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COLUMBIA DOCTORS TARRYTOWN

NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591

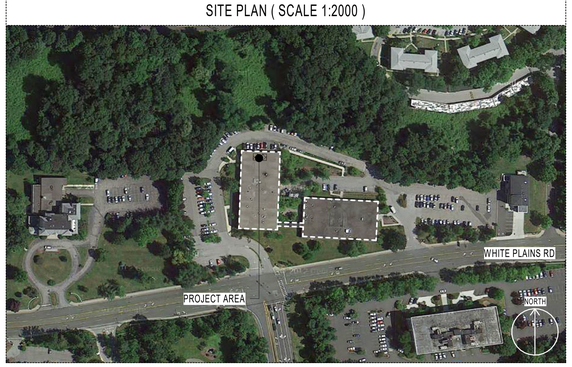
CD Submission

06/18/2021

OWNER	ARCHITECT	STRUCTURAL ENGINEER	MEP ENGINEER
COLUMBIA UNIVERSITY MEDICAL CENTER (CUMC) 155 WHITE PLAINS ROAD TARRYTOWN, NY 10591 PHONE: 914.333.9800	ARRAY ARCHITECTS 470 PARK AVENUE SOUTH, 11TH FLOOR New York, NY, 10016 PHONE: 212.689.3110	REUTHER + BOWEN 326 WARD STREET DUNMORE, PA 18512 PHONE: 570.496.7020	LORING CONSULTING ENGINEERS, INC. 360 WEST 31ST STREET NEW YORK, NY 10001 PHONE: 646.674.6100

AREA MAP

SITE PLAN (SCALE 1:2000)



CD Submission 06/18/2021

Architect of Record:
ARRAY architects P.C.
ARRAY-ARCHITECTS.COM
470 PARK AVE SOUTH, 11th FLOOR
NEW YORK, NY. 10016
212-689-3110

CONSULTANTS:

STRUCTURAL ENGINEER

REUTHER + BOWEN
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DUNMORE, PA 18512
PHONE: 570.496.7020

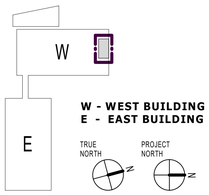
MEP ENGINEER

LORING CONSULTING ENGINEERS, INC.
360 WEST 31ST STREET
NEW YORK, NY 10001
PHONE: 646.674.6100

OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
COVER SHEET & DRAWING LIST

SEAL:

DATE:06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED:CH
DRAWN: KU

SHEET NO.
T-000.00

DWG OF 47

2020 BUILDING CODE OF NEW YORK STATE REQUIREMENTS

PROJECT DESCRIPTION:

TITLE: COLUMBIA DOCTOR'S TARRYTOWN
NAME: NEW MRI
ADDRESS: 155 WHITE PLAINS ROAD, TARRYTOWN, NY 10591

RENOVATION OF EXISTING SPACE WITHIN THE IMAGING SUITE FOR A NEW MRI ROOM AND EQUIPMENT ROOM

REFERENCE DATA:

HOUSE NO: 155
STREET: WHITE PLAINS ROAD
TOWN: TARRYTOWN
COUNTY: WEST CHESTER
BLOCK:
LOT: 1.201-121-5.11
SPECIAL DISTRICT: NONE

IBC BUILDING CODE PROJECT TYPE: (CHECK ALL THAT APPLY.)

☐ NEW BUILDING ☐ REPAIR ☐ ALTERATION LVL1 ☒ ALTERATION LVL2 ☐ ALTERATION LVL3 ☐ CHANGE OF OCCUPANCY ☐ ADDITION

NFPA PROJECT TYPE: (CHECK ALL THAT APPLY.)

☐ NEW BUILDING ☐ REPAIR ☒ RENOVATION ☐ ALTERATION ☐ RECONSTRUCTION ☐ HISTORIC BUILDING ☐ ADDITION ☐ EGRESS CHANGE

☐ CHANGE OF OCCUPANCY ☒ EXISTING OCCUPANCY NO CHANGES ☐ OTHER (LIST OTHER CHANGES)

WORK INVOLVED: (CHECK ALL THAT APPLY.)

☒ GENERAL CONSTRUCTION ☐ ROOFING ☐ ASBESTOS ABATEMENT/ENVIROMETAL ☒ FIRE ALARM ☒ STRUCTURAL ☒ MECHANICAL ☒ PLUMBING

☒ ELECTRICAL ☐ SITE WORK ☒ SPRINKLERS ☐ ELEVATORS ☐ OTHER _____

APPLICABLE CODES:

BUILDING CODE:	NEW YORK STATE BUILDING CODE 2020
LIFE SAFETY CODE:	NFPA101 2012
ACCESSIBILITY CODE:	ANSI A 117.1 – 2010
GUIDELINES:	FGI GUIDELINES 2018
STRUCTURAL CODE:	INTERNATIONAL STRUCTURAL CODE 2020
PLUMBING CODE:	INTERNATIONAL PLUMBING CODE 2020
MECHANICAL CODE:	INTERNATIONAL MECHANICAL CODE 2020
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE 2020
ENERGY CODE:	INTERNATIONAL ENERGY CONSERVATION CODE 2020
FUEL GAS CODE:	INTERNATIONAL FUEL GAS CODE 2020

	2020 BUILDING CODE OF NEW YORK STATE		NFPA 101 2012	
OCCUPANCY CLASSIFICATION	(B)	(CHAPTER 3)	EXISTING BUSINESS	CHAPTER 39
CONSTRUCTION CLASSIFICATION	NONCOMBUSTIBLE (TYPE II-B)	(CHAPTER 6, TABLE 601))	TYPE 2 (0,0,0)	NFPA 220, CHAPTER 4
BUILDING HEIGHT	2 STORIES (26 FT)	TABLE 503		
PROJECT AREA	1,535 SF			
FIRE SUPPRESSION SYSTEM	NFPA 13 SPRINKLER SYSTEM			
SEISMIC \ WIND REQUIREMENTS				
OCCUPANCY CATEGORY	IV	TABLE 1604.5		
SEISMIC DESIGN CATEGORY	C	(BC 1613)		
WIND ZONE	129 mph	(BC 1609)		
CORRIDOR WIDTH		(BC 1018.2)		
CORRIDOR SERVING 50 PEOPLE OR LESS	36 IN.			
CORRIDORS NON HOSPITAL	44 IN.		44 IN.	
ALLOWABLE DEAD END CORRIDOR	50 FT.	(1020.4)	50 FT.	NFPA 101 39.2.5.2
TRAVEL DISTANCE		(BC 1016)		
MAXIMUM ALLOWABLE TRAVEL DISTANCE	300 FT	TABLE 1017.2	300 FT MAX	NFPA 101 39.2.6.3
SUITE TRAVEL DISTANCE	100 FT	TABLE 1006.2.1		
COMMON PATH OF TRAVEL	100 FT	TABLE 1006.2.1	100 FT MAX. (SPRINKLERED)	NFPA 101 39.2.5.3.1
OCCUPANT LOAD				
OCCUPANT LOAD (NET FLOOR ARA PER OCCUPANT)	NO CHANGE (NEW OCCUPANY LOAD SMALLER THAN PREVIOUS)	TABLE 1004.1.1 (BC 1004)	NO CHANGE (NEW OCCUPANY LOAD SMALLER THAN PREVIOUS)	
EXIT		BC 1020		
(MINIMUM) NUMBER OF EXITS REQUIRED	2 REQUIRED (< 500 OCCUPANT)	TABLE 6-1 (1021.1)	2 ON EVERY STORY	
EXIT CAPACITY	NO CHANGE			
EGRESS WIDTH PER OCCUPANT (MINIMUM) STAIR, DOOR AND CORRIDOR WIDTH	0.3" PER PERSON FOR TRAVEL BY MEANS OF STAIR: 0.2" PER PERSON FOR HORIZONTAL TRAVEL WITHOUT STAIR. (DOOR/STAIR)	BC 1005.1	0.3" PER PERSON FOR TRAVEL BY MEANS OF STAIR: 0.2" PER PERSON FOR HORIZONTAL TRAVEL WITHOUT STAIR	
EXIT ACCESS		BC 1014		
CORRIDOR FIRE RESISTANT RATING		(BC 1018)		
INTERIOR CORRIDOR	0 HR	TABLE (1020.1)	SMOKE PARTITION	
INTERIOR FINISHES				
INTERIOR WALL AND CEILING FINISH REQUIREMENTS	EXITS & EXIT PASSAGE WAYS / CLASS C	EXIT CORRIDOR / CLASS C	ROOMS / CLASS C	(SECTION BC 803) (TABLE 803.13)
	EXITS / CLASS A/B	EXIT ACCESS CORRIDOR / CLASS A/B	ROOMS / CLASS A/B/C	SECTION 39.3.3
INTERIOR FLOOR FINISH REQUIREMENTS	CLASS I OR II		(SECTION BC 804)	

SITE PLAN WAIVER

PER 106.2 NY BUILDING CODE: THE CONSTRUCTION DOCUMENTS SUBMITTED WITH THE APPLICATION FOR BUILDING PERMIT SHALL BE ACCOMPANIED BY A SITE PLAN SHOWING TO SCALE THE SIZE AND LOCATION OF NEW CONSTRUCTION AND EXISTING STRUCTURES ON THE SITE. DISTANCES FROM LOT LINES. THE ESTABLISHED STREET GRADES AND THE PROPOSED FINISHED GRADES AND, AS APPLICABLE, FLOOD HAZARD AREAS, FLOODWAYS, AND DESIGN FLOOD ELEVATIONS; AND IT SHALL BE DRAWN IN ACCORDANCE WITH AN ACCURATE BOUNDARY LINE SURVEY. IN THE CASE OF DEMOLITION, THE SITE PLAN SHALL SHOW CONSTRUCTION TO BE DEMOLISHED AND THE LOCATION AND SIZE OF EXISTING STRUCTURES AND CONSTRUCTION THAT ARE TO REMAIN ON THE SITE OR PLOT.
THE BUILDING OFFICIAL IS AUTHORIZED TO WAIVE OR MODIFY THE REQUIREMENT FOR A SITE PLAN WHERE THE APPLICATION FOR A BUILDING PERMIT IS FOR ALTERATION OR REPAIR OR WHERE OTHERWISE WARRANTED.

THIS PROJECT IS AN INTERIOR RENOVATION AND WOULD NOT REQUIRE AN UPDATED SITE PLAN

FIRE RATINGS

NON-LOADBEARING WALLS AND PARTITIONS	HOURS	UL DESIGN #
FIRE WALLS (706)	2	# U411
EXIT ENCLOSURES (707.3.2 / 1022.1)	2	
EXITS PASSAGEWAY (707.3.4 / 1023.1)	2	
HORIZONTAL EXITS (707.3.7 / 1025.1)	2	
INCIDENTAL USE AREAS (707.3.7 / 509)	1	# U465
OCCUPANCIES SEPARATION (707.3.9 / 508.4)	2	
FIRE PARTITIONS (708)	1	
SMOKE BARRIERS (709)	1	
SHAFT ENCLOSURES (713)	2	# U438
CORRIDOR WALLS (708.3 / 1017.1)	0	

GENERAL NOTES:

1) ALL RATED INTERIOR PARTITION SHOULD BE CONSTRUCTED IN ACCORDANCE WITH THE RATED PARTITION SCHEDULE UNLESS NOTED OTHERWISE ON THE FLOOR PLANS

2) CONTRACTOR TO PATCH AND REPAIR ALL NEW AND EXISTING FIREPROOFING AFTER INSTALLATION OF NEW WORK AS REQUIRED TO MAINTAIN REQUIRED FIRE RATING. CONTRACTOR TO USE MATERIALS COMPATIBLE WITH EXISTING FIREPROOFING FOR PATCH WORK.

SYMBOL LEGEND

ROOM INDICATION
ROOM NAME / 101 — ROOM NAME / ROOM NUMBER

NORTH ARROW
N

SITE PLAN NORTH ARROW
NORTH

DOOR DESIGNATION
101 — DOOR NUMBER

WINDOW SYMBOL
1 — WINDOW TYPE OR BORROWED LIGHT — 1
ON ELEVATION / IN PLAN

STOREFRONT DESIGNATION
SF1 — STOREFRONT NUMBER

SECTION INDICATION
A1 / A101 — SECTION NUMBER / SHEET WHERE SHOWN

MILLWORK SECTION INDICATION
A1 / A101 — SECTION NUMBER / SHEET WHERE SHOWN

ELEVATION INDICATION
A1 / A201 — INTERIOR AND/OR EXTERIOR
A1 / A4 A201 R2 / A3 — MULTIPLE INTERIOR

FIRE EXTINGUISHER
FEC — FIRE EXTINGUISHER CABINET
FE — FIRE EXTINGUISHER

DETAIL INDICATION
1 / A101 — AREA DETAILED; SIM; DETAIL NUMBER / SHEET WHERE SHOWN

REVISION INDICATION
REVISION NUMBER
1

ALIGN WITH EXISTING CONSTRUCTION
A

PARTITION TYPE SYMBOL
6 — PARTITION TYPE

EQUIPMENT DESIGNATION
001 — EQUIPMENT NUMBER

CEILING DESIGNATION
8' - 6" — CEILING HEIGHT
C-1 — CEILING TYPE

FINISH SYMBOLS
DENOTES CUBICLE CURTAIN

ROOM FINISH TAG
RM # 101
NAME
WALL: WALL FINISH
FLOOR: FLOOR FINISH
BASE: BASE FINISH

WALL PROTECTION TAG
WP-3A
CG — DENOTES CORNER GUARD LOCATION

MATCHLINE
A1 / A111 — SHEET NUMBER OF ADJACENT DRAWING; VIEW NUMBER OF ADJACENT DRAWING

LINETYPE SYMBOLS
1 / A — EXISTING COLUMN GRID DENOTED WITH AN E/ PREFIX; COLUMN GRID
LIMIT OF CONSTRUCTION
PROPERTY LINE
CENTER LINE / ELEVATION LINE
WORK ABOVE, BEYOND OR TO BE REMOVED
BUMPER GUARD, CHAIR RAIL, HAND RAIL FOR LOCATION SEE PLANS
BREAK LINE

KEYNOTE SYMBOL
A1 — KEYNOTE INDICATOR

COMPONENT AND SYSTEM KEYNOTE SYMBOL
00-AA-01 — KEYNOTE INDICATOR

EXISTING DOOR DESIGNATION
EXISTING DOOR

NEW DOOR DESIGNATION
NEW DOOR

EMERGENCY DOOR DESIGNATION
NEW DOOR
EMERGENCY SWING

DOUBLE EGRESS DOOR DESIGNATION
NEW DOOR

STARTING POINT
STARTING POINT

ELEVATION TAG
Name / Elevation

GENERAL DIMENSIONING
0'-0" — COLUMN GRID CENTERLINE INDICATOR
0'-0" — FACE OF SURFACE INDICATOR

NOTE: DIMENSIONS ARE TAKEN FROM/TO FINISH SURFACE, UNLESS OTHERWISE NOTES.

0'-0" ±

NOTE: THE ± INDICATES A DIMENSION THAT CAN VARY. (NOTIFY THE ARCHITECT OF ANY CHANGE IN THAT DIMENSION IF IT IS GREATER THAN 1")

0'-0" CLEAR

NOTE: CLEAR = THE ACTUAL FIELD DIMENSION MAY NEVER BE LESS THEN THE CLEAR DIMENSION INDICATED, BUT MAY BE GREATER BY 1" MAX.

0'-0" HOLD

NOTE: HOLD = THE ACTUAL FIELD DIMENSION MUST BE EQUAL TO THE DIMENSION INDICATED AND MUST BE MAINTAINED

CONTRACTOR GENERAL NOTES

1. THE CONTRACT DOCUMENTS ARE COMPRISED OF THE PROJECT MANUAL, THE DRAWINGS, AND ANY ADDITIONAL OWNER PROVIDED INFORMATION. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLIMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL.

2. THE CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE CODES OF THE STATE, COUNTY, CITY, FEDERAL LAWS AND REGULATIONS, OSHA (OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION), SANITARY LAWS, STATUTES AND ORDINANCES. NO WORK SHALL BE INSTALLED IN VIOLATION OF ANY CODES.

3. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS NECESSARY TO OBTAIN A CERTIFICATE OF OCCUPANCY.

4. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID/ PROPOSAL. THE CONTRACTOR SHALL BECOME GENERALLY FAMILIAR WITH THE PROJECT, AND WITH THE IMPACT OF THE NEW WORK ON THE EXISTING CONDITIONS. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING EXISTING CONDITIONS: FIRE RATING OF THE HORIZONTAL AND VERTICAL ASSEMBLIES AND THEIR EXISTING CONDITION; PENETRATIONS THROUGH FIRE RATED ASSEMBLIES, MISSING OR INOPERABLE DAMPERS IN RATED ASSEMBLIES. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO SUBMITTING A BID/PROPOSAL.

5. THE CONTRACTOR SHALL MAINTAIN AT THE JOB SITE COPY OF ALL DRAWINGS, SPECIFICATIONS, BULLETINS, APPROVED SHOP DRAWINGS, OTHER SUBMITTALS, SAMPLES AND OTHER CONTRACT MODIFICATIONS. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE THE OWNER ONE COMPLETE SET OF PROJECT RECORD DOCUMENTS.

6. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, FOR THE COORDINATION OF WORK AND FOR THE WORK PERFORMED BY THE SUB-CONTRACTORS.

7. EACH TRADE CONTRACTOR IS RESPONSIBLE TO COORDINATE THE SEQUENCE OF ONE'S WORK WITH THAT OF ALL OTHER TRADES. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.

8. ALL CODE REQUIRED EXITS AND INTERIM LIFE SAFETY SYSTEMS, WHICH INCLUDE BUT ARE NOT LIMITED TO EXIT LIGHTS, EMERGENCY LIGHTS, ALARMS, SPRINKLERS, ETC. SHALL BE MAINTAINED IN OPERABLE CONDITION THROUGHOUT THE CONTRACT PERIOD.

9. WHENEVER IT IS NECESSARY TO PROVIDE TEMPORARY "PATHS OF EGRESS" THROUGH THE AREAS OF THE WORK, SUCH PATHS SHALL BE PROVIDED BY THE CONTRACTOR WITH ADEQUATE ARTIFICIAL LIGHT, DIRECTION SIGNS, CLEARANCES, FIRE PROTECTION, ETC., AND SHALL BE CONSTRUCTED AND MAINTAINED SAFE FROM FIRE, SMOKE, AND OTHER PHYSICAL DANGERS.

10. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN CONSTRUCTION SITE IN A SAFE CONDITION PER OSHA – "OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION" AND ANY APPLICABLE LAWS, REGULATIONS AND ORDINANCES AT ALL TIMES FOR THE PUBLIC, ALL PERSONNEL INVOLVED IN THE WORK, OR ESSENTIAL TO ITS EXECUTION, INCLUDING INSPECTORS, SUPERVISORS, ARCHITECTS' REPRESENTATIVES, FIELD TESTING PERSONNEL.

11. THE CONTRACTOR SHALL INSTALL PERMANENT OR TEMPORARY FIRE EXTINGUISHERS THROUGHOUT THE LIMIT OF WORK PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL MAINTAIN SUCH EQUIPMENT IN WORKING ORDER THROUGHOUT CONSTRUCTION. THE TYPE, QUANTITY AND LOCATION OF THIS EQUIPMENT SHALL BE REASONABLY ADEQUATE TO SUIT THE CONDITIONS AND COMPLY WITH ALL APPLICABLE LAWS, REGULATIONS AND ORDINANCES.

12. THE CONTRACTOR SHALL PROVIDE FIRE PROTECTION AT EACH WASTE CONTAINER AND AS REQUIRED BY LOCAL AUTHORITIES

13. THE CONTRACTOR SHALL PROVIDE CHASES TO CONCEAL MECHANICAL, PLUMBING, AND ELECTRICAL WORK. PIPING LOCATED INSIDE THE BUILDING SHALL BE CONCEALED IN FURRED SPACES WITH THE EXCEPTION OF PIPING IN STAIRWAYS, EQUIPMENT ROOMS, AND MECHANICAL ROOMS. THE CONTRACTOR SHALL COORDINATE WITH THE OTHER TRADES TO PROVIDE FURRING FOR PIPING INSTALLED IN FINISHED AREAS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT PRIOR TO LOCATING AND/OR PROVIDING "FURRED SPACES" NOT INDICATED ON THE DRAWINGS.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND RESTORING EXISTING BUILDING CONSTRUCTION TO ITS ORIGINAL CONDITIONS FROM ANY DAMAGES DURING CONSTRUCTION FROM WORK PERFORMED IN CONNECTION WITH THIS CONTRACT. WHERE DAMAGED OR WORN ITEMS CANNOT BE REPAIRED OR RESTORED, THE CONTRACTOR SHALL PROVIDE REPLACEMENTS OF A KIND, ANY REPAIR, RESTORATION AND REPLACEMENT SHALL BE BY METHODS AND WITH MATERIALS SO AS NOT TO VOID ANY EXISTING WARRANTIES IN PLACE.

15. THE CONTRACTOR SHALL COMPLETE FINAL CLEANING IN ACCORDANCE WITH THE PROJECT MANUAL PRIOR TO THE PUNCH LIST.

DRAWING LIST

NUMBER	REV.	SHEET NAME
TITLE		
T-000	.00	COVER SHEET & DRAWING LIST
GENERAL		
G-001	.00	CODE REQUIREMENTS, SYMBOLS LEGEND, FLOOD MAP DATA AND GENERAL NOTES
G-002	.00	UL DETAILS
G-003	.00	UL DETAILS
G-004	.00	UL DETAILS
G-010	.00	ICRA PLAN AND NOTES
G-011	.00	PROJECT PHASING AND MRI RIGGING
LIFE SAFETY		
LSC-101	.00	LIFE SAFETY & OCCUPANCY PLANS AND NOTES
DEMOLITION		
AD-100	.00	DEMOLITION PLAN
STRUCTURAL		
S-001	.00	GENERAL STRUCTURAL NOTES AND DESIGN CRITERIA
S-100	.00	PARTIAL FOUNDATIONS PLAN AND DETAILS
S-101	.00	2ND FLOOR AND ROOF FRAMING PLAN AND DETAILS
ARCHITECTURE		
A-100	.00	ARCHITECTURAL PLAN
A-300	.00	ROOF PLAN
A-301	.00	ROOF DETAILS
A-400	.00	EQUIPMENT PLAN
A-500	.00	REFLECTED CEILING PLAN & CEILING DETAILS
A-600	.00	INTERIOR ELEVATIONS
A-720	.00	PARTITION TYPES & RATED ASSEMBLY
A-721	.00	FRAMING DETAILS
A-722	.00	INTERIOR DETAILS
A-800	.00	FINISH PLAN AND SCHEDULE
A-900	.00	DOOR TYPES, FRAME DETAILS, SCHEDULE & BORROWED LIGHT DETAILS, SCHEDULE
VENDOR		
V-101	.00	GE MRI-C1
V-102	.00	GE MR-C2
V-103	.00	GE MR-A1
V-104	.00	GE MR-A2
V-105	.00	GE MR-A3
V-106	.00	GE MRI-A4
V-107	.00	GE MR-A5
V-108	.00	GE MRI-A6
V-109	.00	GE MRI-A7
V-110	.00	GE MRI-A8
V-111	.00	GE MR-A9
V-112	.00	GE MRI-A10
V-113	.00	GE MRI-A11
V-114	.00	GE MR-S1
V-115	.00	GE MRI-S2
V-116	.00	GE MRI-S3
V-117	.00	GE MRI-M1
V-118	.00	GE MR-M2
V-119	.00	GE MRI-M3
V-120	.00	GE MRI-M4
V-121	.00	GE MRI-M5
V-122	.00	GE MR-E1
V-123	.00	GE MR-E2
V-124	.00	GE MRI-E3
V-125	.00	GE MR-E4
V-126	.00	GE MRI-E5
V-127	.00	GE MR-E6
MECHANICAL		
M-101	.00	DEMOLITION PART PLAN, HVAC PIPING AND DUCTWORK
M-201	.00	FIRST FLOOR HVAC PART PLAN, DUCTWORK
M-202	.00	2ND FL AND ROOF HVAC PART PLAN PIPING AND CRYOGENIC VENT
M-001	.00	MECHANICAL SYMBOL LIST, NOTES, AND ABBREVIATIONS
ELECTRICAL		
E-001	.00	ELECTRICAL COVER SHEET
E-002	.00	ELECTRICAL SPECIFICATION SHEET
E-003	.00	ELECTRICAL NOTES
E-101	.00	LEVEL1 POWER DEMOLITION PART PLAN
E-102	.00	LEVEL1 LIGHTING DEMOLITION PART PLAN
E-201	.00	LEVEL1 POWER PART PLAN
E-202	.00	ROOF LEVEL POWER PART PLAN
E-301	.00	LEVEL 1 LIGHITNG PART PLAN
E-401	.00	ELECTRICAL RISER DIAGRAM
E-501	.00	ELECTRICAL SCHEDULES
E-601	.00	ELECTRICAL DETAILS
E-602	.00	ELECTRICAL DETAILS
PLUMBING		
P-001	.00	PLUMBING NOTES, SYMBOLS, SCHEDULES & DETAILS
P-002	.00	PLUMBING SPECIFICATIONS
P-101	.00	PLUMBING DEMOLITION PLAN
P-201	.00	PLUMBING PLANS
FIRE ALARM		
FA-001	.00	FIRE ALARM COVER SHEET
FA-101	.00	LEVEL1 FIRE ALARM DEMOLITION PART PLAN
FA-301	.00	LEVEL1 FIRE ALARM PART PLAN
FIRE PROTECTION		
SP-001	.00	SPRINKLER NOTES, SYMBOLS, SCHEDULES & DETAILS
SP-002	.00	SPRINKLER SPECIFICATIONS
SP-101	.00	SPRINKLER DEMOLITION PLAN
SP-201	.00	SPRINKLER PLAN

CD Submission 06/18/2021

Architect of Record:

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470 PARK AVE SOUTH, 11th FLOOR
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212-689-3110

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OWNER:
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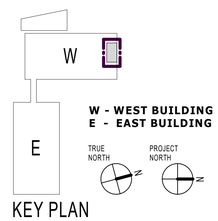
PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
CODE REQUIREMENTS, SYMBOLS LEGEND, FLOOD MAP DATA AND GENERAL NOTES

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
G-001.00

DWG OF 47

C:\Project Path\Revit 2020\6109.02 - MRI_Columbia_Doctors_Tarrytown_2020_KURO.rvt
As indicated
6/22/2021 2:31:49 PM
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UL ONLINE CERTIFICATIONS DIRECTORY

Design No. U411
BXUV.U411
Fire-resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

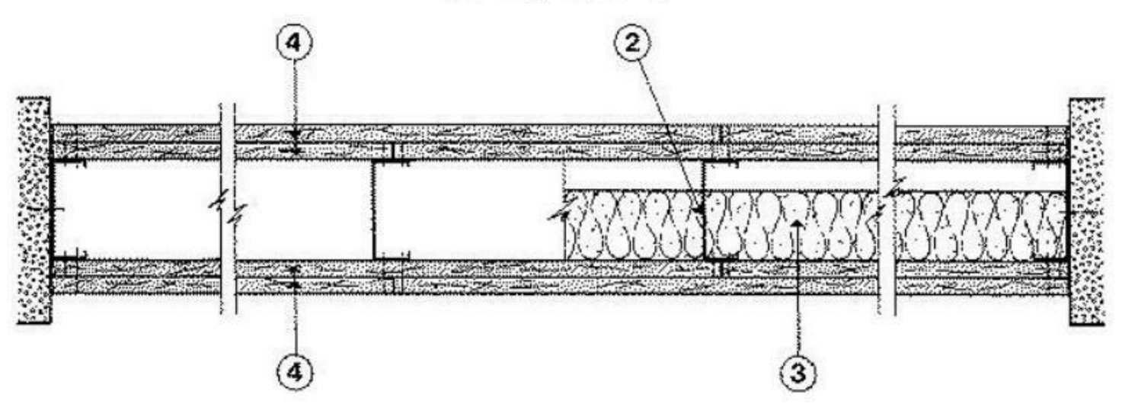
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U411

January 25, 2018

Nonbearing Wall Rating — 2 Hr.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runner** — (Not Shown) — Min. 25 MSG galv steel, 1 in. return legs, 2-1/2 in. deep (min), attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2A, channel shaped, min 2-1/2 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1B. **Floor and Ceiling Runners** — (Not Shown) — For use with Item 2B- Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1C. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2C, channel shaped, min 2-1/2 in. wide fabricated from min 0.015 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1D. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2D, channel shaped, min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1E. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2E, channel shaped, min 2-1/2 in. wide fabricated from min 25 MSG steel, attached to floor and ceiling with fasteners 24 in. OC. max.

KIRII (HONG KONG) LTD — Type KIRII

1F. **Floor and Ceiling Runners** — (Not Shown) — Channel shaped, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1G. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2G, channel shaped, min 2-1/2 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

TELLING INDUSTRIES L L C — Viper20™ Track

1H. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2J. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

1I. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2K, channel shaped, min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners 24 in. OC. max.

STEEL INVESTMENT GROUP L L C — AlphaTRAK

1J. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2L. Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.

OEG BUILDING MATERIALS — OEG Track

1K. **Framing Members* — Floor and Ceiling Runners** — (Not Shown) — As an alternate to Item 1 - For use with Item 2M, channel shaped, min 2-1/2 in. deep, formed of min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners 24 in. OC. max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs** — Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1G, channel shaped studs, min 2-1/2 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2B. **Steel Studs** — (As an alternate to Item 2, For use with Item 4D, 4H, and 4J) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2C. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1C, channel shaped studs, min 2-1/2 in. wide fabricated from min 0.015 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2D. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1D, channel shaped studs, min 2-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2E. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1E, channel shaped studs, min 2-1/2 in. wide fabricated from min 25 MSG steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

2F. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1G, channel shaped studs, min 2-1/2 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

TELLING INDUSTRIES L L C — Viper20™

2G. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

EB METAL INC — NITROSTUD

2H. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2I. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1A (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2J. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1H, channel shaped, min 3-5/8 in. wide, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

BAILEY METAL PRODUCTS LTD — Type PLATINUM PLUS

2K. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1I, channel shaped studs, min 3-1/2 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

STEEL INVESTMENT GROUP L L C — AlphaSTUD

2L. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1J, channel shaped studs, Min 2-1/2 in. deep, formed of min 25 MSG galv steel max stud spacing 24 in. OC. Studs to be cut 3/8 to 3/4 in. less

than assembly height.

OEG BUILDING MATERIALS — OEG Stud

2M. **Framing Members* — Steel Studs** — As an alternate to Item 2 — For use with Item 1K, channel shaped studs, min 2-1/2 in. deep, formed of min. 25 MSG (0.018 in. min. bare metal thickness), spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. **Batts and Blankets*** — (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.

See **Batts and Blankets** (BZJZ) category for names of manufacturers.

3A. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application. INS765LD and INS770LD are to be used for dry application only.

3B. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) and Item 3A — Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

3C. **Fiber, Sprayed*** — As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

4. **Gypsum Board*** — 5/8 in. thick, outer layer paper, glass mat or vinyl surfaced. (Laminated System) Gypsum board applied vertically in two layers. Inner layer attached to studs with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges, and 12 in. OC in the field and outer layer laminated to inner layer with joint compound, applied with a notched spreader producing continuous beads of compound about 3/8 in. in diameter, spaced not greater than 2 in. OC. Joints of laminated outer layer offset 12 in. from inner layer joints Outer layer gypsum board attached to floor and ceiling runner track with 1-5/8 in. long Type S steel screws spaced 12 in. OC.

Optional, (Direct Attached System), Inner layer attached to studs with 1 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs over the inner layer with 1-5/8 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges and 12 in. OC to the floor and ceiling runners. Joints of screw-attached outer layer offset from inner layer joints. Joints of outer layer may be taped or untaped.

Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AG-C, AGX-1, M-Glass, AGX-11, LightRoc

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CERTAINTEED GYPSUM INC — Types 1, FRPC, EGRG, GlasRoc, Type X, Type X-1, Type C or 5/8" Easi-Lite Type X

CGC INC — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type X

ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSW-C, FSW-G, FSMR-C, FSL, SoundBreak XP Type X Gypsum Board

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type C, PG-3, PG-5, PG-9, PG-11, PG-C, PGS-WRS

PANEL REY S A — Types GREX, PRX, RHX, MDX, ETX, PRC or PRC2

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C or Type X

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SGX, SHX, ULIX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX, USGX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX

4A. **Gypsum Board*** — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4 with 1-1/4 in. long Type S screws for inner layer and 2-1/4 in. long Type S screws for outer layer.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4B. **Gypsum Board*** — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Horizontal joints need not be backed by steel framing. Secured as described in Item 4 for the direct attached system. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CERTAINTEED GYPSUM INC — Type X, Type C

CGC INC — Type SHX

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Type SHX, FRX-G

USG MEXICO S A DE C V — Type SHX

4C. **Gypsum Board*** — (As an alternate to Items 4, 4A and 4B) — Two layers of 5/8 in. thick gypsum board applied horizontally or vertically. Inner layer attached to studs with No. 6 by 1 in. long Type S bugle head screws spaced 24 in. OC along the top and bottom tracks starting 2 in. and then 12 in. from the vertical edge. Inner layer screws spaced 24 in. OC along the studs, starting 2 in. and then 12 in. from the top and bottom of the studs and starting 1-1/4 in. from the horizontal joints when installed horizontally. Outer layer attached to studs with 1-5/8 in. long Type S bugle head screws spaced 16 in. OC along the top and bottom tracks starting 1-3/4 in. from the vertical edge. Outer layer screws spaced 16 in. OC along the studs, starting 1-3/4 in. and then 8 in. from the top and bottom of the studs and starting 1-1/4 in. and then 8 in. from the horizontal joints when installed horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers staggered a min of 12 in. When outer layers are installed horizontally, vinyl or casein, dry or premixed joint compound shall be applied in two coats to joints and screw heads of outer layer. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced.

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

4D. **Gypsum Board*** — (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2B) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4E. **Gypsum Board*** — (As an alternate to Items 4 through 4D) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock ES

4F. **Gypsum Board*** — (As an alternate to Items 4 through 4E) —5/8 in. thick, applied vertically or horizontally as the outer layer to one side of the assembly. Horizontal joints need not be backed by steel framing. Secured as described in Item 4 for the direct attached system. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CERTAINTEED GYPSUM INC — Type SilentFX

4G. **Gypsum Board*** — As an alternate to Item 4 — Nom. 5/8 in. thick, inner layer attached vertically to studs with 1 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges. Outer layer attached to the studs horizontally over the inner layer with 1-5/8 in. long Type S steel screws spaced 16 in. OC in the field and along the vertical edges and 12 in. OC to the floor and ceiling runners. Joints of outer layer must be taped. Nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard.

ACADIA DRYWALL SUPPLIES LTD — Type Blueglass Exterior Sheathing

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-11, PGS-WRS

4H. **Gypsum Board*** — (Not Shown) — (As an alternate to Items 4. For direct attachment only to steel studs Item 2B) — For Direct Application to Studs Only- For use as the base layer on one or both sides of the wall. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-5/8 in. long Type S 12 steel screws spaced 8 in. OC at perimeter and 12 in OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Fasteners for face layer gypsum panels when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4. To be used with Lead Batten Strips (see Item 5A) or Lead Discs (see Item 6A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4I. **Gypsum Board*** — (As an alternate to Item 4, not for use with Items 1C and 2C) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4J. **Gypsum Board*** — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2B) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4K. **Gypsum Board** — (As an alternate to Items 4 through 4J, not for use with Items 1C and 2C.) — Two layers of nominal 15 mm thick gypsum board applied vertically. Inner layer attached to studs with No. 3.5 x 1-3/8 in. long bugle head, self-drilling screws spaced 23-5/8 in. OC in the field and 15-3/4 in. OC in the perimeter, with the first screw 2 in. from the edge. Outer layer attached to the studs over the inner layer with No. 3.5 x 1-3/4 in. long bugle head, self-drilling screws spaced 11-13/16 in. OC in the field and 7-7/8 in. OC in the perimeter, with the first screw 3/4 in. from the edge. Outer layer screws staggered from inner layer screws. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layer staggered one stud cavity. Self-adhesive fiberglass mesh (9x9 mesh) tape, nom 2 in. wide, applied over all joints of outer layer panels. Dry or premixed joint compound applied in two coats to joints over the mesh tape and screw heads of outer layer.

GYPSEMNA CO LLC — Types MRFW, FW, TF

4L. **Gypsum Board*** — (As an alternate to Items 4 through 4K) — Two layers of 5/8 in. thick gypsum board applied vertically or horizontally. Inner layer attached to studs with #6 x 1 in. long bugle head screws spaced 12 in. OC along the top and bottom tracks and 16 in. OC in the field and along the vertical edges. Outer layer attached to studs with #6 x 1-5/8 in. long bugle head screws spaced 12 in. OC along the top and bottom tracks and 16 in. OC in the field and along the vertical edges. Vertical joints are centered over studs and staggered between layers and on opposite sides of the wall. Horizontal joints on the face layer are staggered 12 in. from the base layer. Horizontal joints need not to be backed by steel framing.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD

4M. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 4 through 4L) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

4N. **Gypsum Board*** — (As an alternate to Item 4 through 4M) — For direct application to studs only - Four layers nom. 5/16 in. thick gypsum panels applied vertically or horizontally. When applied horizontally, base layer secured to studs with 1 in. Type S screws spaced 24 in. OC. Second layer installed with joints offset 12 in. from base layer and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer and secured with 1-1/2 in. Type S screws spaced 16 in. OC. Fourth layer installed with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 12 in. OC. For all layers, screws offset 4 in. from previous layer. When applied vertically, base layer secured with 1 in. Type S screws spaced 24 in. OC. Second layer secured with joints offset one stud cavity and secured with 1 in. Type S screws spaced 24 in. OC. Third layer installed with joints in line with base layer and secured with 1-1/2 in. Type S screws spaced 12 in. OC. Fourth layer secured with joints in line with second layer and secured with 1-5/8 in. Type S screws spaced 8 in. OC along vertical edges and 12 in. OC in the field. For all layers, screws offset 4 in. from previous layer.

NATIONAL GYPSUM CO — Type FSW

5. **Lead Batten Strips** — (Not Shown, For Use With Item 4D) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4D) and optional at remaining stud locations. Required behind vertical joints.

5A. **Lead Batten Strips** — (Not Shown, for use with Item 4H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min.

Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 6) and optional at remaining stud locations.

6. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4D) — Used in lieu of or in addition to the lead batten strips (Item 5) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4D) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs** — (Not Shown, for use with Item 4H) — Max 5/16 in. diam by max0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

7. **Mineral and Fiber Board*** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC. The required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

HOMASOTE CO — Homasote Type 440-32

8. **Furring Channels** — (Optional, Not Shown — not for use with Items 4D, 4H, 4J, or 4N) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws.

8A. **Framing Members*** — (Optional on one or both sides, Not Shown — not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b.

b. **Steel Framing Members*** — Used to attach furring channels (Item 8Aa) to studs. Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

8B. **Framing Members*** — (Optional on one or both sides, Not Shown — Not for use with Items 4D, 4H, 4J, or 4N) — As an alternate to Item 8, furring channels and Steel Framing Members as described below:

a. **Furring Channels** — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members*** — Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-01-25

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CD Submission 06/18/2021

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MEP ENGINEER

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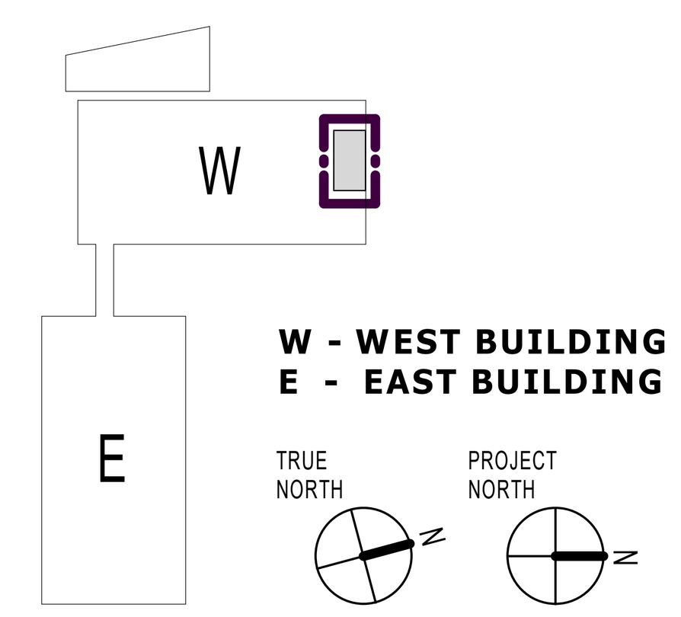
NEW YORK, NY 10001
PHONE: 646.674.6100

OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
UL DETAILS

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
G-002.00

DWG OF 47

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ONLINE CERTIFICATIONS DIRECTORY

Design No. U438
BXUV.U438
Fire-resistance Ratings - ANSI/UL 263

Panic Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

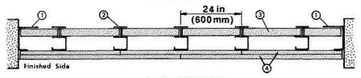
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U438

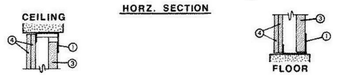
May 15, 2017

Nonbearing Wall Rating — 2 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



HORZ. SECTION



1. **Floor and Ceiling Runners —** "J" -shaped runner, 2-1/2 in. wide with unequal legs of 1 in. and 2 in., fabricated from 24 MSG galv steel (min 20 MSG when Item 4B is used). Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.

2. **Steel Studs —** "C-H" -shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used), Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4B, 4D, 4E is used).

2A. **Steel Studs —** (Not shown)-"E" -shaped studs installed in place of "C-H" -shaped studs (Item 2) to secure the closure liner panels at the ends of walls. Fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used), 2-1/2 in. wide, with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner

panels. Cut to lengths 3/8 in. less than floor to ceiling height. Sill and lintel of opening formed with "J" -shaped runners (Item 1) secured to "E" -shaped studs with angle clips and steel screws.

3. **Gypsum Board* —** 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. or 600 mm (for metric spacing) widths. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" -shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" -runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC.

CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX.

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX.

4. **Gypsum Board* —** 1/2 in. thick, 4 ft, or 1200 mm (for metric spacing) wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC along the edges and in the field of the boards. Outer or face layer attached to studs and "J" -runners with 1-5/8 in. long Type S steel screws spaced 12 in. along the edges and in the field of the boards, staggered from screws in inner layers. Joints between inner and outer layers staggered.

Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound.

As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. Type S steel screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J" runners over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC in the field, along the vertical edges and to the floor and ceiling runners. Outer layer secured to inner layer wallboard with 1-1/2 in. long Type G steel screws located midway between studs and 1 in. from the horizontal joint.

ACADIA DRYWALL SUPPLIES LTD — Type C

AMERICAN GYPSUM CO — Types AG-C .

CERTAINTEED GYPSUM INC — Type FRPC, Type C.

CGC INC — Type C, IP-X2, or WRC.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A.

GEORGIA-PACIFIC GYPSUM L L C — Types S, DAPC, TG-C.

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C, FSMR-C.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C.

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIVAir, Gyproc FireStop MR ACTIVAir, Gyproc FireStop M2TECH ACTIVAir

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Type C, IP-X2 or WRC.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C, IP-X2 or WRC.

4A. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CGC INC — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCX, ULX or WRX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

4B. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 or 4A for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips (Item 6) required behind vertical joints.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4C. **Gypsum Board* —** (As an alternate to Item 4, 4A, 4B) — 5/8 in. thick. Two layers installed as described in Item 4.

NATIONAL GYPSUM CO — Type FSMR-C.

4D. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints. To be used with Lead Batten Strips (see Item 6B) or Lead Discs (see Item 6C).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4E. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer. Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0,14 in, placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0,085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4F. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 8 in. OC when installed vertically and staggered min. 6 in. from base layer screws or 8 in. OC when installed horizontally and staggered min. 6 in. from base layer screws. Horizontal joints between inner and outer layers need not to be staggered. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. When used in widths other than 48 in., gypsum panels to be installed horizontally.

UNITED STATES GYPSUM CO — Type ULIX.

5. **Batts and Blankets* —** (Optional) — (Not shown) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt material bearing the UL Classification Marking as to Fire Resistance.

5A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2,2 lb/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3,5 lb/ft³, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application, INS765LD and INS770LD are to be used for dry application only.

5B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4,3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

5C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4,30 lbs/ft³.

INTERNATIONAL CELLULOSE CORP — Cellsan-RL

6. **Lead Batten Strips —** For Use with Item 4B - (Not Shown) - Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. Strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0,125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

6A. **Lead Discs or Tabs —** (Not Shown) - Used in lieu of or in addition to the lead batten strips (Item 6) or optional at other locations - Max 3/4 in. diam by max 0,125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0,125 in. thick lead tabs placed on gypsum boards (Item 5) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99,9% meeting the Federal specification QQ-L-201f, Grade "C".

