DIELECTRIC FITTING BETWEEN ALL CONNECTIONS BETWEEN PIPING OF DISSIMILAR METALS.

G. INSTALL SPRINKLER HEADS IN GYPSUM AND PLASTER CEILINGS SYMMETRICALLY AND ALIGN WITH ADJACENT CEILING FIXTURES.
- 3.04 MATERIAL DELIVERY, STORAGE AND HANDLING
- A. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE ON–TIME DELIVER OF HIS MATERIALS.

B. COORDINATE WITH OWNER AND/OR BUILDING MANAGEMENT THE BUILDING REQUIREMENTS FOR THE DELIVERING OF ALL MATERIALS.

C. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE STORAGE OF ALL HIS MATERIALS. ANY MATERIALS DAMAGED DURING DELIVERY, STORAGE, AND HANDLING SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- 3.05 PAINTING
- A. PAINT SPRINKLER PIPING EXPOSED TO VIEW WITHIN BUILDING WITH TWO (2) COATS OF RUST–INHIBITING PAINT; COLOR FINAL COAT SHALL BE DETERMINED BY ARCHITECT.

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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 7-31-24	Drawn By: AG
Scale: NONE	Approved By: TL
Job No: 24 /---	File: nh_irsuite.db

Drawing Title:
FIRE PROTECTION SPECIFICATIONS

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Revisions:

STATE OF CONNECTICUT
THIRTIETH YEAR
NO. 2740
LICENSED PROFESSIONAL ENGINEER

Drawing Number:
FP200

General Notes:

- 1The purpose of these drawings is to show the structural work associated with I.R. Procedure Room at Norwalk Hospital located at 34 Maple Street, Norwalk, CT 06856.
- 2The work shown on these drawings has been designed in accordance with the structural requirements of the 2022 Connecticut State Building Code which is the 2021 International Building Code as amended, altered or deleted by the provisions of the 2022 Connecticut amendments.
- 3The structural components have been designed for the following loads:

A. Uniform live load:

Hospitals

Operating rooms, laboratories60 psf

B. Earthquake design data:

Risk categoryIV

Seismic importance factor, I_e:1.5

Mapped short period spectral response accelerations, S_s:0.240g

Mapped 1 second period spectral response accelerations, S₁:0.056g

Site class:D

Design short period spectral response accelerations, S_{DS}:0.256g

Design 1 second period spectral response accelerations, S_{D1}:0.090g

Seismic design category:C

Earthquake design for existing buildings:

Not required since the proposed alterations do not increase the demand-capacity ratio of any seismic load carrying structural element by more than 10 percent cumulative since the original construction.

C. Other loads:

Concentrated loads:

All floors except as noted (on 2-1/2 feet square)1000 lbs

D. Existing buildings:

For existing structural elements carrying gravity loads, the proposed alterations do not increase the stress in any structural element by more than 5 percent nor do they decrease the strength of any structural element to less than required by the building code for new structures.

4This work has been designed to be self-supporting and stable after the work shown on these drawings has been completed. The stability of the structure prior to completion is solely the responsibility of the contractor. This responsibility extends to all related aspects of the construction activity including, but not limited to, erection methods, erection sequence, temporary bracing, forms, shoring, use of equipment, and similar construction procedures. Review of the construction by the engineer is for conformance with design aspects only, not to review the contractor's construction procedures. Lack of comment on the part of the engineer with regard to construction procedures is not to be interpreted as approval of those procedures.

5Jobsite safety and construction procedures are solely the responsibility of the contractor. Review of the construction by the engineer is for conformance with design aspects only, not to review the contractor's provisions for job site safety. Lack of comment by the engineer is not to be interpreted as approval of those aspects of work.

6PDF digital files of all erection and detail shop drawings for structural steel, indicating the fabricator, manufacturer, finish, layout, and all accessories, must be submitted to and be checked by the contractor and subcontractor and bear the checker's initials before submission to the architect for review prior to fabrication. Fabrication and/or delivery to the site of components prior to receiving approved shop drawings shall be at the fabricator's own risk.

7Testing and inspection of structural steel, and other work are described in the Quality Control Section of these notes. The contractor shall review the Quality Control Section and coordinate the scheduling of inspections with the testing and inspections agency and the engineer. Uninspected work that required inspections may be rejected solely on that basis.

8If faulty construction procedures, or material, result in defective work that requires additional engineering time to devise corrective measures, professional fees may be charged to the contractor at the standard hourly rate of additional services. Such fees may be withheld from the general contractor's payment.