6B. **Lead Batten Strips —** (Not Shown, for use with Item 4D) Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0,140 in. Strips placed on the face of studs and attached to the stud with two min, 1 in, long min, Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min, 1 in, long min, Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99,5% meeting the Federal specification QQ-L-201f, Grades "B, C or D", Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

6C. **Lead Discs —** (Not Shown, for use with Item 4D) Max 5/16 in. diam by max 0,140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2017-05-15

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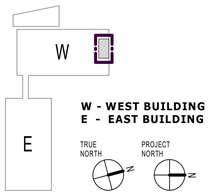
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
UL DETAILS

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
G-003.00

DWG OF 47

CD Submission 06/18/2021

ONLINE CERTIFICATIONS DIRECTORY

Design No. U465
BXUV.U465
Fire-resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

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BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

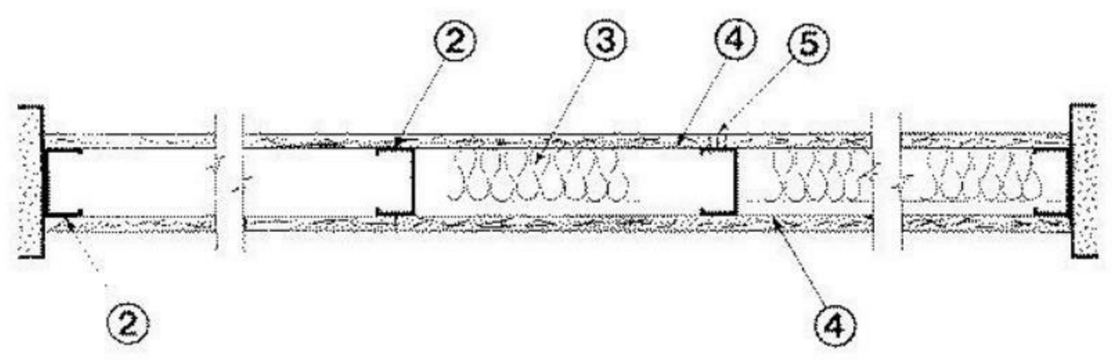
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U465

January 24, 2018

Nonbearing Wall Rating — 1 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped runners, 3-5/8 in. deep (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 — Channel shaped, min 3-5/8 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2C — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1C — For use with Item 2D and 4G only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1E. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1D — For use with Item 2E and 4I only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1F. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1E — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 25 MSG steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

KIRII (HONG KONG) LTD — Type KIRII

1G. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1F — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track VT100

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2H, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

1J. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 — For use with Item 2 L, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STEEL INVESTMENT GROUP L L C — AlphaTRAK

1K. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2M, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep, fabricated from min 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

1L. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CRACO MFG INC — SmartTrack20™

2. **Steel Studs —** Channel shaped, 3-5/8 in. deep (min), formed from min No. 25 MSG galv steel spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members* — Steel Studs —** As an alternate to Item 2 — Channel shaped studs, min 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1B, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CRACO MFG INC — SmartStud20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2C. **Steel Studs —** (As an alternate to Item 2, For use with Item 4E) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2C — For use with Item 1D and 4G only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2E. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2D — For use with Item 1E and 4I only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2F. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2E — For use with Item 1F, channel shaped studs, min 3-5/8 in. wide fabricated from min 25 MSG steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 through 2F — For use with Item 1G. Proprietary channel shaped studs, minimum 3-5/8 in. wide, Studs to be cut 1/2 in. less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1I, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

TELLING INDUSTRIES L L C — Viper20™

2I. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

EB METAL INC — NITROSTUD

2J. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1B (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2L. **Framing Members* — Steel Studs —** As an alternate to Items 2 — For use with Item 1J, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

STEEL INVESTMENT GROUP L L C — AlphaSTUD

2M. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1K, proprietary channel shaped steel studs, min 1-1/4 in. wide by min 3-5/8 in. deep, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/4 in. less in length than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

2N. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1L, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

CRACO MFG INC — SmartStud20™

3. **Batts and Blankets* —** (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.

See **Batts and Blankets** (BZJZ) category for names of Classified companies.

3A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735 & INS745 for use with wet or dry application. INS765LD and INS770LD are to be used for dry application only

3B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) and Item 3A — Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

3C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

3D. **Batts and Blankets* —** For use with Item 8. Nom 3 in. thick, minimum 3.4 pcf mineral wool batts, friction fit between the studs and floor and ceiling runners.

See **Batts and Blankets** (BZJZ) category for names of manufacturers.

3E. **Batts and Blankets* —** For use with Item 4P. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4. **Gypsum Board* —** 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to Items 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AG-C, AGX-1, M-Glass, LightRoc

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CERTAINTEED GYPSUM INC — Types 1, EGRG, GlasRoc, Type X, Type X-1, Type C, 5/8" Easi-Lite Type X, Easi-Lite Type X-2

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSMR-C, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSL

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C, PG-9, PG-11, PGS-WRS

PANEL REY S A — Types GREX, PRC, PRC2, PRX, RHX, MDX, ETX

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4A. **Gypsum Board* —** (As alternate to Item 4) — Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CERTAINTEED GYPSUM INC — Type X, Type X-1, Type C, Type EGRG/ GlasRoc, Type SilentFX, Easi-Lite Type X-2

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD

GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DAPC, DGG, DS

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4C. **Gypsum Board* —** As an alternate to Items 4, 4A, and 4B — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered or backed by steel framing.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG, GreenGlass Type X

4D. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Gypsum panels fastened to framing with 1 in. long Type S steel screws 8 in. OC along vertical edges and 12 in. OC in the field when panels are applied vertically. When gypsum panels applied horizontally, fasten to framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall for both vertical and horizontal applications.

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSL, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSMR-C

4E. **Gypsum Board* —** (As an alternate to Items 4 through 4D) — Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 1 in. long, Type S steel screws spaced, 8 in. OC. Not to be used with item 6.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4G. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1D and 2D only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A, LGFC-C/A

NATIONAL GYPSUM CO — Types FSW

UNITED STATES GYPSUM CO — Type SCX

USG BORAL DRYWALL SFZ LLC — Type SCX

4H. **Gypsum Board* —** (As an alternate to Items 4 through 4G) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

4I. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1E and 2E only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

UNITED STATES GYPSUM CO — Type SCX

USG BORAL DRYWALL SFZ LLC — Type SCX

4J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4K. **Gypsum Board* —** (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and 4A.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4L. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4M. **Gypsum Board* —** (For use with Item 8) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 8) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 8). Secured to outermost studs and floor and ceiling runners with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — Type FRPC, Type C

CGC INC — Types C, IP-X2, IPC-AR

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Types PRC, PRC2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

4N. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527

4O. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal joints on the same side need not be staggered. When applied horizontally, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC and staggered 4 in. OC between layers. When applied vertically, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field, staggered 4 in. OC between layers. Screws spaced a max 12 in. along the top and bottom edges of the wall.

NATIONAL GYPSUM CO — Type FSW

4P. **Gypsum Board* —** As an alternate to Item 4. For use with Item 3E, **Batts and Blankets* —** 5/8 in. thick, 4 ft wide, installed as described in Item 4.

UNITED STATES GYPSUM CO — Types ULIX

4Q. **Gypsum Board* —** 3/4 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track as described in Item 4 with screw length increased to min. 1- 1/8 in.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

5. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. **Resilient Channel —** (Optional — Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC, flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May not be used with Item 4F or 4J.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Framing Members* —** Used to attach furring channels (Item a) to studs (Item 2). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

6B. **Framing Members* —** (Not Shown) — (Optional on one or both sides) — As an alternate to Item 6, furring channel and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all intermediate framing. The required UL Classified gypsum board layer (Item 4M) is to be installed over the Mineral and Fiber Boards. Batts and Blankets, Item 3D, and Adhesive, Item 11, are required.

HOMASOTE CO — Homasote Type 440-32

9. **Lead Batten Strips —** (Not Shown, For Use With Item 4E) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips —** (Not Shown, for use with Item 4J) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type

S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4J) and optional at remaining stud locations.

10. **Lead Discs or Tabs —** (Not Shown, For Use With Item 4E) — Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. **Lead Discs —** (Not Shown, for use with Item 4J) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. **Adhesive —** Not Shown — (For use with Item 8) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 8).

12. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — For use with Items 1 to 1I, Items 2 to 2J, Item 3, Items 4 to 4I, Item 5 and Item 6. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to Item 4I), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When RefleXor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to Item 4I shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to Item 4I except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 3. On the other side of the wall, prior to the installation of the Gypsum Board, install Resilient Channels as per Item 6. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 to Item 4I with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

MSL — RefleXor membrane, SONOpan panel

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-01-24

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CD Submission 06/18/2021

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PROJECT:
NEW MRI

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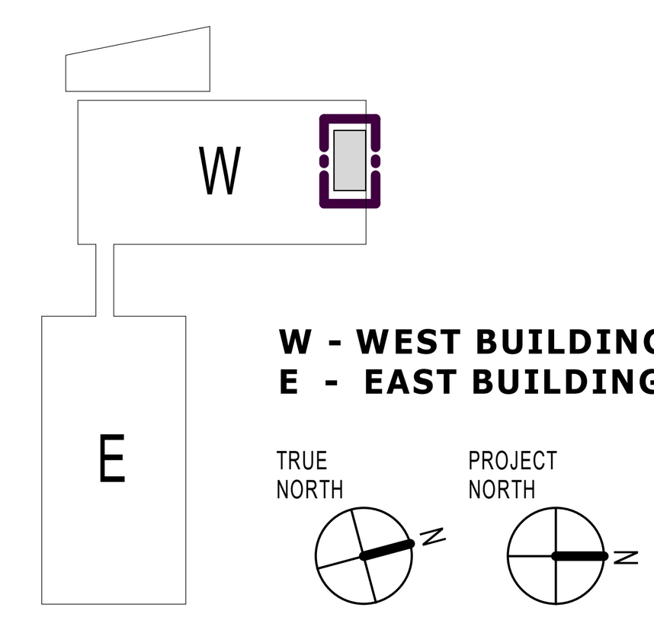
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
UL DETAILS

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
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INFECTION CONTROL RISK MITIGATION RECOMMENDATIONS MATRIX OF PRECAUTIONS FOR CONSTRUCTION AND RENOVATION

Type of Construction / Project Activity Table

TYPE A	Inspection and Non-Invasive Activities Includes, but is not limited to: - removal of ceiling tiles for visual inspection limited to 1 tile to 50 square feet - painting (but not sanding), wall covering - electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection
TYPE B	Small scale, short duration activities which create minimal dust Includes, but is not limited to: - installation of telephone and computer cabling - access to chase spaces - cutting of walls or ceiling where dust migration can be controlled
TYPE C	Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies Includes, but is not limited to: - sanding of walls for painting or wall covering - removal of floor coverings, ceiling tiles and casework - new wall construction - minor duct work or electrical work above ceilings - major cabling activities - any activity which cannot be completed within a single work shift
TYPE D	Major demolition and construction projects Includes, but is not limited to: - activities which require consecutive work shifts - requires heavy demolition or removal of a complete ceiling system - new construction

Patient Risk Group Table

Group 1 Low Risk	Group 2 Medium Risk	Group 3 High Risk	Group 4 Highest Risk
- Office areas (non-clinical)	- Cardiology - Echocardiology - Endoscopy - GI - Physical Therapy - Radiology/MRI - Nuclear Medicine - Respiratory Care (except bronchoscopy area) - Cafeteria - Outpatient areas--clinics and offices (exception: transplant and oncology)	- Emergency Room - Post Anesthesia - Care Units - Labor and Delivery - Pediatrics - Admission/Discharge area - Laboratories - Pharmacy - Inpatient units (not otherwise specified) at all AEHN locations	- All Operating Rooms including Labor and Delivery - Anesthesia and Pump areas - Central Equipment/Sterile Supply - Cardiac Catheterization and - Angiography Areas - Interventional Radiology - Radiation Oncology - All Intensive Care Units - Newborn Nurseries, including NICU - Dialysis Unit - Oncology - inpatient & outpatient - Transplant - inpatient & outpatient - Pharmacy Admixture - Negative Pressure Isolation Rooms/areas (including bronchoscopy area)

Infection Control Matrix - Class of Precautions: Construction Project by Patient Risk

Construction Project Type

Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group 1	I	II	II	III/IV
MEDIUM Risk Group 2	I	II	III	IV
HIGH Risk Group 3	I	III	III/IV	IV
HIGHEST Risk Group 4	III	III/IV	III/IV	IV

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that Class III Class IV control procedures are necessary.

It is the Contractor's Responsibility to provide the following Infection Control Precautions depending upon the Area Class Designation

	During Construction Project	Upon Completion of Project
CL- I	1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace a ceiling tile displaced for visual inspection.	1. Wipe surfaces to remove dust.
CLASS II	1. Includes all activities required by Class I 2. Provide active means to prevent airborne dust from dispersing into atmosphere. 3. Water mist work surfaces to control dust while cutting. 4. Seal unused doors with duct tape. 5. Block off and seal air vents. 6. Replace adhesive walk-off mats at entrance and exit of work area. Replace used mats in accordance with manufacturer's recommendations. 7. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system.	1. Wipe work surfaces with disinfectant. 2. Contain construction waste before transport in tightly covered containers. 3. Wet mop and/or vacuum work area with HEPA filtered vacuum before leaving work areas. 4. Remove isolation of HVAC system in areas where work is being performed.
CLASS III	1. Includes all activities required by Class II 2. Obtain Infection Control Permit from Hospital Safety Officer or Facilities Management Maintenance and Engineering department before construction begins. 3. Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. 4. Complete all critical barriers before construction begins or implement control cube method. 5. Maintain negative air pressure within work site utilizing HEPA-equipped air filtration units. 6. Contain construction waste before transport in tightly covered containers. 7. Cover transport receptacles or carts. Tape covers. 8. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work areas. 9. Remove isolation of HVAC system in areas where work is being performed.	1. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering. 4. Vacuum work with HEPA-filtered vacuums. 5. Wet mop with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.
CLASS IV	1. Includes all activities required by Class III 2. Obtain Infection Control Permit from Hospital Safety Officer or Facilities Management Maintenance and Engineering department before construction begins. 3. Isolate HVAC system in areas where work is being done to prevent contamination of duct system. 4. Complete all critical barriers or implement control cube method before construction begins. 5. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. 6. Seal holes, pipes, conduits, and punctures appropriately. 7. Construct anteroom and require all personnel to pass through this room so they can be vacuumed sing a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that re removed each time they leave the work site. 8. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each ime the worker exits the work area. 9. Place adhesive walk-off mats at entrance to work area within anteroom. 10. Replace per manufacturer's recommendations. Do not remove barriers from work area until completed project is inspected each by the Hospital Safety Officer, Facilities Management Maintenance and Engineering Department and thoroughly cleaned by the Hospital Environmental Services Department or their contracted Environmental Service Company Contain construction waste before transport in tightly covered containers. 11. Cover transport receptacles or carts. Tape covering 12. Vacuum work area with HEPA filtered vacuums. 13. Wet mop with disinfectant after barriers are removed. 14. Remove isolation of HVAC system in areas where work is being performed.	1. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant after barriers are removed. 6. Remove or isolate HVAC system in areas where work was being performed.

PROPOSED PLAN LEGEND

- MATERIAL PATH TO CONSTRUCTION SITE. MATERIALS SHALL BE MOVED INTO SITE ONLY BETWEEN 7PM AND 5AM WEEKDAYS, SATURDAYS, SUNDAYS, AND HOLIDAYS, ONLY WITH 24 HOUR ADVANCED NOTICED TO MMC
- DEBRIS PATH FROM CONSTRUCTION SITE. DEBRIS SHALL BE MOVED INTO SITE ONLY BETWEEN 7PM AND 5AM WEEKDAYS, SATURDAYS, SUNDAYS, AND HOLIDAYS, ONLY WITH 24 HOUR ADVANCED NOTICED TO MMC
- TEMPORARY SOLID PARTITION CONTAINMENT. ALL TEMPORARY BARRIERS ARE TO BE SMOKE TIGHT AND BE CONSTRUCTED TO THE UNDERSIDE OF STRUCTURAL DECK
- TEMPORARY CONTAINMENT WALK-OFF MAT
- LIMIT OF SMOKE TIGHT BARRIER. THE BARRIER IS A COMBINATION OF TEMPORARY PARTITIONS AND EXISTING PARTITIONS THAT WILL REMAIN.

PHASING GENERAL NOTES

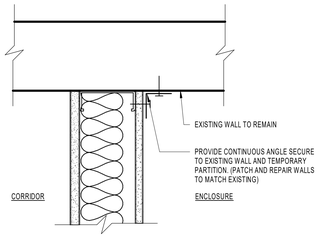
1. THE SHADED AREA INDICATES THE EXTENT OF WORK TO BE PERFORMED IN THE IDENTIFIED PHASE.
2. THE CONTRACTOR SHALL COORDINATE WITH HOSPITAL PROJECT REPRESENTATIVE FOR ANY MECHANICAL, ELECTRICAL, PLUMBING SHUTDOWN, STOP OR USE OF ELEVATORS AND BLOCKING OF ANY ENTRANCES TO ENSURE THE OPERATION AND SERVICES OF ALL OCCUPIED AREAS OUTSIDE CONSTRUCTION AREA ARE MAINTAINED UNINTERRUPTED.
3. THE CONTRACTOR SHALL PROVIDE TEMPORARY PARTITIONS / BARRIERS AS PER DRAWINGS AND OR SPECIFICATIONS SECTION 015000 FOR POLLUTION CONTROL AND TO SEPARATE CONSTRUCTION WORK FROM OTHER AREAS OF THE BUILDING. ALL TEMPORARY PARTITIONS MUST STAY IN PLACE UNTIL THE CEILING IS INSTALLED AND THE ONLY WORK LEFT TO BE DONE IS MINOR FINISHES AND PUNCH LIST ITEMS.
4. PRIOR TO PARTIAL OWNER OCCUPANCY OF EACH PHASE, MECHANICAL AND ELECTRICAL SYSTEMS ARE TO BE FULLY OPERATIONAL.
5. THE CONTRACTOR SHALL NOTIFY IN WRITING TO OWNER AND ARCHITECT, WITHIN SEVEN WORKING DAYS, AREAS OF THE BUILDING TO BE TURNED-OVER FOR CONSTRUCTION.
6. THE CONTRACTOR SHALL PERFORM THE NECESSARY DEMOLITION WORK REQUIRED TO COMPLETE THE NEW WORK ON EACH PHASE. REFER TO DEMOLITION PLANS AND NOTES ON SHEET DM-101 AND DM-102. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE WHAT PORTION OF THE OVERALL DEMOLITION WORK IS REQUIRED FOR EACH PHASE.

PHASE 1-2

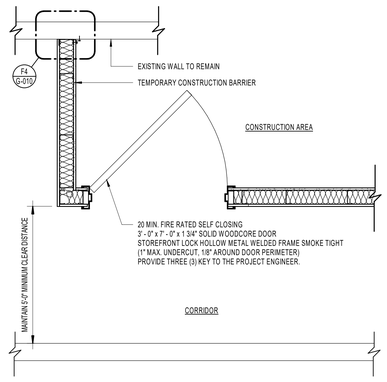
NOTE 1: PHASING AND THE PHASING NARRATIVE MAY BE SUBJECT TO MINOR ADJUSTMENT, IN ORDER TO ACCOMMODATE ONGOING FACILITY STAFF AND ENGINEERING OPERATIONS.

NOTE 2: ALL CORRIDOR CONSTRUCTION, WORK IMPACTING BUSINESS OPERATIONS, AND WORK REQUIRED TO OCCUR IN OCCUPIED AREAS IS TO BE ACCOMPLISHED AFTER HOURS AND/OR ON WEEKENDS AT NO ADDITIONAL CHARGE TO THE OWNER. IF AFTER HOURS WORK CANNOT BE COMPLETED IN A SINGLE WORKSHIFT, THE CONTRACTOR WILL BE REQUIRED TO TAKE DOWN TEMPORARY CONSTRUCTION BARRIERS AND CLEAN THE DESIGNATED WORK AREA BEFORE THE START OF EACH BUSINESS DAY. ALL WORK MUST BE SCHEDULED IN ADVANCE AND COORDINATED WITH THE FACILITY MANAGER AND PROJECT MANAGER.

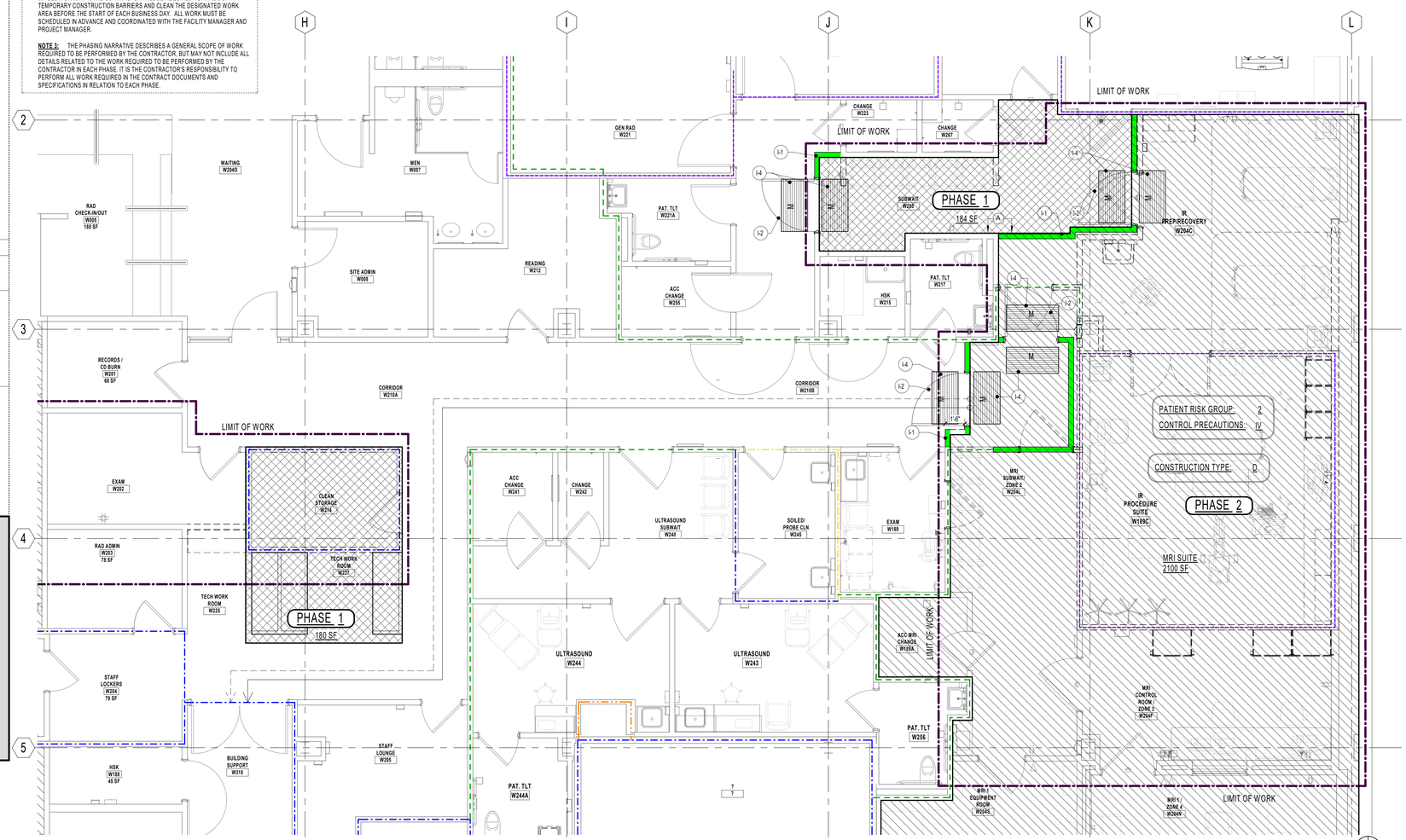
NOTE 3: THE PHASING NARRATIVE DESCRIBES A GENERAL SCOPE OF WORK REQUIRED TO BE PERFORMED BY THE CONTRACTOR, BUT MAY NOT INCLUDE ALL DETAILS RELATED TO THE WORK REQUIRED TO BE PERFORMED BY THE CONTRACTOR IN EACH PHASE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM ALL WORK REQUIRED IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS IN RELATION TO EACH PHASE.



F4 TYP. TEMPORARY CONSTRUCTION BARRIER ATTACHMENT DETAIL
3" = 1'-0"



E4 TYP. TEMPORARY CONSTRUCTION BARRIER DETAIL
3/4" = 1'-0"



A3 1ST FLOOR ICRA PLAN
1/4" = 1'-0"

ICRA KEYNOTES

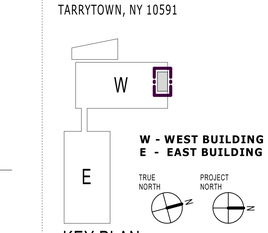
I-1	PROVIDE TEMPORARY CONSTRUCTION / INFECTION VESTIBULE PER PARTITION TYPE T DETAILS. SEE SHEET G-010.
I-2	PROVIDE TEMPORARY DOOR WITH GASKETING TO PREVENT THE MOVEMENT OF DUST.
I-4	PROVIDE TEMPORARY WALK-OFF MAT.

ICRA GENERAL NOTES

1. REFER TO AD-100 FOR THE EXTENTS OF DEMOLITION.
2. THIS DRAWING ILLUSTRATES THE SUGGESTED PHASING OF THIS PROJECT. FINAL PHASING TO BE CONFIRMED BY CLINICAL TEAM, OWNER AND THE CONTRACTOR AS TO NOT INTERRUPT THE STANDARD OPERATING PROCEDURE OF THE DEPARTMENT.
3. FLOOR SEAMING TO OCCUR AT TEMPORARY PARTITIONS.
4. PROVIDE INFECTION CONTROL PRECAUTIONS / CONTAINMENT SYSTEM AS REQUIRED BY HOSPITAL INFECTION CONTROL REPRESENTATIVE FOR ALL AREAS OUTSIDE THE LIMIT OF WORK.
5. PROVIDE CONTAINMENT AT THE FLOOR BELOW FOR ANY WORK IN THE CEILING PLENUM.

ICRA GENERAL NOTES

1. CONSTRUCT TEMPORARY CONSTRUCTION BARRIERS/PARTITIONS PER SPECIFICATION SECTION 015000 TO SEPARATE THE CONSTRUCTION WORK ZONE/AREA FROM OTHER AREAS OF THE BUILDING AND FOR POLLUTION/SMOKE/INFECTION CONTROL PURPOSES. BARRIERS/PARTITIONS MUST REMAIN IN PLACE UNTIL ALL WORK IS COMPLETED.
2. WHERE EXISTING WALLS ARE TO BE UTILIZED AS CONSTRUCTION BARRIERS/PARTITIONS, INSURE EXISTING WALLS ARE SURVEYED AND SEALED TO PROVIDE PROPER PROTECTION. VERIFY IN FIELD AND IF NECESSARY, EXTEND BARRIER/PARTITION UPWARD FULL HEIGHT TO BOTTOM OF FLOOR ABOVE. SEAL ANY GAPS/PENETRATIONS WITH APPROVED FIRE STOPPING METHODS. AS DEVICES/UTILITIES ARE ADDED/REMOVED, IMMEDIATELY DEAL ANY PENETRATIONS.
3. INSTALL TEMPORARY LIGHTING IN CONSTRUCTION AREAS T MAINTAIN PROPER ILLUMINATION.
4. TEMPORARY EXIT DOORS SHALL BE NON-FERROMAGNETIC METAL CONSTRUCTION, 1-3/4 INCHES THICK WITH METAL FRAMES AND SELF CLOSING MECHANISMS.
5. PROVIDE EXIT SIGNS ON TEMPORARY EXIT DOORS.
6. PROVIDE INFECTION CONTROL PRECAUTIONS / CONTAINMENT SYSTEM AS REQUIRED BY HOSPITAL INFECTION CONTROL REPRESENTATIVE FOR ALL AREAS OUTSIDE THE LIMIT OF WORK.
7. PROVIDE CONTAINMENT AT THE FLOOR BELOW FOR ANY WORK IN THE CEILING PLENUM.
8. PROVIDE INFECTION CONTROL PRECAUTIONS / CONTAINMENT SYSTEM AS REQUIRED BY HOSPITAL INFECTION CONTROL REPRESENTATIVE FOR ALL AREAS OUTSIDE THE LIMIT OF WORK.
9. PROVIDE CONTAINMENT AT THE FLOOR BELOW FOR ANY WORK IN THE CEILING PLENUM.
10. REFER TO INFECTION CONTROL RISK MITIGATION RECOMMENDATIONS MATRIX OF PRECAUTIONS FOR CONSTRUCTION AND RENOVATION, THIS DRAWING FOR CONSTRUCTION TYPE, PATIENT RISK AND ADDITIONAL INFORMATION.
11. PROVIDE INFECTION CONTROL PRECAUTIONS / CONTAINMENT SYSTEM AS REQUIRED BY HOSPITAL INFECTION CONTROL REPRESENTATIVE FOR ALL AREAS OUTSIDE THE LIMIT OF WORK.
12. REFER TO SPECIFICATIONS FOR INFECTION CONTROL REQUIREMENTS AS OUTLINED IN SECTION 015020.
13. ONTRACTOR TO COORDINATE WITH HOSPITAL ANY SHUT-DOWN (MPE, ELEVATOR, BLOCKING OF ENTRANCES) TO INSURE THE OPERATION AND SERVICES OF ALL OCCUPIED AREA OUTSIDE CONSTRUCTION AREA.
14. NOT USED
15. PROVIDE SCHEDULE TO OWNER / ARCHITECT THAT SHOWS THE FOLLOWING:
    -DATES THAT COORDINATE SHUT-DOWN AND TIE-INS
    -ALL OTHER IMPORTANT INFORMATION THAT WILL AFFECT THE OWNERS OCCUPANCY OF AREAS OUTSIDE THE LIMIT OF WORK.



KEY PLAN

CD Submission 06/18/2021

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360 WEST 31ST STREET
NEW YORK, NY 10001
PHONE: 646.674.6100

OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI
155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
ICRA PLAN AND NOTES

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
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ENTRY PATH LEGEND

RIGGING PATH OF MRI

MRI

RIGGING PATH GENERAL NOTES

1. CONTRACTOR TO FIELD-VERIFY ALL CLEARANCES REQUIRED FOR RIGGING ALONG THE MRI DELIVERY PATHWAY PRIOR TO DEMOLITION.
2. ALL CONSTRUCTION WORK RELATED TO RIGGING DELIVERY TO BE DONE **OFF-HOURS**. WORK STARTS FRIDAY AT 7:30PM AND COMPLETED BY MONDAY 5:00AM.
3. ALL RIGGING MUST BE TRANSPORTED SIDEWAYS AND MAGNET COVERS LOCALLY REMOVED PRIOR TO THE DELIVERY DUE TO SPACE CONSTRAINT.
4. CONTRACTOR TO PROVIDE NEW FINISHES TO MATCH EXISTING TO AREAS DISTURBED ALONG THE MRI DELIVERY PATH.
5. REMOVE AND REPLACE SIGNAGE ALONG MRI DELIVERY PATH THAT INTERFERES WITH MRI INGRESS.
6. CONTRACTOR SHALL MAINTAIN LIFE SAFETY THROUGHOUT CONSTRUCTION.

ENTRY PATH KEYNOTES

- EP1 MRI ACCESS ROUTE: DO NOT PERFORM WORK THAT WOULD INTERFERE WITH THE INSTALLATION OR RIGGING PATH OF THE MRI, UNTIL AFTER THE MRI MANUFACTURER HAS PLACED AND INSTALLED MRI 1 AS SHOWN ON VENDOR DRAWINGS.
- EP2 CONTRACTOR SHALL REMOVE AND REINSTALL PORTION OF EXISTING WALLS AND DOORS FOR DELIVERY OF MRI MAGNET ALONG PROPOSED MRI RIGGING PATH. MAINTAIN LIFE SAFETY THROUGHOUT CONSTRUCTION.
- EP3 EXISTING KNOCK-OUT PANELS TO BE REPLACED ONCE INSTALLATION OF MRI EQUIPMENT IS COMPLETE. MAINTAIN FIRE RATING OF EXISTING WALL.
- EP4 CONTRACTOR TO REMOVE PORTION OF WALL(S) INCLUDING BUT NOT LIMITED TO, HANDRAILS, WALL TILES, AND SUBSTRATE. PATCH WALL TO MATCH EXISTING.
- EP5 REMOVE CEILING AS REQUIRED TO CREATE RIGGING CLEARANCE. REINSTALL CEILING TO MATCH EXISTING
- EP6 IN ORDER TO CREATE MRI RIGGING CLEARANCE, CONTRACTOR SHALL RAISE OR REMOVE ITEMS ON THE EXISTING CORRIDOR CEILING INCLUDING BUT NOT LIMITED TO:
  - LIGHTS
  - CEILING-MOUNT SIGNAGE
  - SMOKE DETECTORS
  - SECURITY CAMERAS
- EP7 EXTENTS OF KNOCK OUT PANEL FOR POTENTIAL MAINTAINANCE AND INSTALLATION OF MRI EQUIPMENT. EXACT LOCATION TO BE DETERMINED.
- EP8 TEMPORARILY REMOVE EXISTING SYSTEMS FURNITURE AND REINSTALL AFTER MRI RIGGING IS COMPLETED. COORDINATE WITH FACILITIES AND OPERATIONS.

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI ZONE SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.

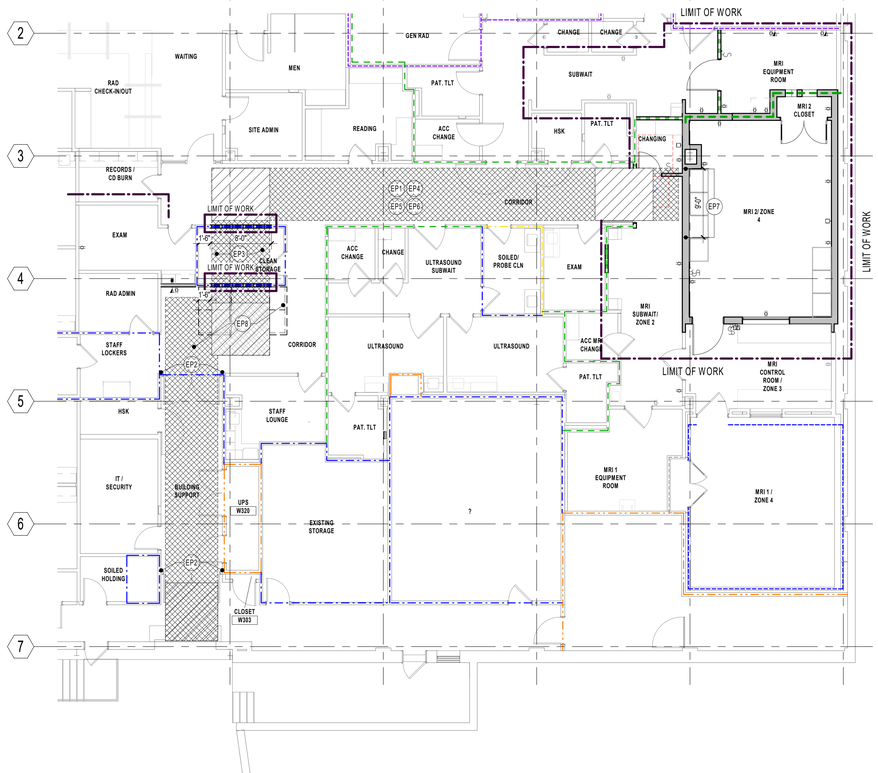
MRI SAFETY ZONE LEGEND

ZONE 1

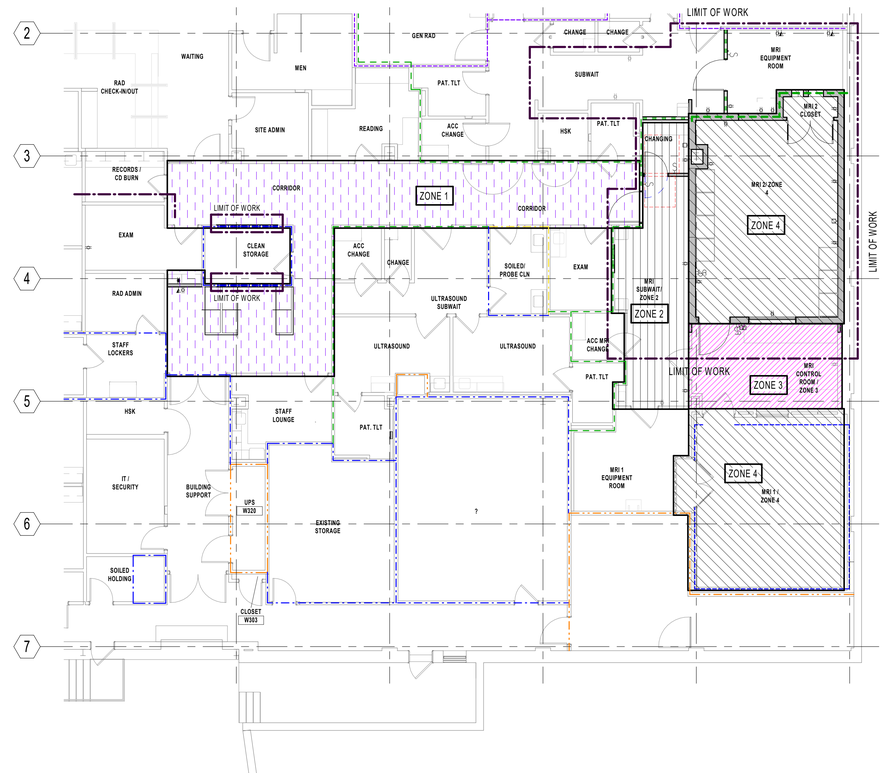
ZONE 2

ZONE 3

ZONE 4



A2 FIRST FLOOR MRI ROOM RIGGING DIAGRAM
1/8" = 1'-0"



A5 FIRST FLOOR MRI SAFETY ZONE PLAN
1/8" = 1'-0"

CD Submission 06/18/2021

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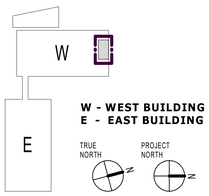
PROJECT:
NEW MRI
155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
PROJECT PHASING AND MRI RIGGING

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
G-011.00

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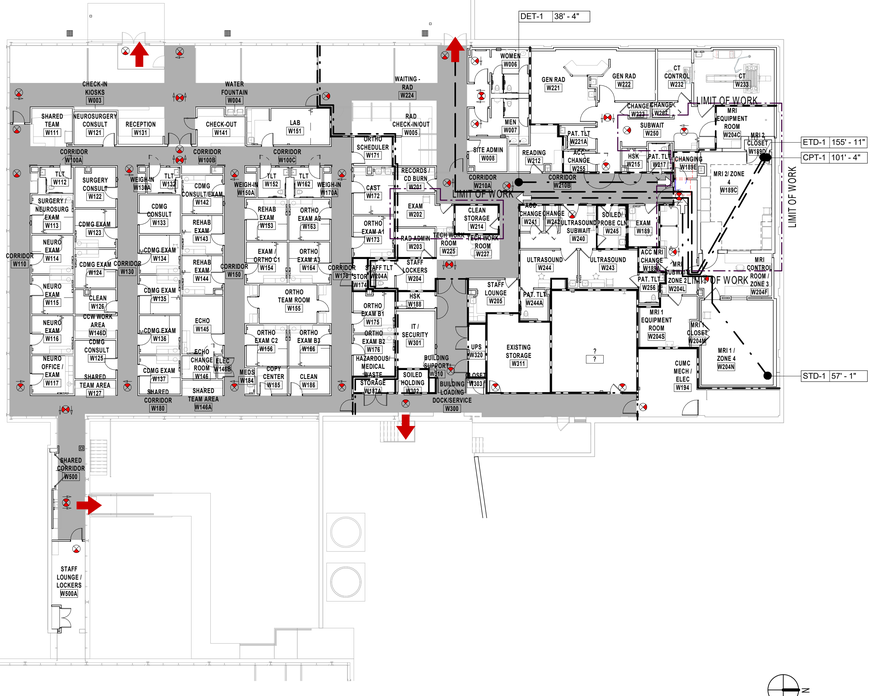
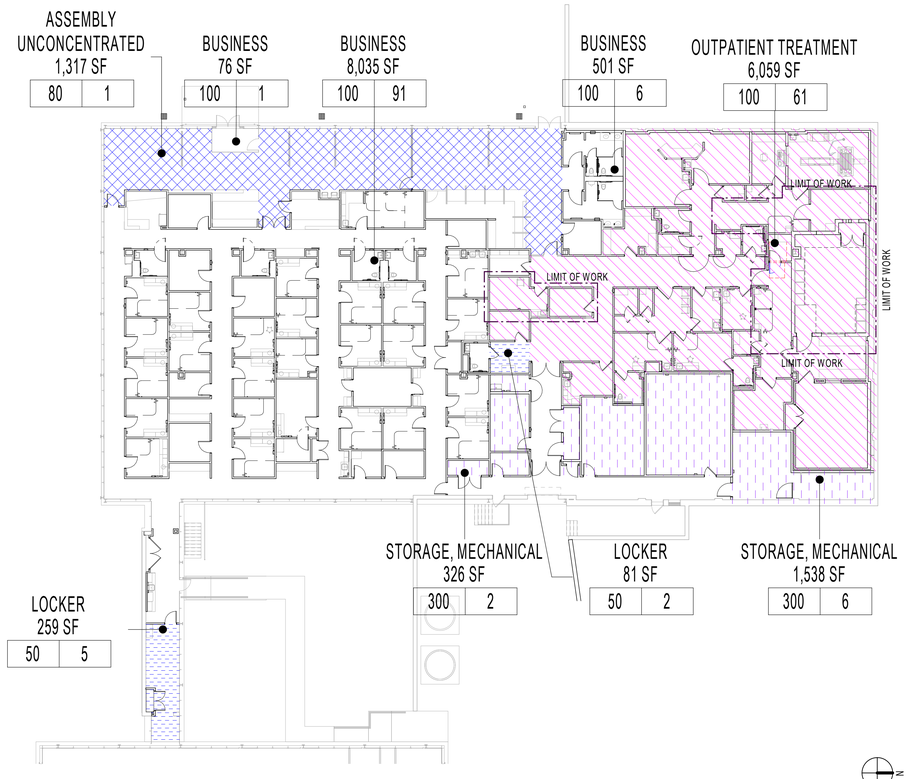
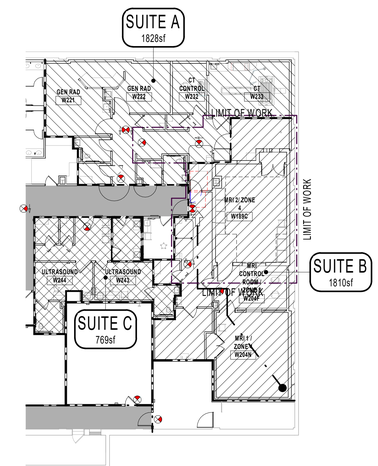


C1 FIRST FLOOR LIFE SAFETY PLAN
1/16" = 1'-0"



C4 FIRST FLOOR OCCUPANCY PLAN
1/16" = 1'-0"



A6 FIRST FLOOR SUITE PLAN
1/16" = 1'-0"

LIFE SAFETY LEGEND

- NON RATED SMOKE PARTITION
- 1 HOUR FIRE RATED BARRIER / PARTITION
- 2 HOUR FIRE RATED BARRIER / PARTITION
- 1 HOUR FIRE RATED SMOKE BARRIER
- PASSAGE
- EXIT ACCESS CORRIDORS
- SUITE A 600 SF — SUITE DESIGNATION
- EXIT DISCHARGE
- ETD
- CPT/STD
- DET

ETD - EXIT TRAVEL DISTANCE
CPT - COMMON PATH OF TRAVEL
DET - DEAD END TRAVEL DISTANCE
STD - SUITE TRAVEL DISTANCE

- EXIT LIGHT FIXTURES WITH DIRECTIONAL CHEVRONS
- EXIT LIGHT WITHOUT CHEVRON

NOTE:
RATED PARTITIONS AND SMOKE BARRIERS SHOWN ON THE EGRESS PLAN ARE A COMBINATION OF NEW AND EXISTING CONSTRUCTION.
SEE DRAWINGS A0-101 AND A-101 FOR REQUIREMENTS OF NEW CONSTRUCTION AND VERIFICATION OF EXISTING.

BUSINESS → OCCUPANCY TYPE
428 SF → FLOOR AREA
OCCUPANCY TAG → CALCULATED OCCUPANTS
FLOOR AREA PER OCCUPANT

LIFE SAFETY GENERAL NOTES

1. THE LIFE SAFETY PLANS ARE "DIAGRAMMATIC ONLY". THEIR PURPOSE IS SOLELY TO REPRESENT THE LIFE SAFETY COMPONENTS FOR THE PROJECT (AS INCLUDED IN THE CONSTRUCTION DOCUMENTS PREPARED BY THE ARCHITECT, AND THE ENGINEERS. THE CONTRACTOR SHALL USE THE CONSTRUCTION DOCUMENTS (NOT THE LIFE SAFETY PLANS) FOR THE IMPLEMENTATION OF THE REQUIRED LIFE SAFETY COMPONENTS INTO THE PROJECT.

2. THE CONTRACTOR SHALL MAINTAIN ALL MEANS OF EGRESS FOR THE DURATION OF DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE FIRE RATED TEMPORARY PARTITIONS, AND COVERED WALKS TO MAINTAIN EGRESS AND SAFE PASSAGE FROM THE BUILDING TO THE PUBLIC WAY AND AS REQUIRED BY AUTHORITY HAVING JURISDICTION.

3. THE CONTRACTOR SHALL PROVIDE EXHAUST FANS WITH HEPA-FILTERS TO KEEP SPACE WITHIN DEMOLITION / CONSTRUCTION AREA UNDER NEGATIVE PRESSURE AS LOCATIONS AND CONDITIONS DICTATE.

4. THE CONTRACTOR SHALL PROVIDE TEMPORARY PROTECTION WHILE WORKING IN THE SPACES BELOW OR ABOVE THE AREA OF DEMOLITION OR CONSTRUCTION.

5. THE CONTRACTOR SHALL PROVIDE BARRIERS, TEMPORARY PARTITIONS TO PROTECT OCCUPANTS FROM PHYSICAL HAZARD AND NOISE DURING DEMOLITION / CONSTRUCTION.

6. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF CONSTRUCTION DOORS IN CONSTRUCTION BARRIERS. DOORS AND FRAMES IN CONSTRUCTION BARRIERS TO BE GASKET HOLLOW METAL. DOORS TO BE SELF CLOSING AND LOCKABLE.

7. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY LIFE SAFETY COMPONENT THAT IS SHOWN ON THE LIFE SAFETY PLANS BUT HAS NOT BEEN INCLUDED IN THE CONSTRUCTION DOCUMENTS PREPARED BY THE ARCHITECT, AND THE ENGINEERS.

8. THE EXISTING-TO-REMAIN PORTIONS OF THE BUILDING WERE PROVIDED TO THE ARCHITECT BY THE OWNER. ARRAY ARCHITECTS TAKES NO RESPONSIBILITY FOR THEIR ACCURACY BEYOND THE LIMITS OF THE DESIGNATED "SCOPE OF WORK" AS DEFINED ON THE ARCHITECTURAL FLOOR PLANS.

OCCUPANT LOAD LEGEND

- OUTPATIENT TREATMENT (100 NET SQ.FT. / OCCUPANT)
- LOCKERS (50 NET SQ.FT. / OCCUPANT)
- BUSINESS (100 NET SQ.FT. / OCCUPANT)
- ASSEMBLY UNCONCENTRATED (80 NET SQ.FT. / OCCUPANT)
- STORAGE/ MECHANICAL (300 GROSS SQ.FT. / OCCUPANT)

BUSINESS → OCCUPANCY TYPE
428 SF → FLOOR AREA
OCCUPANCY TAG → CALCULATED OCCUPANTS
FLOOR AREA PER OCCUPANT

OCCUPANCY TYPE

THIS PROJECT DESIGN HAS NOT ALTERED THE EXISTING OCCUPANCY.

CD Submission 06/18/2021

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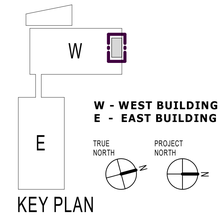

KEY PLAN

NO.	DESCRIPTION	DATE
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REVISIONS/ISSUES

SHEET TITLE:
LIFE SAFETY & OCCUPANCY PLANS AND NOTES

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
LSC-101.00

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DEMOLITION GENERAL NOTES

1. DEMOLITION WORK SHALL BE EXECUTED IN CONFORMANCE WITH ALL CODES AND ORDINANCES AS SET FORTH BY ALL AUTHORITIES HAVING JURISDICTION.

2. THE 'LIMITS OF ARCHITECTURAL DEMOLITION' LINES SHOWN ON THE ARCHITECT'S DEMOLITION PLANS APPLY ONLY TO THE LIMITS OF THE ARCHITECTURAL DEMOLITION. SEE OTHER DISCIPLINES' DRAWINGS FOR THE LIMIT OF THEIR DEMOLITION WORK.

3. THE SCOPE OF DEMOLITION WORK SHOWN IS INTENDED TO PREPARE THE BUILDING TO RECEIVE THE NEW WORK. THE CONTRACTOR SHALL REMOVE ALL EXISTING ITEMS OF CONSTRUCTION AND EQUIPMENT WITHIN THE PROJECT AREA AS REQUIRED TO ALLOW FOR THE EXECUTION OF THE NEW WORK.

4. THE CONTRACTOR SHALL BRACE ALL EXISTING STRUCTURES AND STRUCTURAL ELEMENTS AS NECESSARY DURING DEMOLITION. THE CONTRACTOR SHALL ENGAGE A STRUCTURAL ENGINEER TO DETERMINE REQUIREMENTS.

5. NO FLOOR OR STRUCTURAL MEMBERS SHALL BE CUT WITHOUT PERMISSION OF A REGISTERED STRUCTURAL ENGINEER.

6. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF ANY DEMOLITION OR NEW CONSTRUCTION WORK CANNOT BE PERFORMED DUE TO EXISTING FIELD CONDITIONS.

7. WHERE NEW FLOORING IS INDICATED, THE CONTRACTOR SHALL REMOVE ALL EXISTING FLOOR FINISHES AND ADHESIVE DOWN TO THE CONCRETE SLAB, AND LEAVE FLOOR SMOOTH FOR NEW FINISH. THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S REQUIREMENTS FOR SUB-FLOOR PREPARATION.

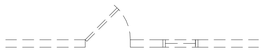
8. WHERE NEW WALL FINISH MATERIALS ARE SCHEDULED FOR EXISTING WALLS TO REMAIN, THE CONTRACTOR SHALL COORDINATE AND REMOVE THE EXISTING FINISH MATERIALS ACCORDINGLY. UPON REMOVAL OF THE EXISTING FINISH MATERIALS, THE CONTRACTOR SHALL REPAIR THE EXISTING WALL TO A LEVEL 4 WALL FINISH.

9. WHERE NEW CEILING ARE INDICATED, THE CONTRACTOR SHALL REMOVE ALL EXISTING CEILING TO ALLOW FOR PROPER INSTALLATION OF NEW CEILINGS.

10. AFTER DEMOLITION WORK IS COMPLETE, THE CONTRACTOR SHALL REPAIR ALL HOLES IN EXISTING-TO-REMAIN FLOORS, WALLS, FIRE BARRIERS, AND ROOFS TO COMPLY WITH ORIGINAL FIRE/SMOKE/SOUND ASSEMBLIES, FIRE PROTECTION REQUIREMENTS, AND STRUCTURAL INTEGRITY.

DEMOLITION LEGEND

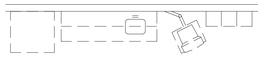
LIMIT OF ARCHITECTURAL DEMOLITION



REMOVE EXISTING WALL CONSTRUCTION. SHOWN WITH DASHED LINES, IN ITS ENTIRETY FROM FLOOR TO STRUCTURE ABOVE INCLUDING DOORS, DOOR FRAMES, BORROWED LIGHTS, ASSOCIATED ELEC. / MECH. WORK, ETC. PREPARE AREA FOR NEW CONSTRUCTION.

REMOVE EXISTING DOOR OR BORROWED LIGHT INCLUDING FRAME ASSEMBLY, SHOWN WITH DASHED LINES. CLOSE EXISTING OPENING WITH METAL STUDS AT 16" O.C. AND GYPSUM BOARD ON EACH SIDE. ALIGN NEW WORK FLUSH WITH EXISTING ADJACENT PARTITION. MATCH EXISTING WALL THICKNESS, UNLESS NOTED OTHERWISE IN ARCHITECTURAL PLAN.

PROVIDE OPENING IN EXISTING PARTITION, SHOWN WITH DASHED LINES, AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION.



REMOVE EXISTING CASEWORK, COUNTERS, SHELVING, EQUIPMENT AND SUPPORTS, SHOWN WITH DASHED LINES.

REMOVE EXISTING PLUMBING FIXTURES, SHOWN WITH DASHED LINES. EXISTING PIPING SHALL BE CAPPED AS INDICATED ON THE PLUMBING DRAWINGS. ANY FLOOR PENETRATIONS DUE TO THE REMOVAL OF PIPING ARE TO BE FILLED AS NOTED IN THE CUTTING AND PATCHING GENERAL NOTES.

CONTRACTOR RESPONSIBILITIES WITH REGARD TO EXISTING CONDITIONS NOTES

1. THE CONTRACTOR SHALL PERFORM A SITE VISIT. IN DOING SO THE CONTRACTOR HAS AGREED THAT ONE HAS INVESTIGATED THE EXISTING CONDITIONS TO BE RENOVATED AND COMPARE THEM TO THE WORK TO BE PERFORMED ACCORDING TO THE CONTRACT DOCUMENTS.

2. THE EXISTING INFORMATION INCLUDED WITHIN THE CONTRACT DOCUMENTS ARE BASED UPON INFORMATION PROVIDED BY THE OWNER AND FURTHER SUPPLEMENTED BY LIMITED FIELD OBSERVATIONS AND MEASUREMENT AND MAY NOT REFLECT ALL EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR COMPLETE VERIFICATION OF ALL EXISTING FIELD CONDITIONS.

3. THE CONTRACTOR SHALL FIELD-VERIFY THE EXISTING CONDITIONS AS THEY RELATED TO SPECIFIC PORTIONS OF THE WORK. VERIFICATION SHALL BE UNDERTAKEN IN ADVANCE TO ALLOW FOR TIMELY IDENTIFICATION OF EXISTING CONDITIONS THAT MAY AFFECT THE SCHEDULED INSTALLATION OF NEW WORK AS DOCUMENTED AND TO AVOID UNDUE AND UNREASONABLE DELAYS TO THE PROJECT CONSTRUCTION SCHEDULE. SHOULD SUCH CONDITIONS BE DISCOVERED, A MINIMUM PERIOD OF TEN (10) WORKING DAYS SHALL BE ALLOWED FOR THE ARCHITECT TO EVALUATE THE CONDITIONS AND MAKE RECOMMENDATIONS TO ACCOMMODATING NEW WORK BASED ON ACTUAL CONDITION.

4. THE CONTRACTOR SHALL FIELD-VERIFY THE LOCATION AND EXTENT OF THE LIFE SAFETY SYSTEM (INCLUDING BUT NOT LIMITED TO SPRINKLER SYSTEMS, SMOKE DETECTION SYSTEMS, EMERGENCY LIGHTING SYSTEMS) AS THEY MAY BE AFFECTED BY THE NEW WORK. THE CONTRACTOR IS RESPONSIBLE FOR ACCOMMODATING THESE SYSTEMS WHEN AFFECTED BY NEW WORK SO THAT ALL APPLICABLE CODES REQUIREMENTS ARE SATISFIED.

5. THE CONTRACTOR SHALL IDENTIFY EXISTING COMPONENTS AND ASSEMBLIES WITHIN THE BUILDING THAT ARE CONSTRUCTED AS FIRE-RATED ASSEMBLIES; SHALL NOTE ANY DISCREPANCIES AND/OR CONFLICTS INVOLVING EXISTING CONDITIONS AND BRING THEM TO THE ARCHITECT'S ATTENTION IMMEDIATELY.

6. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ANY CONSTRUCTION ACTIVITIES WHICH MAY IMPEDE NORMAL OPERATION, INCLUDING ANY ACTIVITY WHICH CREATES EXCESSIVE NOISE, AND NOTIFY ANY OCCUPANTS OF THE BUILDING OF ANY CONSTRUCTION ACTIVITIES WHICH MAY AFFECT THEIR ABILITY TO OPERATE NORMALLY.

7. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO AREAS ADJACENT TO NEW CONSTRUCTION OR OCCUPIED AREAS WHERE VARIOUS SYSTEM CONNECTIONS OR EXTENSIONS ARE REQUIRED AND SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.

CUTTING AND PATCHING GENERAL NOTES

1. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY EXISTING-TO-REMAIN MATERIALS AND FINISHES WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION OR ANY OTHER WORK PREFORMED UNDER THIS CONTRACT. THE CONTRACTOR SHALL PATCH, REPAIRED AND ALIGN ALL EXISTING CONSTRUCTION SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR AND PREPARE EXISTING SURFACE TO RECEIVE NEW SCHEDULED FINISHES.

2. THE CONTRACTOR SHALL REMOVE ALL EXISTING CEILINGS TO ALLOW FOR PROPER INSTALLATION OF MECHANICAL, PLUMBING AND ELECTRICAL WORK, AND PATCH AND REPAIR EXISTING CEILINGS TO MATCH EXISTING.

3. WHEN ACCESS IS REQUIRED FOR THE INSTALLATION OF NEW WORK ABOVE EXISTING CEILING SYSTEMS TO REMAIN, THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REINSTALLATION OF THE EXISTING SYSTEM IN IT'S ENTIRETY.

4. WHERE EXISTING DUCTS, PIPES AND ELECTRICAL CONDUITS ARE LEFT EXPOSED FROM DEMOLITION WORK IN FINISHED SPACES, THE CONTRACTOR SHALL ENCLOSE THEM WITH A GYPSUM WALLBOARD PARTITION.

5. WHERE PIPES, CONDUITS, DUCTWORK, ETC. ARE TO BE REMOVED FROM ANY FLOOR OR ROOF ASSEMBLY TO REMAIN, THE CONTRACTOR SHALL INFILL THE OPENING WITH MATERIALS TO MAINTAIN DESIGNATED FIRE OR SMOKE RATING, AS INDICATED BELOW:

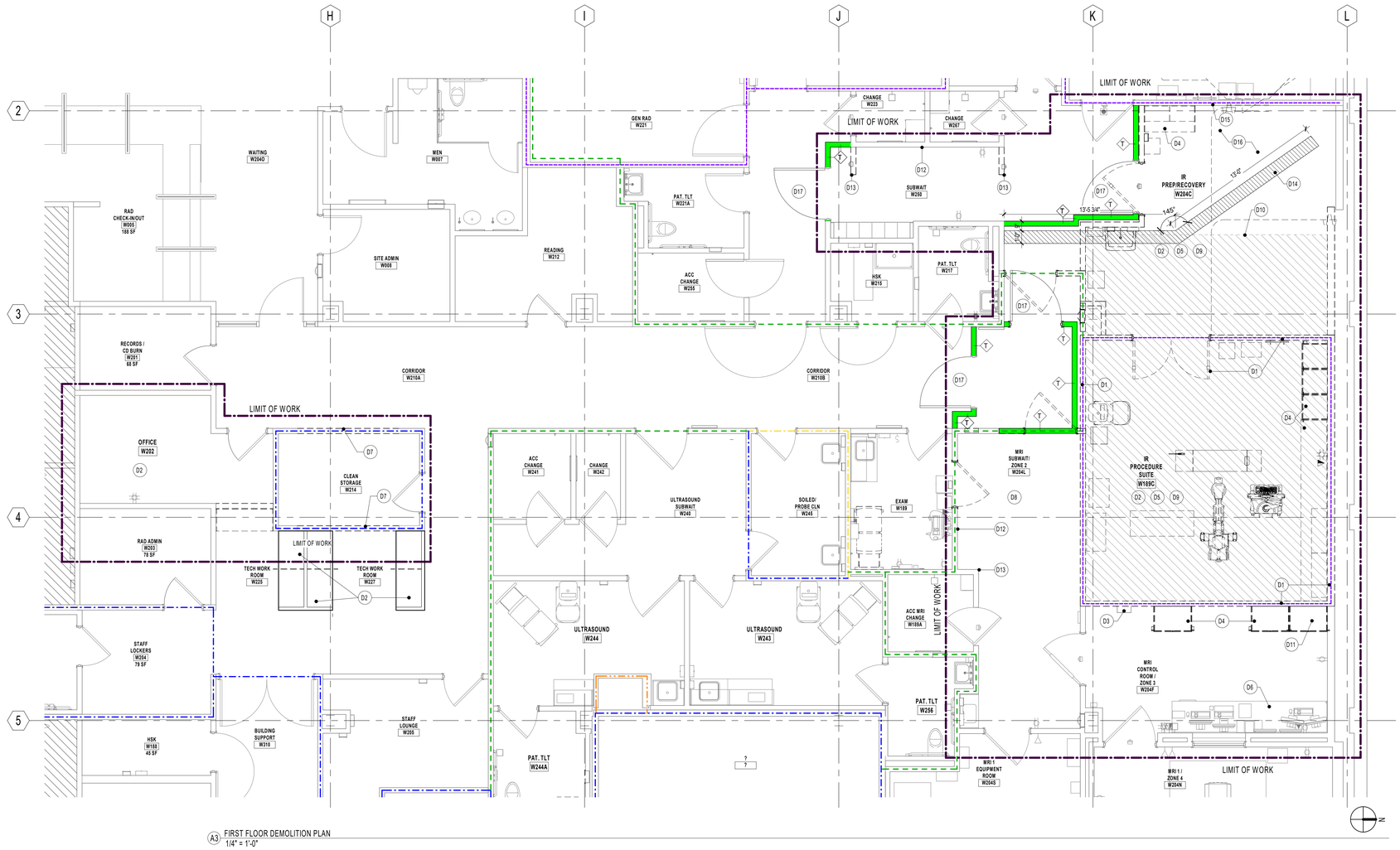
   A. WHERE OPENINGS ARE ACCESSIBLE TO FOOT TRAFFIC, EXPOSED TO VIEW, OR ARE GREATER THAN 2", THE OPENING MUST BE FILLED WITH A CONCRETE SYSTEM SIMILAR TO EXISTING.
   B. AREAS NOT EXPOSED TO VIEW, OR GREATER THAN 6", THE OPENING MUST BE FILLED WITH A CONCRETE SYSTEM SIMILAR TO EXISTING.
   C. AREAS NOT EXPOSED TO VIEW, CONCEALED BY CONSTRUCTION OR WHERE THE OPENING IS LESS THAN 6" THE OPENING MUST BE FILLED WITH A UL DESIGN SYSTEM AS SPECIFIED IN DIVISION 7 "THROUGH PENETRATION RESISTIVE MATERIAL".

6. WHERE LEVEL CHANGES, HOLES, DEPRESSIONS, OR FORMED TRENCHES ARE UNCOVERED IN EXISTING CONCRETE SLAB BY THE REMOVAL OF EXISTING WALLS / EXISTING FLOORING OR ANY OTHER DEMOLITION ACTION, THE CONTRACTOR SHALL PATCH AND REPAIR EXISTING CONCRETE SURFACES WITH A LATEX OR GYPCRETE LEVELING COMPOUND UNLESS SPECIFIED OTHERWISE TO PRODUCE A SMOOTH LEVEL SURFACE TO RECEIVE NEW FINISHES.

7. IF ANY EXISTING FIREPROOFING AND/OR RATED ASSEMBLIES TO REMAIN ARE DAMAGED DURING DEMOLITION, THEY SHALL BE REPLACED OR REPAIRED TO CONFORM TO THE ORIGINAL FIRE PROTECTION REQUIREMENTS.

DEMOLITION KEYNOTES

D1	EXISTING LEAD LINES WALLS AND DOOR TO BE DEMOLISHED.
D2	EXISTING EQUIPMENT AND FURNITURE TO BE REMOVED AND HANDED OVER TO THE OWNER FOR TEMPORARY STORAGE DURING RIGGING. REINSTALL SYSTEMS FURNITURE AFTER MRI RIGGING.
D3	EXISTING OXYGEN MONITOR FOR MRI ONE TO BE REMOVED AND RELOCATED.
D4	DEMOLISH ALL EXISTING CASEWORK AND COUNTERTOPS.
D5	DEMOLISH CEILING, LIGHT FIXTURES, REGISTERS, AND ANY CEILING MOUNTED EQUIPMENT.
D6	EXISTING CONTROL ROOM TABLE, EQUIPMENT, AND FURNITURE TO REMAIN.
D7	EXISTING KNOCK OUT PANELS ARE TO BE REMOVED TO ALLOW FOR RIGGING PATH OF THE NEW MRI MACHINE. REPLACE ONCE MRI MAGNET IS INSTALLED. MATCH AND MAINTAIN EXISTING 1 HOUR RATING. U465
D8	TEMPORARILY REMOVE FURNITURE SYSTEMS FOR RIGGING PATH OF MRI MACHINE.
D9	REMOVE ALL REMAINING MEDICAL EQUIPMENT, SALVAGE AND RETURN TO OWNER.
D10	AREA OF PLYWOOD TO BE REMOVED.
D11	COORDINATE WITH USERS IV PREP.
D12	REMOVE EXISTING CHAIR RAIL, PATCH AND REPAIR WALL, PREPARE FOR NEW FINISHES.
D13	SALVAGE EXISTING CORNER GUARD. PATCH AND REPAIR WALL, PREPARE FOR NEW FINISHES. REFER TO FINISH PLAN FOR NEW LOCATION OF CORNER GUARD.
D14	APPROXIMATE AREA OF CONCRETE SLAB REMOVAL FOR NEW SANITARY LINE FOR FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.
D15	GC TO MAINTAIN LEAD LINING ON EXISTING WALL. REPLACE LEAD LINING AS NEEDED AND CONSULT WITH HOSPITAL PHYSICISTS.
D16	REMOVE EXISTING CEILINGS. SALVAGE AND REUSE EXITING LIGHTING IN NEW MRI EQUIPMENT ROOM.
D17	TEMPORARY DOOR. REFER TO PHASING PLAN



A3 FIRST FLOOR DEMOLITION PLAN
1/4" = 1'-0"

CD Submission 06/18/2021

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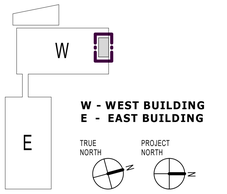

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SHEET TITLE:
DEMOLITION PLAN

SEAL:

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ARCHITECTURAL KEYNOTES

A1	EXTENT OF EXISTING DEEPER STRUCTURAL SLAB. EXACT LOCATION TO BE CONFIRMED IN FIELD, SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
A2	PROVIDE MRI SAFE ADJUSTABLE BLINDS.
A3	EXISTING FIRE EXTINGUISHER CABINET TO REMAIN. CONFIRM MAKE AND MODEL IS MRI SAFE.
A4	PROVIDE KEYLOCK ON EXISTING DOOR.
A5	DOOR BY MRI SHIELDING VENDOR
A6	3FORM ILTUO FLOOR TO CEILING 200.58 PARTITION. REFER TO FINISH PLAN FOR RESIN FINISH . FASTEN TO FLOOR AND CEILING, PROVIDE BLOCKING ABOVE CEILING AT VERTICAL SUPPORTS.
A7	NEW SHAFT FOR QUENCH VENT. MORE INFORMATION PROVIDED ON MEP DRAWINGS AND OPENING INFORMATION ON STRUCTURAL DRAWINGS. COORDINATE WORK SCHEDULE WITH CURRENT OCCUPANTS OF SPACE.
A8	ADD ALTERNATE: DEMOLISH EXISTING PLASTIC LAMINATE COUNTERTOP, REPLACE WITH NEW SOLID SURFACE COUNTERTOP, SSP-1, SUPPORTED BY RECESSED COUNTERTOP BRACKETS.
A9	PROVIDE MINIMUM 1" RADIUS ON SOLID SURFACE EDGE.
A10	PROVIDE 24" X 60" STAINLESS STEEL FRAMED WALL MOUNTED MIRROR. PROVIDE IN-WALL BLOCKING.
A11	APPROXIMATE CONCRETE INFILL OF TRENCH FOR SANITARY LINE FOR FLOOR DRAIN.
A12	CONFIRM EXACT LOCATION OF EXISTING OUTLET, MAY NEED TO BE RELOCATED TO ACCOMMODATE MILLWORK. REVIEW WITH ENGINEER AND OWNER.
A13	RELOCATED FEC.
A14	LOCKABLE UPPER CABINET
A15	PATCH WALL AND FLOOR AS TO LEAVE NO EVIDENCE OF REMOVAL. MATCH EXISTING FINISHES. ADD CEILING TILES AND GRID IN AREA OF WALL REMOVAL TO MATCH EXISTING.
A16	GC TO PROVIDE AND INSTALL MRI IN-USE LIGHT. PROVIDE DOOR CONTACT TO COORDINATE MRI USE.
A17	SLAB PENETRATIONS TO BE 2HR RATED
A18	REMOVABLE ACCESS RF WALL FOR MRI RIGGING
A19	GROMMET OPENING FOR INJECTOR CABLING. COORDINATE WITH VENDOR DOCUMENTS
A20	EPO BUTTON. COORDINATE WITH VENDOR.
A21	PROVIDE 2.5" DIA. WAVEGUIDE PIPE FOR INJECTOR CONTROL. PROVIDE COVER FOR WHEN THE WAVEGUIDE PIPE IS NOT IN USE.
A22	RECESSED COUNTER SUPPORT BRACKETS. BASIS OF DESIGN: RAKKS E-1824 INSIDE WALL MOUNT
A23	ALL OUTLETS PROVIDED IN NEW MRI ROOM - W189C TO BE MRI SAFE/ RF OUTLETS.
A24	PROVIDE MONITOR BRACKETS
A25	GC TO INSTALL HOLLOW METAL DOOR AND FRAME TO KEEP MRI 1 OPERATIONAL DURING THE COURSE OF CONSTRUCTION. DOOR TO BE A SMOKE DOOR WITH GASKETING. TOWARD THE END OF CONSTRUCTION, GC TO REMOVE DOOR AND FRAM, RESTORE WALL TO ORIGINAL CONDITION AND RATING.
A26	GC TO REINSTALL SYSTEMS FURNITURE AFTER RIGGING. REFER TO RIGGING PLAN.

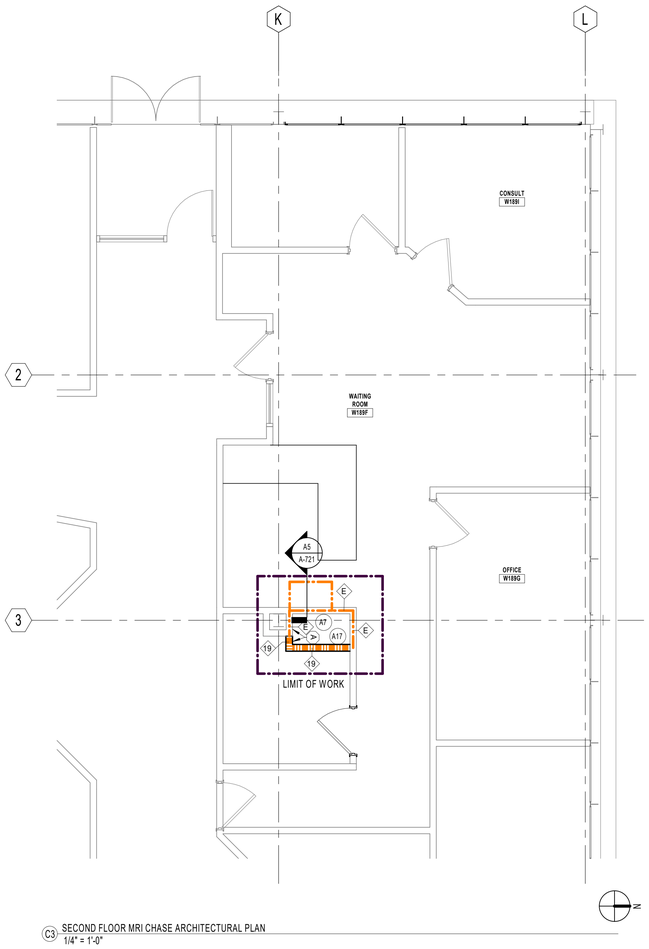
PARTITION PLAN INDICATIONS

- EXISTING PARTITION TO REMAIN
- EXISTING LEAD LINED PARTITION
- EXISTING NON RATED SMOKE PARTITION
- EXISTING ONE HOUR FIRE RATED PARTITION
- EXISTING TWO HOUR FIRE RATED PARTITION
- EXISTING ONE HOUR SMOKE BARRIER
- TEMPORARY PARTITION
- TYPICAL NON RATED PARTITION
- TYPICAL NON RATED SMOKE PARTITION
- TYPICAL TWO HOUR RATED PARTITION

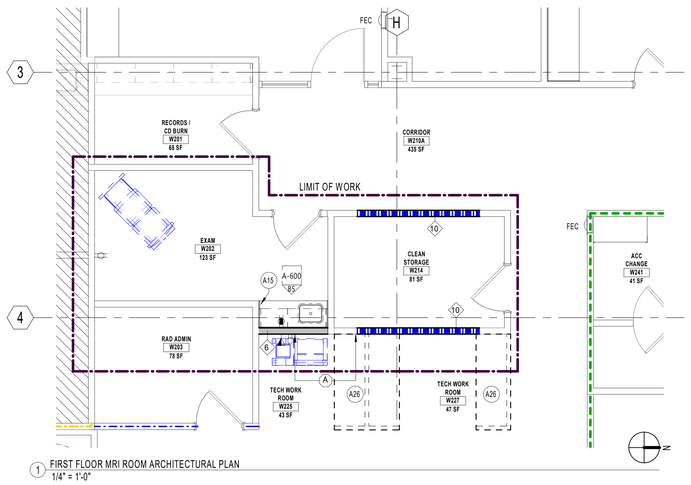
*** SEE PLAN FOR ACTUAL PARTITION TYPES AS EACH SYMBOL REPRESENTS MULTIPLE WALL TYPES**

ARCHITECTURAL FLOOR PLAN GENERAL NOTES

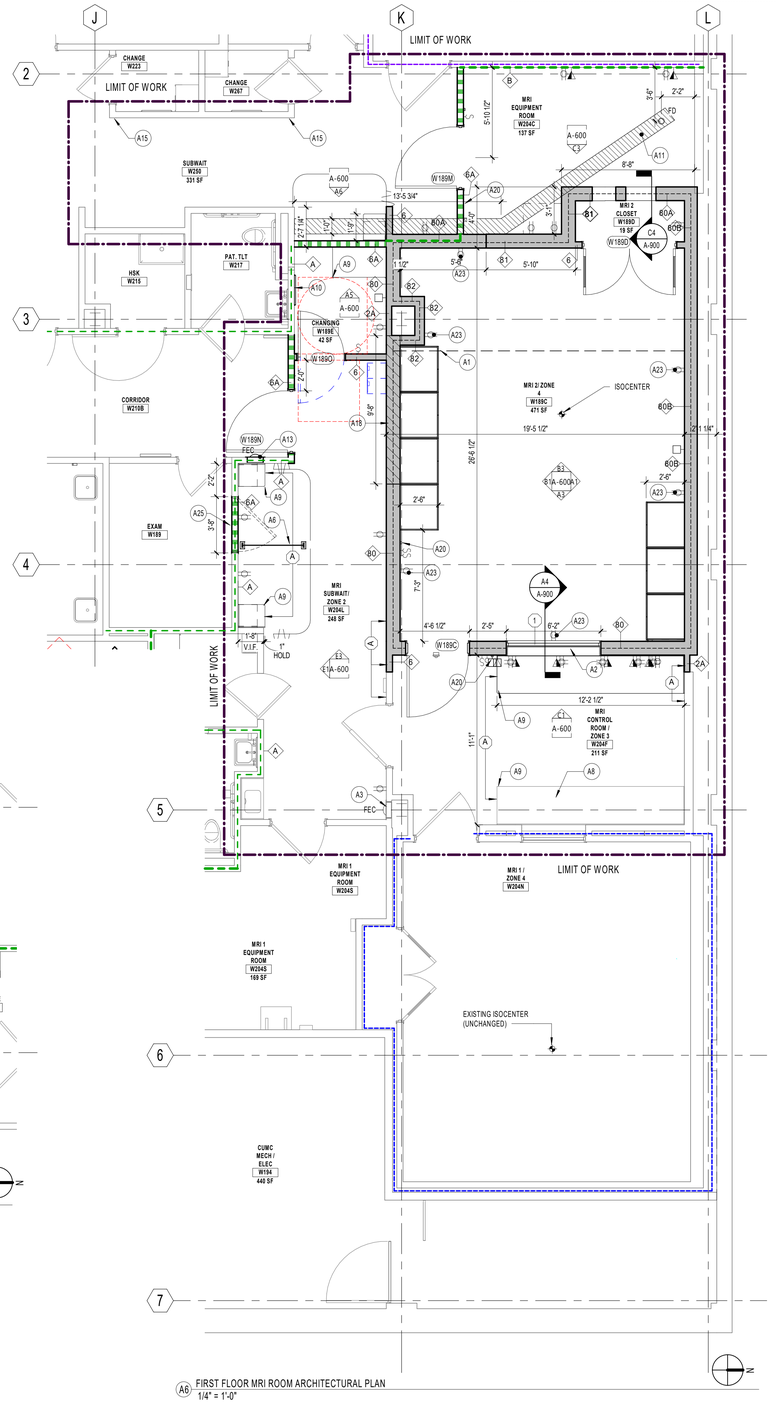
1. THE "LIMITS OF CONSTRUCTION" LINES SHOWN ON THE ARCHITECT'S FLOOR PLANS APPLY ONLY TO THE LIMITS OF ARCHITECTURAL NEW CONSTRUCTION AND RENOVATION. SEE OTHER DISCIPLINES' DRAWINGS FOR THE LIMITS OF THE NEW CONSTRUCTION AND RENOVATION FOR THEIR DISCIPLINE.
2. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. DIMENSIONS HAVE BEEN PROVIDED THROUGHOUT THE CONTRACT DOCUMENTS FOR THE CONTRACTOR'S USE IN COORDINATING THE WORK. IF ANY DIMENSIONS ARE FOUND IN CONFLICT THE CONTRACTOR SHALL NOTIFY AND OBTAIN CLARIFICATION FROM THE ARCHITECT.
3. WHERE NEW GYPSUM BOARD WALLS/PARTITIONS/BARRIERS ARE A CONTINUATION OF AN EXISTING WALL OR COLUMN ENCASEMENT, THE FACE OF NEW GYPSUM BOARD SHALL BE ALIGNED WITH THE FACE OF EXISTING SURFACE UNLESS OTHERWISE INDICATED ON DRAWINGS. THE CONTRACTOR SHALL ACCOUNT FOR ANY ADDITIONAL LAYERS OF DRYWALL NECESSARY TO PROVIDE THE CONTINUATION, ALIGNMENT, OR PRESERVATION OF THE FIRE RATING IDENTIFIED...
4. THE CONTRACTOR SHALL PROVIDE LEVEL TRANSITION BETWEEN EXISTING AND NEW CONCRETE SLABS AND BETWEEN NEW AND EXISTING FINISHES. THE CONTRACTOR SHALL IDENTIFY WHERE THE FLOOR DIPS OR RISES, CLEAN THE FLOOR AND APPLY SELF-LEVELING COMPOUND TO THE FLOOR AS REQUIRED TO ACHIEVE AN EVEN SUBSTRATE AND AN EVEN TRANSITION BETWEEN EXISTING AND NEW CONSTRUCTION.
5. THE CONTRACTOR SHALL BUILD OUT PARTITIONS TO ACCOMMODATE DEPTH REQUIRED BY FIRE EXTINGUISHER CABINETS AND RECESSED POWER PANELS LOCATED THROUGHOUT THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN THE ARCHITECT'S APPROVAL FOR THEIR FINAL LOCATION.
6. THE CONTRACTOR SHALL TAKE INTO ACCOUNT THE THICKNESS OF THE SCHEDULED FINISH MATERIALS SUCH AS CERAMIC TILE, SOLID SURFACE, ETC. PRIOR TO LAYOUT OF METAL STUD PARTITIONS OR CMU WALLS, SINCE THE TOTAL WALL THICKNESS MUST BE CONSIDERED SO THAT THE REQUIRED "MINIMUM FACE TO FINISH" AND "MINIMUM CLEAR FACE OF FINISH" DIMENSIONS CAN BE MAINTAINED AFTER THE INSTALLATION OF FINISH MATERIALS.
7. THE FLOOR SLAB SHALL BE SLOPED (2%) TO DRAIN. DO NOT INTERRUPT INTEGRITY OF FIRE RATING OF AFFECTED FLOOR SLAB.
8. THE CONTRACTOR SHALL REFER TO THE OWNER'S PROVIDED PHYSICIST REPORT FOR THE REQUIRED THICKNESS OF LEAD ON LEAD LINED PARTITIONS IDENTIFIED IN THE CONTRACT DOCUMENTS.
9. ACCESS PANELS:
   a. THE CONTRACTOR SHALL PROVIDE SELF-CLOSING AND KEY-LOCKED ACCESS PANELS OF APPROPRIATE TYPE AND SIZE AS SPECIFIED IN VERTICAL AND HORIZONTAL HARD SURFACES WHERE ACCESS FOR SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, FIRE PROTECTION, SECURITY, ELECTRICAL OR COMMUNICATION ITEMS MAY BE REQUIRED.
   B. THE CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS OF THE APPROPRIATE FIRE-RATED TYPE EQUAL TO THE RATING OF THE VERTICAL AND HORIZONTAL HARD SURFACES WHERE REQUIRED TO BE INSTALLED.
   ac. ACCESS PANELS SHALL BE CASKETED TO BE AIRTIGHT IN ROOMS IDENTIFIED ON THE MECHANICAL DRAWINGS AS POSITIVE OR NEGATIVE PRESSURE.
   d. THE CONTRACTOR SHALL SUBMIT AN ACCESS PANEL SCHEDULE AND LOCATION PLAN IDENTIFYING ALL ACCESS POINTS TO THE ARCHITECT FOR REVIEW AS REQUIRED BY THE SPECIFICATIONS.
10. ALL RATED SMOKE BARRIERS, RATED HORIZONTAL EXITS, AND RATED EXIT PASSAGEWAY BARRIER WALLS SHALL BE CONSTRUCTED PRIOR TO THE CONSTRUCTION OF INTERVENING WALLS.
11. ALL FLOORS, PARTITIONS AND CEILINGS IN ROOMS IDENTIFIED ON THE MECHANICAL DRAWINGS AS POSITIVE OR NEGATIVE PRESSURE SHALL BE SEALED AIRTIGHT.
12. FIRE EXTINGUISHER CABINET: 6" STUDS.



C3 SECOND FLOOR MRI CHASE ARCHITECTURAL PLAN
1/4" = 1'-0"



1 FIRST FLOOR MRI ROOM ARCHITECTURAL PLAN
1/4" = 1'-0"



A6 FIRST FLOOR MRI ROOM ARCHITECTURAL PLAN
1/4" = 1'-0"

CD Submission 06/18/2021

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI ZONE SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.

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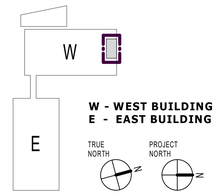
PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
ARCHITECTURAL PLAN

SEAL:

DATE: 06/18/2021
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CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
A-100.00

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ROOF NOTES

1. REFER TO STRUCTURAL DRAWINGS FOR FRAMING FOR TYPICAL ROOF OPENINGS.
2. REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR LOCATIONS OF ADDITIONAL ITEMS WHICH HAVE NOT BEEN SHOWN ON THIS ROOF PLAN (INCLUDING EXISTING PIPING, CURBS, VENTS, DUCTS, FANS, ETC).
3. PRIOR TO THE WORK COMMENCING, CONTRACTOR TO HOLD A PRE-ROOFING CONFERENCE WITH THE GENERAL CONTRACTOR, ROOFING CONTRACTOR, ROOFING SYSTEM MANUFACTURER'S REPRESENTATIVE, ALL RELATED SUB CONTRACTORS, AND THE ARCHITECTS. THE CONTRACTOR TO COORDINATE THE MEETING WITH ENOUGH LEAD TIME FOR ALL ABLE TO ATTEND.
4. ALL DETAILS ON THE ROOF DETAILS SHEETS IN THE SET ARE TYPICAL UNLESS NOTED OTHERWISE AND ALL ARE TO BE UTILIZED AT APPROPRIATE CONDITIONS THROUGHOUT THE PROJECT SCOPE WHETHER CROSS REFERENCED OR NOT.
5. ALL WOOD BLOCKING/NAILERS AND CANT STRIPS TO BE PRESSURE TREATED. FASTEN TO ROOF DECK WITH GALVANIZED FASTENERS PER ROOFING MANUFACTURERS WARRANTY REQUIREMENTS. THICKNESS OF BLOCKING TO MATCH THICKNESS OF INSULATION. COMPLY WITH ANY ADDITIONAL MANUFACTURER'S STANDARDS. NEW PRESSURE TREATED NAILERS, BLOCKING AND CANT STRIPS ARE REQUIRED AT FULL PERIMETER AND IN LOCATIONS SHOWN IN DETAILS AND TO ALIGN WITH TOP OF INSULATION.
6. PROVIDE TAPERED INSULATION AS REQUIRED TO MAINTAIN A MINIMUM OF R-30 AT ANY GIVEN POINT. INSULATION REQUIRED TO ACHIEVE A MINIMUM SLOPE OF 1/4" PER 1'-0". FINAL REVIEWED SHOP DRAWING LAYOUT WILL BE THE BASIS OF DESIGN. THE ROOFING CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY ADDITIONAL ROOFING MATERIALS NEEDED TO SUIT ANY ACCEPTED CHANGES IN THE ROOFING DESIGN LAYOUT.
7. CONTRACTOR TO PROVIDE THE NECESSARY FLASHING AND ACCESSORIES TO ACCOMMODATE ROOF MOUNTED ITEMS AND ROOF PENETRATIONS TO PROVIDE A WEATHERTIGHT SEAL.
8. CONTRACTOR TO COORDINATE WITH EXISTING FLASHINGS AND EXISTING ITEMS TO REMAIN WITH NEW ROOF MOUNTED ITEMS.
9. ALL WORK TO BE PROTECTED AND MAINTAINED PER MANUFACTURER'S STANDARD AS WORK PROGRESSES.