9The contractor shall verify all dimensions, elevations and angles with architectural drawings and existing conditions before proceeding with any work.

10The contractor shall field verify existing conditions before proceeding with any work. The contractor shall field verify all dimensions noted "±" that are indicated on the drawings.

11Do not scale drawings.
- Codes and Standards References
- 1Structural steel:

Design, fabrication and erection of structural steel shall conform to the AISC 360-16 "Specification for Structural Steel for Buildings" as adopted on July 7, 2016, by the American Institute of Steel Construction (AISC) and the 15th Edition of the AISC Steel Construction Manual.
- Connections to Hardened Concrete:
- 1All proprietary anchoring systems (expansion, adhesive anchoring systems, etc.) to be installed into hardened concrete and masonry elements are to be installed in strict accordance with the manufacturer's instructions for drilling and preparation of holes, for spacing and edge distance requirements, and for the utilization of supplemental components for the anchoring systems such as screen tubes, doweling adhesives, etc.

2Connections to hardened concrete shall be made with anchors conforming to ACI 318, as specified in the code reference section of these general notes, for cracked concrete, and Chapter 19 of the state building code indicated at the beginning of these general notes.

A. Mechanical anchors shall be either

i. Hilti "Kwik HUS-EZ" screw anchor

ii. Simpson "Titen HD" screw anchor, zinc-plated or galvanized

iii. Dewalt "Screw-Bolt+" screw anchor, zinc-plated or galvanized

Size, embedment, spacing and edge distance of anchors shall be as indicated on the drawings.

B. Adhesive anchor rods or reinforcing bars shall be installed in rotary hammered drilled holes with carbide drill bits using one of the following adhesive anchoring systems:

i. Hilti "HIT-HY 200 safe set or Hilti "HIT-RE-500 V3" adhesive anchoring system with Hilti "HAS" ASTM F1554, Grade 36 anchor rods.

ii. Reinforcing bars shall conform to the requirements of the Concrete General Notes.

Adhesive for reinforcing bars and anchors shall have been tested in accordance with ACI 355.4 "Qualification of Post-Installed Adhesive Anchors in Concrete" and ICC-ES (ICC Evaluation Service) "Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements" (AC308) for cracked concrete and seismic applications.

Adhesive bond design strength is based upon concrete that has cured at least 21 days with a minimum compressive strength of 2,500 psi and an in-service temperature in accordance with ACI 355.4 Temperature Category B.

Installation method shall be in accordance with the Manufacturer's Printed Installation Instructions (MPII)

Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by the ACI/CRSI Adhesive Anchor Installer Certification program or equal.

Unless otherwise noted on the drawings, embed anchor rods and reinforcing bars into drilled holes a minimum of 9 anchor diameters, with a minimum edge distance of 4 inches, measured from the edge of the concrete to the centerline of the anchor/reinforcing bar. Increased embedment depths or edge distances may be required at certain locations, see plans and details.

Structural Steel Notes:

1Design fabrication and erection of structural steel shall conform to the American Institute of Steel Construction's "Specification for Structural Steel for Buildings", as specified in the code reference section of these general notes.

2Materials:

Wide flange shapes:ASTM A 992 Grade 50

American standard shapes, angles, Plates and bars:ASTM A 36

BoltsASTM F3125, Grade A 325

Welding electrodeASTM E 70xx, low hydrogen

3All welding shall conform to American Welding Society's AWS D1.1 "Structural Welding Code-Steel" code for arc and gas welding and be performed by a certified welder in accordance with A.W.S. standards.

4High strength bolts: install high-strength bolts according to Research Council on Structural Connections' (RCSC's) "Specification for Structural Joints Using ASTM A325 or A490 Bolts" for type of bolt and type of joint specified.

Joint type: Snug tightened unless otherwise noted.

5Structural steel shall be cleaned in accordance with the Steel Structures Painting Council Specification SP 3 for Power Tool Cleaning (except for steel exposed to weather).

6Existing steel surfaces to receive field welds shall be thoroughly cleaned and free from paint, rust, grease, etc.

7Submittals to the engineer are required for certificates of compliance for structural steel, bolts, nuts, washers, and weld filler material prior to the fabrication of any steel

8At the completion of fabrication, the fabricator shall submit a certificate of compliance stating that the work was performed in accordance with the approved contract documents, as required by Section 1704.2 of the building code indicated at the beginning of these General Notes.

Quality Control

1General:

AThe owner shall employ an independent testing and inspection agency to perform the tests and inspections indicated under this Quality Control Section. Reports shall be submitted to the architect, engineer and owner in a timely manner.