ROOF PLAN KEYNOTES

- R1 CONTRACTOR TO CUT EXISTING ROOFING SYSTEM AND METAL DECK AS REQUIRED TO INSTALL ROOF DUNNAGE. CONTRACTOR TO PATCH AND REPAIR ROOF TO PROVIDE A WATERTIGHT SEAL. REFER TO STRUCTURAL AND MPE DRAWINGS FOR RELATED WORK IN THIS AREA. REFER TO DETAIL A7/A-301. VERIFY WITH EQUIPMENT SHOP DRAWINGS PRIOR TO FABRICATION
- R2 CONTRACTOR TO CUT OPENING IN EXISTING ROOFING SYSTEM AND METAL DECK AS REQUIRED TO INSTALL OPENINGS FOR MECHANICAL DUCTS AND OR MECHANICAL EXHAUST FANS. CONTRACTOR TO PATCH AND REPAIR ROOF TO PROVIDE A WATERTIGHT SEAL. OPENING TO BE OF MINIMAL SIZE. REFER TO THE MPE DRAWINGS FOR RELATED WORK IN THIS AREA.
- R3 CONTRACTOR TO PROVIDE CRICKETS AT ALL ROOFTOP EQUIPMENT, PIPING, AND DUCT PENETRATIONS AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.
- R4 NEW CONDENSING UNIT ON GALVANIZED STEEL SUPPORTS WELDED TO EXISTING DUNNAGE
- R5 CONTRACTOR TO PROVIDE AND INSTALL GALVANIZED STEEL CATWALK STRUCTURE/DUNNAGE. CATWALK TO HAVE GALVANIZED STEEL GRATING AND A 42" HIGH PIPE RAILING WITH INTERMEDIATE HORIZONTAL RAILING. REFER TO STRUCTURAL DRAWINGS.
- R6 CONTRACTOR TO PROVIDE MANUFACTURER ROOF CURB WITH STRUCTURAL STEEL SUPPORTS AND BASE FLASHING AS REQUIRED TO SUPPORT DUCTWORK AND PROVIDE A WATER TIGHT SEAL.
- R7 STRUCTURAL STEEL DUNNAGE. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. CONTRACTOR TO CUT EXISTING ROOFING SYSTEM AS REQUIRED TO INSTALL ROOF DUNNAGE. REFER TO STRUCTURAL AND MPE DRAWINGS FOR RELATED WORK. CONTRACTOR TO PATCH AND REPAIR ROOF TO PROVIDE A WATERTIGHT SEAL.
- R9 GALVANIZED CATWALK STAIR WITH RAILING. REFER TO DETAILS ON A-301 AND STRUCTURAL DRAWINGS
- R10 CRYOGENIC ROOF EXCLUSION ZONE. REFER TO VENDOR DRAWINGS. PROVIDE GALVANIZED POSTS AND CHAIN AROUND ROOF AREA.
- R11 EXISTING ROOF MOUNTED PIPING AND/OR DUCTWORK TO REMAIN. PROTECT.
- R12 REFER TO DETAIL B3/A-301
- R13 REFER TO DETAIL B5/A-301
- R14 REFER TO DETAIL A3/A-301
- R15 REFER TO DETAIL A5/A-301

GENERAL CONSTRUCTION NOTES

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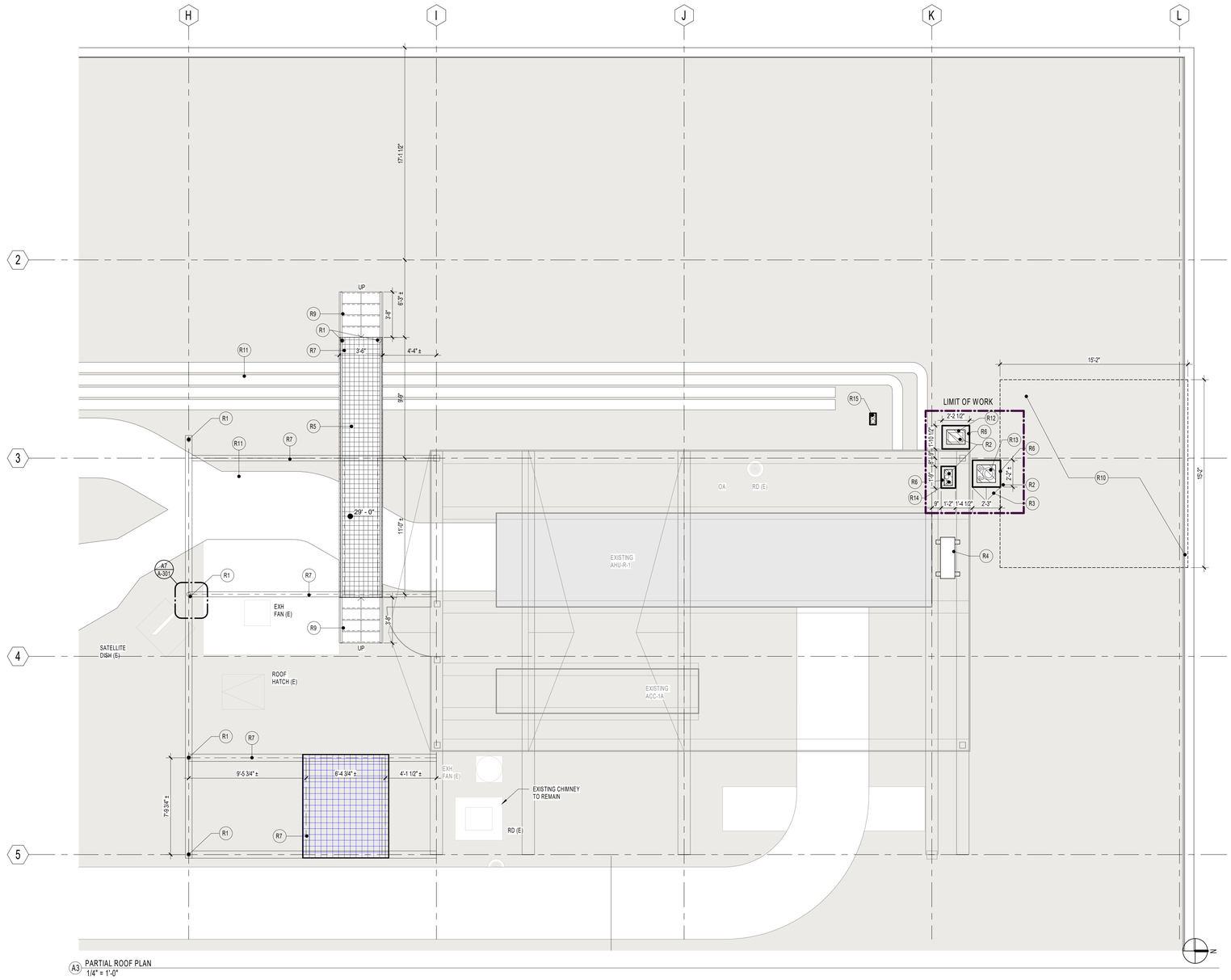

A3 PARTIAL ROOF PLAN
1/4" = 1'-0"

CD Submission 06/18/2021

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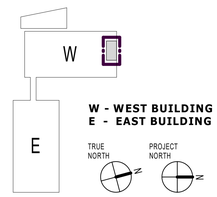

KEY PLAN

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CON/REF No.
CONTRACT No.
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SHEET NO.
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GENERAL CONSTRUCTION NOTES

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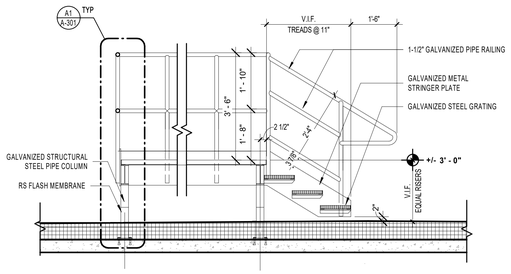
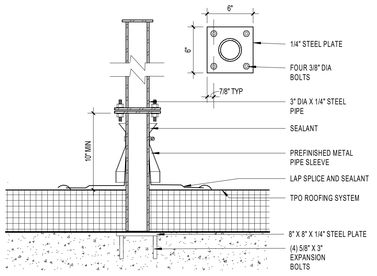
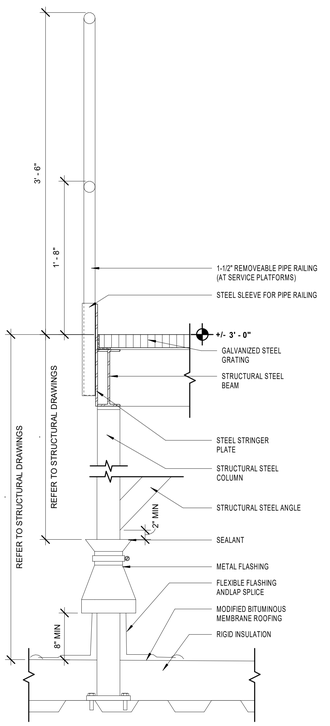


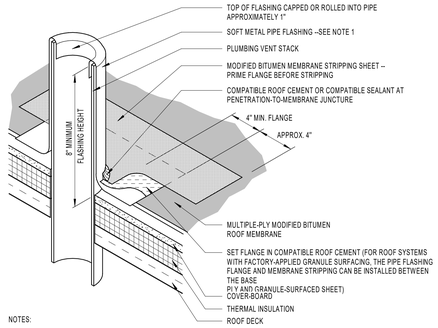
E1 SECTION @ PENTHOUSE STAIR
1/2" = 1'-0"



C1 ROOF STAIR SUPPORT ON CONCRETE STRUCTURE
1 1/2" = 1'-0"



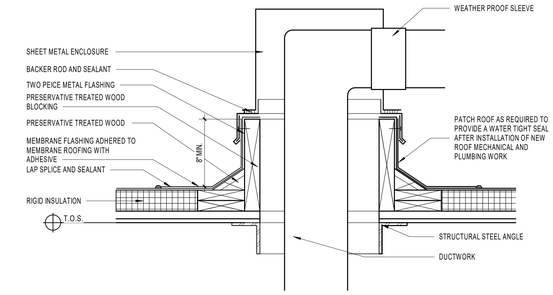
A1 STAIR 7 - LANDING SECTION
1 1/2" = 1'-0"



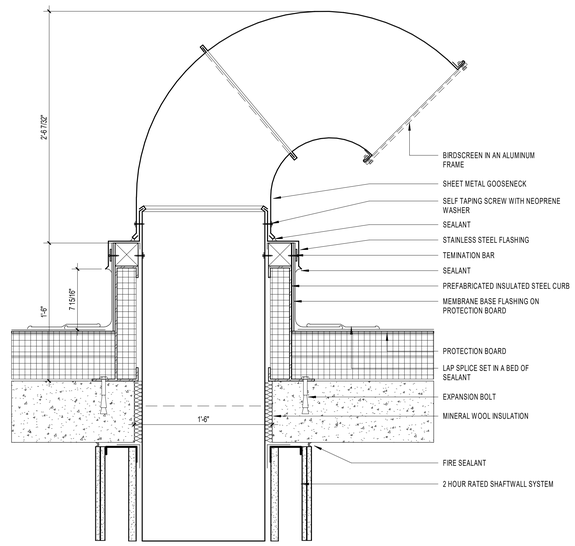
NOTES:

1. SOFT METAL PIPE FLASHING:
   -SHEET LEAD: MINIMUM OF 2 1/2 LB. PER SQUARE FOOT OR -SHEET COPPER: MINIMUM 16 OZ.
   PRECAUTIONS SHOULD BE TAKEN NOT TO DAMAGE THE SHEET LEAD WHEN USING HEAT-WELDED APPLICATION.
2. IF USING COPPER FLASHING OVER AN IRON OR STEEL PIPE, INSERT A SEPARATOR SHEET (E.G., ASPHALT- SATURATED ROOFING FELT) WRAPPED AROUND PIPE TO SEPARATE THE COPPER FLASHING FROM DIRECT CONTACT WITH PIPE AND REDUCE GALVANIC ACTION.
3. VENT STACKS AND OTHER PIPES SHOULD HAVE A MINIMUM OF 12 INCHES OF CLEARANCE ON ALL SIDES FROM WALLS, CURBS AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING. SEE THE BURMB INTRODUCTION FOR ADDITIONAL INFORMATION.
4. REFER TO THE BURMB INTRODUCTION OF THE NRCA ROOFING MANUAL FOR ADDITIONAL INFORMATION.

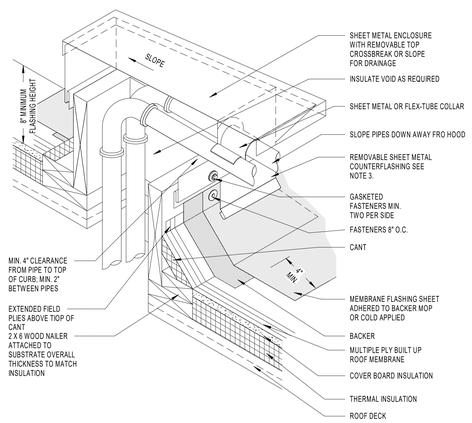
D3 PLUMBING VENT DETAIL
1 : 6



B3 MECHANICAL DUCT ENCLOSURE DETAIL
1 1/2" = 1'-0"

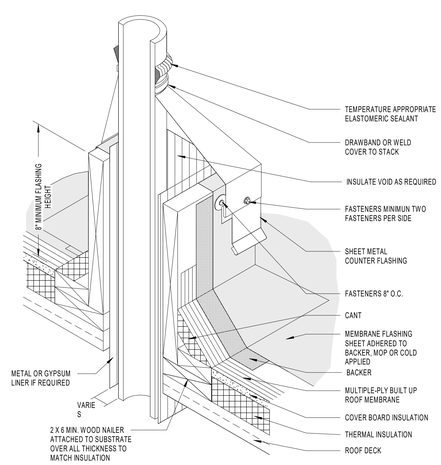


B5 DETAIL AT GOOSE NECK VENT
1 1/2" = 1'-0"



NOTES:
1. THIS DETAIL ILLUSTRATES ANOTHER METHOD OF ELIMINATING PITCH POCKETS AND OPTIONAL METHOD OF GROUPING PIPING THAT MUST PENETRATE
   THE ROOF.
2. MANY MANUFACTURES OFFER PREFABRICATED BOOTS AND OTHER MATERIALS FOR THIS PURPOSE. SPECIFICS ON THESE PROPRIETARY DESIGNS
   VARY GREATLY AND INDIVIDUAL MANUFACTURES' SPECIFICATIONS SHOULD BE CONSULTED FOR THEIR USE.
3. WHERE SHEET METAL ENCLOSURE OVERLAPS THE BASE FLASHING AT LEAST 3" THE REMOVABLE SHEET METAL COUNTERFLASHING IS NOT REQUIRED.
4. REFER TO THE BURMB INTRODUCTION FOR ADDITIONAL INFORMATION.

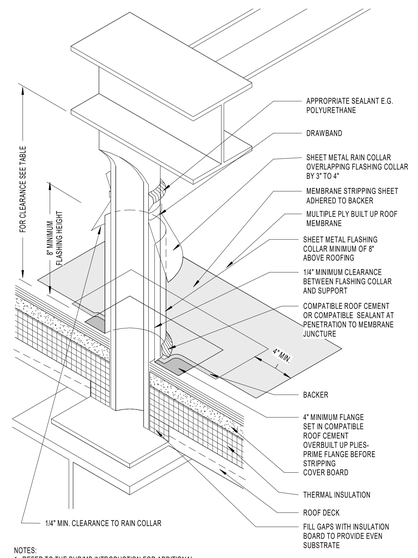
MOP OR COLD APPLIED FLASHING AT SHEET METAL ENCLOSURE FOR PIPING THROUGH ROOF DECK
A3 1 1/2" = 1'-0"



NOTES:

1. THIS DETAIL ALLOWS THE OPENING TO BE COMPLETED BEFORE THE STACK IS PLACED.
2. THE CLEARANCE NECESSARY BETWEEN THE OPTIONAL GYPSUM OR METAL LINER AND THE STACK AND THE NEED FOR INSULATION WILL
   DEPEND ONTHE TEMPERTURE OF THE MATERIAL HANDLED BY THE STACK.
3. REFER TO THE ARCHITECTURAL SHEET METAL SECTION OF THE NRCA ROOFING AND WATERPROOFING MANUAL FOR JOINERY AND
   SECUREMANT OPTIONS FOR SHEET METAL.
4. REFER TO THE BURMB INTRODUCTION FOR ADDITIONAL INFORMATION.

A5 MOP OR COLD APPLIED FLASHING AT ISOLATED STACK FLASHING
1 1/2" = 1'-0"



NOTES:
1. REFER TO THE BURMB INTRODUCTION FOR ADDITIONAL INFORMATION.

EQUIPMENT SUPPORT STAND AND TYPICAL RAIN COLLAR
A7 1 1/2" = 1'-0"

CD Submission 06/18/2021

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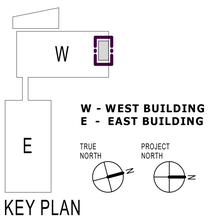

KEY PLAN

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ROOF DETAILS

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SHEET NO.
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EQUIPMENT SCHEDULE

Mark	DESCRIPTION	MFR.	MODEL	PLACED BY	INSTALLED BY	Blocking/Support System	Mechanical Rough-ins	Plumbing Rough-ins	Electrical Rough-ins	Communication Rough-ins
	EQUIPMENT INFORMATION			RESPONSIBILITIES						
MRI	MRI w/Pedestal and Transport Table	GE Healthcare	M03-00G/M03-15G/M3 3006	VENDOR	VENDOR	Yes				
INJ	PORTABLE INJECTOR ARM, MRI SAFE	TBD	TBD	VENDOR	VENDOR	Yes	No	No	Yes	Yes
PHC	Chair, Blood Draw	Clinton Industries	Recliner Series Hi-Lo	CONTRACTOR	CONTRACTOR					
GL	Dispenser, Glove 3 Box	Bowman Manufacturing Company	GS-006	OWNER	CONTRACTOR	Yes	No	No	No	No
VT	Oto/Ophthalmoscope Set, w/ Sphygmomanometer	Welch Allyn, Inc - Med Division	767 series	CONTRACTOR	CONTRACTOR					
SC	Stadiometer and scale	Detecto	PD100 and DHR	CONTRACTOR	CONTRACTOR	Yes	Yes	Yes	Yes	Yes
RB	Receptacle, Bio-hazardous waste	Rubbermaid	QST12E	OWNER	N/A					
WS	Receptacle, Waste	Terra Universal, Inc.	EP304SS 1456-18B	OWNER	N/A	Yes	Yes	Yes	Yes	Yes
PACS	PACS station	NEC Display	MD212MC	CONTRACTOR	CONTRACTOR	No	No	No	Yes	Yes
PR-1	Copier/printer/fax	TBD	TBD	CONTRACTOR	CONTRACTOR					
COMP	Computer w/ Keyboard and Mouse	TBD	TBD	CONTRACTOR	CONTRACTOR	No	No	No	Yes	Yes
MM	Magnet Monitor	GE Healthcare		CONTRACTOR	CONTRACTOR	No	No	No	Yes	Yes
EX	Exam Table	Ritter	222	CONTRACTOR	CONTRACTOR					
MD	Metal Detector	METRASENS	FERROGUARD	CONTRACTOR	CONTRACTOR	Yes	No	No	Yes	Yes
CC	CRYO COOLER	GE Healthcare		CONTRACTOR	CONTRACTOR	No	No	Yes	Yes	Yes
CPU	OPERATOR WORKSPACE CABINET	GE Healthcare	M06-15E	VENDOR	VENDOR	No	No	No	Yes	Yes
CRU	CONTROL ROOM UNIT	GE Healthcare	E88-04S	VENDOR	VENDOR	No	No	No	Yes	Yes
CWB	MANUAL CITY WATER BYPASS	GE Healthcare	MANUAL	CONTRACTOR	CONTRACTOR	Yes	Yes	Yes	Yes	Yes
HEC	HEAT EXCHANGER CABINET	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	Yes	Yes	Yes	Yes
IPS	INJECTOR POWER SUPPLY	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	Yes	No	Yes	Yes
LK	Two-Tier Locker,12"x15"x72" Sloped Top	SALSBURY	62165	CONTRACTOR	CONTRACTOR	Yes	No	No	No	No
MDP	MAIN DISCONNECT PANEL	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	No	No	Yes	Yes
MRE	MR ELASTOMERY MACHINE	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	Yes	Yes	Yes	Yes
MRU	MAGNET RUNDOWN UNIT	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	No	No	Yes	Yes
O2	ROOM OXYGEN MONITOR	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	No	No	Yes	Yes
PA	PATIENT ALERT CONTROL BOX	GE Healthcare	M48-15	VENDOR	VENDOR					
PGR	POWER GRADIENT CABINET	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	No	No	Yes	Yes
PEN	PEN PANEL CABINET (PEN)	GE Healthcare		Vendor	Vendor	Yes	No	No	Yes	Yes
PH	SPT PHANTOM CABINET	GE Healthcare		Vendor	Vendor		No	No	Yes	Yes
PHC	PHELBOTOMY CHAIR	BY OWNER		OWNER	OWNER	No	No	No	No	No
RGD	MR MUSIC SYSTEM	GE Healthcare		VENDOR	VENDOR					
SC	Document Scanner	Fujitsu	fi-7160	CONTRACTOR	CONTRACTOR	Yes	Yes	Yes	Yes	Yes
SPC	SECONDARY RF PENETRATION PANEL	GE Healthcare		Vendor	Vendor	Yes	Yes	No	Yes	Yes
COMP	OPERATOR WORKSPACE W/ COLOR LCD MONITOR	GE Healthcare	M30-150	VENDOR	VENDOR	No	No	No	Yes	Yes
MN	CCTV MONITOR - WALL MOUNTED	GE Healthcare		VENDOR	VENDOR	No	No	No	Yes	Yes
MON	REMOTE GRAPHIC DISPLAY	GE Healthcare		CONTRACTOR	CONTRACTOR	No	No	No	Yes	Yes
HMD	GE HANDHELD METAL DETECTOR	GE Healthcare		VENDOR	VENDOR	Yes	No	No	No	No
WS	Compact Kidney Shaped Work Surface	Midmark	6205-001	OWNER	OWNER					
WF	WATER FILTER	GE Healthcare		CONTRACTOR	CONTRACTOR	Yes	No	Yes	Yes	Yes

EQUIPMENT SYMBOL LEGEND

EQUIPMENT TAG

NURSE CALL
- IL INDICATOR LIGHT

TELEPHONE/DATA
- D DATA
- PHY PHYSIO MONITOR
- T TELEPHONE
- T/D TEL/DATA COMBO
- TV TELEVISION
- WT WALL TELEPHONE

ELECTRICAL
- E DUPLEX EMERGENCY POWER
- GF DUPLEX GROUND FAULT
- N DUPLEX NORMAL POWER
- E QUAD EMERGENCY POWER
- GF QUAD GROUND FAULT
- N QUAD NORMAL POWER
- JB JUNCTION BOX
- LS LIGHT SWITCH
- 3 LS LIGHT SWITCH 3-WAY
- D DS DIMMER SWITCH
- OS OCCUPANCY SENSOR
- VS VACANY SENSOR

DOOR HARDWARE
- CR CARD READER
- KP KEY PAD
- HO MAGNETIC HOLD OPEN

FIRE ALARM
- PS PULL STATION
- S STROBE
- SS SPEAKER AND STROBE
- TB TERMINAL BOX
- WS WARDEN STATION

MECHANICAL
- RPM ROOM PRESSURE MONITOR
- RPS ROOM PRESSURE SENSOR
- T THERMOSTAT

ELECTRICAL & TELECOMMUNICATIONS OUTLETS GENERAL NOTES

1. FOR ELECTRICAL OUTLETS NOT SHOWN IN PLANS REFER TO INTERIOR ELEVATIONS OR TO ELECTRICAL DRAWINGS.
2. FOR TELECOMMUNICATIONS OUTLETS NOT SHOWN IN PLANS REFER TO INTERIOR ELEVATIONS OR TELECOMMUNICATIONS DRAWINGS.

FIRE ALARM DEVICES GENERAL NOTES

1. FOR FIRE ALARM DEVICES NOT SHOWN IN PLANS REFER TO INTERIOR ELEVATIONS OR FIRE ALARM DRAWINGS.

EQUIPMENT GENERAL NOTES

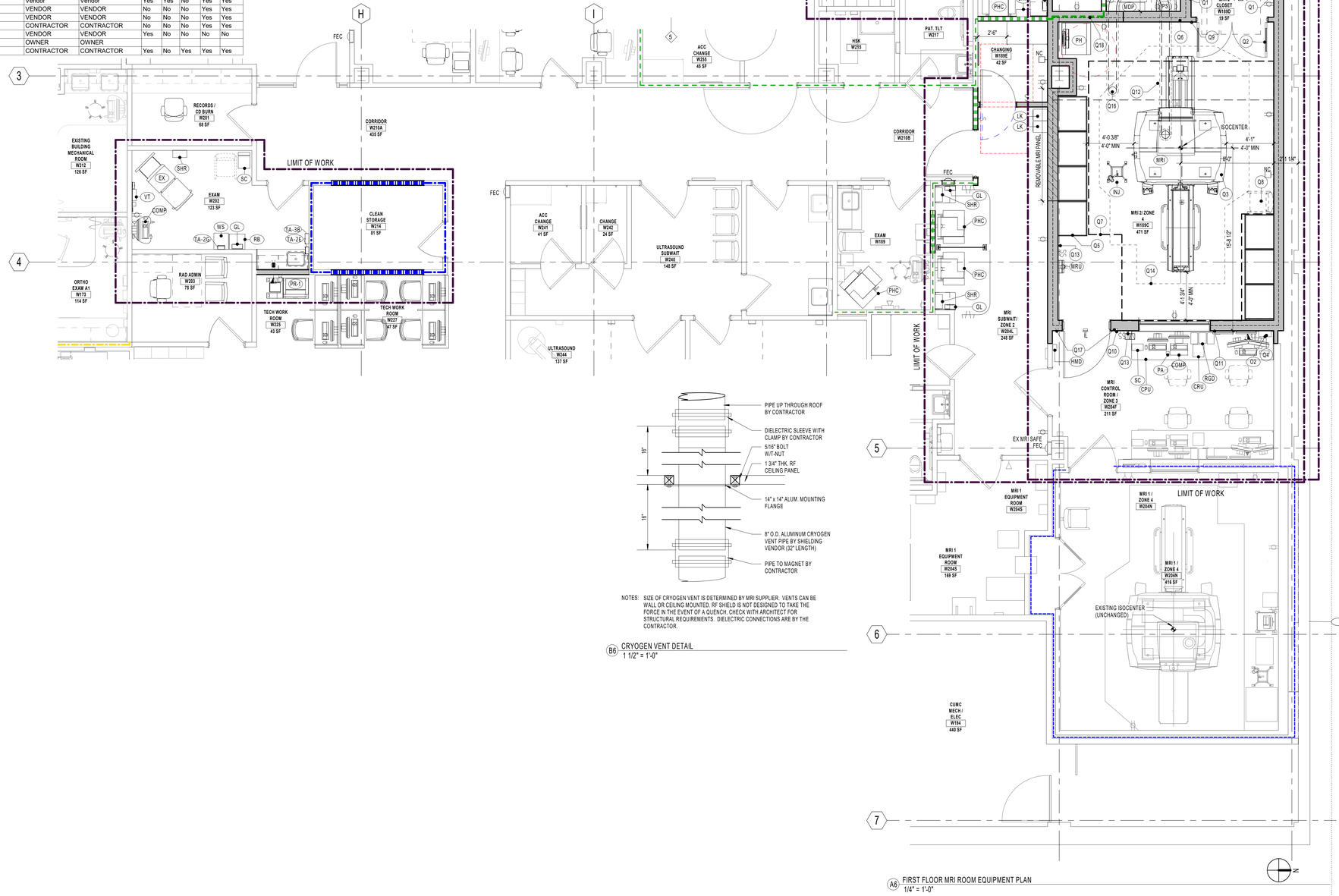
1. CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE EQUIPMENT MANUAL AND / OR EQUIPMENT SCHEDULE FOR SCOPE OF WORK AND RESPONSIBILITY IN THE PURCHASING, PLACEMENT AND INSTALLATION OF EQUIPMENT.
2. CONTRACTOR SHALL PROVIDE ALL MPE ROUGH-INS FOR ALL EQUIPMENT AS INDICATED ON THE DRAWINGS AND / OR EQUIPMENT MANUAL , WHETHER PROVIDED BY OWNER, OWNER VENDOR, OR GC / CM.
3. CONTRACTOR SHALL PROVIDE IN-WALL BLOCKING FOR ALL WALL MOUNTED EQUIPMENT, WHETHER PROVIDED BY OWNER, OWNER VENDOR, OR GC / CM.
4. CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE VENDOR EQUIPMENT DRAWINGS FOR RESPONSIBILITY AND SCOPE OF WORK IN THE INSTALLATION OF VENDOR EQUIPMENT. ALL WORK REFERRED TO IN THE VENDOR EQUIPMENT DRAWINGS AS BY OWNER / CUSTOMER, CONTRACTOR OR BY OTHERS IS IN THE SCOPE OF WORK OF THE GC / CM.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER'S EQUIPMENT VENDORS TO INSURE THE PROPER INSTALLATION OF ALL OWNER-FURNISHED ITEMS.

EQUIPMENT KEYNOTES

Q1	WALL MOUNTED FRT PLYWOOD FOR CABLING FOR GE.
Q2	LOUVERED DOORS WITH NON FERROMAGNETIC HARDWARE. PROVIDE ROLLER LATCH AND DUMMY LEVER AND NON FERROMAGNETIC FLUSH BOLTS ON INACTIVE LEAF
Q3	MRI 1.5T MAGNET WITH GEM PATIENT TABLE AND REAR PEDESTAL.
Q4	EXISTING OXYGEN MONITOR RELOCATED FOR MRI ONE.
Q5	FULL HEIGHT CABINETS FOR ADDITIONAL COIL STORAGE.
Q6	GC TO PROVIDE CONDUIT AND BACK MOUNTED MRI SAFE CAMERA. PROVIDE ELECTRICAL DROP AND PULLS FOR DATA.
Q7	DASHED LINE INDICATES 4'-0" CLEARANCE REQUIREMENT.
Q8	PROVIDE MRI SAFE CHAIR.
Q9	PROVIDE 3" DIA LOW WALL OPENING FOR INJECTOR CABLING.
Q10	PROVIDE MRI IN-USE LIGHT
Q11	PROVIDE 2" DIA WAVEGUIDE BELOW COUNTER FOR INJECTOR CONTROL CABLE. PROVIDE CAP FOR ACOUSTICS WHEN NOT IN USE.
Q12	CRYOGENIC VENT UP TO EXTERIOR. SEE MRI VENDOR DRAWINGS AND MECHANICAL DRAWINGS.
Q13	EPO BUTTON. PROVIDE A HINGED PROTECTIVE COVER TO PREVENT ACCIDENTAL ACTIVATION
Q14	DASHED LINE INDICATES GE SERVICE CLEARANCE
Q15	PROVIDE PLASTIC LAMINATE SHELF WITH SUPPORT BRACKETS AT 7'-0" AFF FOR GE EQUIPMENT.
Q16	APPOXIMATE LOCATION OF CRYOGENIC VENT UP TO EXTERIOR. SEE MECHANICAL DRAWINGS AND MRI VENDOR DRAWINGS. REFER TO DETAIL B6/A-400 FOR DETAIL THROUGH RF SHIELDING
Q17	MAGNETIC DETECTORS ON EITHER SIDE OF DOOR. METRASENS FERROGUARD IS BASIS OF DESIGN.
Q18	SEAL ALL PENETRATIONS TO BE SMOKE TIGHT ALONG THIS WALL.

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189G AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.



NOTES: SIZE OF CRYOGEN VENT IS DETERMINED BY MRI SUPPLIER. VENTS CAN BE WALL OR CEILING MOUNTED. RF SHIELD IS NOT DESIGNED TO TAKE THE FORCE IN THE EVENT OF A QUENCH. CHECK WITH ARCHITECT FOR STRUCTURAL REQUIREMENTS. DIELECTRIC CONNECTIONS ARE BY THE CONTRACTOR.

B6 CRYOGEN VENT DETAIL
1 1/2" = 1'-0"

Architect of Record:
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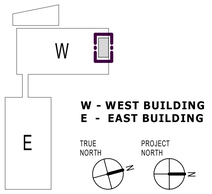
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
EQUIPMENT PLAN

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

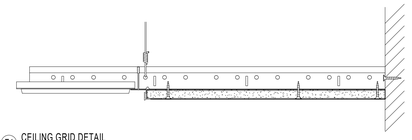
SHEET NO.
A-400.00

DWG OF 47

CD Submission 06/18/2021

KU 6/23/2021 6:42:02 PM As indicated C:\Project Path\Revit-2020\6109.02 - MRI_Columbia_Doctors_Tarrytown_2020_CHALSEP@ARRAY-ARCHITECTS.COM.rvt

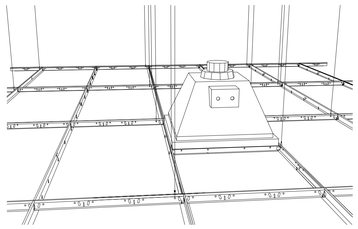
F



1. #12 HANGER (7891) 4' O.C., OR AS REQUIRED BY CODE.
2. DRYWALL ATTACHMENT CLIP (DWACS)
3. ARMSTRONG EXPOSED TEE SUSPENSION SYSTEM; PRELUDE 15/16" EXPOSED TEE SYSTEM, OR SUPRAFINE 9/16" EXPOSED TEE SYSTEM.
4. ARMSTRONG ACOUSTICAL CEILING PANEL
5. EDGE BEAD (PLASTIC OR METAL)
6. GYPSUM BOARD SCREWED TO SUSPENSION SYSTEM - SPAN VARIES NO GREATER THAN 24" O.C. - USE SCRAP FURRING TEE FOR INTERIM SUPPORT AS REQUIRED.
7. DRYWALL SCREW
8. CHANNEL MOLDING (7838)

F1 CEILING GRID DETAIL
3" = 1'-0"

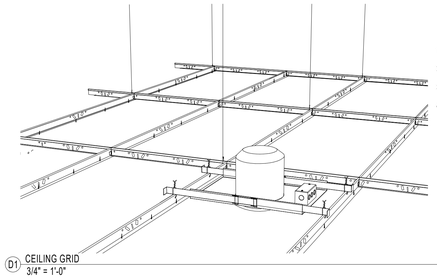
E



1. #12 HANGER (7891) 4' O.C., OR AS REQUIRED BY CODE.
2. ARMSTRONG DRYWALL GRID SYSTEM CROSS TEE (XL8945)
3. ARMSTRONG DRYWALL GRID SYSTEM MAIN BEAM (HD8901 OR HD8906)
4. ARMSTRONG EXPOSED TEE SUSPENSION SYSTEM CROSS TEE (XL8341)
5. ARMSTRONG EXPOSED TEE SUSPENSION SYSTEM CROSS TEE (XL7328)

E1 CEILING GRID
3/4" = 1'-0"

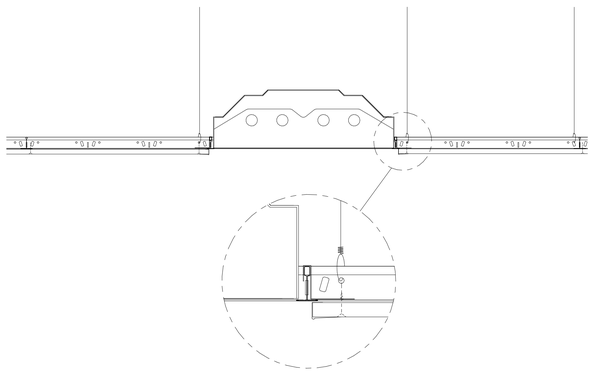
D



1. #12 HANGER(7891) 4' O.C., OR AS REQUIRED BY CODE.
2. ARMSTRONG DRYWALL GRID SYSTEM MAIN BEAM (HD8901 OR HD8906)
3. ARMSTRONG DRYWALL GRID SYSTEM CROSS TEE (XL8945)
4. INCANDESCENT "HI-HAT" LIGHT FIXTURE

D1 CEILING GRID
3/4" = 1'-0"

C

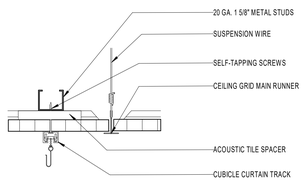


1. #12 HANGER (7801) 4' O.C., @ MAIN BEAM NOTE: HANGER LOCATIONS WILL VARY BY ACTUAL LOAD, SUSPENSION SYSTEM USED, AND LOCAL CODE REQUIREMENTS.
2. ARMSTRONG DRYWALL GRID SYSTEM CROSS TEE (XL8945)
3. ARMSTRONG DRYWALL GRID SYSTEM MAIN BEAM (HD8901)
4. DRYWALL ATTACHMENT CLIP (DWACS)
5. GYPSUM BOARD
6. EDGE BEAD (TYPICAL SURROUNDING ALL SIDES OF LIGHT FIXTURE.)
7. ARMSTRONG EXPOSED TEE SUSPENSION SYSTEM CROSS TEE (XL8341) @ FIXTURE.
8. TYPE "G" FLUORESCENT FIXTURE

B

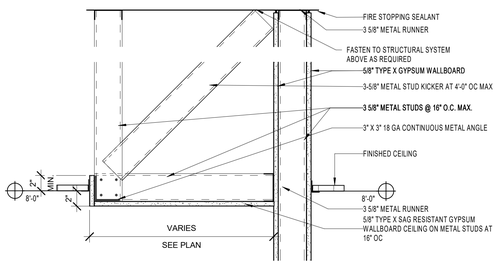
B1 CEILING GRID DETAIL
1 1/2" = 1'-0"

A



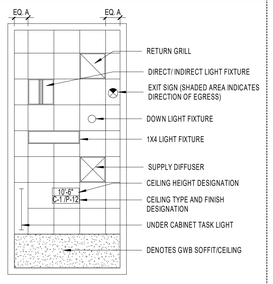
SEISMIC DESIGN CATEGORY C

A1 CUBICLE CURTAIN TRACK DETAILS
3" = 1'-0"



A2 SOFFIT DETAIL
1 1/2" = 1'-0"

CEILING SYMBOL LEGEND



NOTE: CEILING CONTRACTOR TO MEASURE EACH CEILING AREA AND ESTABLISH A CEILING LAYOUT TO BALANCE BORDER WIDTHS AT OPPOSITE EDGES OF EACH ROOM. AVOID USE OF LESS-THAN 6" TILES.

FIXTURE MOUNTING MATRIX

LT : LIGHT FIXTURE S : SPEAKER SD : SMOKE DETECTOR

REFLECTED CEILING GENERAL NOTES

1. THE "LIMITS OF CONSTRUCTION" LINES SHOWN ON THE ARCHITECT'S REFLECTED CEILING PLANS APPLY ONLY TO THE LIMITS OF THE ARCHITECTURAL NEW CONSTRUCTION AND RENOVATION. SEE OTHER DISCIPLINES' DRAWINGS FOR THE LIMITS OF NEW CONSTRUCTION AND RENOVATION PERTAINING TO EACH DISCIPLINE.
2. THE CONTRACTOR SHALL PROVIDE COORDINATION DRAWINGS FOR THE ARCHITECTS REVIEW AS REQUIRED BY THE SPECIFICATIONS THAT DEMONSTRATE THE COORDINATION OF ALL CEILING LOCATED DEVICES REQUIRED BY EACH DISCIPLINE AND TRADE.
3. ALL CEILING HEIGHTS MUST MEET CODE MINIMUMS FOR VARYING SPACE TYPES. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY FIELD DISCREPANCY WHERE THE INDICATED CEILING HEIGHT CAN NOT BE MAINTAINED.
4. SPRINKLER HEADS ARE NOT INDICATED ON THE REFLECTED CEILING PLANS. SPRINKLER HEADS TO ALIGN WITH EACH OTHER IN BOTH NORTH/SOUTH AND EAST/WEST DIRECTIONS WHERE THEY OCCUR IN A SINGLE SPACE. THE CONTRACTOR SHALL INSTALL REQUIRED SPRINKLER HEADS IN ALL SPACES TO PROVIDE (100%) COVERAGE AS DEFINED IN NFPA. REFER TO FIRE PROTECTION DRAWINGS FOR LOCATIONS OF THE SPRINKLER HEADS.
5. THE CONTRACTOR SHALL INSTALL ALL CEILING DEVICES TO ALIGN WITH EACH OTHER IN BOTH NORTH/SOUTH AND EAST/WEST DIRECTIONS AS PRACTICAL WHERE THEY OCCUR IN A SINGLE SPACE.
6. NEITHER SPRINKLER HEADS NOR CONCEALED SPRINKLER HEAD COVERS SHALL BE PAINTED. THE CONTRACTOR SHALL INSPECT ALL INSTALLED SPRINKLER HEADS AND REMOVE ANY SPRINKLER HEADS ACCIDENTALLY PAINTED DURING CONSTRUCTION AND REPLACED WITH NEW SPRINKLER HEADS.
7. ACCESS PANELS ARE NOT QUANTIFIED OR INDICATED ON THE REFLECTED CEILING PLAN. AS THE COORDINATION OF THE TRADES FOR ALL ABOVE CEILING UTILITIES WILL BE COORDINATED BY THE CONTRACTOR AND DEMONSTRATED THROUGH THE COORDINATION DRAWING SUBMITTAL REQUIREMENTS PROVIDED WITHIN THE SPECIFICATIONS FOR THE ARCHITECT'S REVIEW.
8. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES AND INCLUDE ACCESS PANELS OF APPROPRIATE SIZE AND TYPE IN ALL NON ACCESSIBLE CEILINGS AND SOFFITS WHERE ACCESS FOR UTILITIES AND BUILDING SERVICES ARE REQUIRED. REFER TO THE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
9. WHERE SUPPORT WIRES FOR ACOUSTICAL CEILING GRID CANNOT BE INSTALLED VERTICALLY, THE CONTRACTOR SHALL PROVIDE A UNISTRUT BENEATH THE OBSTRUCTION AS TO PERMIT WIRES TO BE VERTICALLY ATTACHED TO THE UNISTRUT.
10. EXIT SIGN REQUIREMENTS:
    a. EXITS SIGNS SHALL BE READILY VISIBLE FROM ANY DIRECTION OF TRAVEL.
    b. PROVIDE EXIT SIGNS TO CLEARLY INDICATE THE DIRECTION OF EGRESS TRAVEL IN CASES WHERE THE EXIT OR THE PATH OF EGRESS TRAVEL IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS.
    c. INTERVENING MEANS OF EGRESS DOORS WITHIN EXITS SHALL BE MARKED BY EXIT SIGNS.
    d. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR OR EXIT PASSAGEWAY IS MORE THAN 100' OR THE "LISTED VIEWING DISTANCE" FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGN.
    e. EXIT SIGNS SHALL BE CENTERED OVER DOORS AND CORRIDORS.

LIGHTING FIXTURE SCHEDULE

TAG	DESCRIPTION	MODEL	MANUFACTURER	TYPE	INPUT	COMMENTS
D1	4 inch LED recessed wide downlight	LD4A	COOPER LIGHTING			
D2	MedMaster MRI safe 6" downlight	MRDL6	KENALL			
F1	2'x2' recessed fixture.	TDJA-2X2-2-50WBX-S-UNV-WH	CORONET			
F2	2'x2' recessed fixture.	TDJAS-2X2-1-50WBX-120-SC	CORONET			
L1	Edge lit LED 1'X4' MRI Flat Panel	MLFP14E60335MRI	maxiLED			

RELFLECTED CEILING KEYNOTES

C1	CEILING CONTRACTOR TO COORDINATE CEILING LAYOUT IN ROOM WITH EQUIPMENT VENDOR AND OTHER CEILING MOUNTED EQUIPMENT.
C2	QUENCH VENT EXHAUST PIPE.
C3	AREA FOR MRI SHROUD. REFER TO GE MRI DRAWINGS FOR ADDITIONAL INFORMATION.
C4	ALL EQUIPMENT LOCATED WITHIN EACH MRI ROOM SHALL BE PROVIDED WITH NON-FERROUS EQUIPMENT.
C5	EXISTING CEILING TO REMAIN. PATCH AND REPAIR ANY DAMAGES. COORDINATE WITH GC.
C6	CUBILCE CURTIAN AND TRACK, REFER TO SPECIFICATIONS.
C7	NEW CEILING GRID AND TILES TO BE INSTALLED TO ALIGN WITH EXISTING TILES AND MATCH EXISTING CEILING HEIGHT. SPLICE GRID AS REQUIRED TO SHOW NO EVIDENCE OF PATCHING.
C8	EXISTING 2X2 LIGHT FIXTURE DEMOLISHED. PROVIDE NEW CEILING TILE AND NEW RECESSED DOWNLIGHT INSTALLED FOR NEW PHLEBOTOMY STATION
C9	REVIEW EXISTING EXIT LIGHTS IN ROOM. REMOVE UNIDENTIFIED EXIT SIGNS AND REINSTALL AS DOCUMENTED.
C10	REMOVABLE CEILING AREA AND CLEAR SPACE FOR MRI MAINTENANCE. REFER TO S2 ON GE MRI DRAWINGS FOR ADDITIONAL INFORMATION
C11	PROVIDE AND INSTALL NEW SPEAKER TO INTEGRATE WITH NEW ROOM SOUND SYSTEM. CONTROLS LOCATED IN MRI CONTROL ROOM
C12	QC TO PROVIDE STAINLESS STEEL LADDER CABLE TRAY(S). REFER TO VENDOR DRAWINGS.
C13	IF POSSIBLE, REUSE EXISTING LIGHTING FOR NEW MRI EQUIPMENT ROOM. REINSTALL AND HANG LIGHTING FROM DECK ABOVE.
C14	SHELF PLACED 7'-0" ABOVE FINISHED FLOOR.
C15	SPLICE IN NEW GRIDS AND REPLACE TILES.

GENERAL NOTES

1. SEE SHEET T-000 FOR COVER SHEET & DRAWING LIST.
2. SEE SHEET G-001 FOR CODE REQUIREMENTS, SYMBOLS LEGEND, FLOOD MAP DATA AND GENERAL NOTES.
3. SEE SHEET LSC-101 FOR LIFE SAFETY & NOTES.
4. SEE SHEET DM-100 FOR DEMOLITION PLAN.
5. SEE SHEET A-010 FOR ICRA PLAN AND NOTES.
6. SEE SHEETT A-011 FOR MRI RIGGING PATH AND SAFETY ZONE PLAN.
7. SEE SHEET A-100 FOR ARCHITECTURAL PLANS.
8. SEE SHEET A-300 FOR ROOF PLAN.
9. SEE SHEET A-400 FOR EQUIPMENT PLAN.
10. SEE SHEET A-500 FOR REFLECTED CEILING PLAN & CEILING DETAILS.
11. SEE SHEET A-721 FOR PARTITION TYPES & RATED ASSEMBLY.
12. SEE SHEET A-722 FOR INTERIOR DETAILS.
13. SEE SHEET A-800 FOR FINISH PLAN AND SCHEDULE.
14. SEE SHEET A-900 FOR DOOR TYPES, FRAME DETAILS, SCHEDULE & BORROWED LIGHT DETAILS, SCHEDULE.

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W180C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI ZONE SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

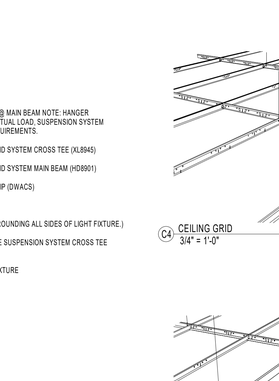
AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

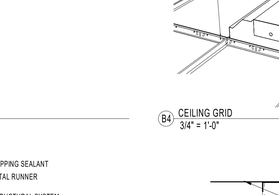
ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

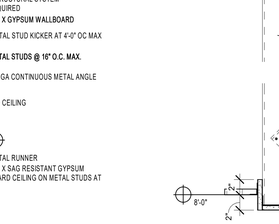
ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.



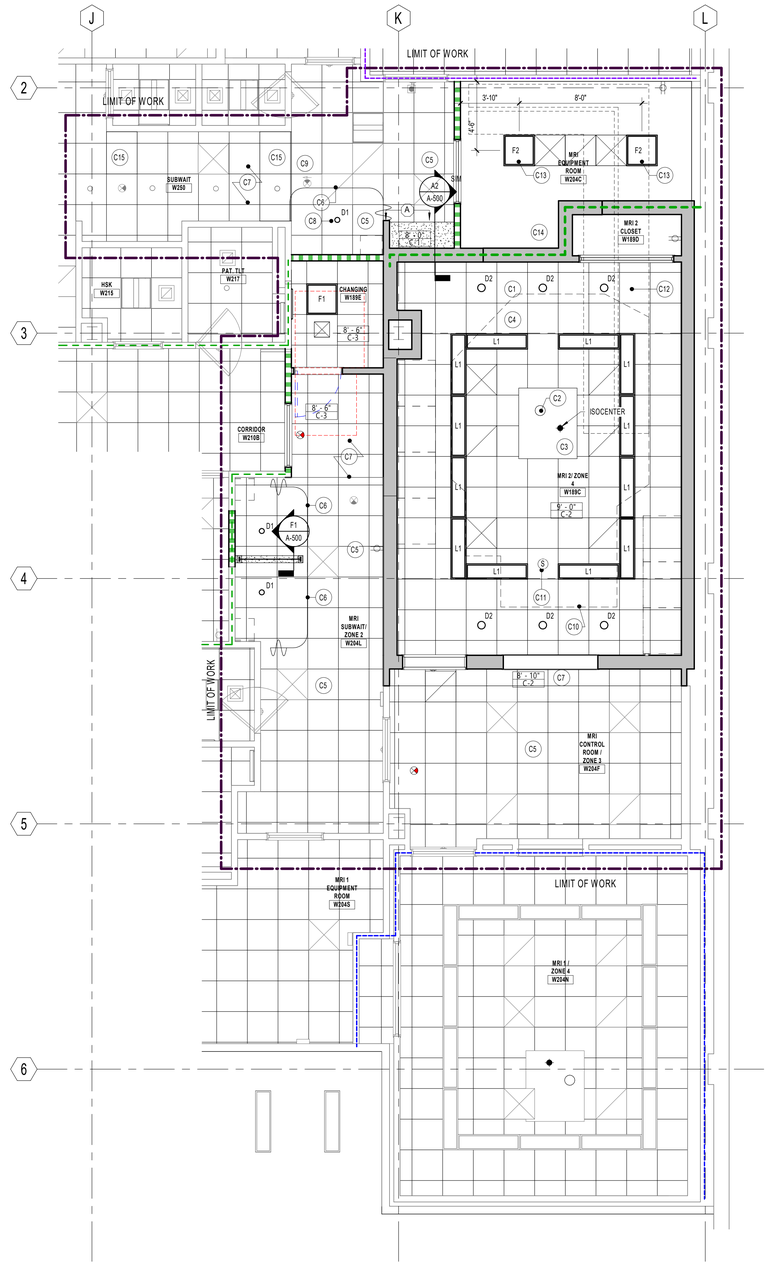
C4 CEILING GRID
3/4" = 1'-0"



B4 CEILING GRID
3/4" = 1'-0"



A4 SOFFIT DETAIL
1 1/2" = 1'-0"



A6 FIRST FLOOR MRI ROOM REFLECTED CEILING PLAN
1/4" = 1'-0"

CD Submission 06/18/2021

Architect of Record:
ARRAY architects P.C.
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OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI
155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591

KEY PLAN

NO.	DESCRIPTION	DATE
1		
	REVISIONS/ISSUES	

SHEET TITLE:
REFLECTED CEILING PLAN & CEILING DETAILS

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
A-500.00

DWG OF 47

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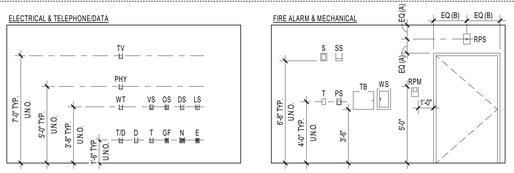
DEVICES MOUNTING HEIGHT



NOTE:
ANY ELECTRICAL AND DATA DEVICE NEXT TO A DOOR NEEDS TO BE LOCATED AT A MINIMUM OF 8" FROM DOOR FRAME.