BThe contractor shall notify in a timely manner the testing and inspection agency and the engineer to schedule field inspections.

2Structural steel:

AHigh strength bearing type bolt connections: Inspect 100% of bolted connections for required size, location and number of bolts and for contact of plies. The minimum bolt tension, method of tightening and method of inspecting installed bolts shall be as specified in AISC "Specifications for Structural Joints Using ASTM A 325 or A 490 bolts". Use of a calibrated torque wrench on a previously tightened bolt is not an acceptable method of inspection.

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FOR BIDDING & PERMIT

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INTERIOR ALTERATIONS
THIRD FLOOR

Date:	8-5-24	Drawn By:	TM
Scale:	AS NOTED	Approved By:	BDR
Job No:	24077	File:	

Drawing Title:

GENERAL NOTES AND
MATERIAL
SPECIFICATIONS

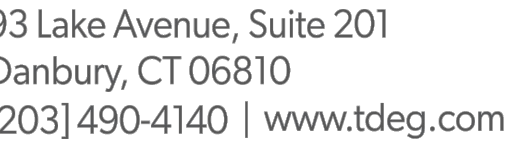
Revisions:

Drawing Number:

S001

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J.R. PROCEDURE ROOM
34 Maple Street
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Date: 8-5-24	Drawn By: TM
Scale: AS NOTED	Approved By: BDR
Job No: 24077	File:

Drawing Title

PARTIAL THIRD FLOOR AND THIRD FLOOR INTERSTITIAL LEVEL FRAMING PLAN

Revisions

Drawing Number:

S101

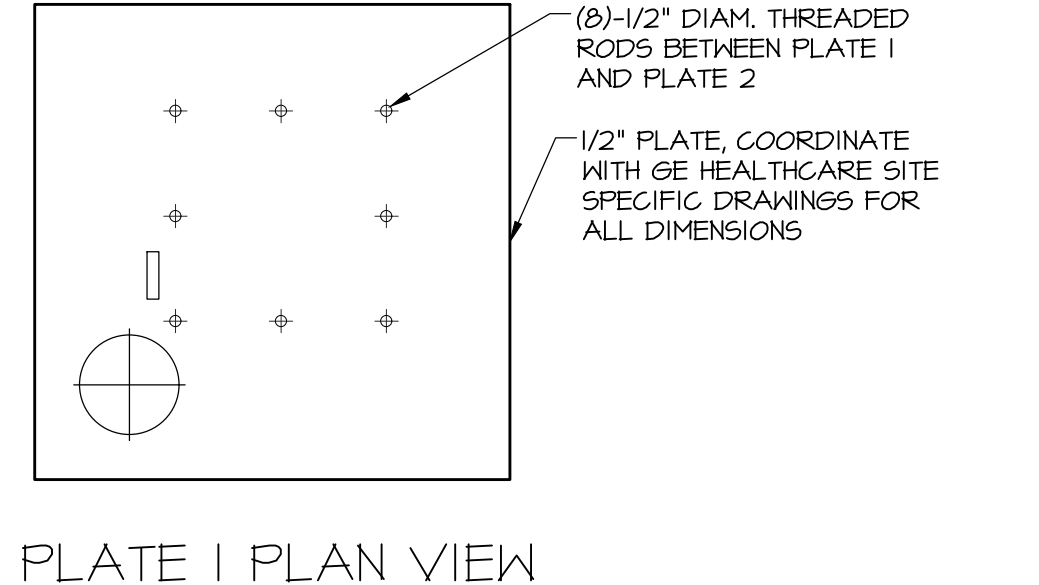
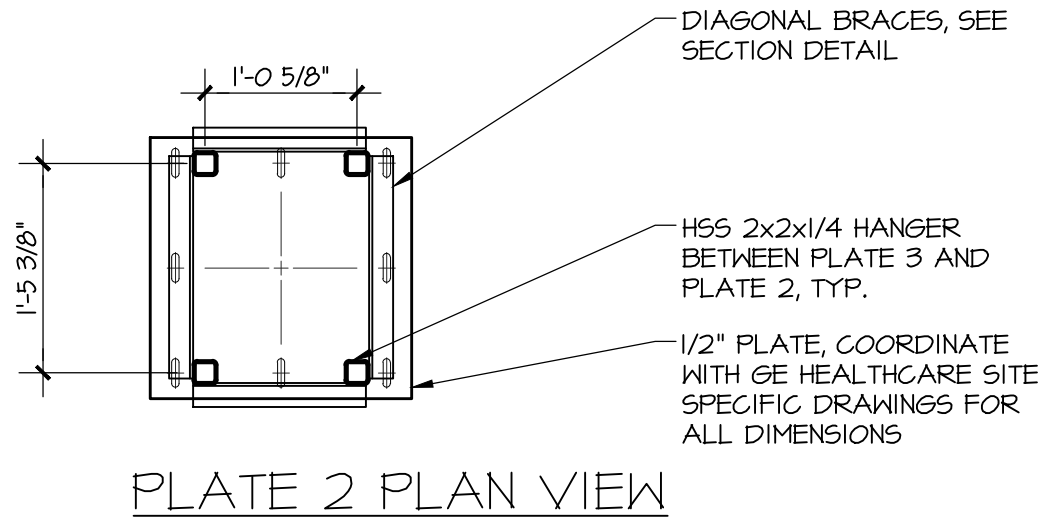
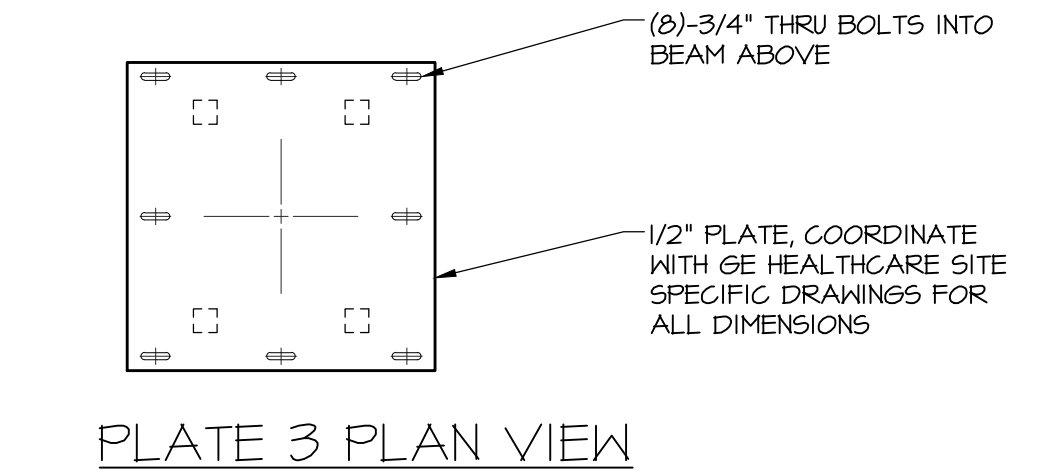
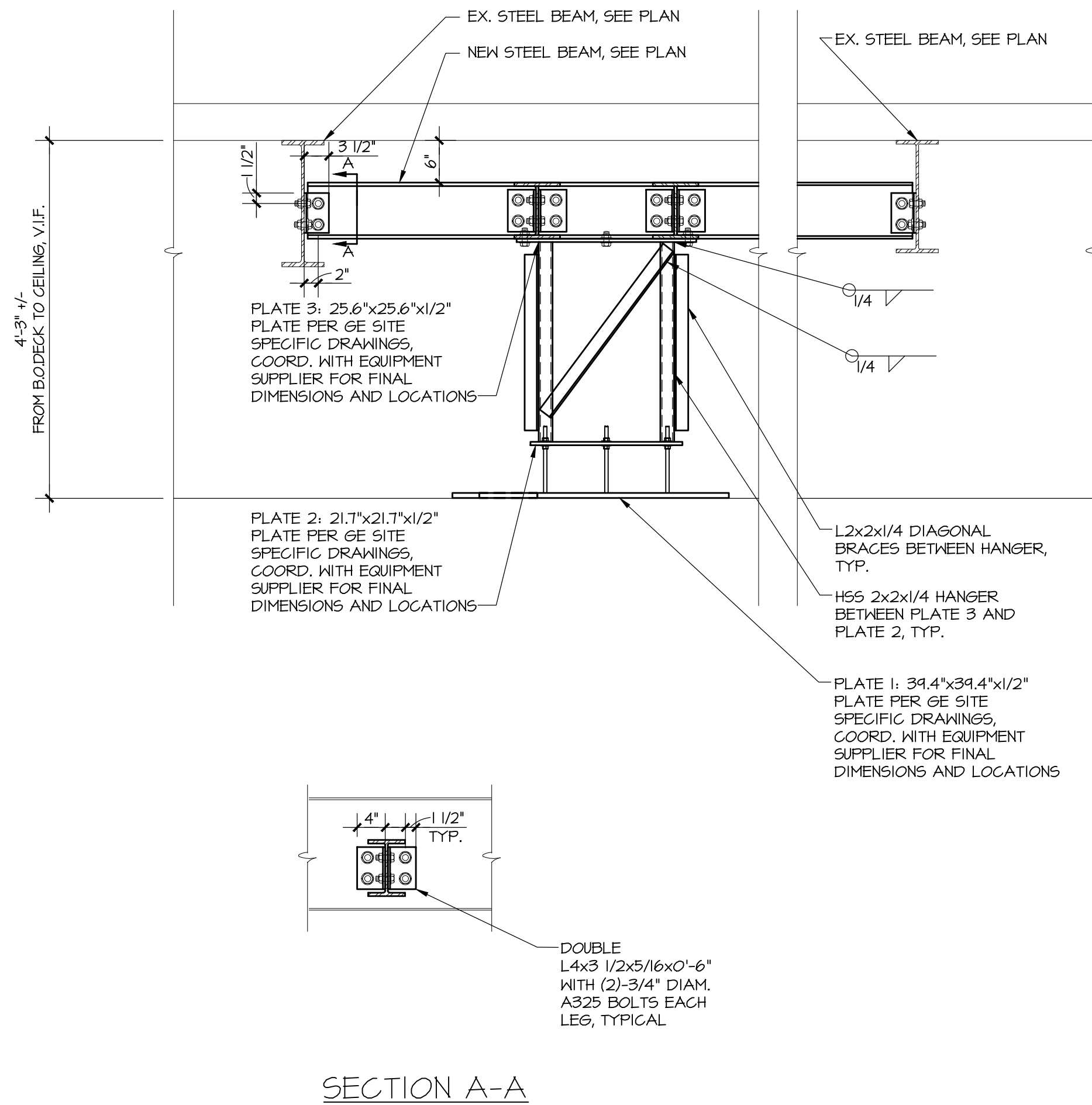