INTERIOR ELEVATIONS SYMBOL LEGEND

W1 EQUIPMENT TAG

NURSE CALL
- IL INDICATOR LIGHT

ELECTRICAL
- E DUPLEX EMERGENCY POWER
- GF DUPLEX GROUND FAULT
- N DUPLEX NORMAL POWER
- E QUAD EMERGENCY POWER
- GF QUAD GROUND FAULT
- N QUAD NORMAL POWER
- JB JUNCTION BOX
- LS LIGHT SWITCH
- LS LIGHT SWITCH 3-WAY
- DS DIMMER SWITCH
- OS OCCUPANCY SENSOR
- VC VACANCY SENSOR

TELEPHONE/DATA
- D DATA
- T TELEPHONE
- T/D TEL/DATA COMBO
- WT WALL TELEPHONE

MECHANICAL
- RPM ROOM PRESSURE MONITOR
- RPS ROOM PRESSURE SENSOR
- T THERMOSTAT

DOOR HARDWARE
- CR CARD READER
- KP KEY PAD
- HO MAGNETIC HOLD OPEN
- PW PATIENT WANDERING
- PP PUSH PLATE

FIRE ALARM
- PS PULL STATION
- S STROBE
- SS SPEAKER AND STROBE
- TB TERMINAL BOX

DIMENSION GENERAL NOTES

1. DIMENSIONS SHOWN ON THE FLOOR PLAN ARE: TO CENTERLINE OF COLUMNS; TO OUTSIDE FACE OF GYPSUM BOARD ON METAL STUD WALLS PARTITIONS; TO OUTSIDE FACE OF EXISTING WALLS; TO OUTSIDE FACE OF CONCRETE OR MASONRY WALLS; EXTREMELY CRITICAL DIMENSIONS MAY BE INDICATED AS "HOLD" OR "CLEAR".
2. FOR ADDITIONAL DIMENSIONING, COMPLY WITH REQUIREMENTS ON ENLARGED PLANS, WALL SECTIONS, EXTERIOR ELEVATIONS, INTERIOR ELEVATIONS, PLAN DETAILS, AND SECTION DETAILS.
3. THE CONTRACTOR SHALL TAKE INTO ACCOUNT THE THICKNESS OF THE SCHEDULED FINISH MATERIALS SUCH AS CERAMIC TILE, SOLID SURFACE MATERIAL, ETC. PRIOR TO LAYOUT OF METAL STUD PARTITIONS OR CMU WALLS. SINCE THE TOTAL WALL THICKNESS MUST BE CONSIDERED SO THAT THE REQUIRED "MINIMUM FACE OF FINISH" AND "MINIMUM CLEAR FACE OF FINISH" DIMENSIONS CAN BE MAINTAINED AFTER THE INSTALLATION OF FINISH MATERIALS.
4. IN GROUP I2/HEALTHCARE, CORRIDOR WIDTH SHALL BE 8'-0" CLEAR WHERE REQUIRED FOR BED MOVEMENT.
5. INTERIOR METAL STUD WALLS/PARTITIONS/BARRIERS SHALL BE CONSTRUCTED OF 3-5/8" METAL STUDS UNLESS DIMENSIONED, DETAILED, OR NOTED OTHERWISE. THE CONTRACTOR SHALL COMPLY WITH UL DESIGN #U469 AT RATED PLUMBING WALLS/BARRIERS.
   a. WALL-MOUNTED SINGLE WATER CLOSET: 1'-8" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
   b. WALL-MOUNTED BACK-TO-BACK WATER CLOSETS: 2'-4" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
   c. FLOOR-MOUNTED SINGLE WATER CLOSET: 9" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
   d. FLOOR-MOUNTED BACK-TO-BACK WATER CLOSETS: 1'-0" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
   e. FIRE EXTINGUISHER CABINET: 8" STUDS.
   f. FIRE DEPARTMENT VALVE CABINET: 12" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD
   g. WALL-MOUNTED CLINICAL SINK: 1'-0" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
   h. WALL-MOUNTED SCRUB SINK AND LAVATORY: 6" STUDS.
   i. WALL-MOUNTED JANITOR SINK: 6" STUDS.
   j. WALL-MOUNTED BACK-TO-BACK CLINICAL SINKS: 2'-0" OUTSIDE FACE OF GYPSUM WALLBOARD TO OUTSIDE FACE OF GYPSUM WALLBOARD.
6. THE CONTRACTOR SHALL VERIFY THAT THE FLOOR-MOUNTED CARRIERS USED TO SUPPORT WALL-MOUNTED SINKS/LAVATORIES AND UNSUPPORTED COUNTERTOP SINKS/LAVATORIES (OTHER THAN THOSE IDENTIFIED IN NOTE #5 ABOVE) ARE A TYPE THAT WILL FIT WITHIN 3-5/8" METAL STUD WALLS. NOTIFY ARCHITECT IMMEDIATELY IF THERE IS A CONFLICT.
7. ACCESSIBLE WATER CLOSETS SHALL BE MOUNTED 1'-5" BETWEEN THE FINISH FACE OF ADJACENT WALL OR TOILET PARTITION AND THE CENTERLINE OF THE WATER CLOSET. THE FLUSH VALVE HANDLE FOR EACH ACCESSIBLE WATER CLOSET SHALL BE MOUNTED ON THE OPEN-MOST SIDE OF THE WATER CLOSET AT 3'-8" MAX TO THE TOP OF FLUSH HANDLE. BARIATRIC TOILET SHOULD BE LOCATED 24" AWAY FROM FINISHED WALL.
8. ACCESSIBLE WALL-MOUNTED SINKS/LAVATORIES SHALL BE MOUNTED WITH MINIMUM 1'-3" BETWEEN THE FINISH FACE OF ADJACENT WALL, TOILET PARTITION, FIXED EQUIPMENT, AND/OR CASEWORK.
9. NON-ACCESSIBLE WATER CLOSETS AND URINALS SHALL BE MOUNTED SO THAT THERE IS 1'-3" MINIMUM BETWEEN THEIR CENTERLINE AND THE FINISH FACE OF ADJACENT WALL OR TOILET/URINAL PARTITION. SEE INTERIOR TOILET ELEVATIONS.
10. IN NON-ACCESSIBLE INPATIENT ROOMS AND NON-ACCESSIBLE INPATIENT TOILET ROOMS: THE NON-ACCESSIBLE WALL-MOUNTED SINKS/LAVATORIES SHALL BE MOUNTED SO THAT THERE IS A 4" MINIMUM CLEARANCE BETWEEN THE OUTSIDE FACE OF SINK/LAVATORY AND THE FINISH FACE OF ADJACENT WALL, PARTITION, FIXED EQUIPMENT, AND/OR CASEWORK. SEE INTERIOR ELEVATIONS.
11. CASEWORK DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AND INSTALLATION. SEE CASEWORK SECTIONS FOR FURTHER REQUIREMENTS REGARDING CASEWORK DIMENSIONING.
12. CLINICAL SINKS SHALL BE MOUNTED SO THAT THE CENTERLINE OF THE SINKS IS 1'-6" MINIMUM TO THE FINISH FACE OF ADJACENT WALL, PARTITION, FIXED EQUIPMENT, AND/OR CASEWORK. THE FLUSH VALVE HANDLE FOR THE CLINICAL SINK SHALL BE MOUNTED ON THE OPEN-MOST SIDE OF THE SINK AT 3'-8" MAX TO THE TOP OF HANDLE.

ARCHITECTURAL FLOOR PLAN GENERAL NOTES

1. THE "LIMITS OF CONSTRUCTION" LINES SHOWN ON THE ARCHITECTS FLOOR PLANS APPLY ONLY TO THE LIMITS OF ARCHITECTURAL NEW CONSTRUCTION AND RENOVATION. SEE OTHER DISCIPLINES' DRAWINGS FOR THE LIMITS OF THE NEW CONSTRUCTION AND RENOVATION FOR THEIR DISCIPLINE.
2. THE CONTRACTOR SHALL NOT SCALE DRAWINGS. DIMENSIONS HAVE BEEN PROVIDED THROUGHOUT THE CONTRACT DOCUMENTS FOR THE CONTRACTOR'S USE IN COORDINATING THE WORK. IF ANY DIMENSIONS ARE FOUND IN CONFLICT THE CONTRACTOR SHALL NOTIFY AND OBTAIN CLARIFICATION FROM THE ARCHITECT.
3. WHERE NEW GYPSUM BOARD WALLS/PARTITIONS/BARRIERS ARE A CONTINUATION OF AN EXISTING WALL OR COLUMN ENCASEMENT, THE FACE OF NEW GYPSUM BOARD SHALL BE ALIGNED WITH THE FACE OF EXISTING SURFACE UNLESS OTHERWISE INDICATED ON DRAWINGS. THE CONTRACTOR SHALL ACCOUNT FOR ANY ADDITIONAL LAYERS OF DRYWALL NECESSARY TO PROVIDE THE CONTINUATION, ALIGNMENT, OR PRESERVATION OF THE FIRE RATING IDENTIFIED. .
4. THE CONTRACTOR SHALL PROVIDE LEVEL TRANSITION BETWEEN EXISTING AND NEW CONCRETE SLABS AND BETWEEN NEW AND EXISTING FINISHES. THE CONTRACTOR SHALL IDENTIFY WHERE THE FLOOR DIPS OR RISES. CLEAN THE FLOOR AND APPLY SELF-LEVELING COMPOUND TO THE FLOOR AS REQUIRED TO ACHIEVE AN EVEN SUBSTRATE AND AN EVEN TRANSITION BETWEEN EXISTING AND NEW CONSTRUCTION.
5. THE CONTRACTOR SHALL BUILD OUT PARTITIONS TO ACCOMMODATE DEPTH REQUIRED BY FIRE EXTINGUISHER CABINETS AND RECESSED POWER PANELS LOCATED THROUGHOUT THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL OBTAIN THE ARCHITECT'S APPROVAL FOR THEIR FINAL LOCATION.
6. THE CONTRACTOR SHALL TAKE INTO ACCOUNT THE THICKNESS OF THE SCHEDULED FINISH MATERIALS SUCH AS CERAMIC TILE, SOLID SURFACE, ETC. PRIOR TO LAYOUT OF METAL STUD PARTITIONS OR CMU WALLS. SINCE THE TOTAL WALL THICKNESS MUST BE CONSIDERED SO THAT THE REQUIRED "MINIMUM FACE TO FINISH" AND "MINIMUM CLEAR FACE OF FINISH" DIMENSIONS CAN BE MAINTAINED AFTER THE INSTALLATION OF FINISH MATERIALS.
7. THE FLOOR SLAB SHALL BE SLOPED (2%) TO DRAIN. DO NOT INTERRUPT INTEGRITY OF FIRE RATING OF AFFECTED FLOOR SLAB.
8. THE CONTRACTOR SHALL REFER TO THE OWNER'S PROVIDED PHYSICIST REPORT FOR THE REQUIRED THICKNESS OF LEAD ON LEAD LINED PARTITIONS IDENTIFIED IN THE CONTRACT DOCUMENTS.
9. ACCESS PANELS:
   a. THE CONTRACTOR SHALL PROVIDE SELF-CLOSING AND KEY-LOCKED ACCESS PANELS OF APPROPRIATE TYPE AND SIZE AS SPECIFIED IN VERTICAL AND HORIZONTAL HARD SURFACES WHERE ACCESS FOR SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, FIRE PROTECTION, SECURITY, ELECTRICAL OR COMMUNICATION ITEMS MAY BE REQUIRED.
   b. THE CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS OF THE APPROPRIATE FIRE-RATED TYPE EQUAL TO THE RATING OF THE VERTICAL AND HORIZONTAL HARD SURFACES WHERE REQUIRED TO BE INSTALLED.
   ac. ACCESS PANELS SHALL BE GASKETED TO BE AIRTIGHT IN ROOMS IDENTIFIED ON THE MECHANICAL DRAWINGS AS POSITIVE OR NEGATIVE PRESSURE.
   d. THE CONTRACTOR SHALL SUBMIT AN ACCESS PANEL SCHEDULE AND LOCATION PLAN IDENTIFYING ALL ACCESS POINTS TO THE ARCHITECT FOR REVIEW AS REQUIRED BY THE SPECIFICATIONS.
10. ALL RATED SMOKE BARRIERS, RATED HORIZONTAL EXITS, AND RATED EXIT PASSAGEWAY BARRIER WALLS SHALL BE CONSTRUCTED PRIOR TO THE CONSTRUCTION OF INTERVENING WALLS.
11. ALL FLOORS, PARTITIONS AND CEILINGS IN ROOMS IDENTIFIED ON THE MECHANICAL DRAWINGS AS POSITIVE OR NEGATIVE PRESSURE SHALL BE SEALED AIRTIGHT.
12. FIRE EXTINGUISHER CABINET: 6" STUDS.

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

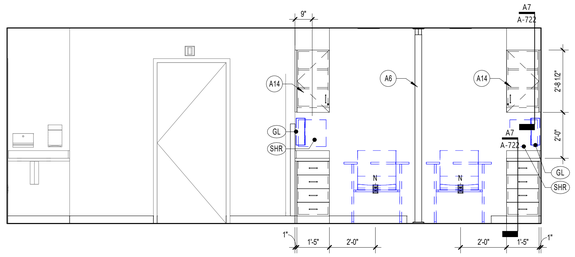
ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.

GENERAL NOTES

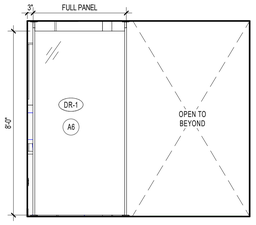
1. SEE SHEET T-000 FOR COVER SHEET & DRAWING LIST.
2. SEE SHEET G-001 FOR CODE REQUIREMENTS, SYMBOLS LEGEND, FLOOD MAP DATA AND GENERAL NOTES.
3. SEE SHEET LSC-101 FOR LIFE SAFETY & NOTES.
4. SEE SHEET DM-100 FOR DEMOLITION PLAN.
5. SEE SHEET A-010 FOR ICRA PLAN AND NOTES.
6. SEE SHETT A-011 FOR MRI RIGGING PATH AND SAFETY ZONE PLAN.
7. SEE SHEET A-100 FOR ARCHITECTURAL PLANS.
8. SEE SHEET A-300 FOR ROOF PLAN.
9. SEE SHEET A-400 FOR EQUIPMENT PLAN.
10. SEE SHEET A-500 FOR REFLECTED CEILING PLAN & CEILING DETAILS.
11. SEE SHEET A-721 FOR PARTITION TYPES & RATED ASSEMBLY.
12. SEE SHEET A-722 FOR INTERIOR DETAILS.
13. SEE SHEET A-800 FOR FINISH PLAN AND SCHEDULE.
14. SEE SHEET A-900 FOR DOOR TYPES, FRAME DETALS, SCHEDULE & BORROWED LIGHT DETALS, SCHEDULE.

ARCHITECTURAL KEYNOTES

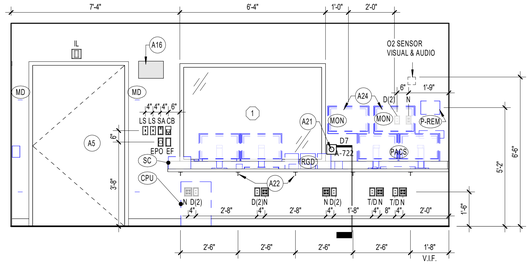
A1	EXTENT OF EXISTING DEEPER STRUCTURAL SLAB. EXACT LOCATION TO BE CONFIRMED IN FIELD, SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
A2	PROVIDE MRI SAFE ADJUSTABLE BLINDS.
A3	EXISTING FIRE EXTINGUISHER CABINET TO REMAIN. CONFIRM MAKE AND MODEL IS MRI SAFE.
A4	PROVIDE KEYLOCK ON EXISTING DOOR.
A5	DOOR BY MRI SHEILDING VENDOR
A6	3FORM ILTUO FLOOR TO CEILING 200.58 PARTITION. REFER TO FINISH PLAN FOR RESIN FINISH. FASTEN TO FLOOR AND CEILING, PROVIDE BLOCKING ABOVE CEILING AT VERTICAL SUPPORTS.
A7	NEW SHAFT FOR QUENCH VENT. MORE INFORMATION PROVIDED ON MEP DRAWINGS AND OPENING INFORMATION ON STRUCTURAL DRAWINGS. COORDINATE WORK SCHEDULE WITH CURRENT OCCUPANTS OF SPACE.
A8	ADD ALTERNATE: DEMOLISH EXISTING PLASTIC LAMINATE COUNTERTOP. REPLACE WITH NEW SOLID SURFACE COUNTERTOP, SSP-1, SUPPORTED BY RECESSED COUNTERTOP BRACKETS.
A9	PROVIDE MINIMUM 1" RADIUS ON SOLID SURFACE EDGE.
A10	PROVIDE 24" X 60" STAINLESS STEEL FRAMED WALL MOUNTED MIRROR. PROVIDE IN-WALL BLOCKING.
A11	APPROXIMATE CONCRETE INFILL OF TRENCH FOR SANITARY LINE FOR FLOOR DRAIN.
A12	CONFIRM EXACT LOCATION OF EXISTING OUTLET, MAY NEED TO BE RELOCATED TO ACCOMMODATE MILLWORK. REVIEW WITH ENGINEER AND OWNER.
A13	RELOCATED FEC.
A14	LOCKABLE UPPER CABINET
A15	PATCH WALL AND FLOOR AS TO LEAVE NO EVIDENCE OF REMOVAL. MATCH EXISTING FINISHES. ADD CEILING TILES AND GRID IN AREA OF WALL REMOVAL TO MATCH EXISTING.
A16	GC TO PROVIDE AND INSTALL MRI IN-USE LIGHT. PROVIDE DOOR CONTACT TO COORDINATE MRI USE.
A17	SLAB PENETRATIONS TO BE 2HR RATED
A18	REMOVABLE ACCESS RF WALL FOR MRI RIGGING
A19	GROMMET OPENING FOR INJECTOR CABLING. COORDINATE WITH VENDOR DOCUMENTS.
A20	EPO BUTTON. COORDINATE WITH VENDOR.
A21	PROVIDE 2.5" DIA. WAVEGUIDE PIPE FOR INJECTOR CONTROL. PROVIDE COVER FOR WHEN THE WAVEGUIDE PIPE IS NOT IN USE.
A22	RECESSED COUNTER SUPPORT BRACKETS. BASIS OF DESIGN: RAKKS E-1824 INSIDE WALL MOUNT
A23	ALL OUTLETS PROVIDED IN NEW MRI ROOM - W189C TO BE MRI SAFE/ RF OUTLETS.
A24	PROVIDE MONITOR BRACKETS.
A25	GC TO INSTALL HOLLOW METAL DOOR AND FRAME TO KEEP MRI 1 OPERATIONAL DURING THE COURSE OF CONSTRUCTION. DOOR TO BE A SMOKE DOOR WITH GASKETING. TOWARD THE END OF CONSTRUCTION, GC TO REMOVE DOOR AND FRAM. RESTORE WALL TO ORIGINAL CONDITION AND RATING.
A26	GC TO REINSTALL SYSTEMS FURNITURE AFTER RIGGING. REFER TO RIGGING PLAN.



E1 MRI SUBWAIT ZONE 2 - INTERIOR ELEVATION 1
3/8" = 1'-0"



E3 MRI SUBWAIT ZONE 2 - INTERIOR ELEVATION 2
3/8" = 1'-0"



C1 CONTROL ROOM ZONE 4 - INTERIOR ELEVATION 1
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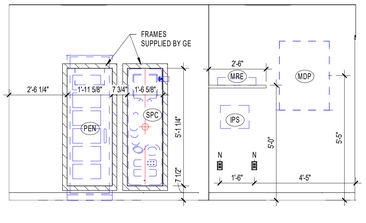
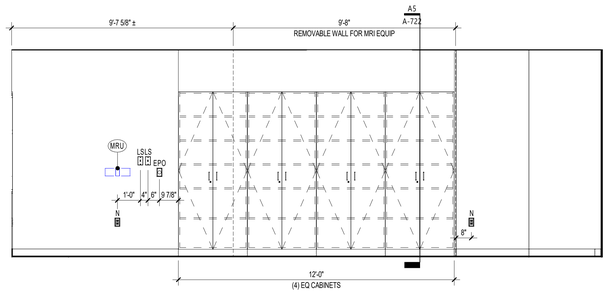
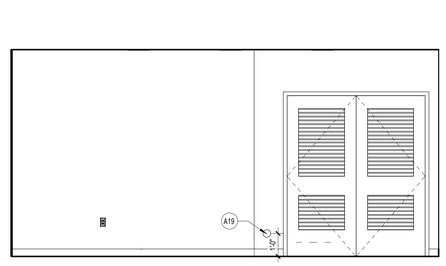


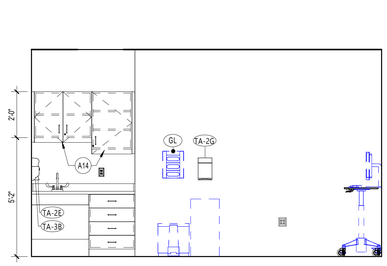
C3 MRI EQUIPMENT ROOM - INTERIOR ELEVATION 1
3/8" = 1'-0"



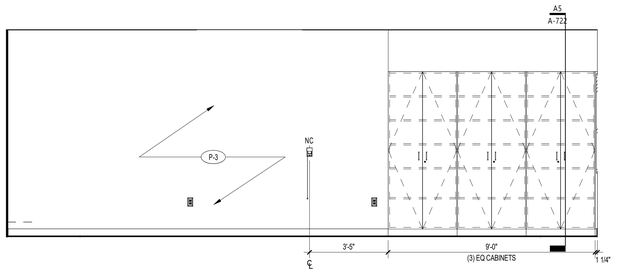
B1 MRI 2 ZONE 4 - INTERIOR ELEVATION 4
3/8" = 1'-0"



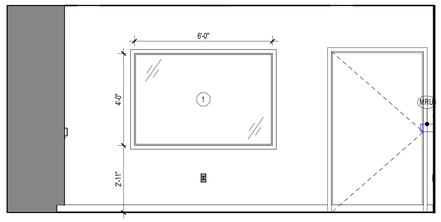
B3 MRI 2 ZONE 4 - INTERIOR ELEVATION 1
3/8" = 1'-0"



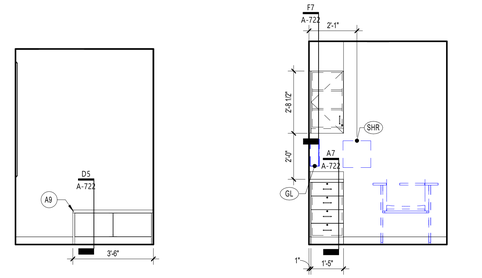
B5 EXAM W202 - INTERIOR ELEVATION 1
3/8" = 1'-0"



A1 MRI 2 ZONE 4 - INTERIOR ELEVATION 2
3/8" = 1'-0"



A3 MRI 2 ZONE 4 - INTERIOR ELEVATION 3
3/8" = 1'-0"



A5 CHANGING W189E - INTERIOR ELEVATION 1
3/8" = 1'-0"

A6 CT SUBWAIT W230 - INTERIOR ELEVATION 2
3/8" = 1'-0"

CD Submission 06/18/2021

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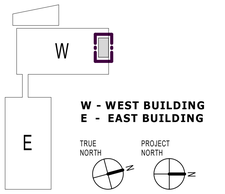

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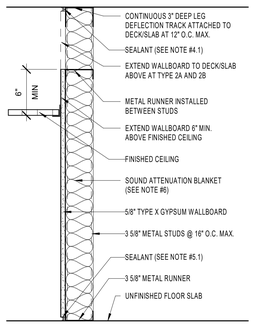
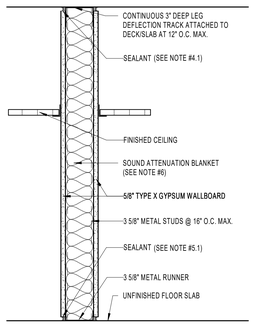


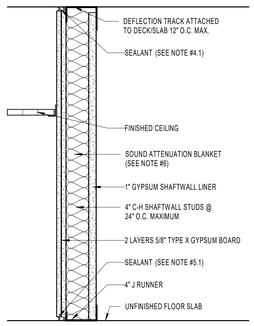
TYPE 2A — SAME AS TYPE 2 EXCEPT EXTEND GWB TO DECK/SLAB ABOVE. — STC 34 (NGC 2013012)



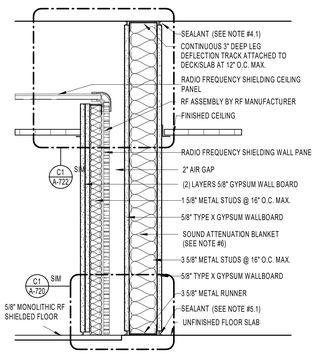
TYPE 6 — STC 40 (NGC 2013004)

TYPE 6A — STC 40 (NGC 2013004)

SAME AS TYPE 6 EXCEPT SMOKE PARTITION

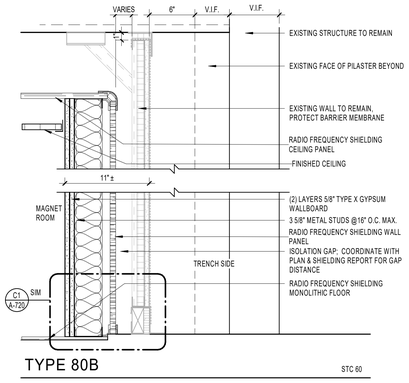


TYPE 19 — 2 HR FIRE RATED SHAFTWALL. — STC 51 (NGC 2019012) UL DES U438/U415

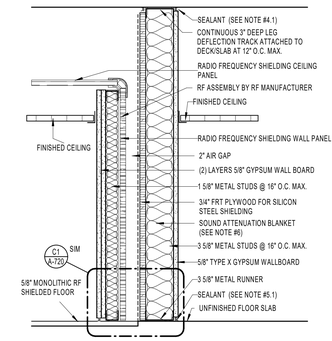


TYPE 80 — RF SHIELDING ASSEMBLY — STC 50

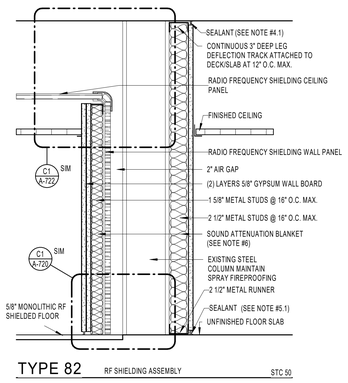
TYPE 80A — RF SHIELDING ASSEMBLY WITH SMOKE PARTITION — STC 50



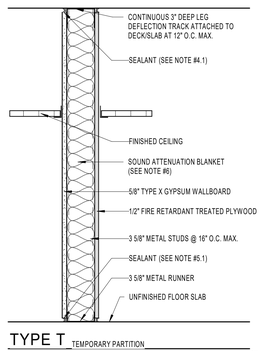
TYPE 80B — STC 60



TYPE 81 — RF SHIELDING ASSEMBLY WITH MAGNETIC SHIELDING — STC 50

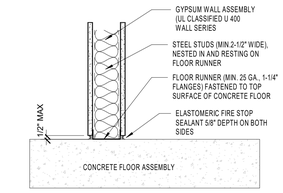


TYPE 82 — RF SHIELDING ASSEMBLY — STC 50



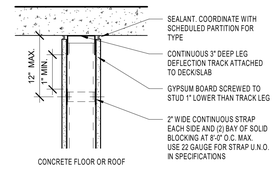
TYPE T — TEMPORARY PARTITION

CONSTRUCT PARTITION TO BE SOLID AND SEALED AT ENTIRE PERIMETER TO PREVENT THE TRANSMISSION OF DUST



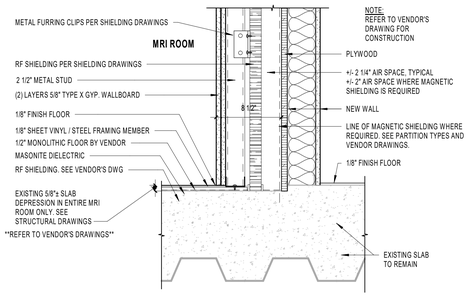
ONE HOUR FIRE RATED AND ONE HOUR FIRE RATED SMOKE BARRIER UL NO.BW-S-0001

C5 BOTTOM OF WALL 1 HOUR RATED — 1 1/2" = 1'-0"

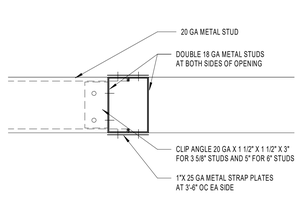


NON-RATED OR SMOKE RESISTANT

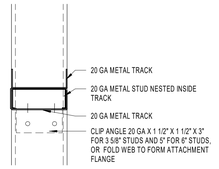
C6 PARTITION HEAD DETAILS — 1 1/2" = 1'-0"



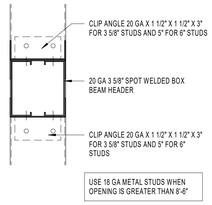
C1 MRI TYPICAL SLAB DETAIL — 1 1/2" = 1'-0"



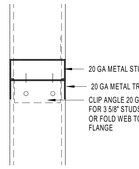
3 JAMB DETAIL FOR OPENING EQUAL OR GREATER THAN 4'-0"



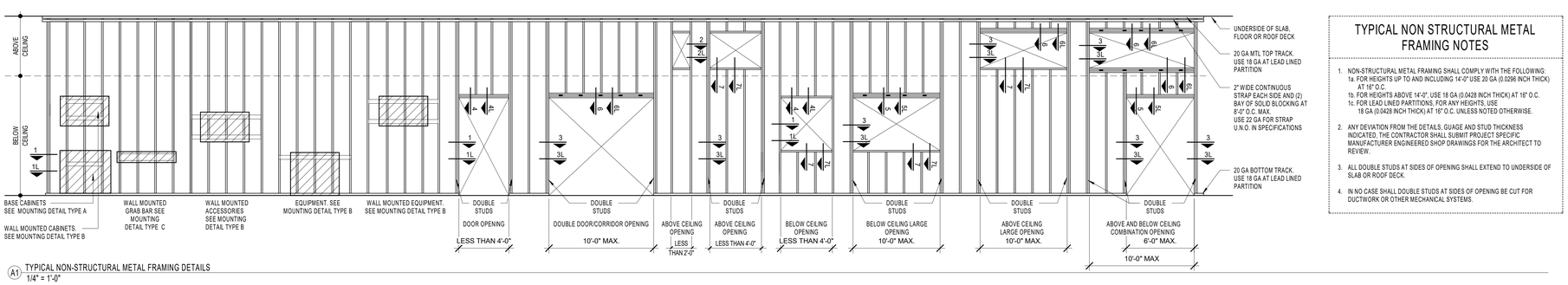
5 STACKED OPENING HEAD DETAIL



6 HEAD DETAIL FOR OPENING EQUAL OR GREATER THAN 4'-0"



7 OPENING SILL DETAIL



A1 TYPICAL NON-STRUCTURAL METAL FRAMING DETAILS — 1/4" = 1'-0"

B3 TYPICAL NON-STRUCTURAL METAL FRAMING DETAILS — 3" = 1'-0"

TYPICAL NON STRUCTURAL METAL FRAMING NOTES

1. NON-STRUCTURAL METAL FRAMING SHALL COMPLY WITH THE FOLLOWING:
   1a. FOR HEIGHTS UP TO AND INCLUDING 14'-0" USE 20 GA (0.0296 INCH THICK) AT 16" O.C.
   1b. FOR HEIGHTS ABOVE 14'-0", USE 18 GA (0.0428 INCH THICK) AT 16" O.C.
   1c. FOR LEAD LINED PARTITIONS, FOR ANY HEIGHTS, USE 18 GA (0.0428 INCH THICK) AT 16" O.C. UNLESS NOTED OTHERWISE.
2. ANY DEVIATION FROM THE DETAILS, GUAGE AND STUD THICKNESS INDICATED, THE CONTRACTOR SHALL SUBMIT PROJECT SPECIFIC MANUFACTURER ENGINEERED SHOP DRAWINGS FOR THE ARCHITECT TO REVIEW.
3. ALL DOUBLE STUDS AT SIDES OF OPENING SHALL EXTEND TO UNDERSIDE OF SLAB OR ROOF DECK.
4. IN NO CASE SHALL DOUBLE STUDS AT SIDES OF OPENING BE CUT FOR DUCTWORK OR OTHER MECHANICAL SYSTEMS.

PARTITION PRIORITY LEGEND

TWO HOUR FIRE RATED PARTITION TWO HOUR FIRE SHAFT WALL	PRIORITY 1 (HIGHEST PRIORITY)
ONE HOUR FIRE RATED PARTITION ONE HOUR FIRE SHAFT WALL	PRIORITY 2
NON-RATED SMOKE PARTITION	PRIORITY 3
NON-RATED PARTITION	PRIORITY 4 (LOWEST PRIORITY)

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI ZONE SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.

PARTITION TYPES GENERAL NOTES

1. INSTALLATION OF METAL STUD PARTITIONS SHALL COMPLY WITH ASTM C754.
2. FOR STUD GAUGE AND THICKNESS REFER TO NON-STRUCTURAL METAL FRAMING DETAILS SHEET.
3. EXTEND ALL STUDS TO UNDERSIDE OF STRUCTURE ABOVE. PROVIDE DEFLECTION TRACK AT TOP OR ANOTHER APPROVED METHOD TO ALLOW FOR A 1" DEFLECTION OF THE STRUCTURE.
4. GYPSUM BOARD INSTALLATION SHALL COMPLY ASTM C840.
5. ALL GYPSUM BOARD TO BE TYPE X.
6. FOR ROOMS REQUIRING SOUND ATTENUATION BLANKET SEE "SOUND ATTENUATION SCHEDULE'. SOUND ATTENUATION BLANKET SHALL BE MINERAL WOOL TYPE. ANY CUT OR OPENINGS THROUGH THE PARTITION AND ITS ENTIRE PERIMETER SHALL BE SEALED AIRTIGHT, USE ACOUSTICAL SEALANT ON NON-RATED PARTITIONS. PROVIDE ACOUSTICAL PUTTY PAD SOUND ATTENUATION AND SEAL ALL SIDES OF ELECTRICAL BOXES, DATA BOXES, MEDICAL GAS BOXES, ETC.
7. NOTIFY ARCHITECT OF WORK TO BE PERFORMED ON EXISTING PARTITIONS AND PROVIDE PRICING ACCORDING TO UNIT PRICES OUTLINED IN SPECIFICATION SECTION 012200 "UNIT PRICES".
8. WHEN INFILLING OR ABUTTING EXISTING PARTITIONS CONTRACTOR TO ADD AN ADDITIONAL LAYER OF GYPSUM WALLBOARD TO PARTITION TYPE AND/OR SKIM COAT WALL AS REQUIRED TO PROVIDE A FLUSH SURFACE. THICKNESS OF GYPSUM WALLBOARD AND/OR STUD SIZE TO BE DETERMINED IN FIELD TO PROVIDE FLUSH SURFACE.
9. THE SOUND TRANSMISSION CLASS (STC) VALUES NOTED ON THE DRAWINGS ARE LABORATORY MEDIAN RATINGS THAT ARE INTENDED TO DEFINE MATERIALS AND METHODS OF CONSTRUCTION. ALL INSTALLATION DETAILS AND MATERIALS ARE TO COMPLY WITH THE UNITED STATES GYPSUM (USG) APPLICATION REQUIREMENTS TO MAXIMIZE INSTALLED ACOUSTICAL PERFORMANCE.

FIRE/SMOKE PARTITION GENERAL NOTES

1.1 ALL FIRE RATED PARTITIONS AND SMOKE BARRIERS MUST BE INSTALLED PER THEIR UL DESIGN NUMBERS AND THE FOLLOWING NOTES.

2.1 SMOKE PARTITION:
- A. SHALL BE CONSTRUCTED TO LIMIT THE TRANSFER OF SMOKE FROM ONE SIDE BY EXTENDING THE GYPSUM WALLBOARD FROM FLOOR TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE
- B. SMOKE PARTITION SHALL BE SEALED TIGHT TO FLOOR SLAB AND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE. METAL DECK FLUTES SHALL BE FILLED WITH AN APPROVED MATERIAL TO LIMIT THE PASSAGE OF SMOKE AND ANY PENETRATIONS TO ACCOMMODATE ELECTRICAL, MECHANICAL, PLUMBING, AND COMMUNICATIONS SYSTEMS THAT PASS THROUGH SHALL BE PROTECTED AND/OR SEALED BY A SYSTEM OR MATERIAL THAT IS DESIGNED TO LIMIT THE TRANSFER OF SMOKE.

3.1 SMOKE BARRIER:
- A. SHALL HAVE A MINIMUM 1 HOUR FIRE-RESISTANCE RATING.
- B. SHALL BE CONSTRUCTED TO LIMIT THE TRANSFER OF SMOKE ON BOTH SIDES AND SHALL EXTEND FROM FLOOR TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE
- C. SHALL BE SEALED TIGHT TO FLOOR SLAB AND TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE, METAL DECK FLUTES SHALL BE FILLED WITH AN APPROVED MATERIAL TO LIMIT THE PASSAGE OF SMOKE AND ANY PENETRATIONS TO ACCOMMODATE ELECTRICAL, MECHANICAL, PLUMBING, AND COMMUNICATIONS SYSTEMS THAT PASS THROUGH SHALL BE PROTECTED AND/OR SEALED BY A SYSTEM OR MATERIAL THAT IS DESIGNED TO LIMIT THE TRANSFER OF SMOKE.

4.1 TOPS OF GYPSUM PARTITIONS ASSEMBLIES:
- A. FIRE-RESISTANT RATED ASSEMBLIES CUT GYPSUM BOARD TO FOLLOW PROFILE OF STRUCTURAL DECK WITHIN 1" AND APPLY 'FIRE-RESISTIVE JOINT SYSTEM PER SPECIFICATION SECTION 078443 "JOINT FIRESTOPPING" AT ALL RATED WALLS/BARRIERS, PROVIDE AN APPROVED UL TESTED "FIRE-RESISTIVE JOINT SYSTEM" TO COMPLY WITH NOTE #6.1 BELOW.
- B. SMOKE PARTITIONS: PROVIDE SMOKE SEALANT AT ALL INSTALLED GYPSUM BOARDS.
- C. ACOUSTICALLY-RATED ASSEMBLIES: PROVIDE ACOUSTICAL SEALANT AT ALL INSTALLED GYPSUM BOARDS PER SPECIFICATION SECTION 092900.
- D. TEMPORARY PARTITIONS: PROVIDE SMOKE SEALANT AT ALL INSTALLED GYPSUM BOARDS AND PLYWOOD.

5.1 BOTTOMS OF ASSEMBLIES:
- A. MINIMUM 1/4" GAP TO MAXIMUM 1/2" GAP AT FLOOR SLAB.
- B. FIRE-RESISTANT RATED ASSEMBLIES: COMPLY WITH INDICATED UL DESIGN. WHERE GAP EXCEEDS 1/2", PROVIDE FIRE-RESISTIVE JOINT SYSTEM PER SPECIFICATION SECTION 078443 "JOINT FIRESTOPPING".
- C. SMOKE PARTITIONS: PROVIDE SMOKE SEALANT AT ALL INSTALLED GYPSUM BOARDS.
- D. ACOUSTICALLY-RATED ASSEMBLIES: PROVIDE ACOUSTICAL SEALANT AT ALL INSTALLED GYPSUM BOARDS PER SPECIFICATION SECTION 092900.

6.1 FOR ALL FIRE RATED WALLS/BARRIERS: PROVIDE APPROVED UL TESTED "FIRE-RESISTIVE JOINT SYSTEM" OR "THROUGH-PENETRATION FIRESTOP SYSTEM" TO COMPLY WITH ALL REQUIREMENTS OF EACH SPECIFIC CONDITION AS APPROPRIATE FOR ALL ADJACENT COMPONENTS PER THE REQUIREMENTS OF THE MOST CURRENT EDITION "UL FIRE RESISTANCE DIRECTORY - VOLUME 2A" AND COMPLY WITH SPECIFICATION SECTION 078413 "PENETRATION FIRESTOPPING" AND SPECIFICATION SECTION 078443 "JOINT FIRESTOPPING".

7.1. THE CONTRACTOR SHALL STENCIL PAINTED SIGNS IN RED LETTERS ON BOTH SIDES OF ALL FIRE WALLS, ALL RATED FIRE BARRIERS, ALL RATED SMOKE BARRIERS, AND ALL FIRE RATED PARTITIONS. LOCATE BOTTOM OF SIGNS NO MORE THAN 12 INCHES ABOVE REMOVABLE CEILINGS, PER THE REQUIREMENTS OF SPECIFICATION SECTION 099123 - INTERIOR PAINTING".

EXISTING PARTITION TYPE LEGEND

EXISTING SMOKE PARTITION TO REMAIN. CONTRACTOR TO INSPECT AND SURVEY EXISTING CONDITION OF PARTITION AND PERFORM ALL NECESSARY WORK REQUIRED TO CONFORM WITH PARTITION TYPE ". CONTRACTOR TO USE MATERIALS IDENTICAL TO EXISTING MATERIALS OR MATERIALS WHOSE INSTALLED PERFORMANCE WILL EQUAL OR SURPASS THAT OF PARTITION TYPE " MATERIALS.

TYPE A

EXIST. SMOKE PARTITION

EXISTING PARTITION TO REMAIN WITH LEAD LINING ON SIDE OF PARTITION WHERE RADIATION EMITTING EQUIPMENT IS LOCATED. CONTRACTOR TO INSPECT AND SURVEY EXISTING CONDITION OF PARTITION AND PERFORM ALL NECESSARY WORK TO ACHIEVE THE REQUIREMENTS SET FORTH IN THE PHYSICIST REPORT. RADIATION TEST OF EXISTING ROOM IS REQUIRED TO DETERMINE ITS COMPLIANCE. IF REQUIREMENTS ARE NOT MET, CONTRACTOR TO MODIFY PARTITION FROM CEILING TO DECK TO CONFORM WITH PARTITION TYPE " CONTRACTOR TO USE MATERIALS IDENTICAL TO EXISTING MATERIALS OR MATERIALS WHOSE INSTALLED PERFORMANCE WILL EQUAL OR SURPASS THAT OF PARTITION TYPE " MATERIALS.

TYPE B

EXIST. LEAD LINED PARTITION

CONTRACTOR TO MODIFY EXISTING PARTITION FROM CEILING TO DECK TO CONFORM WITH PARTITION TYPE "(UL #465. CONTRACTOR, ALSO, TO INSPECT AND SURVEY EXISTING CONDITION OF PARTITION AND PERFORM ALL WORK TO MAINTAIN REQUIRED FIRE RATING FROM FLOOR TO STRUCTURE ABOVE. CONTRACTOR TO USE MATERIALS IDENTICAL TO EXISTING MATERIALS OR MATERIALS WHOSE INSTALLED PERFORMANCE WILL EQUAL OR SURPASS THAT OF PARTITION TYPE "(UL #465 MATERIALS.

TYPE E

EXIST. PARTITION MODIFIED TO A 2 HOUR PARTITION

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COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

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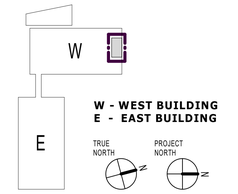
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
PARTITION TYPES & RATED ASSEMBLY

SEAL:

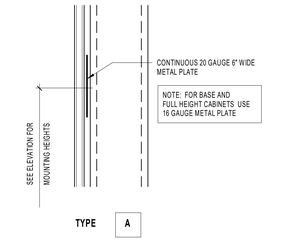
DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
A-720.00

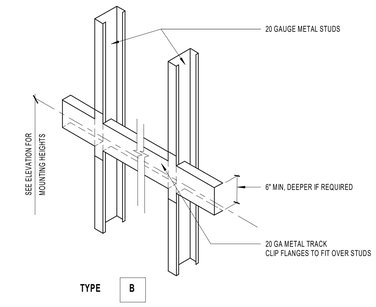
DWG OF 47

CD Submission 06/18/2021

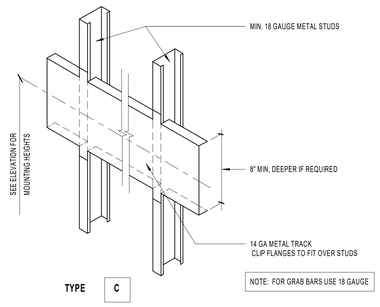
KU 6/22/2021 2:31:12 PM As indicated C:\Project Path\Revit-2020\6109.02 - MRI_Columbia_Doctors_Tarrytown_2020_KURD.rvt



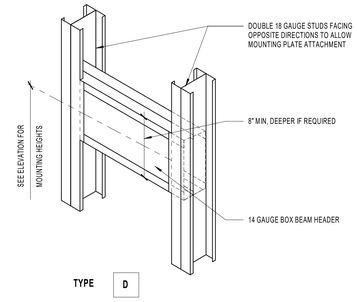
D3 MOUNTING DETAIL TYPE A
3/8" = 1'-0"



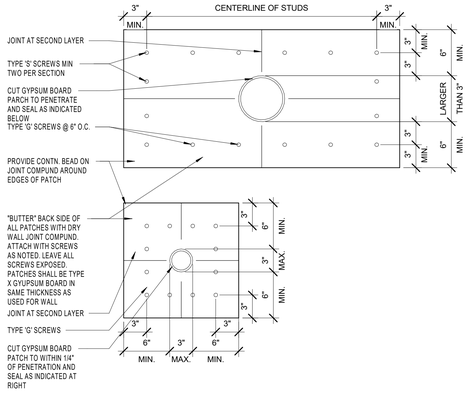
D4 MOUNTING DETAIL TYPE B
3/8" = 1'-0"



D6 MOUNTING DETAIL TYPE C
3/8" = 1'-0"



D7 MOUNTING DETAIL TYPE D
3/8" = 1'-0"



C5 PATCHING & SEALING PENETRATIONS IN RATED AND/OR RATED SMOKE WALLS
1 1/2" = 1'-0"

GENERAL NOTES

THIS DETAIL IS NOT INTENDED FOR USE IN LIEU OF THE REQUIREMENTS IN THE BUILDING CODE, BUT RATHER FOR SITUATIONS IN WHICH PATCHING IS REQUIRED AFTER INSTALLATION OF A PENETRATION.

IF GAP AROUND PENETRATION IS 1/4 OR LESS, PACK WITH U.L. APPROVED FIRESTOP SEALANT

IF GAP AROUND PENETRATION IS GREATER THAN 1/4", PACK TIGHTLY WITH THE SAFING INSULATION OR APPROVED FIREPROOFING MATL, AND APPLY PATCH AS SHOWN. THEN SEAL 1/4" MAXIMUM GAP WITH APPROVED FIRESTOP SEALANT

IF PIPE IS TO BE INSULATED, DO NOT RUN PIPE INSULATION THROUGH THE WALL. AFTER PACKING GAP THROUGH WALL WITH SAFING INSULATION AND U.L. APPROVED FIRESTOP SEALANT AS INDICATED BELOW, FLARE PIPE INSULATION ONTO FACE OF WALL AROUND PIPE ON BOTH SIDES OF WALL AND SEAL TO FACE OF WALL WITH INSULATION MASTIC.

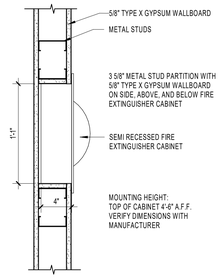
FIRE RESISTANCE RATING DESIGNS

INTERIOR NON-BEARING WALLS:

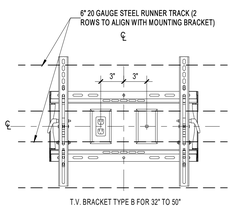
U906	2-HOUR FIRE BARRIER, 2-HOUR SMOKE FIRE BARRIER, 1-HOUR FIRE BARRIER
U465	1-HOUR FIRE BARRIER, 2-HOUR SMOKE FIRE BARRIER
U438	2-HOUR SHAFTWALL

THROUGH PENETRATION FIRESTOP SYSTEMS:

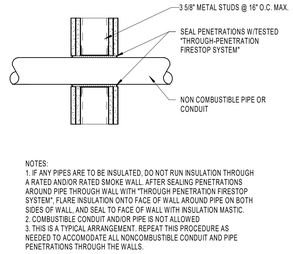
W-L-3030	C-A3-2121
W-L-3028	C-A3-5036
W-L-1069	C-A3-3040
W-L-2036	



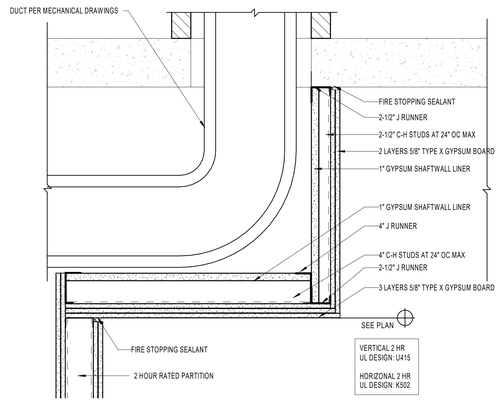
C8 FIRE EXTINGUISHER CABINET
1 1/2" = 1'-0"



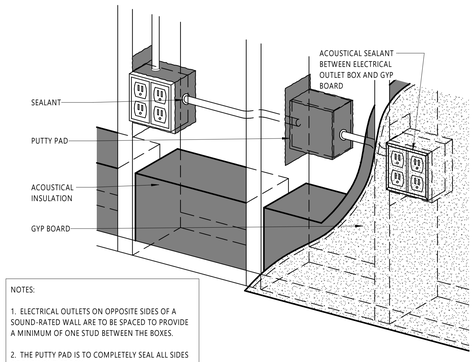
A3 TV MOUNTING INFORMATION
1 1/2" = 1'-0"



A4 SECTION AT COINDUIT OR PIPE
1 1/2" = 1'-0"



A5 DETAIL AT 2 HOUR RATED PARTITION OFFSET
1 1/2" = 1'-0"



A7 ACOUSTICAL PUTTY PAD SOUND ATTENUATION AT INTERIOR PARTITION
1 1/2" = 1'-0"

CD Submission 06/18/2021

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COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
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NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
FRAMING DETAILS

SEAL:

DATE: 06/18/21
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: Checker
DRAWN: Author

SHEET NO.
A-721.00

DWG OF 47

IDENTIFICATION OF PARTS NOTES

A. EXPOSED PARTS - SURFACES VISIBLE WHEN:

1. FRONT OF DRAWERS AND DOORS ARE IN CLOSED POSITION.
2. SHELVES ARE IN OPEN TYPE CABINETS AND OR SHELVES ARE BEHIND CLEAR GLASS DOORS.
3. BOTTOMS OF CABINETS AREA LOCATED 42" OR MORE ABOVE FINISHED FLOOR.
4. TOP OF CABINETS IS VISIBLE OR CAN BE SEEN FROM UPPER FLOOR OR STAIRCASE.
5. PORTION OF CABINETS ARE VISIBLE AFTER FIXED APPLIANCES ARE INSTALLED.
6. FRONT EDGES OF CABINET PARTS ARE VISIBLE OR CAN BE SEEN THROUGH A GAP GREATER THAN 1/8" WITH CABINET DOORS AND DRAWERS ARE IN CLOSED POSITION.

B. SEMI-EXPOSED PARTS - SURFACES VISIBLE WHEN:

1. DRAWER AND DOORS ARE IN OPEN POSITION.
2. BOTTOMS OF CABINETS ARE LOCATED AT 30" AND UP TO 42" ABOVE FINISHED FLOOR.
3. ALL FRONT EDGES OF SHELVING ARE BEHIND DOORS.

C. CONCEALED SURFACES - SURFACES ARE CONCEALED WHEN:

1. SURFACES ARE NOT VISIBLE AFTER INSTALLATION.
2. BOTTOMS OF CABINETS ARE LOCATED AT OR LESS THAN 30" ABOVE FINISHED FLOOR.
3. TOPS OF CABINETS ARE LOCATED AT OR OVER 78" ABOVE FINISHED FLOOR AND ARE NOT VISIBLE FROM AN UPPER FLOOR OR STAIRCASE.
4. STRETCHERS, BLOCKING AND/OR COMPONENTS ARE CONCEALED BY DRAWERS

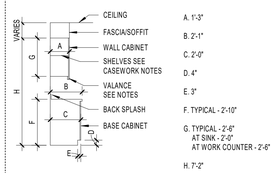
CASEWORK NOTES

1. THESE NOTES ARE TYPICAL UNLESS OTHERWISE NOTED.
2. ALL CASEWORK TO BE BALANCED CONSTRUCTION.
3. ALL COUNTERTOPS WITH SINKS TO HAVE MOISTURE RESISTANT MDF SUBSTRATE.
4. ALL EXPOSED AND SEMI EXPOSED PARTS, AS DETERMINED IN THE "IDENTIFICATION OF PART NOTES" TO HAVE PLASTIC LAMINATE FINISH.
5. ALL SIX FACES OF ADJUSTABLE SHELVING TO HAVE PLASTIC LAMINATE FINISH.
6. ALL ADJUSTABLE SHELVING TO BE 12" DEEP UNLESS OTHERWISE NOTED.
7. ALL SHELVES TO BE 3/4" THICK MDF FOR SPANS UP TO 3'-0". ADD 3/4" X 1-1/2" SOLID LUMBER DROPPED EDGE FOR SPANS OVER 3'-0".
8. ALL OPEN SPACE SIZES AND KNEE BRACES LOCATIONS TO BE VERIFIED WITH EQUIPMENT TO BE INSTALLED AND WITH ACTUAL ROOM DIMENSIONS.
9. CONTERTOPS TO RECEIVE A 2" X 2" CONTINUOUS METAL ANGLE AT ALL WALL LOCATIONS.
10. PROVIDE RECESSED WALL BRACKET FOR COUNTERS WITH SPANS GREATER THAN 2'-8" UNLESS NOTED OTHERWISE.
11. ALL PLASTIC LAMINATE JOINTS TO BE NOTED ON SHOP DRAWINGS.
12. 4" BACKSPLASH AND ENDSPLASH TYPICAL UNLESS OTHERWISE NOTED.
13. ALL FINISHED END PANELS AT WALL CABINETS TO BE ONE CONTINUOUS PANEL INCLUDING VALANCE.
14. ALL FINISHED END PANELS AT BASE CABINETS TO BE ONE CONTINUOUS PANEL INCLUDING BASE.
15. ALL FILE CABINETS TO HAVE MINIMUM CLEAR DIMENSIONS TO ACCEPT STANDARDS PENDAFLEX FILE FRAME.
16. ALL EXPOSED CORNERS OF COUNTERTOPS TO HAVE 1" RADIUS.
17. AT CUTOUTS AND "L" SHAPED COUNTERTOPS, ALL INSIDE CORNERS TO BE SMOOTHLY ROUNDED WITH A MINIMUM CORNER RADIUS OF 1/2".
18. INSTALL GROMMETS IN COUNTER TOPS @ 3'-0" ON CENTER.
19. ALL WALL CABINETS TO HAVE VALANCE UNLESS NOTED OTHERWISE.
20. IN EXISTING PARTITION WHERE METAL PLATE IS REQUIRED TO SUPPORT CABINETS, REMOVE SECTION OF EXISTING GYPSUM WALL BOARD TO INSTALL METAL PLATE. PATCH WALL WITH GYPSUM WALLBOARD TO AN EVEN SURFACE TO MATCH EXISTING.
21. PROVIDE A MINIMUM 1-1/2" FILLER / SCRIBE STRIPS @ JUNCTION BETWEEN ALL BASE AND WALL CABINETS AND ADJACENT WALLS TO ALLOW DOORS TO SWING OPEN AT LEAST 90 DEGREES.
22. AT EXISTING PARTITION PROVIDE 1/2" SCRIBE AT TOP AND SIDE OF SIDESPLASH AND AT TOP OF BACKSPLASH FOR WALL TOLERANCE.
23. GRAIN OF WOOD-LOOK PLASTIC LAMINATE TO ALWAYS RUN VERTICALLY.

CABINET DIMENSIONS LEGEND

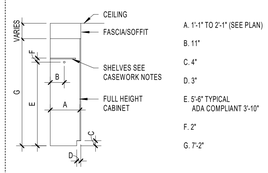
1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION.
2. DIMENSIONS IDENTIFIED IN THE THIS LEGEND ARE TYPICAL UNLESS OTHERWISE NOTED IN ELEVATIONS AND OR SECTIONS.

STANDARD CABINETS



A. 1'-3"
B. 2'-1"
C. 2'-0"
D. 4"
E. 3"
F. TYPICAL - 2'-10"
G. TYPICAL - 2'-6" AT SINK - 2'-0" AT WORK COUNTER - 2'-6"
H. 7'-2"

FULL HEIGHT CABINETS



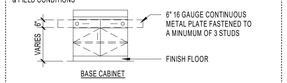
A. 1'-1" TO 2'-1" (SEE PLAN)
B. 11"
C. 4"
D. 3"
E. 5'-6" TYPICAL ADA COMPLIANT 3'-10"
F. 2"
G. 7'-2"

WORK COUNTER

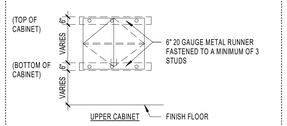
A. 2'-6" TYPICAL 2'-1" WHEN ADJACENT TO BASE CABINETS
B. 2'-6"

TYPICAL BLOCKING/ANCHORING LOCATION

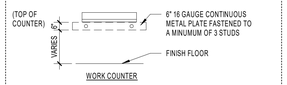
* VERIFY ALL DIMENSIONS WITH CASEWORK CONTRACTOR. BLOCKING HEIGHT MAY VARY DEPENDING ON CABINET HEIGHT, COUNTER TOP HEIGHT & FIELD CONDITIONS



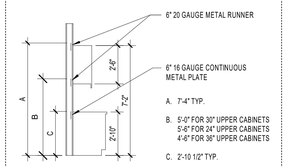
BASE CABINET



NOTE: FOR CABINETS 36" WIDE OR WIDER, PROVIDE 3 FASTENERS PER PLATE PER CABINET. FOR CABINETS LESS THAN 36" WIDE PROVIDE 2 FASTENERS PER PLATE PER CABINET.



WORK COUNTER



A. 7'-4" TYP.
B. 5'-0" FOR 30" UPPER CABINETS 5'-6" FOR 24" UPPER CABINETS 4'-6" FOR 36" UPPER CABINETS
C. 2'-10 1/2" TYP.

GENERAL CONSTRUCTION NOTES

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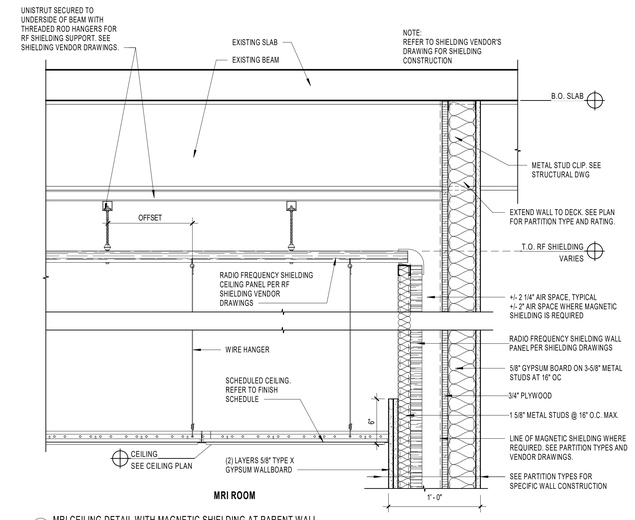
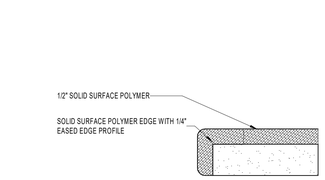
GENERAL NOTES

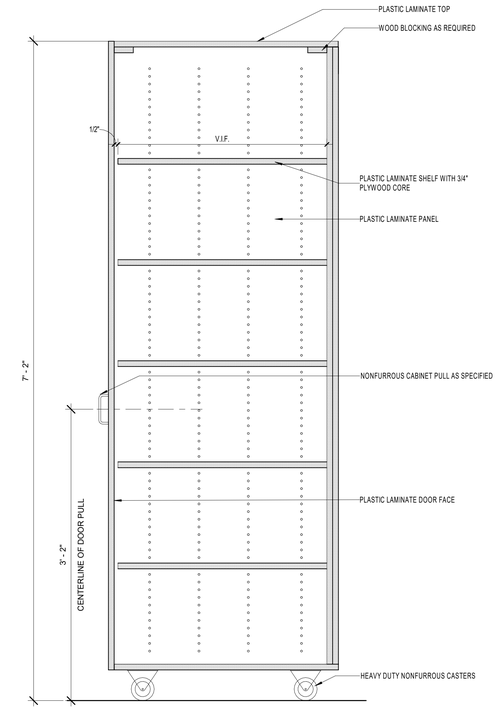
1. SEE SHEET T-000 FOR COVER SHEET & DRAWING LIST.
2. SEE SHEET G-001 FOR CODE REQUIREMENTS, SYMBOLS LEGEND, FLOOD MAP DATA AND GENERAL NOTES.
3. SEE SHEET LSC-101 FOR LIFE SAFETY & NOTES.
4. SEE SHEET DM-100 FOR DEMOLITION PLAN.
5. SEE SHEET A-010 FOR ICRA PLAN AND NOTES.
6. SEE SHEET A-011 FOR MRI RIGGING PATH AND SAFETY ZONE PLAN.
7. SEE SHEET A-100 FOR ARCHITECTURAL PLANS.
8. SEE SHEET A-300 FOR ROOF PLAN.
9. SEE SHEET A-400 FOR EQUIPMENT PLAN.
10. SEE SHEET A-500 FOR REFLECTED CEILING PLAN & CEILING DETAILS.
11. SEE SHEET A-721 FOR PARTITION TYPES & RATED ASSEMBLY.
12. SEE SHEET A-722 FOR INTERIOR DETAILS.
13. SEE SHEET A-800 FOR FINISH PLAN AND SCHEDULE.
14. SEE SHEET A-900 FOR DOOR TYPES, FRAME DETALS, SCHEDULE & BORROWED LIGHT DETALS, SCHEDULE.



C1 MRI CEILING DETAIL WITH MAGNETIC SHIELDING AT PARENT WALL
1 1/2" = 1'-0"

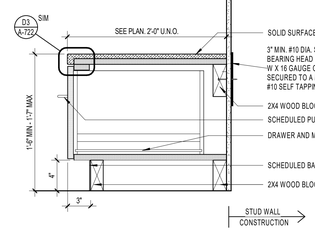


D3 SECTION @ SSP COUNTERTOP EDGE
6" = 1'-0"

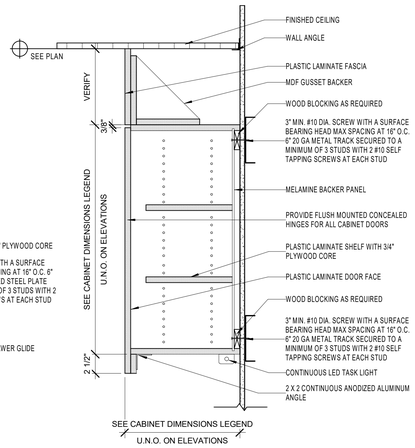


A3 SECTION @ FULL HEIGHT CABINET ON CASTERS
1 1/2" = 1'-0"

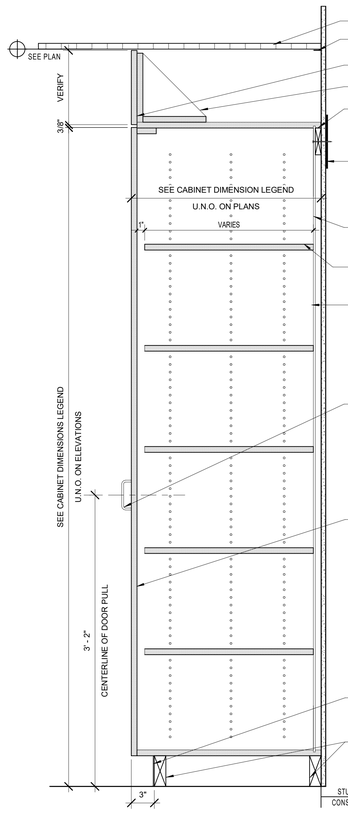
GENERAL NOTE: CHANGING ROOM BENCHES TO BE PRICED AS ADD ALTERNATES. EACH BENCH TO BE INCLUDED AS A SEPRATE LINE ITEM IN BUDGET.



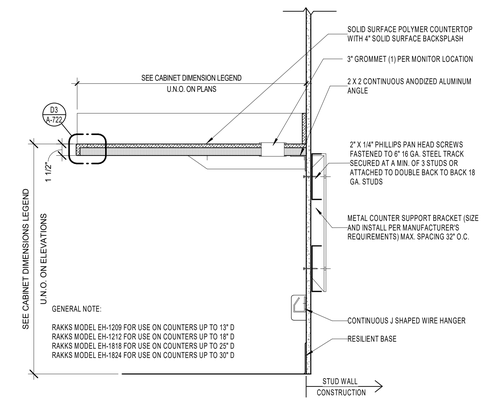
D5 SECTION @ CHANGING BENCH
1 1/2" = 1'-0"



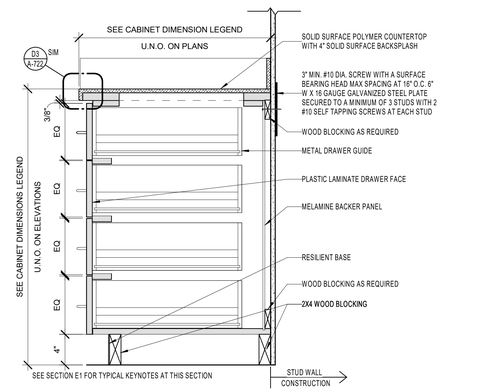
F7 SECTION @ UPPER CABINET
1 1/2" = 1'-0"



A5 SECTION @ FULL HEIGHT CABINET
1 1/2" = 1'-0"



D7 SECTION @ WORK COUNTER
1 1/2" = 1'-0"



A7 SECTION @ BASE CABINET
1 1/2" = 1'-0"

CD Submission 06/18/2021

Architect of Record:
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CONSULTANTS:

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360 WEST 31ST STREET
NEW YORK, NY 10001
PHONE: 646.674.6100

OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
INTERIOR DETAILS

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

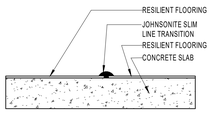
SHEET NO.
A-722.00

DWG OF 47

KU 6/22/2021 2:31:24 PM As indicated C:\Project Path\Revit-2020\6109.02 - MRI_Columbia_Doctors_Tarrytown_2020_KURD.rvt

FINISH SCHEDULE - SHEET

SPEC SECTION	TAG	MANUFACTURER	STYLE	COLOR	DIMENSIONS	FINISH NOTES	LOCATION	MANUFACTURER'S REP
CEILINGS								
CEILING								
CEILING	C-1	ARMSTRONG	GYPSUM WALL BOARD	P-1 U.N.O.				
095113	C-2	ARMSTRONG	#1935 ULTIMA HEALTHZONE SQUARE LAYIN	WHITE	24"x24"	GRID: PRELUDE XL ALUMINUM 15/16" EXPOSED TEE SYSTEM. ARMSTRONG SHALL PROVIDE AXTBC ALUMINUM CLIPS.	MRI ROOM	
095113	C-3	ARMSTRONG	#1772 DUNE SQUARE LAY-IN	WHITE	24"x24"	GRID: PRELUDE 15/16", WHITE		
WALLS								
DECORATIVE RESIN								
062210 & 066500	DR-1	3FORM	VARIA ECORESIN	VAPOR	REFER TO ELEVATIONS, 3/8" THICKNESS	3FORM READY-TO-GO PARTITION SYSTEM, REFER TO ARCHITECTURAL.	SUBWAIT	
PAINT								
099123	P-1	SHERWIN WILLIAMS	EGGSHELL FINISH	PURE WHITE SW7005			GENERAL PAINT	
099123	P-2	SERWIN WILLIAMS	SEMI-GLOSS FINISH	DORIAN GRAY SW7017			TRIM AND HOLLOW METAL DOOR PAINT	
099123	P-3	SHERWIN WILLIAMS	EGGSHELL FINISH	SLEEPY BLUE SW 6225			ACCENT PAINT	
099123	P-4	SHERWIN WILLIAMS	EGGSHELL FINISH	REFUGE SW6228			ACCENT PAINT	
FLOORS								
RUBBER TILE								
096519	RT-1	NORA	NORAMENT SATURA	5110 ARA	39.53" x 39.53", 3.5MM			
096519	RT-2	NORA	NORAMENT SATURA	5109 ORION	39.53" x 39.53", 3.5MM			
VINYL COMPOSITION TILE								
096519	VCT-1	ARMSTRONG FLOORS	IMPERIAL TEXTURE - STANDARD EXCELON	51810 WASHED LINEN	12" X 12"	INSTALLATION: MONOLITHIC		
FLOOR TRANSITION & BASE								
RUBBER BASE								
096513	RB-1	JOHNSONITE	BASEWORKS	32 PEBBLE	4" HIGH			
MILLWORK								
PLASTIC LAMINATE								
062210, 061446 & 123623.13	PL-1	WILSONART	MATTE	HARVEST MAPLE 7953-38		GRAIN TO RUN VERTICALLY	VERTICAL SURFACES	
SOLID SURFACE POLYMER								
066510, 102113.43 & 123661.16	SSP-1	DUPONT	CORIAN	WHITE JASMINE	1/2" THICKNESS		COUNTERTOPS	
WOOD VENEER								
081416	WV-1	BROOKSIDE VENEERS	QTR WALNUT	2-580/X		POLYURETHANE FINISH. MATCH EXISTING DOORS.	WOOD DOORS	
FURNISHINGS								
PRIVACY CURTAIN								
102123	PC-1	MOMENTUM	EDICT	MUSLIN	66" WIDE ROLLS	GC TO CONFIRM ATTIC STOCK OF EXISTING CURTAIN WITH OWNER. IF THERE IS ADEQUATE ATTIC STOCK, NO NEW CURTAIN TO BE SUPPLIED.		



D1 FLOOR TRANSITION - RESILIENT TO RESILIENT FLOOR
3" = 1'-0"

FINISH AND FLOOR PATTERN KEYNOTES

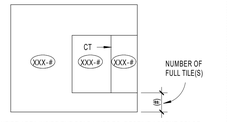
- F1 PROVIDE LEVEL TRANSITION BETWEEN NEW AND EXISTING FLOORING.
- F2 PROTECT EXISTING FINISHES TO REMAIN DURING CONSTRUCTION. PATCH AND REPAIR AS NECESSARY.
- F3 FLASH PATCH FEATHERED UP TO MEET EDGE OF RF SHIELDING.
- F4 PATCH AND REPAIR WALL AFTER INSTALLING NEW MILLWORK. PAINT TO MATCH EXISTING PAINT OR INDICATED PAINT ACCENT PAINT COLOR. COORDINATE WITH FACILITY AND EQUIPMENT TO PERFORM WORK. EXISTING MRI WILL HAVE OIT BE RAMPED DOWN TO INSTALL.
- F5 INSTALL SALVAGED CORNER GUARD.
- F6 PATCH AND MATCH EXISTING FLOORING WHERE REQUIRED.

FINISH & FLOOR PATTERN LEGEND

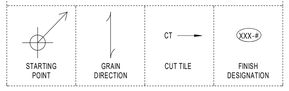
P-1 (A) — WALL
LVT-1 (A) — FLOOR
RB-1 — BASE
WP-1 — WALL PROTECTION

* (A) DENOTES ACCENT WHERE APPLICABLE

ACCENT FINISH DESIGNATION (A): P-#



NOTE: ENTIRE AREA INSIDE THE BOLD LINES TO RECEIVE ACCENT COLOR. UNTAGGED AREA TO RECEIVE BASE COLOR.



FINISH GENERAL NOTES

1. WHEN AN "(A)" IS IN THE FINISH TAG IT REFERS TO AN ACCENT FINISH. SEE THE FINISH / FLOOR PATTERN PLANS OR ELEVATIONS FOR TYPE AND LOCATION.
2. ALL GWB SOFFITS ARE TO BE PAINTED. FASCIA AND UNDERSIDE ARE TO MATCH UNLESS NOTED OTHERWISE, PROVIDE FRY REGLET REVEALS AS A MATERIAL OR COLOR TRANSITION.
3. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ITEMS REQUIRING FINISH SELECTIONS THAT ARE NOT CLARIFIED IN THE CONTRACT DOCUMENTS.
4. CEILING ACCESS PANELS, HVAC DIFFUSERS AND GRILLES IN GYPSUM WALLBOARD CEILING AND SOFFITS ARE TO BE PAINTED TO MATCH ADJACENT CEILING SURFACE UNLESS NOTED OTHERWISE.
5. ALL FLOORING TO CONTINUE UNDER ALL CASEWORK.
6. FLASH PATCH FLOORING AS REQUIRED TO PROVIDE FLUSH TRANSITION AT ALL DIFFERENT FLOORING MATERIALS.
7. ALL CUT TILES TO OCCUR AT THE PERIMETER OF THE ROOM, U.N.O. WITH A "CUT TILE" SYMBOL AS SHOWN BELOW.
8. CONTRACTOR IS RESPONSIBLE FOR PATCHING, REPAIRING, AND TOUCHING UP ALL FINISHES SCUFFED OR DAMAGED ALONG MRI RIGGING ROUTE.

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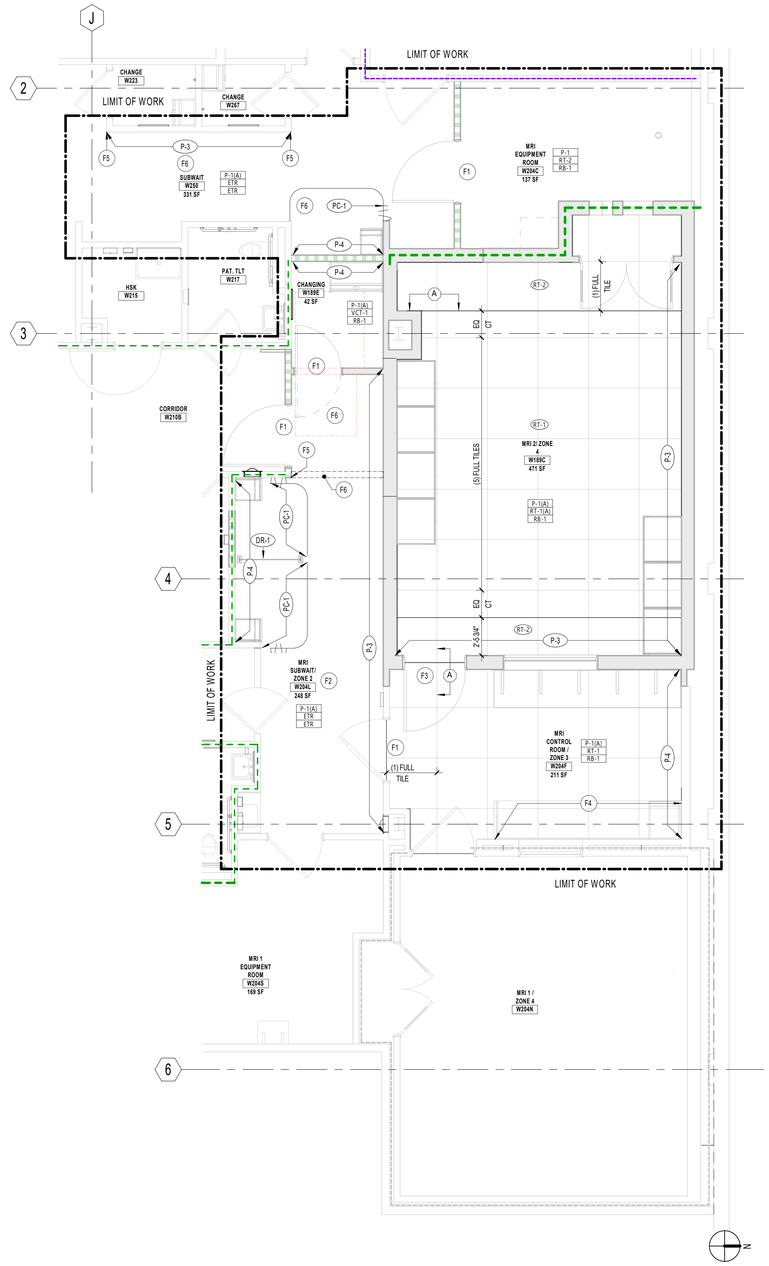

A6 FIRST FLOOR FINISH AND FLOOR PATTERN PLAN
1/4" = 1'-0"

CD Submission 06/18/2021

Architect of Record:
ARRAY architects P.C.
ARRAY-ARCHITECTS.COM
470 PARK AVE SOUTH, 11th FLOOR
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CONSULTANTS:

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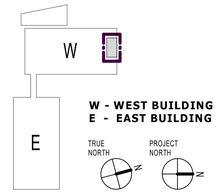


KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
FINISH PLAN AND SCHEDULE

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
A-800.00

DWG OF 47

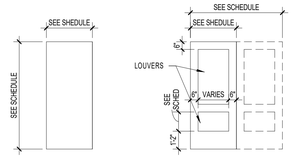
DOOR SCHEDULE

DOOR #	TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	Door Material	DOOR FINISH	DOOR GLAZING	FRAME TYPE	FRAME WIDTH	FRAME MATERIAL	FRAME FINISH	FRAME DETAILS	RATING	ACCESS CONTROLS: AUTOMATIC OPERATOR	CARD READER-PULL SIDE	CARD READER PUSH SIDE	CLASS ROOM LOCK	CLOSER	ENTRANCE LOCK	EMERGENCY RELEASE	HOLD OPEN	PRIVACY LOCK	STORE ROOM LOCK	KICK PLATE	REMARKS
W189C		4' - 0"	7' - 0"			-						-												MRI DOOR PROVIDED BY SHIELDING VENDOR
W189D	FF	6' - 0"	7' - 0"	SCV	TF	-	3	6' - 4"	AL	AL	A1/A3 SIM	-												HARDWARE TO BE MRI SAFE. PROVIDE FLUSHBOLTS FOR INACTIVE LEAF AND ROLLER LATCH. DUMMY LEVER
W189M	A	4' - 0"	7' - 0"	HM	MP	-	1	4' - 4"	HM	MP	A1/A3	-					◊					◊	◊	
W189N	A	4' - 0"	7' - 0"	HM	MP	-	1	4' - 4"	HM	MP	A1/A3	SMOKE					◊					◊	◊	
W189O	A	3' - 0"	7' - 0"	HM	MP	-	1	3' - 4"	HM	MP	A1/A2	-									◊			

DOOR LEGEND

1. NUMBER: SEE FLOOR PLAN FOR DOOR NUMBER

2. DOOR ELEVATION: SEE TYPES BELOW



3. DOOR SIZE:

SEE SCHEDULE FOR WIDTH, HEIGHT AND THICKNESS

4. DOOR MATERIAL:

HM = HOLLOW METAL

5. DOOR FINISH:

MP = METAL PAINTED

6. FRAME ELEVATION:

SEE HOLLOW METAL ELEVATION LEGEND

7. FRAME MATERIAL:

AL = ALUMINUM

8. FRAME FINISH:

AL = ANODIZED ALUMINUM

DOOR HARDWARE NOTES

1. ALL HARDWARE SHALL BE 626 SATIN CHROME FINISH UNLESS NOTED OTHERWISE.
2. ALL HARDWARE IN RATED DOORS SHALL MEET THE REQUIREMENTS OF NFPA 80.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL BUILDING SYSTEM KEYED LOCKS PER OWNER'S KEYING SYSTEM.
4. MOUNTING HEIGHT OF DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED AT 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISHED FLOOR IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN.
5. MOUNTING HEIGHT FOR DOOR THRESHOLD SHALL NOT EXCEED 1/2 INCH IN HEIGHT. RAISED THRESHOLD AND FLOOR LEVEL CHANGES GREATER THAN 1/4 INCH AT DOORWAYS SHALL BE BEVELED WITH A SLOPE NOT GREATER THAN ONE UNIT VERTICAL IN TWO UNITS HORIZONTAL (50-PERCENT SLOPE) IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN
6. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22.2 N) MAXIMUM.
7. DOORS SEPARATING CONDITIONED AND NON-CONDITIONED SPACES SHALL BE WEATHER STRIPPED OR GASKETS TO EFFECTIVELY AND RELIABLY LIMIT AIR INFILTRATION.
8. ALL PIN-TYPE HINGES ACCESSIBLE FROM THE EXTERIOR SHALL HAVE NON-REMOVABLE HINGE PINS. HINGES SHALL HAVE MIN. 1/4"Ø STEEL JAMB STUD WITH 1/4" MIN PROTECTION. STRIKE PLATE SHALL BE SECURED TO JAMBS WITH MIN 2.5" LENGTH SCREWS.
9. THE CONTRACTOR SHALL VERIFY THAT DOOR CLOSERS AND OTHER HARDWARE ON A DOOR WITH 180 CLEAR SWING HINGE WILL ALLOW DOOR TO SWING OPEN 180 DEGREES WHEN A "180 DEGREE SWING" IS EITHER SHOWN ON THE FLOOR PLAN AND, OR INDICATED IN THE DOOR SCHEDULE

GENERAL CONSTRUCTION NOTES

ALL CONSTRUCTION AND MATERIALS FOR MRI ROOM 2/ ZONE 4 - W189C AND MRI CONTROL ROOM / ZONE 3 - W204F ARE TO BE NON-FERROMAGNETIC. NON-FERROMAGNETIC MATERIALS INCLUDING BUT NOT LIMITED TO REMOVABLE COVERS, SWITCH BOX COVER PLATES, LIGHT FIXTURE COMPONENTS, MOUNTING SCREWS, ETC. TO MINIMIZE POTENTIAL HAZARD IN THE MAGNET ROOM.

MRI ZONE SAFETY NOTES

SUITES FOR MRI EQUIPMENT SHALL BE PLANNED TO CONFORM TO THE FOUR-ZONE SCREENING AND ACCESS CONTROL PROTOCOLS IDENTIFIED IN THE CURRENT EDITION OF THE AMERICAN COLLEGE OF RADIOLOGY'S "GUIDANCE DOCUMENT FOR SAFE MRI PRACTICES."

AMERICAN COLLEGE OF RADIOLOGY (ACR) ZONING DESCRIPTIONS:

ZONE 1: ALL AREAS FREELY ACCESSIBLE TO THE GENERAL PUBLIC WITHOUT SUPERVISION. MAGNETIC FRINGE FIELDS IN THIS AREA ARE LESS THAN 5 GAUSS (0.5mT)

ZONE 2: STILL A PUBLIC AREA, BUT THE INTERFACE BETWEEN UNREGULATED ZONE 1 AND THE STRICTLY CONTROLLED ZONES 3 AND 4. MR SAFETY SCREENING TYPICALLY OCCURS HERE UNDER TECHNOLOGIST SUPERVISION.

ZONE 3: AN AREA NEAR THE MAGNET ROOM WHERE THE FRINGE, GRADIENT, OR RF MAGNETIC FIELDS ARE SUFFICIENTLY STRONG TO PRESENT A PHYSICAL HAZARD TO UNSCREENED PATIENTS AND PERSONELL.

ZONE 4: SYNONYMOUS WITH THE MR MAGNET ROOM ITSELF. HAS THE HIGHEST FIELD (AND GREATEST RISK) AND FROM WHICH ALL FERROMAGNETIC OBJECTS MUST BE INCLUDED.

DOOR HARDWARE SCHEDULE

MANUFACTURER LIST:

CODE:	NAME:
BO	BY OTHERS
GLY	GLYNN JOHNSON
PE	PEMKO
RO	ROCKWOOD
RU	CORBIN RUSSWIN
LCN	ALLEGION
VON	VON DUPRIN
ZER	ZERO

FINISH LIST:

CODE:	NAME:
AL	ALUMINUM
626	SATIN CHROMIUM PLATED
628	SATIN ALUMINUM, CLEAR ANODIZED
630	SATIN STAINLESS STEEL
652	SATIN CHROMIUM PLATED
689	ALUMINUM
GRY	GREY

MATCH EXISTING TRIM DESIGN ON LOCKSETS

HARDWARE SET #1.0:

DOOR: W189D

DESCRIPTION: PEN CLOSET

QU.	DESCRIPTION	MODEL NUMBER	FINISH	MANUF.
2	CONTINUOUS HINGE	MCK-12HD X LAR X HT	652	MK
2	ROLLER LATCH	592	US26D	RO
1	MORTISE LOCK (HALF DUMMY)	ML2050 (HALF DUMMY)	626	RU
6	SILENCER	SR64	GRY	IVE
1	WALL STOP	403 (OR) 471CU (PER OPENING CONDITIONS)	US26D	RO

HARDWARE SET #2.0:

DOOR: W189M

DESCRIPTION: MECHANICAL

QU.	DESCRIPTION	MODEL NUMBER	FINISH	MANUF.
1	CONTINUOUS HINGE	MCK-12HD X LAR X HT	652	MK
1	MORTISE LOCK (STOREROOM)	ML2057	630	RU
1	SURFACE CLOSER	4011	689	LCN
2	KICK PLATE	10" 4BE CSK. 2" LESS DOOR WIDTH	630	RO
1	OVERHEAD STOP	100S	630	GLY
1	THRESHOLD	151A MSES25SS	AL	PE
1	GASKETING	ACP112BL/2	BL	PE
3	GASKETING	S773BL	BL	PE
1	DOOR BOTTOM	3692APK773BL 36" TKSP8	AL	PE
6	SILENCER	SR64	GRY	IVE

Notes: PEMKO STC SET 3A = -2 Disp... STC-53 IS OPERABLE STC-51 DOOR/ FRAME IS NOT STC RATED BUT SEAL PACKAGE PROVIDED IS.

HARDWARE SET #3.0:

DOOR: W189N

DESCRIPTION: CORRIDOR

QU.	DESCRIPTION	MODEL NUMBER	FINISH	MANUF.
3	HINGE	5K x4BB	US26D	MK
1	EXIT DEVICE (RIM, PASSAGE)	PASSAGE TRIM,ED5860	630	RU
1	SURFACE CLOSER	4011	689	LCN
2	KICK PLATE	10" 4BE CSK. 2" LESS DOOR WIDTH	630	RO
1	WALL STOP	406 OR 409	US26D	RO
1	GASKETING	ACP112BL/2	BL	PE
3	GASKETING	S773BL	BL	PE
1	DOOR BOTTOM	3692APK773BL 36" TKSP8	AL	PE
6	SILENCER	SR64	GRY	IVE

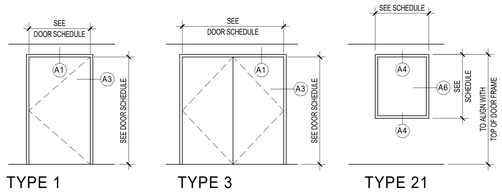
HARDWARE SET #4.0:

DOORS: W189O

DESCRIPTION: CHANGING ROOM

QU.	DESCRIPTION	MODEL NUMBER	FINISH	MANUF.
1	PIVOT SET	7253	626	IVE
1	PRIVACY SET	ML2030	626	RU
1	DOUBLE LIPPED STRIKE	453 5-3/4 (W/ EMERGENCY RELEASE)	626	IVE
1	WALL STOP	406 OR 409	US26D	RO
2	KICK PLATE	10" 4BE CSK. 2" LESS DOOR WIDTH	630	RO
2	MORTISED SEAL	53 (MEETING STILE ON EITHER SIDE)	AL	ZER
1	WALL STOP	406 OR 409	US26D	RO

HOLLOW METAL ELEVATIONS LEGEND



DOOR HARDWARE ABBREVIATION LEGEND

AO - AUTOMATIC OPERATOR
CR - CARD READER
CK - CIPHER LOCK
CL - CLASSROOM LOCK
CO - CLOSER
DS - DOOR POSITION SWITCH
DR - DORMITORY LOCK
EX - EXIT LOCK
IL - INSTITUTION LOCK
IV-INTERLOCK VESTIBULE
MH - MAGNETIC HOLD OPEN
ML - MAGNETIC LOCK
MS - MOTION SENSOR
OL - OFFICE LOCK
PL - PASSAGE LOCK
PV- PRIVACY LOCK
PD- PRESENCE DETECTOR
ST - STOREROOM LOCK

GLAZING NOTES

1. THE CONTRACTOR SHALL VERIFY IN FIELD ALL WINDOW & WINDOW WALL OPENINGS PRIOR TO FABRICATION.
2. GLAZING IN THE FOLLOWING LOCATIONS SHALL BE SAFETY GLAZING:
   a. FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BI-FOLD DOOR ASSEMBLIES.
   b. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THEN 60" ABOVE THE FLOOR OR WALKING SURFACE.
   c. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
      i. EXPOSED AREAS OF AN INDIVIDUAL PANE GREATER THAN 9 SQUARE FEET.
      ii. BOTTOM EDGE LESS THAN 18" ABOVE THE FLOOR.
      iii. TOP EDGE GREATER THAN 36" ABOVE THE FLOOR.
      iv. ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE GLAZING.
3. FIRE RATED GLASS WITHIN PREMANUFACTURED DOOR ASSEMBLIES SHALL CONFORM WITH THE REQUIREMENTS OF THE MANUFACTURE'S TESTED DATA.
4. ALL DOORS AND BORROWED LIGHTS INSTALLED IN LEAD LINED PARTITIONS SHALL CONFORM WITH THE OWNER PROVIDED PHYSICIST REPORT.
5. ALL OTHER VIEW PANELS OR BORROWED LIGHTS NOT MENTIONED IN NOTES ABOVE SHALL HAVE 1/4 INCH FULLY TEMPERED GLASS.

MORTISE LOCK SET FUNCTION

F04: OFFICE
Latch by knob/lever either side except when outside knob/lever locked by stop-button in front; then by key outside. Auxiliary latch, deadlocks latch. Inside always open.

F05: CLASSROOM
Latch by knob/lever either side except when outside knob/lever locked by key. When locked, latch bolt retracted by key. Inside always open. Auxiliary latch, deadlocks latch.

F07: STOREROOM
Latch by knob/lever inside, key outside. Outside knob/lever always rigid. Auxiliary latch, deadlocks latch. Inside always open.

F09: ENTRANCE
Latch by knob/lever either side except when outside knob/lever locked by key inside, latch retracted by key outside. Outside remains locked. Auxiliary deadlocks latch.

F21: ENTRANCE
Latch by knob/lever either side. Deadbolt by key outside, turnpiece inside. Deadbolt deadlocks latch.

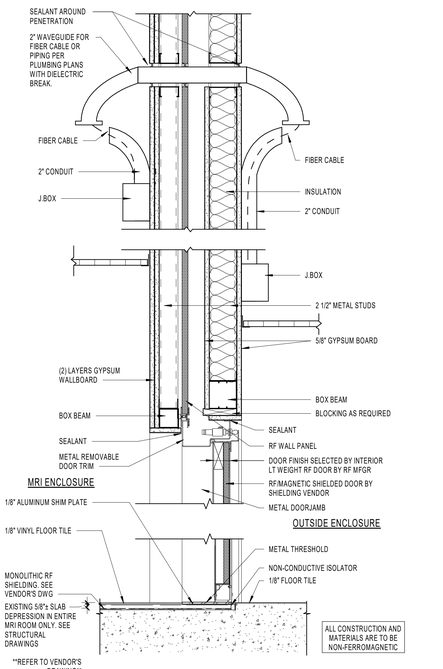
F30: INSTITUTION
Both knob/lever rigid. Auxiliary latch deadlocks latch. Latch by key either side.