$$1/4^{\circ} = 1^{\circ} - 0^{\circ}$$

- EXISTING FLOOR SLAB CONSTRUCTION: 2" STEEL DECK WITH 5 1/4" LIGHT WEIGHT CONCRETE.
- ALL DIMENSIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. SHOW FIELD VERIFIED DIMENSIONS ON ALL SUBMITTALS PRIOR TO ISSUING FOR APPROVAL.
- NOTE A: PROVIDE POST-INSTALLED ANCHORS AS INDICATED ON THE SITE SPECIFIC MEDICAL EQUIPMENT DRAWINGS PROVIDED BY GE HEALTHCARE.
- NOTE B: BASE PLATES TO BE INSTALLED TOP FLUSH WITH TOP SURFACE OF EXISTING CONCRETE. PROVIDE 1" LEVEL GROUT BED AS REQUIRED. NOTCHING SHALL NOT DAMAGE SLAB REINFORCING. IF SLAB REINFORCING CONFLICT WITH BASE PLATE, CONTRACT ARCHITECT/ENGINEER.
- SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.


$$1/4'' = 1'-0''$$

- TOP OF EXISTING STEEL AT THIRD FLOOR INTERSTITIAL LEVEL. ELEVATION: 14'-1" +/- FROM TOP OF THIRD FLOOR SLAB ELEVATION.
- EXISTING FLOOR SLAB CONSTRUCTION: 2" STEEL DECK WITH 5 1/4" LIGHT WEIGHT CONCRETE.
- ALL DIMENSIONS ARE APPROXIMATE AND MUST BE FIELD VERIFIED. SHOW FIELD VERIFIED DIMENSIONS ON ALL SUBMITTALS PRIOR TO ISSUING FOR APPROVAL.
- NOTE, THE EXISTING UNISTRUT TO REMAIN AND THE NEW UNISTRUT FOR EQUIPMENT SUPPORT SHALL BE DESIGNED BY OTHERS.
- SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.





SECTION
3/4" = 1'-0"

H & R DESIGN

FACILITIES
PLANNERS

● ■ ▲

DESIGN
INTERIORS
PLANNING

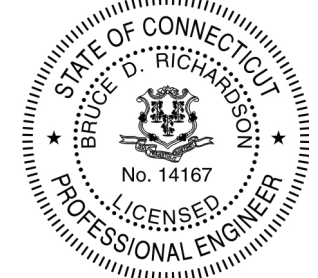
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INTERIOR ALTERATIONS
THIRD FLOOR

Date: 8-5-24	Drawn By: TM
Scale: AS NOTED	Approved By: BDR
Job No: 24077	File:

Drawing Title:
FRAMING SECTIONS AND
PLAN DETAILS

Revisions:	

Drawing Number:
S201