F01: PASSAGE
Latch by knob/lever either side.

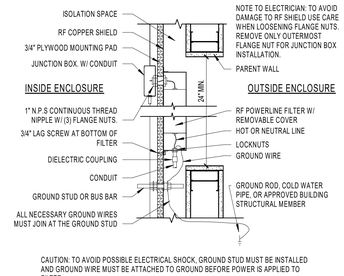
F19: PRIVACY
Latch by knob/lever either side except when projected deadbolt locks outside knob/lever and deadlocks latch. Deadbolt by turnpiece inside. Inside knob/lever retracts latch and deadbolt simultaneously, automatically unlocking outside knob/lever. To unlock from outside, remove emergency button, insert emergency key in access hole and turn.

F22: PRIVACY
Latch by knob/lever either side except when outside knob/lever is locked by inside turnpiece. Turning inside knob/lever or closing door unlocks outside lever. To unlock from outside, remove emergency button, insert emergency key in access hole and turn.

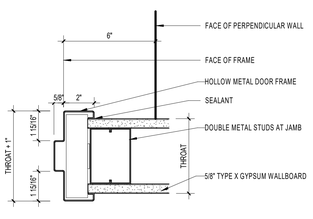
F31: EXIT
Latch by knob/lever inside, non-removable blank trim or no trim outside. Auxiliary latch, deadlocks latch.



B1 RF SHIELD - DOOR DETAIL
1 1/2" = 1'-0"

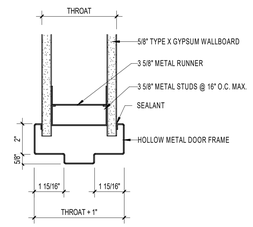


C4 LINE FILTER BOX
1 1/2" = 1'-0"



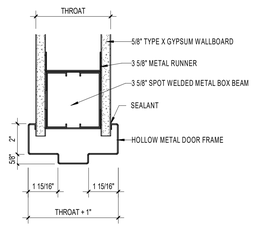
JAMB DETAIL

DOOR FRAME DETAIL TYPE A1



HEAD DETAIL FOR DOOR WIDTH LESS THAN 4'-0"

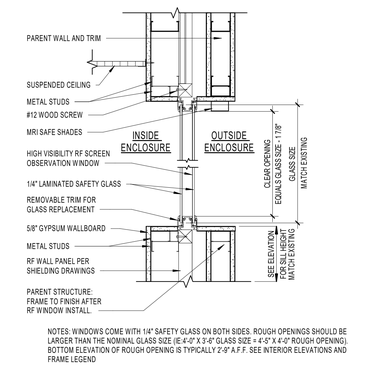
DOOR FRAME DETAIL TYPE A2



HEAD DETAIL FOR DOOR WIDTH EQUAL OR GRATER THAN 4'-0"

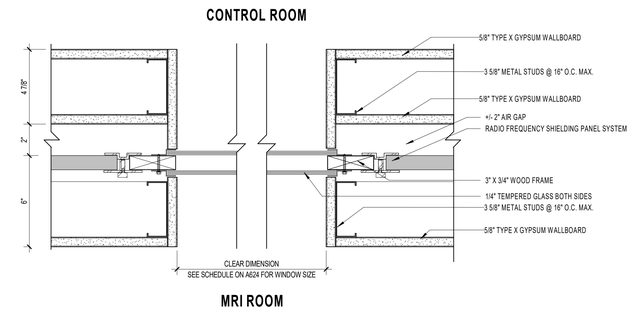
DOOR FRAME DETAIL TYPE A3

A2 DOOR FRAME DETAIL TYPE A1
3" = 1'-0"



NOTES: WINDOWS COME WITH 1/4" SAFETY GLASS ON BOTH SIDES. ROUGH OPENINGS SHOULD BE LARGER THAN THE NOMINAL GLASS SIZE (IE:4'-0" X 3'-6" GLASS SIZE = 4'-5" X 4'-0" ROUGH OPENING). BOTTOM ELEVATION OF ROUGH OPENING IS TYPICALLY 2'-6" A.F.F. SEE INTERIOR ELEVATIONS AND FRAME LEGEND

A4 RF SHIELD - BORROWED LITE SECTION - TYPE 21
1 1/2" = 1'-0"



A6 MRI WINDOW FRAME DETAIL
3" = 1'-0"

CD Submission 06/18/2021

Architect of Record:
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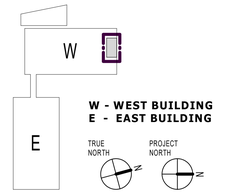
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
DOOR TYPES, FRAME DETAILS, SCHEDULE & BORROWED LIGHT DETAILS, SCHEDULE

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
A-900.00

DWG OF 47

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A

REV	DATE	MODIFICATIONS
A	30/JUL/2020	Final study based on request DC-230425

01 - C1 - Cover Sheet
02 - C2 - Disclaimer - Site Readiness
03 - A1 - General Notes
04 - A2 - Equipment Layout
05 - A3 - Section Views
06 - A4 - Acoustic - Proximity Limits
07 - A5 - RF shielding
08 - A6 - Equipment Details (1)
09 - A7 - Equipment Details (2)
10 - A8 - Delivery
11 - A9 - Shield Requirements (1)
12 - A10 - Shield Requirements (2)
13 - A11 - Shield Requirements (3)
14 - S1 - Structural Notes
15 - S2 - Structural Layout
16 - S3 - Structural Details
17 - M1 - Mechanical Layout
18 - M2 - HVAC-Venting
19 - M3 - Chilled Water
20 - M4 - Cryogenics (1)
21 - M5 - Cryogenics (2)
22 - E1 - Electrical Notes
23 - E2 - Electrical Layout
24 - E3 - Electrical Elevations
25 - E4 - Electrical Details
26 - E5 - Power Requirements
27 - E6 - Interconnections

A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in incomplete documentation required for site design and preparation.
Pre Installation documents for GE Healthcare products can be accessed on the web at: www.gehealthcare.com/siteplanning

Columbia University Medical Center
New York, NY
United States

GE Healthcare
Luan Dang
347-266-3774
Luan.dang@ge.com

SIGNA ARTIST FINAL STUDY

Drawn by	Verified by	Concession	S.O. (GON)	PIM Manual	Rev
AKD	TNC	-	2007022443.1	5670001	13

Format	Scale	File Name	Date	Sheet
A3	1/4"=1'-0"	MRI-M221448-FIN-00.DWG	30/JUL/2020	01/27

CD Submission 06/18/2021

Architect of Record:
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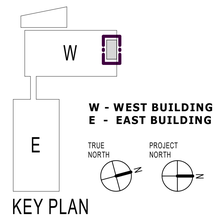

KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
GE MRI-C1

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-101.00

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DISCLAIMER

GENERAL SPECIFICATIONS

- GE is not responsible for the installation of developers and associated equipment, lighting, cassette trays and protective screens or derivatives not mentioned in the order.
- The final study contains recommendations for the location of GE equipment and associated devices, electrical wiring and room arrangements. When preparing the study, every effort has been made to consider every aspect of the actual equipment expected to be installed.
- The layout of the equipment offered by GE, the dimensions given for the premises, the details provided for the pre-installation work and electrical power supply are given according to the information noted during on-site study and the wishes expressed by the customer.
- The room dimensions used to create the equipment layout may originate from a previous layout and may not be accurate as they may not have been verified on site. GE cannot take any responsibility for errors due to lack of information.
- Dimensions apply to finished surfaces of the room.
- Actual configuration may differ from options presented in some typical views or tables.
- If this set of final drawings has been approved by the customer, any subsequent modification of the site must be subject to further investigation by GE about the feasibility of installing the equipment. Any reservations must be noted.
- The equipment layout indicates the placement and interconnection of the indicated equipment components. There may be local requirements that could impact the placement of these components. It remains the customer's responsibility to ensure that the site and final equipment placement complies with all applicable local requirements.
- All work required to install GE equipment must be carried out in compliance with the building regulations and the safety standards of legal force in the country concerned.
- These drawings are not to be used for actual construction purposes. The company cannot take responsibility for any damage resulting therefrom.

CUSTOMER RESPONSIBILITIES

- It is the responsibility of the customer to prepare the site in accordance with the specifications stated in the final study. A detailed site readiness checklist is provided by GE. It is the responsibility of the customer to ensure all requirements are fulfilled and that the site conforms to all specifications defined in the checklist and final study. The GE Project Manager of Installation (PMI) will work in cooperation with the customer to follow up and ensure that actions in the checklist are complete, and if necessary, will aid in the rescheduling of the delivery and installation date.
- Prior to installation, a structrual engineer of record must ensure that the floor and ceiling is designed in such a way that the loads of the installed system can be securely borne and transferred. The layout of additional structural elements, dimensioning and the selection of appropriate installation methods are the sole responsibility of the structural engineer. Execution of load bearing structures supporting equipment on the ceiling, floor or walls are the customer's responsibility.

THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT.		
DATE	**NAME**	**SIGNATURE**

GLOBAL SITE READINESS CHECKLIST (DI)

DOC1809666 Rev. 7

Site Ready Checks at Installation
EHS Site Requirements
Overall access route to the scan room free from obstruction / high hazards.
Enough space to store tools, equipment, parts, install waste and the general area free from obstruction and trip hazards.
Enough necessary facilities for the GE employees available.
No 3rd parties working in the area that may affect the safety of the installation activity.
Area free from any chemical, gas, dust, welding fume exposure and has painting been completed and dry.
All emergency routes identified, signed and clear from obstruction.
Accessible single source lockable panel that LOTO can be applied to for GE equipment installation (MDP and/or PDU).
There are no other conditions or hazards that you have observed or have been made aware of by the customer or contractors on site.
Site Ready Checks for MR Magnet delivery if separate from system
Specific for MR Magnet Delivery
All permits, plans and permissions received for rigging and/or delivery.
Adequate delivery route from truck to final place of installation has been reviewed with all stakeholders, all communications/notifications have occurred, arrangements have been made for special handling (rigging, elevator, fork lift, etc.)
All floors along delivery route will support weight of the equipment, temporary reinforcements arranged if needed.
Chilled water supply for Water Cooled Compressor or Air Cooled Compressor is ready and meets GE specifications.
Water drain available in the equipment room, if applicable.
Power for MR compressor & Chiller is available.
Power is available for magnet monitoring.
Connectivity is available for magnet monitoring.
Ensure cryogen venting system is complete to outside the building & available for magnet connection.
Exhaust fan system is installed per GE requirements and VERIFIED operational by suction at intake.
Required for Mechanical Install start
Room dimensions, including ceiling height, for all Exam, Equipment/Technical & Control rooms meets GE specifications.
Ceiling support structure, if indicated on the GE drawing, is in the correct location and at the correct height according to the Original Equipment Manufacturer specifications.
Levelness and spacing has been measured, and is ready for the installation of any GE supplied components.
Finished ceiling is installed. If applicable ceiling tiles installed per PMI discretion.
Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications.
Entry door threshold meets PIM requirement
Floor Strength and thickness have been discussed with customer/contractor and they have confirmed GE requirements are met.
Rooms that will contain equipment, including staging areas if applicable, are construction debris free. Precautions must be taken to prevent debris from entering rooms containing equipment.
Cable ways (floor/wall/ceiling/Access Flooring) are available for installation of GE cables are of correct length and diameter.
Overhead cable trays must be install exactly as shown in GE supplied installation drainge to assure proper Gradient Cable length.
Cable ways routes per GE Final drawings and cable access openings areas installed at a time determined by GEHC PM. Surface floor duct can be installed at time of system installation.
Adequate room illumination installed and working.
Customer supplied countertops where GE equipment will be installed are in place.
RF Shield installed with possible exception of magnet entrance. RF Shield Effectivity and Ground Isolation Test needed. If GE responsible for supplying RF shield, the RF shield Effectivity and Ground Isolation Test data is a Mandatory attachment into MyProjects.
Required for Calibration start
HVAC systems Installed, and the site meets minimum environmental operational system requirements.
System power & grounding (PDB/MDP) is available as per GE specifications.
System power & grounding (PDB/MDP) is installed at point of final connection and ready to use. Lock Out Tag Out is available.
PMI to confirm all feeder wires and breaker are size appropriately. EPO installed if needed.
PMI to confirm with electrician all power and signal cables are well terminated ensuring there are no loose connections.
Network outlets installed.
Computer network available and working.

Note: The details shown here are only an extract from DOC1809666. For the complete document please contact your PMI.

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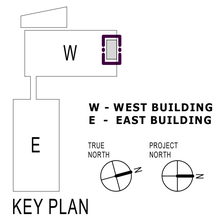
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-C2

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
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DRAWN: KU

SHEET NO.
V-102.00

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CUSTOMER SITE READINESS REQUIREMENTS

- Any deviation from these drawings must be communicated in writing to and reviewed by your local GE healthcare installation project manager prior to making changes.
- Make arrangements for any rigging, special handling, or facility modifications that must be made to deliver the equipment to the installation site. If desired, your local GE healthcare installation project manager can supply a reference list of rigging contractors.
- New construction requires the following;
  1. Secure area for equipment,
  2. Power for drills and other test equipment,
  3. Capability for image analysis,
  4. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- It is the customer's responsibility to contract a vibration consultant/engineer to implement site design modifications to meet the GE vibration specification. Refer to the system preinstallation manual for the vibration specification.

MRI SITE PLANNING REMINDERS

Please refer to pre-installation checklist in pre-installation manual listed on the cover sheet for items critical to image quality.

1. The layout should be arranged so that the 5g line is contained to the magnet room. If not possible, a barrier is recommended to prevent entry to the 5g field area.
2. The spaces around, above, and below the magnet must be reviewed for effects of the 5g, 3g, 1g, and .5g fields. Refer to the proximity limit chart in the MR pre-installation manual referenced on the cover sheet.
3. For moving metal, the restriction lines typically extend outside of the MR space. Please confirm there are no moving metal concerns within these areas.
4. For vibration, analysis to be completed as required per pre-installation manual.
5. For EMI, review the site for the location of the main electrical feeders, AC devices, or distribution systems. An EMI study is recommended if large AC systems are nearby.
6. Details of the floor below the magnet must be reviewed. The structural engineer must verify that the quantity of steel in the volume 10ft [3.1m] x 10ft [3.1m] x 1ft [.3m] deep (below the magnet) does not exceed the allowable steel content as given in the MR pre-installation manual referenced on the cover sheet.
7. Remove, cover, or fill-in abandoned ducts or troughs from the Equipment and Magnet rooms. Access/computer room flooring in the Equipment room can either be removed or assessed and reinforced to support heavier cabinets.

Responsibility for the coordination, design, engineering, and site preparation resides with the customer and their project architects and contractors. GE does not, by providing reviews and furnishing comments and assistance, accept any responsibility beyond its obligations as defined in the MR system, sale/purchase agreement.

IMAGE QUALITY CONSIDERATIONS

Broadband RF noise is a single transient or continuous series of transient disturbances caused by an electrical discharge. Low humidity environmental conditions will have higher probability of electrical discharge. The electrical discharge can occur due to electrical arcing (micro arcing) or merely static discharge. Some potential sources capable of producing electrical discharge include:

- Loose hardware/fasteners vibration or movement (electrical contunuity must always be maintained)
- Flooring material including raised access flooring (panels & support hardware) and carpeting
- Electrical fixtures (i.e. Lighting fixtures, track lighting, emergency lighting, battery chargers, outlets)
- Ducting for HVAC and cable routing
- RF shield seals (walls, doors, windows etc.)

For additional information regarding image quality, refer to the pre-installation manual listed on the cover sheet.

MAGNETIC INTERFERENCE SPECIFICATIONS

- The customer must establish protocols to prevent persons with cardiac pacemakers, neurostimulators, and biostimulation devices from entering magnetic fields of greater than 5 gauss (exclustion zone).
- Main power transformers must remain outside the 3 gauss field. EMI < 20mg rms ac. EMI < 5.87mg dc.
- Potential exists under fault conditions that the 5 gauss line may expand radially to 9.35 ft. [2.85 m] and axially to 14.27 ft. [4.35 m] for 1 seconds or less. It should be noted that normal rampdowns or magnet rundown unit initiated quenches will not cause the magnetic field to expand.
- It is recommended every site consider the event of a quench and plan accordingly (such as placing 5 gauss warning signs at expanded locations).
- The ferrous metal objects listed below must not move into or inside of the moving metal sensitivity line during scans.

TYPCIAL MOVING MAGNETIC MASS	DISTANCE RADIALLY		DISTANCE AXIALLY	
Carts, Gurneys 100-400 lbs [45-182 kg]	3 Gauss line		3 Gauss line	
Forklifts, small elevator, cars, minivans vans, pickup trucks, ambulances (objects greater than 400 lbs [182 kg])	15.5 FT	4.72 M	24.6 FT	7.5 M
Buses and trucks (dump, tractor trailer, utility, fire trucks)	18.1 FT	5.52 M	28.75 FT	8.76 M

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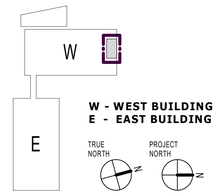

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-A1

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-103.00

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BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (btu)	WEIGHT (lbs)
A	1	1.5T Magnet	8189	9867
A	2	Rear pedestal	-	212
A	3	GEM Patient table	-	418
A	4	Magnet rundown unit	-	7
A	5	Phantom set storage cabinet	-	350
A	6	Blower box	1535	-
A	7	Penetration cabinet	1024/ 10697	639
A	8	Secondary penetration wall	-	92
A	9	Power, gradient, RF cabinet	20940	3144
A	10	Heat exchanger cabinet	3412	1350
A	11	Magnet monitor	819	10
A	12	Cryocooler compressor	1706	264
A	13	Operator console computer	4947	141.75

BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (btu)	WEIGHT (lbs)
A	14	Operator workspace	-	26
A	15	Pneumatic patient alert	-	0.5
A	16	Operators console desk	-	125
D	17	MR Elastography	480	53.4
A	18	Music system	-	-
A	19	Injector on pedestal	-	94
A	20	Injector control	675	17
A	21	Injector power supply	660	6
B	22	Main disconnect panel	901	130
B	23	Dimplex chiller	167300	4000
B	24	Water filter	-	-
B	25	Remote graphic display	-	-
B	26	Water bypass	-	-

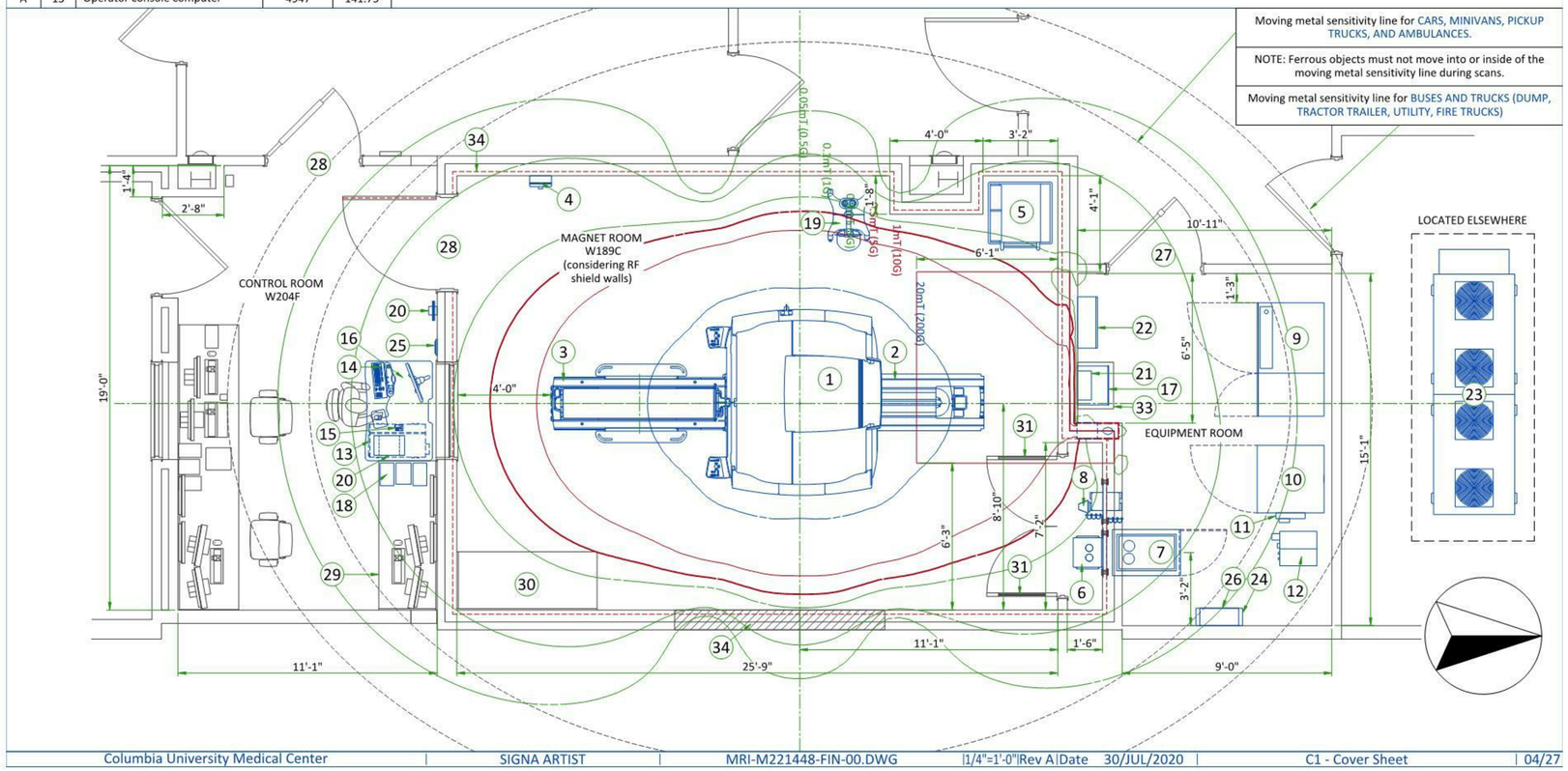
BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (btu)	WEIGHT (lbs)
C	27	Minimum opening for equipment delivery is 40 in. w x 82 in. h, contingent on a 72 in. corridor width		
C	28	Minimum opening for equipment delivery is 43 in. w x 82 in. h, contingent on a 96 in. corridor width		
C	29	Counter top for equipment- provide grommeted openings as required to route cables		
C	30	Base cabinet for storage of: surface coils, patient positioning pads, phantoms, etc.		
C	31	Louvered doors - refer to preinstall for requirements		
C	32	Magnet access 9'-0"x9'-0"		
C	33	Shelf		
C	34	Define RF shield's inset according to provisions made by the RF Shield vendor		

LEGEND			
A	GE Supplied	D	Available from GE
B	GE Supplied/contractor installed	E	Existing
C	Customer/contractor supplied and installed		5 Gauss
	200 Gauss		3, 1, 0.5 Gauss
	100, 50, 30, 10 Gauss		Magnetic Shielding

RF SHIELD - 100 dB ATTENUATION

EXAM ROOM HEIGHT	
FINISHED FLOOR TO SLAB HEIGHT	13'-0"
FALSE CEILING HEIGHT	9'-0"

For Accessory Sales: (866) 281-7545 Options 1, 2, 1, 2 or mail to: gehcaccessorysales@ge.com



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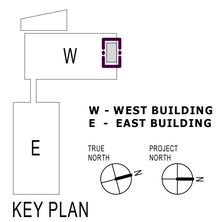

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GE MR-A2

SEAL:

DATE: 06/18/2021
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CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
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SHEET NO.
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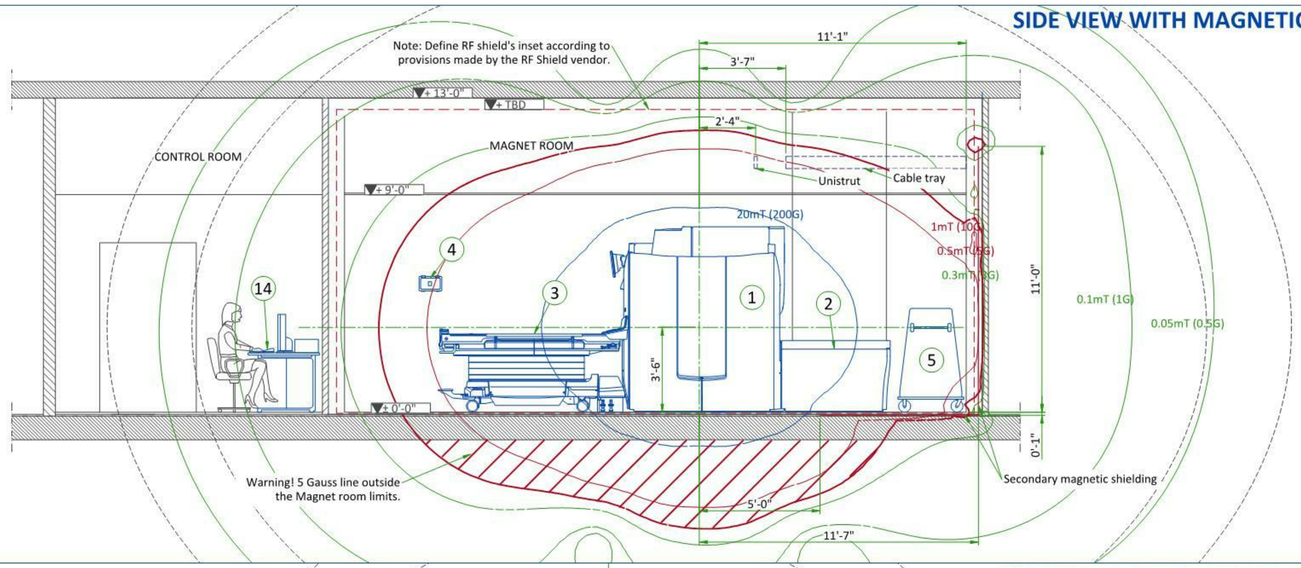
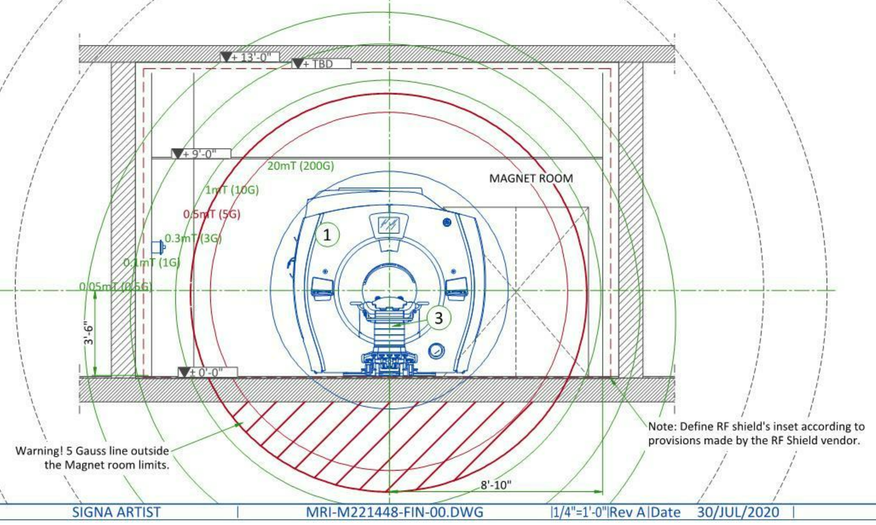
SIDE VIEW WITH MAGNETIC FIELD



FRONT VIEW WITH MAGNETIC FIELD



Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG | 1/4"=1'-0" | Rev A | Date 30/JUL/2020 | C1 - Cover Sheet | 05/27

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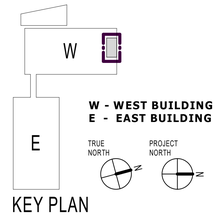

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REVISIONS/ISSUES		

SHEET TITLE:
GE MR-A3

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
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SHEET NO.
V-105.00

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ACOUSTICS SPECIFICATIONS

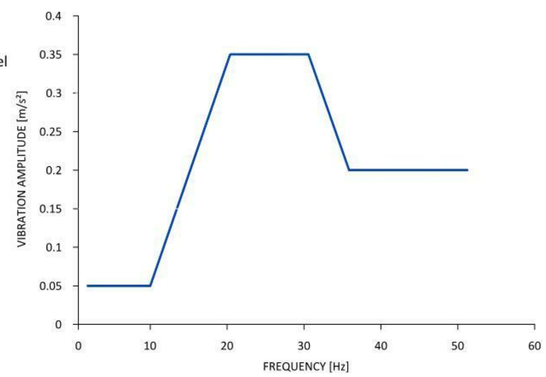
Acoustic and vibroacoustic information is provided for site planning and architectural design activities. It is the customer's responsibility to hire a qualified acoustic engineer for solutions to further attenuate this transmitted noise and vibration, if required. The actual room noise level may vary based on room design, optional equipment, and usage:

Control Room: 62 dBA
Equipment Room: 80 dBA
Magnet Room: 127 dBA*
(maximum sound pressure level at magnet bore isocenter)

* Frequency: 20 Hz to 20kHz

FREQUENCY (Hz)	AMPLITUDE (m/s²)
2	0.05
10	0.05
20	0.35
30	0.35
35	0.2
50	0.2

Low Frequency Magnet Floor Vibration (Vibration Amplitude at Each Foot)

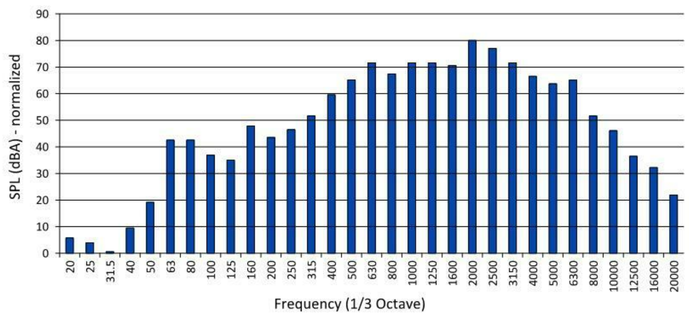


ISOGAUSS PLOTS

The isogauss contour plots illustrated represent the performance of the system and the steel room shield described in the final shield design dated JUL. 27, 2020. The actual magnetic flux density at any point in the vicinity of the magnet when installed may vary from the contour plots due to factors such as the concentrating effects of nearby ferrous objects and ambient magnetic fields, including the earth's magnetic field. Therefore, the contours shown are only approximations of actual flux densities found at corresponding distances from the magnet's isocenter.

SOUND PRESSURE SPECTRAL DISTRIBUTION

1/3 Band Relative SPL



MAGNETIC PROXIMITY LIMITS

Gauss (mT) Limit	Equipment
0.5 gauss (0.05mT)	Nuclear camera
1 gauss (0.1mT)	Positron Emission Tomography scanner, Linear Accelerator, Cyclotrons, Accurate measuring scale, Image intensifiers, Bone Densitometers, Video display (tube), CT scanner, Ultrasound, Lithotriptor, Electron microscope, Digital X-Ray
3 gauss (0.3mT)	Power transformers, Main electrical distribution transformers
5 gauss (0.5mT)	Cardiac pacemakers, Neurostimulators, Biostimulation devices
10 gauss (1mT)	Magnetic computer media, Line printers, Film processor, X-ray tubes, Emergency generators, Commercial laundry equipment, Food preparation area, Water cooling equipment, HVAC equipment, Major mechanical equipment room, Credit cards, watches, and clocks, Air conditioning equipment, Fuel storage tanks, Motors greater than 5 horsepower
50 gauss (5mT)	Metal detector for screening, LCD panels, Telephones
No Limit	Digital Detectors

The customer must provide detail defining ferrous material below the magnet to the Project Manager so the GE Healthcare MR Siting and Shielding team can review for compliance.

STEEL MASS LIMITS TO MAGNET ISOCENTER (3x3 m [10x10 ft] AREA UNDER MAGNET)

Limits Of Steel Mass		Distance From Magnet Isocenter		Distance Below Top Surface Of Floor	
kg/m²	lbs/ft²	mm	in	mm	in
0	0	0 - 1143	0-45	0 - 76	0-3
9.8	2	1143 - 1194	45-47	76 - 127	3-5
14.7	3	1194 - 1321	47-52	127 - 254	5-10
39.2	8	1321 - 1397	52-55	254 - 330	10-13
98.0	20	1397+	55+	330+	13+

The actual field strength can be affected by Magnetic shielding, Earth's magnetic field, other magnetic fields and stationary or moving metal. This information must be used to evaluate potential site interaction of GE Healthcare equipment with other non-GE Healthcare equipment. Magnetic shielding can be installed to prevent interaction between the magnet and nearby sensitive devices. The GE Healthcare Project Manager of Installation (PMI) can work with the customer to coordinate the magnetic shielding site evaluation. The customer is responsible for installation of all magnetic shielding.

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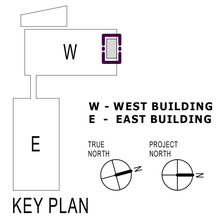

KEY PLAN

NO.	DESCRIPTION	DATE
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SHEET TITLE:
GE MRI-A4

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
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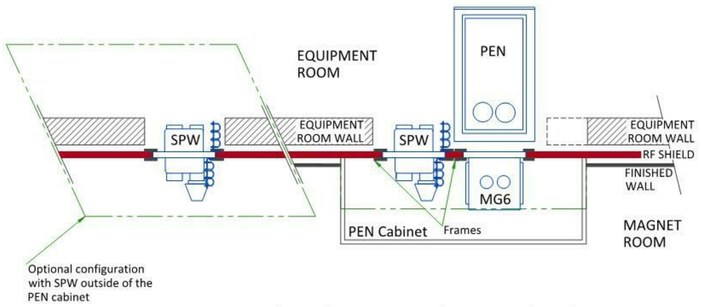
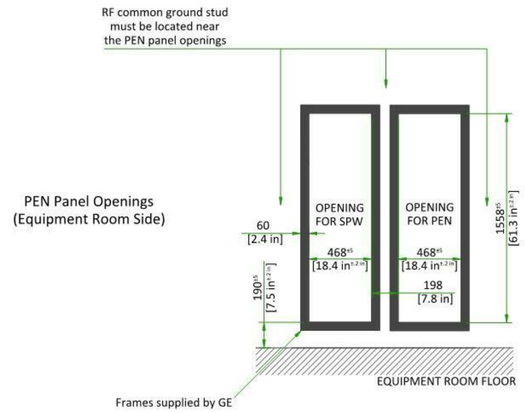
PENETRATION PANEL WITH SPW



Maximum distance between PEN and SPW is 2743 [108 in]



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PENETRATION PANEL CLOSET

An enclosure (i.e. closet) must be provided to restrict access to the PEN panels and for storage of excess interconnections.

- The PEN closet must have a mechanical locking mechanism to restrict access to the PEN panels
- The PEN closet must maintain the minimum service area outside the 200 Gauss in the magnet room.
- PEN closet must allow free air exchange of **400CFM (680 m³/hour)** between the Magnet room and PEN closet for MR system blowers. Airflow may be achieved through door louvers or other openings in the PEN closet that meet all other PEN closet requirements

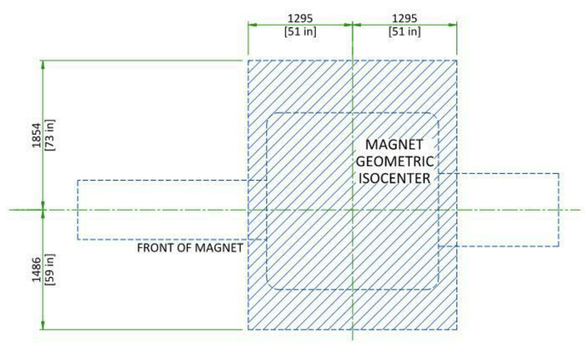
A closet service hatch must be provided if the room does not allow the PEN panel blower box removal path to remain completely outside the 200 Gauss line.
NOTE: If the room size is sufficiently large so the SPW blower box can be removed without entering the 200 Gauss line, a closet service hatch is not required.

The closet service hatch must meet the following requirements:

- Must be located within the PEN closet on the RF wall allowing access to the Equipment room
- May be located anywhere within the PEN closet (between 254 [10 in] and 1524 mm [60 in] with unobstructed pass-through)
- Must be minimum 508x508 mm [20x20 in]
- Must maintain RF shield integrity for all service access
- May use any design (quick disconnect RF panel, blanker panel, hinged door, etc.) as long as all other requirements are met
- The closet service hatch removal must take less than 15 minutes (replacement must also take less than 15 minutes)

MINIMUM MAGNET CEILING HEIGHT (TOP VIEW)

Shaded area indicates floor to ceiling minimum height of 2500 mm [98.42 in]. Special service procedures are required if ceiling height is between 2500 mm [98.42 in] and 2667 mm [105 in].



Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG | 1:10 | Rev A | Date 30/JUL/2020 | RF shielding | 07/27

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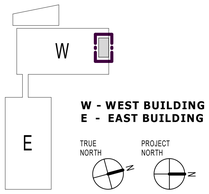

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NO.	DESCRIPTION	DATE
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SHEET TITLE:
GE MR-A5

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
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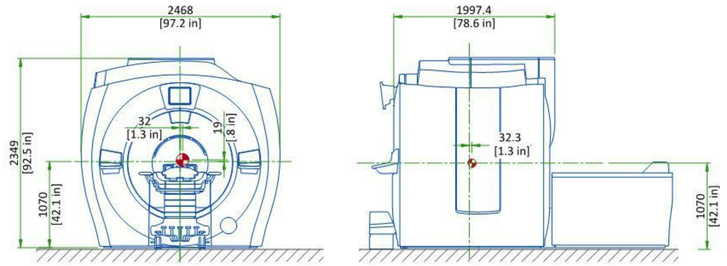
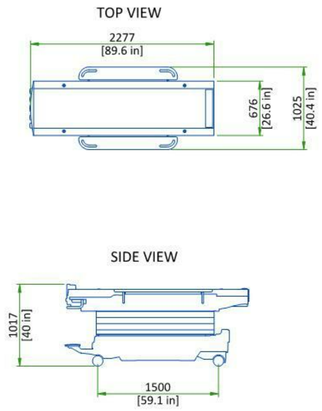
MAGNET ENCLOSURE

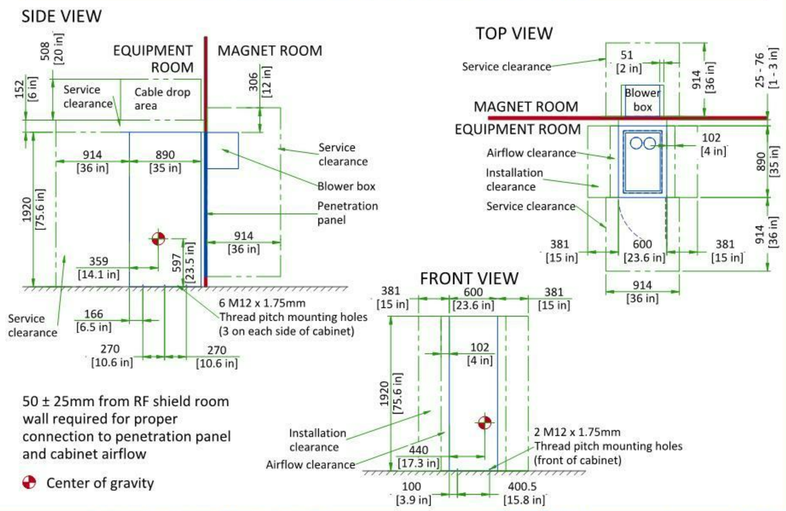


Note:
Center of gravity is approximate and includes the GE Healthcare supplied VibroAcoustic Dampening Kit, but does not include cryogens, gradient assembly, side mounted electronics, or enclosures.
Enclosure dimensions are for reference only, NOT FOR SITE PLANNING USE.
Center of gravity

PATIENT TRANSPORT TABLE (PT)



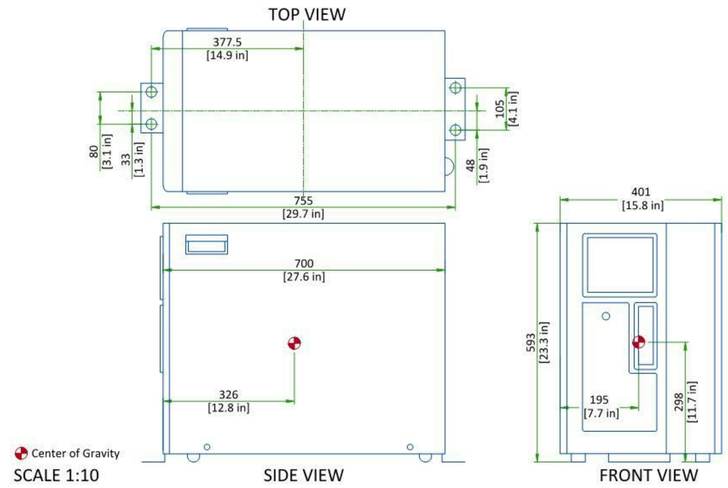
PENETRATION CABINET CLEARANCE



50 ± 25mm from RF shield room wall required for proper connection to penetration panel and cabinet airflow

Center of gravity

GLOBAL OPERATORS CABINET (GOC)



Center of Gravity

SCALE 1:10 SIDE VIEW FRONT VIEW

Columbia University Medical Center	SIGNA ARTIST	MRI-M221448-FIN-00.DWG	Rev A Date 30/JUL/2020	C1 - Cover Sheet	08/27

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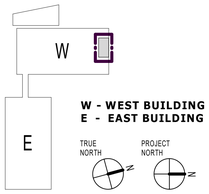
OWNER:

COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:

NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

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REVISIONS/ISSUES		

SHEET TITLE:

GE MRI-A6

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.

V-108.00

DWG OF 47

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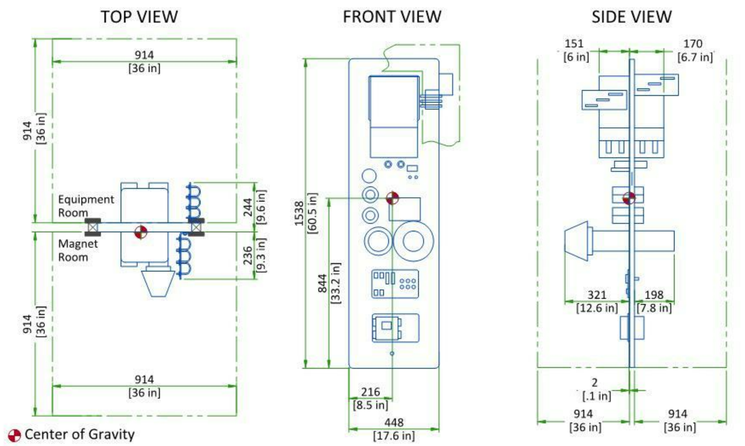
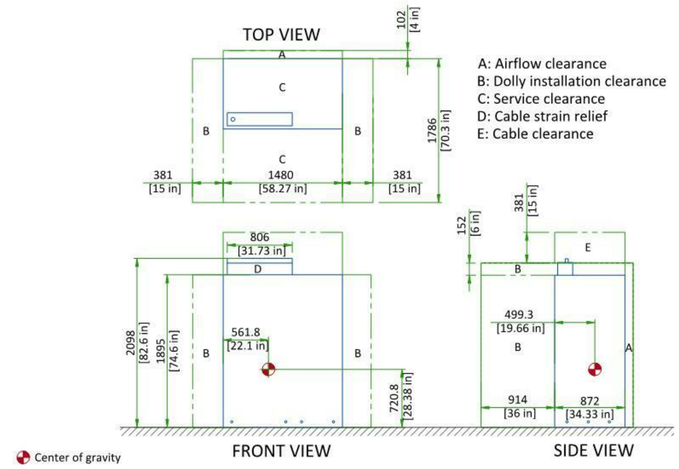
SECONDARY PENETRATION WALL (SPW)

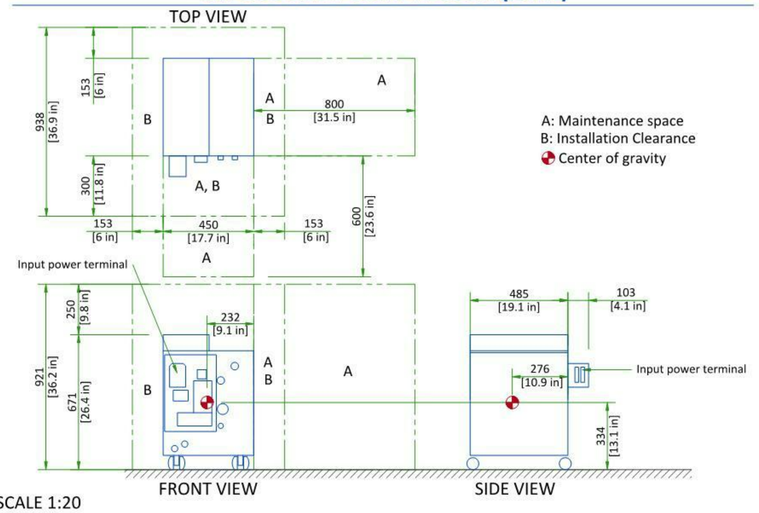


SCALE 1:20

POWER, GRADIENT, RF CABINET (PGR)

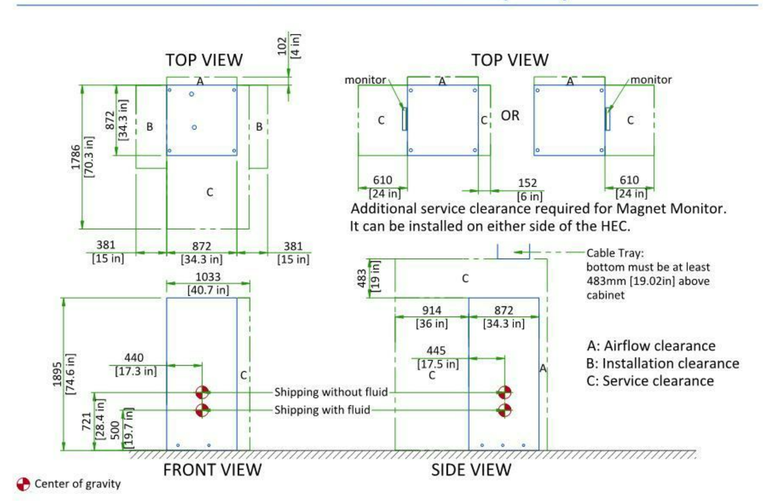


CRYOCOOLER COMPRESSOR (CRY)



SCALE 1:20

HEAT EXCHANGER CABINET (HEC)



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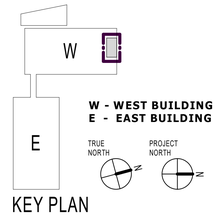

KEY PLAN

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SHEET TITLE:
GE MRI-A7

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-109.00

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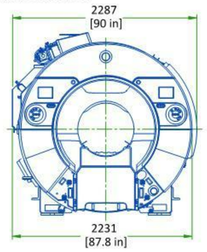
DELIVERY

ROUTING

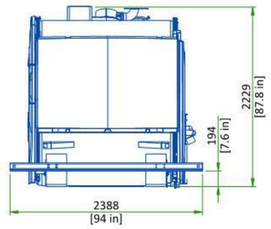
- The customer is solely liable for routing of components from dock to final site.
- GE must be able to move system components in or out with no need to uncrate or disassemble any of the components. The entire passageway must be cleared, adequately lighted and free from dust.
- The floor and it surfacing must be able to withstand the live load of components and handling equipment.
- Floor surfacing must be continuous.
- The customer must protect any fragile flooring surfaces.

MINIMUM SPECIFICATIONS FOR MAGNET ROUTING

- Floor must be able to withstand a moving load of 4823kg
- Height: 2238 mm [88.11in], width: 2303 mm [90.66in]
- Maximum slope: 30°



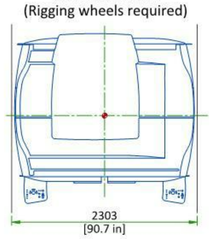
FRONT VIEW OF MAGNET



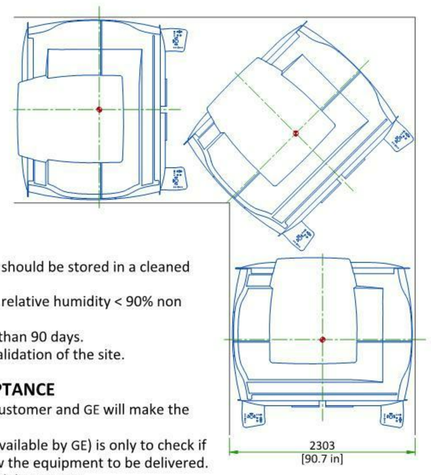
SIDE VIEW OF MAGNET

Recommended opening for side (wall) delivery : 2400 mm [90.55in] (width) x 2500 mm [98.42in] (height)

STRAIGHT PATH
(Rigging wheels required)



PATH WITH 90 DEGREE TURN



STORAGE CONDITIONS

- System components except the magnet should be stored in a cleaned room:
- Temperature = -30 to 60°C [-22 to 140], relative humidity < 90% non condensing.
- Material should not be stored for more than 90 days.
- The magnet will be delivered after GE validation of the site.

INSTALLATION AND DELIVERY ACCEPTANCE

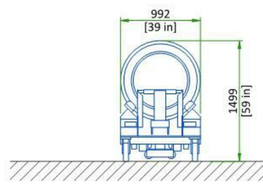
- A survey of the site established by the customer and GE will make the decision for the delivery time.
- This survey of the site (a form is made available by GE) is only to check if the apparent conditions of the site allow the equipment to be delivered.
- If the site is not ready, GE can delay the delivery time.

CRITICAL ITEMS FOR MAGNET DELIVERY

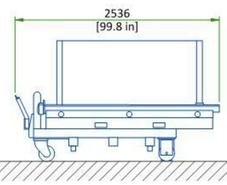
- 24/7 chilled water and 480v power for shield/cryo cooler
- 24/7 120v power for the magnet monitor
- Phone lines for magnet monitoring and emergency use
- Magnet room exhaust fan
- Cryogen venting (if roof hatch, completed within 24 hrs)

This is only a partial list of items required for delivery of the magnet. For a complete checklist refer to the pre-installation manual referenced on cover sheet.

GRADIENT COIL REPLACEMENT



Front view of the BRM Gradient



Side view of the BRM Gradient

EQUIPMENT	DIMENSIONS LxWxH		WEIGHT		NOTE
	mm	in	kg	lbs	
Replacement BRM gradient coil assembly on a shipping cradle/cart	991x2536x1499	39x99.84x59	1449	3194	Initial gradient coil assembly is shipped installed in the magnet. Shipping/installation cart is used to install re-placement coil assembly only.

The weight bearing structure of the site should support any additional weight of the main replacement parts occurring during maintenance of the magnet, throughout the whole lifecycle of the MR.

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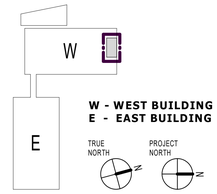

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MRI-A8

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

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V-110.00

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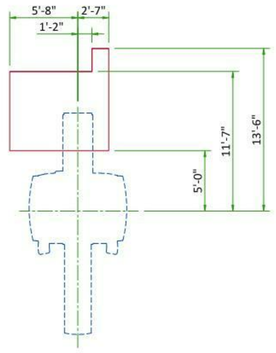
SHIELDING PLAN [REFERENCE ONLY-NOT TO SCALE]



All surfaces are 1/8" M36

ADDITIONAL NOTES

- Attractive force of a magnet on the ceiling and walls of the steel shield will be a maximum of 30% of the shield's weight. Support structure must account for these additional forces.
- Attractive forces on the floor or sub-floor may be sufficient to lift shield's weight. Support structure must prevent this with adhesive or bracing.
- M36 Silicon steel is used in this shield. see shielding requirements sheets for specifications.

PERFORMANCE STATEMENT FOR MAGNETIC SHIELD DESIGN

GE HEALTHCARE ("GE") provides this magnetic shielding design solely for use with GE's Magnetic Resonance System ("System"). This magnetic shielding design applies solely to the magnetic resonance suite configured as shown in this drawing set.

The magnetic shield, shown in this set, when constructed in strict accordance with this magnetic shield design will:
1. Contain the MRI-generated magnetic induction of 5 gauss within 11'-10" plan north of the magnet's isocenter.

("Design Objectives"), subject to and conditioned upon the following:

1. The magnetic field strength measurements are conducted using techniques which account for the effects of the earth's magnetic field and;
2. The magnetic field strength measurements are conducted using techniques which account for magnetic field distortions caused by magnetic materials in the vicinity of the measurement and;
3. Customer demonstrates to GE that the shielding material and fabrications are in strict accordance with GE's design and specifications and;
4. Customer demonstrates to GE that the shielding is installed in strict accordance with GE's design, specifications and requirements and;
5. Customer demonstrates to GE that (i) the System has not been and is not being subjected to improper or extraordinary use, (ii) the System has not been and is not being subjected to improper maintenance, and (iii) Customer has complied with all applicable instructions or recommendations of GE related to the System and magnetic shield; and
6. Customer operates the System at or below its specified field strength.

GE will re-perform the magnetic shielding design services, to the extent that GE determines the design services fail to meet the Design Objectives specified above, provided GE is notified in writing by Customer of such failure within one (1) week after the date of availability of the System for first use, subject to all other terms and conditions of the agreement between GE and Customer for the purchase or lease of the System.

The foregoing sets forth Customer's exclusive remedies and GE's sole liability for claims based on the failure of the magnetic shielding design services to meet the Design Objectives. In no event shall GE be liable for special or consequential damages.

The magnetic field gradients resulting from the magnetic shield's effect on the System's magnet will allow the System's magnet to meet published homogeneity specifications upon completion of required installation procedures.

The final performance of the magnetic shield set forth in this drawing set depends on strict adherence to the construction and material requirements detailed herein. Any deviation from these requirements will degrade shielding effectiveness. For this reason, GE recommends that only established magnetic shielding vendors be used. Vendors should be required to provide documentary evidence to demonstrate that their shielding product complies with GE's construction requirements, material requirements, chemical composition specifications, and annealing specifications; or the material's DC magnetization curve at high induction is equivalent to GE's specification on SH2.. A guarantee that the finished shield will meet the Customer's fringe field containment requirements should be sought from the shielding vendor.

The isogauss contours shown on this drawing set indicate the magnetic fringe field containment which corresponds to the predicted interaction between the System and the magnetic shield design described. GE creates these isogauss contour plots only to predict if the shield design meets the Design Objectives. All other effects such as the superposition of the earth's magnetic field, residual magnetism, and localized field concentration effects, due to ferromagnetic structural elements, are not considered or indicated. The exact location of a particular isogauss contour may differ from that shown due to: (1.) the above stated reasons and (2.) the resolution limits of the mathematical modeling techniques used to derive these results. Note also that for actively shielded Systems, fault conditions may exist where the isogauss contours expand temporarily (refer to your System's Pre-Installation Manual for exact information regarding fault expansions).

The Customer is responsible for the effect of the fringe fields produced by the System's magnet, and is responsible for the coordination of the magnetic shield design into existing or planned facilities, such as foundations/footings and other building components.

The Design Objectives have been formulated by GE from information, both written and verbal, obtained from the Customer, his agents, and/or representatives as part of the MR Site Evaluation process. The final decision on the Design Objectives criteria and the amount of magnetic field containment needed at this site rests solely with the Customer or his designated representatives. Please contact MR Siting/Shielding immediately with any corrections and/or additions related to this magnetic shield design.

GE recommends that your final shield fabrication drawings be forwarded for review. Any deviations from the design specified in this drawing set must be brought to the attention of GE. Please allow up to two weeks for the review process.

Send drawings to your Project Manager as identified on the cover sheet.

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Columbia University Medical Center	SIGNA ARTIST	MRI-M221448-FIN-00.DWG	1:100	Rev A	Date 30/JUL/2020	A9 - Shield Requirements (1)	11/27

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PROJECT:
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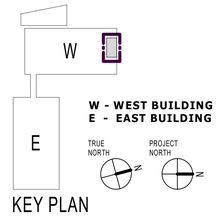

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-A9

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
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TYPICAL SHIELD - GENERAL VIEW

TYPICAL SHIELD OPENINGS

Ⓐ WINDOW 4'-8" WIDE x 4'-2" HIGH (1422 mm WIDE x 1270 mm HIGH)

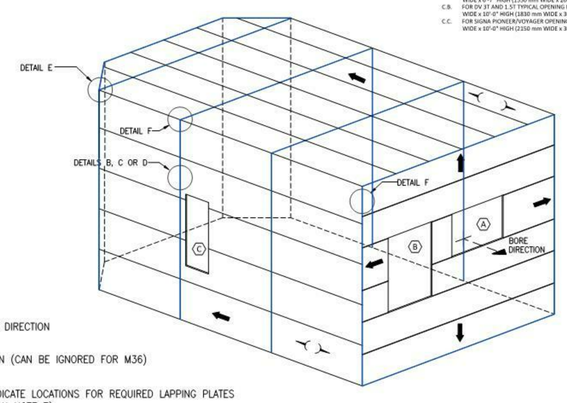
Ⓑ DOOR 4'-8" WIDE x 7'-6" HIGH (1422 mm WIDE x 2286 mm HIGH) FOR

Ⓒ SIGNA 3T, 1.5T PENETRATION PANEL 2'-2" WIDE x 6'-2" HIGH (660 mm WIDE x 1879 mm HIGH)

C.A. FOR MR 1.5T HDx, SIGNA EXPLORER/CREATOR PENETRATION PANEL 5'-1" WIDE x 6'-7" HIGH (1550 mm WIDE x 2000 mm HIGH)

C.B. FOR DV 3T AND 1.5T TYPICAL OPENING FOR 2 PENETRATION PANEL 6'-0" WIDE x 10'-0" HIGH (1830 mm WIDE x 3050 mm HIGH)

C.C. FOR SIGNA PIONEER/VOYAGER OPENING FOR 2 PENETRATION PANEL 7'-2" WIDE x 10'-0" HIGH (2150 mm WIDE x 3050 mm HIGH)

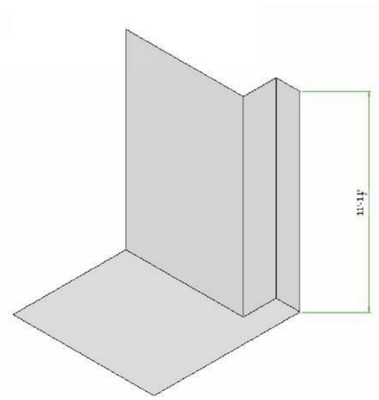


= MAGNETIC FLUX DIRECTION

= GRAIN DIRECTION (CAN BE IGNORED FOR M36)

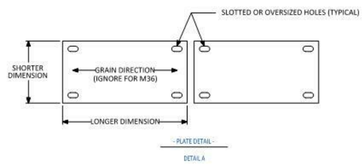
BOLD LINES INDICATE LOCATIONS FOR REQUIRED LAPPING PLATES (SEE FABRICATION NOTE 7)

ISOMETRIC DRAWING [REFERENCE ONLY-NOT TO SCALE]



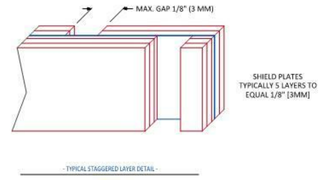
All surfaces are 1/8" M36

TYPICAL SHIELD - GENERAL VIEW DETAILS



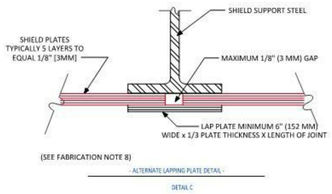
- PLATE DETAIL -

DETAIL A



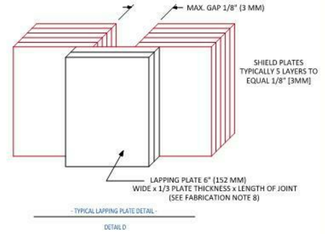
- TYPICAL STAGGERED LAYER DETAIL -

DETAIL B



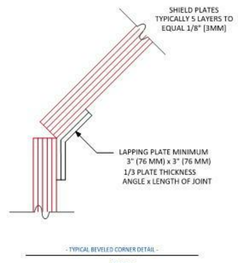
- ALTERNATE LAPPING PLATE DETAIL -

DETAIL C



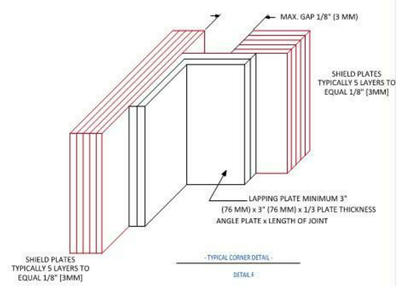
- TYPICAL LAPPING PLATE DETAIL -

DETAIL D



- TYPICAL BEVELED CORNER DETAIL -

DETAIL E



- TYPICAL CORNER DETAIL -

DETAIL F

Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG | 1:100 | Rev A | Date 30/JUL/2020 | A10 - Shield Requirements (2) | 12/27

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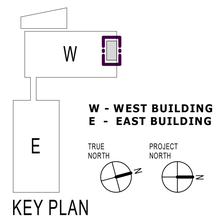

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GE MRI-A10

SEAL:

DATE: 06/16/21
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.

V-112.00

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SILICON STEEL MATERIAL REQUIREMENTS

ARMCO DI-MAX M36 (or material with equivalent magnetic properties) CR FP BARE (non coated) non-oriented electrical steel (2.25% maximum silicon content, 0.004% maximum carbon content, 0.65% maximum aluminum content).

- Material must meet all requirements of ASTM A677 for fully-processed non-oriented electrical steel.
- Material must meet or exceed magnetic properties as illustrated in figure 1 when tested per ASTM A596 as sheared with laminations in test specimen half parallel, half transverse to the rolling direction.
- Material must not be handled with electromagnetic equipment.
- Each sheet of material must lie flat under it's own weight.
- Material supplier must provide manufacturers certification with shipment.

NOTES:
- Shield thickness is not to scale.
- Magnetic properties of electrical steels are especially sensitive to stress. substantial reductions in magnetic properties can be caused by only a few hundred pounds per square inch. therefore, prevention of stresses due to elastic or plastic deformation during handling is critical.
- Refer to figure 2 for some examples of situations to avoid.
- Each 1/8" (3 mm) shield thickness consists of 5 layers of 24 gauge (0.0250 inch [0.64mm]) M36 steel.

(SILICON-011310)

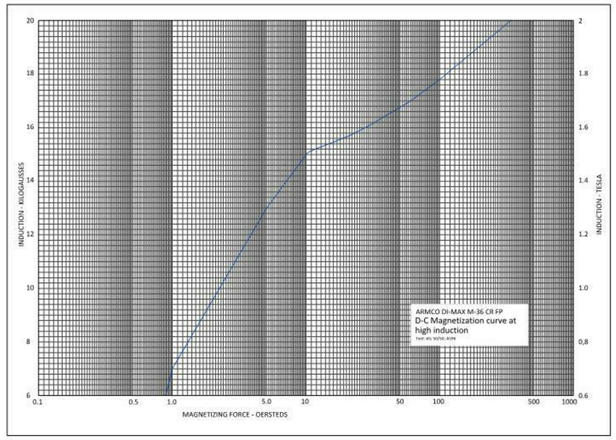
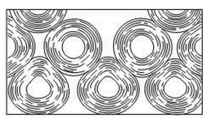


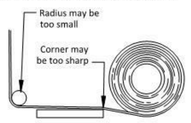
FIGURE 1

Excessive stresses may be produced in electrical steel by improper arrangement of coils in storage, as indicated.



Unintentional introduction of excessive stress in steel during storage of coils.

Improper handling of strip, sheets or long laminations can introduce stress that impair magnetic properties of the steel.



Coil set introduced in handling strip or long laminations.

FIGURE 2

SHIELD NOTES

MAGNETIC SHIELD CONSTRUCTION REQUIREMENTS

The actual performance of the magnetic shield depends upon strict adherence to the following requirements.

GENERAL

1. The design of the shield support system is the responsibility of the customer's architect, structural engineer, and shield vendor.
2. The magnetic shield design must be adhered to exactly. Any deviation from dimensional design, fabrication technique or material specification must be assessed and documented by GE MR Siting.
3. Building and shield support structures should be outside of the steel plates to preclude detrimental effects on homogeneity. If it is absolutely necessary to have support structure on the inside of the shield, a homogeneity analysis must be performed and documented by GE MR siting.
4. For all 1.5T and 3T MR systems, use of non-magnetic materials for concrete floor reinforcement is recommended, unless a homogeneity analysis has been performed and documented by GE MR Siting. For older 1.5T systems with the Magnishield option, signa 0.5T systems, MR Max systems and Vectra systems, conventional reinforcing and structural members are acceptable.
5. A secondary plate must be magnetically isolated from the primary shield. The use of non-magnetic structural members such as aluminum or non-magnetic stainless steel is acceptable.
6. If the magnetic shield is installed inside an RF shield, both the shield and its support system must be isolated from ground by 1,000 ohms or greater and meet all the GE RF room requirements as specified in the appropriate GE pre-installation manual.
7. The minimum finished floor to finished ceiling clearance in the magnet room is shown on sheet A2. Clearance dimensions do not include space required for the magnetic shield, RF shield, shield structure, and finished ceiling materials.
8. Locations of the penetration panel, window, and door openings are established on the final layout. Changes must be documented by GE MR Siting and Planning.
9. Penetration panel mounting details are specified in the appropriate GE site planning direction.
10. Consult GE MR Siting for guidance on any issues relating to magnetic shielding.
11. There must be a minimum of 8 inch [200mm] between the magnetic shield and the area where the magnetic field is being reduced. For example if a hallway has a 5 gauss restriction goal, the magnetic shield should be positioned 8 inch [200mm] inside the hallway surface. Larger buffer spaces are preferred but 8 inch [200mm] is the recommended minimum.
12. If the magnetic shield is supported by the parent room structure, the parent room structure should be wood/concrete/aluminum whenever possible. If the parent wall structure is steel, then the magnetic shield needs to be decoupled from the steel studs by a minimum of 5/8 inch [16mm] gypboard, plywood, furring, or other non-magnetic media.
13. If the magnetic shield is supported inside the RF structure, care must be taken to avoid loose metal to metal contacts or dissimilar metal contacts. Refer to the RF section of the pre-installation manual for all requirements. Magnetic decoupling media may also be needed if the magnetic shield is attached directly to an RF shield that is primarily steel.

FABRICATION

1. Magnetic shield ceilings, floors, walls, etc. Will consist of multiple layers to make of the design's required thickness.
2. Slotted or oversized bolt holes are recommended to assure adequate play for positioning plates tightly together. Refer to detail a.
3. If multiple layers of steel are used, some lapping plates can be eliminated by staggering plate separations. Refer to detail B. This is the recommended method for multiple layers.
4. If layers are not staggered or a single layer of the required thickness is used, lapping plate must be used to cover plate separation. Lapping plate is required at each corner, plate separations perpendicular to the magnet bore's axis. This include all vertical seams in the sidewalls, all cross seams in floor and ceiling, all horizontal and vertical seams in the front and rear surfaces and all corners where a front or rear surface meet any other surface. Refer to details C, D, E, F, and shield isometric.
5. Gaps in the shield which are perpendicular to the flux path are critical and should be kept to a minimum. Maximum separation between plates is 1/8 inch (3mm).
6. Hole diameter of 8" [200mm] or less, when separated from another hole by a minimum of 3 times the diameter of the hole is allowed as needed. Holes for cryogen venting, HVAC, etc. Must be assessed and documented by GE MR Siting.
7. Angled joints do not need to have beveled mating edges. Refer to detail E.
8. When lapping plate material is required, it should extend at least 3" [76mm] to each side of the separation, and should have a total minimum thickness of 1/3 the thickness of the shield thickness.
9. Any separation between plates which exceed 1/8" [3mm] cannot be corrected by placing a lapping plate over the separation or using full seam welds across the separation. Corrections for this situation must be assessed and documented by GE MR Siting.
10. Lapping plate can be attached by tack welding or bolting.
11. Shield plates are to be free of loose scale. Failure to remove scale can result in loose scale and steel particles becoming lodged in the magnet. The preferred method for removal of scale is sandblasting. Removal of scale using wire brush is permitted. Shot blasting is prohibited.
12. Shield plates must be rigidly supported to prevent movement resulting from air pressure or other environmentally induced changes which can alter the magnet's homogeneity or systems performance.
13. Shield plate must be well anchored to the support structure by plug welding or bolting.
14. Full seam welding is not recommended for attaching shield plates to support structure or adjacent shield plates.
15. Minimum penetration full seam welds are allowed when the magnetic shield also serves as the RF shield.
16. Full seam welding is not allowed on silicon steel sheets.
17. Minimize the need for flame cutting of steel plate after annealing, as material's magnetic properties can be altered as a result of stress induced by this process.
18. Loose ferrous components become dangerous projectiles when the magnet is energized.

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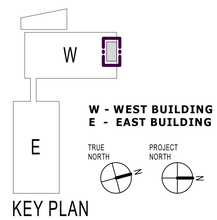
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
GE MRI-A11

SEAL:

DATE: 06/16/21
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-113.00

DWG OF 47

CD Submission 06/18/2021

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STRUCTURAL NOTES

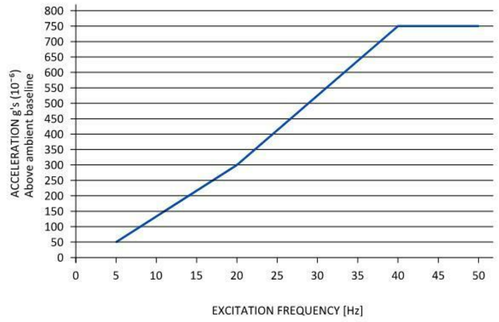
- All units that are wall mounted or wall supported are to be provided with supports where necessary. Wall supports are to be supplied and installed by the customer or his contractors.
- Dimensions are to finished surfaces of room.
- Certain MR procedures require an extremely stable environment to achieve high resolution image quality. Vibration is known to introduce field instabilities into the imaging system. The vibration effects on image quality can be minimized during the initial site planning of the mr suite by minimizing the vibration environment. See PROXIMITY LIMITS, PATIENT TABLE DOCK ANCHOR MOUNTING REQUIREMENTS AND VIBROACOUSTIC DAMPENING KIT details for additional information.
- Standard steel studs, nails, screws, conduit, piping, drains and other hardware are acceptable if properly secured. Any loose steel objects can be violently accelerated into the bore of the magnet. Careful thought should be given to the selection of light fixtures, cabinets, wall decorations, etc. To minimize this potential hazard. For safety, all removable items within the magnet room such as faucet handles, drain covers, switch box cover plates, light fixture components, mounting screws, etc. must be non-magnetic. If you have a specific question about material, bring it to the attention of your GE project manager of installations.
- Floor levelness refer to MAGNET ROOM FLOOR SPECIFICATIONS DETAIL, this floor levelness requirement is important for accurate patient table docking.
- Non-movable steel such as wall studs or hvac components will produce negligible effect on the active shield magnet.
- Customers contractor must provide all penetrations in post tension floors.
- Customers contractor must provide and install any non-standard anchoring. Documents for standard anchoring methods are included with GE equipment drawings for geographic areas that require such documentation.
- Customers contractor must provide and install hardware for "through the floor" anchoring and/or any bracing under access floors. This contractor must also provide floor drilling that cannot be completed because of an obstruction encountered while drilling by the GE installer such as rebar etc.
- Customers contractor to provide and install appropriate supports for the storage of excess cables.
- It is the customer's responsibility to perform any floor or wall penetrations that may be required. The customer is also responsible for ensuring that no subsurface utilities (e.g., electrical or any other form of wiring, conduits, piping, duct work or structural supports (i.e. post tension cables or rebar)) will interfere or come in contact with subsurface penetration operations (e.g. drilling and installation of anchors/screws) performed during the installation process. To ensure worker safety, GE installers will perform surface penetration operations only after the customer's validation and completion of the "GE surface penetration permit"

VIBRATION SPECIFICATIONS

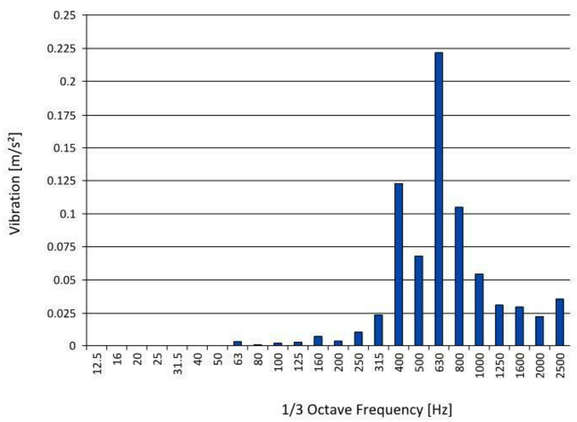
Excessive vibration can affect MR image quality. Vibration testing must be performed early in the site planning process to ensure vibration is minimized. Both steady state vibration (exhaust fans, air conditioners, pumps, etc.) and transient vibrations (traffic, pedestrians, door slamming, etc.) must be assessed.The Magnet cannot be directly isolated from vibration. Any vibration issue must be resolved at the source.

Transient vibration levels above the specified limits in the MR Site Vibration Test Guidelines must be analyzed. Any transient vibration that causes vibration to exceed the steady-state level must be mitigated.

MAGNET STEADY-STATE VIBRATION SPECIFICATIONS



VIBRATION TRANSMITTED THROUGH VIBROACOUSTIC MAT



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PROJECT:
NEW MRI

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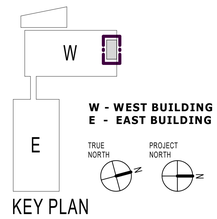


KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-S1

SEAL:

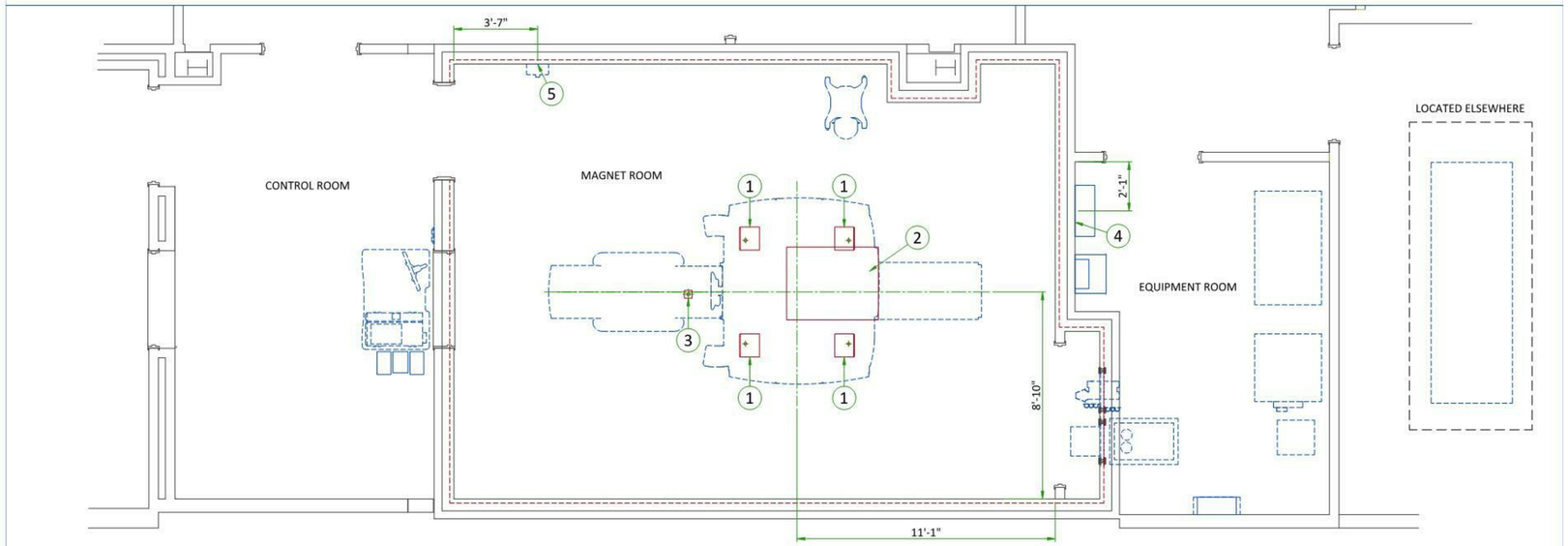
DATE: 06/16/21
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-114.00

DWG OF 47

CD Submission 06/18/2021

ITEM	DESCRIPTION
	(GE SUPPLIED / CONTRACTOR INSTALLED)
1	Vibroacoustic dampening kit (see floor structural detail)
2	Magnet curtain kit
	(CONTRACTOR SUPPLIED & INSTALLED)
3	Patient table dock anchoring
4	Structural wall backing for Main Disconnect Panel
5	Structural wall backing for Magnet Rundown Unit



Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG | 1/4"=1'-0" | Rev A | Date 30/JUL/2020 | C1 - Cover Sheet | 15/27

CD Submission 06/18/2021

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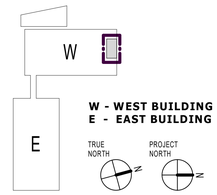

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MRI-S2

SEAL:

DATE: 06/16/21
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-115.00

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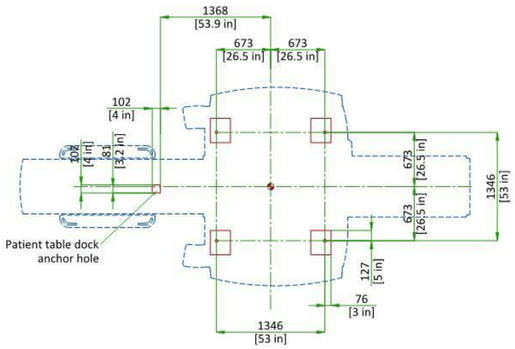
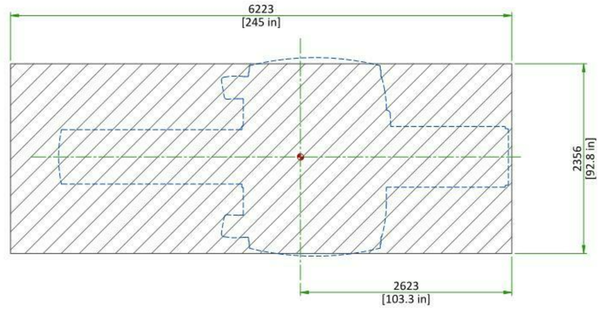
MAGNET ON VIBROACOUSTIC DAMPENING KIT "VIBROMAT"



NOT TO SCALE

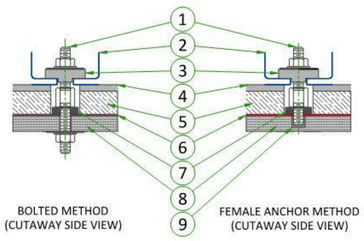
MAGNET ROOM FLOOR SPECIFICATIONS

Floor levelness must be **3 mm** between high and low spots in the rectangular area shown.



The finished floor must support the weight of all components (e.g., patient table, gradient coil replacement cart) throughout operation and service life.

PATIENT TABLE DOCK ANCHOR MOUNTING REQUIREMENTS



1 Removable Anchor Rod (Male insert)
2 Dock
3 Clamp bracket
4 Finished floor
5 Filler Board or Grout
6 RF Shield
7 Conductive Fibrous Washer (RF seal)
8 Concrete
9 Female Anchor Insert

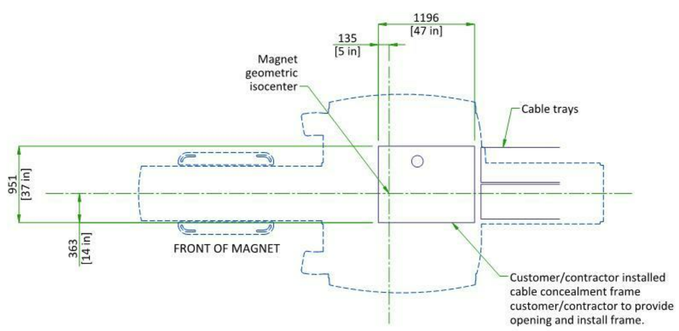
- The RF Shield vendor must design and install the dock anchor bolt
- The dock anchor hole must be drilled **after** the Magnet is installed
- The dock anchor must not contact floor rebar or other structural steel
- The dock anchor must electrically contact the RF shield at point of entry
- The RF shield vendor must perform a pull test on the anchor (equal to the clamping force).

The dock anchor properties must comply with the following requirements:

a. Anchors must be two-part assembly (male/female)
b. Female side must be expansion- or epoxy-type
c. Male side must be a bolt or threaded rod with appropriate-sized nut (bolt or rod must be removable - not epoxied or cemented in place)
d. Anchors must be electrically conductive
e. Anchors must be non-magnetic
f. Anchors must not induce galvanic corrosion with the RF shield
g. Anchors must be commercially procured
h. The anchor rod hole clearance in the table frame anchor base is 11mm [0.43 in]. The anchor rod diameter must be sized appropriately.
i. Anchors must meet the following clamping force: 2,669 N [600 lb]
j. The anchor rod must extend 60 mm ± 13 mm [2.25 in ± 0.5 in] above the finished floor
k. The anchor rod must be less tha 152 mm [6 in] in total length (length above the floor plus embedded length)
l. If underside of deck is metallic, then insulating bushing must be added to through bolt hardware to prevent grounding of shield at this point.

NOT TO SCALE

CABLE CONCEALMENT



NOTE:
- This drawing is to be used only as a design intent document. Refer to GE installation manual for tray install. Actual tray installation may be site dependent.
- THIS DRAWING NOT TO SCALE

CD Submission 06/18/2021

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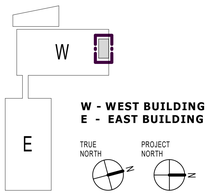


KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MRI-S3

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

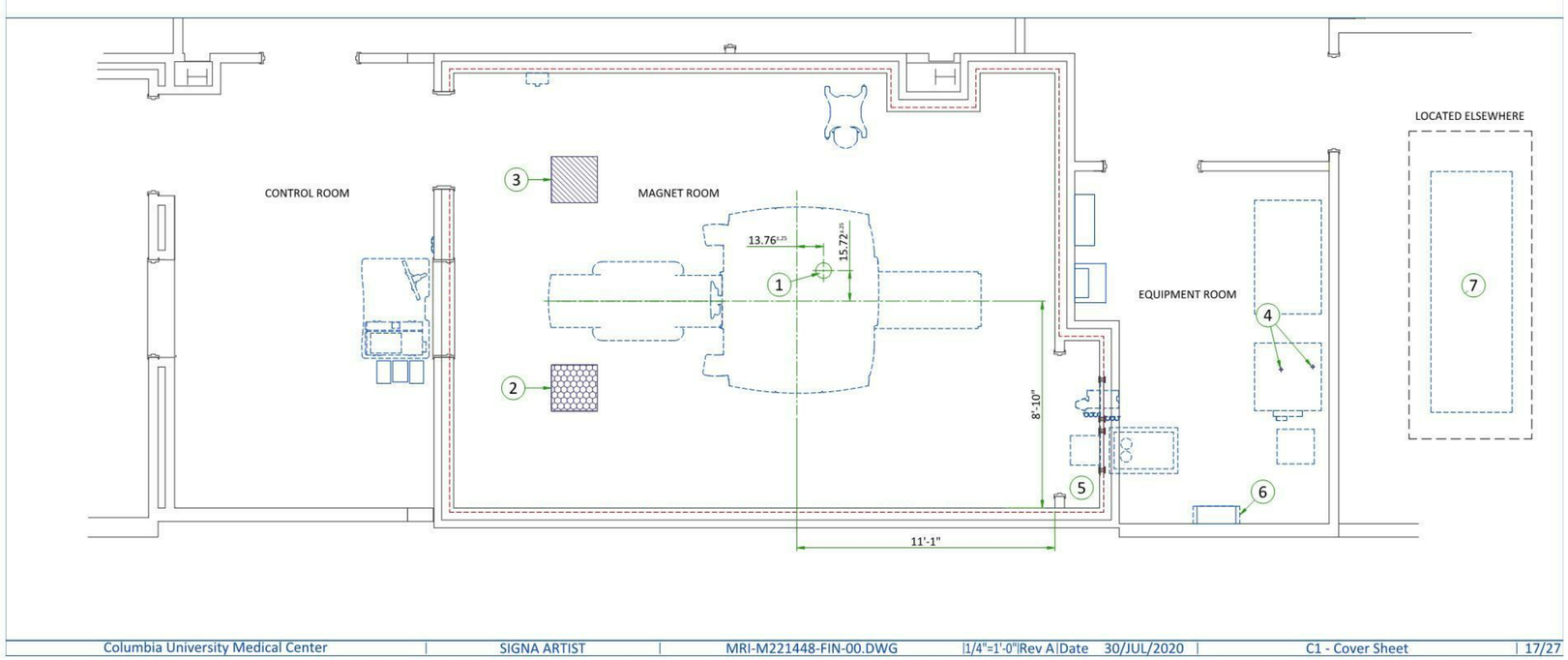
SHEET NO.
V-116.00

DWG OF 47

ITEM	DESCRIPTION
1	Cryogen vent (200mm [8"] O.D.)
2	Emergency exhaust vent - refer to magnet room vent requirements (position to be defined)
3	Pressure equalization vent - refer to magnet room vent requirements (position in ceiling to be defined)
4	38mm [1.5"] NPT Male connectors, at 2.1m [82.67"] above floor, (2) 38mm [1.5"] copper lines (insulated) and (2) shut off valves. refer to chilled water block diagram
5	Closet must allow free air exchange of 400 CFM between magnet room and closet
6	Provide as needed - low pressure rubber multipurpose hose, inside dia. 1/2" working pressure range: 250 to 499 PSI - refer to the manual city water back-up system detail
7	(2) 50mm [2"] I.D. High pressure hoses and (2) 50mm [2"] to 38mm [1.5"] Reducers

MECHANICAL/PLUMBING NOTES

- All piping, fittings, supports, hoses, clamps, ventlation systems, etc. are to be supplied and installed by the customer or his contractors.
- For complete design and requirements, specifications and guidelines refer to the pre-installation manual: system cooling, cryogen venting, waveguides and exhaust venting.
- An emergency water cooling back-up supply is recommended for continuous cryogen compressor operation. if using an open loop back-up design, ensure a drain is provided. please refer to the pre-install manual for optional back-up coolant supply requirements



Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG |1/4"=1'-0"|Rev A|Date 30/JUL/2020 | C1 - Cover Sheet | 17/27

CD Submission 06/18/2021

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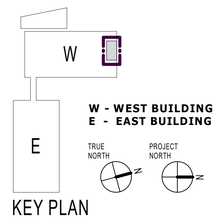

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MRI-M1

SEAL:

DATE: 06/18/2021
CON/REF No.
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SCALE: AS NOTED
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DRAWN: KU

SHEET NO.
V-117.00

DWG OF 47

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TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	MAGNET ROOM			CONTROL ROOM			EQUIPMENT ROOM		
Temperature	Range			Range			Range		
	15 to 21°C			15 to 32°C			15 to 32°C		
	59 to 69.8°F			59 to 89.6°F			59 to 89.6°F		
Temperature gradient	± 3°C/h			± 3°C/h			± 3°C/h		
	± 5°F/h			± 5°F/h			± 5°F/h		
Relative humidity (1)	30% to 60%			30% to 70%			30% to 70%		
Humidity gradient	≤ 5%/h			≤ 5%/h			≤ 5%/h		
System heat dissipation	Stand by	Average	Max	Stand by	Average	Max	Stand by	Average	Max
	1.01kW	1.8kW	3.15kW	1.46kW			5.79kW	6.87kW	13.05kW
	3450 btu	6142 btu	10748 btu	4947 btu			19769 btu	23225 btu	44523 btu

NOTE
Maximum ambient temperature for the Equipment room at inlet is derated by 1°C per 300 m (984 ft) above 2000 m (6562 ft) (not to exceed 2600 m [8530 ft]).

AIR EXCHANGE

According to local standards.

NOTE
In case of using air conditioning systems or chilled water piping that have a risk of water leakage it is recommended not to install it above electric equipment or to take measures to protect the equipment from dropping water.

MAGNET ROOM VENTING REQUIREMENTS

HVAC VENT REQUIREMENTS

- HVAC vendor must comply with Magnet room temperature and humidity specifications and RF shielding specifications.
- RF Shield vendor must install open pipe or honeycomb HVAC waveguides.
- All serviceable parts in the Magnet room (e.g.: diffusers) must be non-magnetic.
- Waveguides must be nonmagnetic and electrically isolated.
- Incoming air must contain at least **5% air** from outside the Magnet room (inside or outside the facility) to displace residual helium.

EMERGENCY VENT REQUIREMENT

- Exhaust vent system is supplied by the customer.
- All items within the RF enclosure must be non-magnetic.
- The exhaust vent system must be tested and operational before the magnet is installed.
- The exhaust intake vent must be located near the magnet cryogenic vent at the highest point on the finished or drop ceiling.
- The Magnet room exhaust fan and exhaust intake vent must have a capacity of at least **1200 CFM (34 m^3/min)** with a minimum of **12 room air exchanges per hour.**
- The exhaust fan must be placed above RF shielding located outside 10 gauss (1mT) and with appropriate waveguide.
- The system must have a manual exhaust fan switch near the Operator Workspace and in the Magnet room near the door (the switches must be connected in parallel).
- All system components must be accessible for customer inspection, cleaning and maintenance

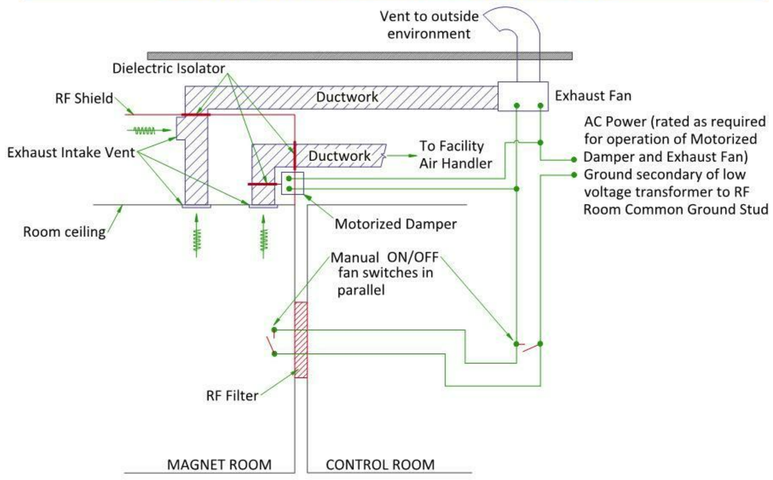
PRESSURE VENT REQUIREMENT

- A **pressure equalizing vent is required** in the magnet room ceiling or in the wall, at the highest point possible.
- The **vent minimum size** must be (**610 mm x 610 mm [24 in x 24 in]**) or equivalent.
- The pressure equalization vent must be located so any Helium gas is not vented into occupied areas.
  Note: Location may affect acoustic noise transmission into occupied spaces.

HEAT DISSIPATION DETAILS

DESCRIPTION	ROOM	IDLE		AVERAGE		MAX	
		W	btu	W	btu	W	btu
Magnet (MAG) and Patient Table (PT)	Magnet	561	1915	1200	4095	2400	8189
Blower Box (MG6)	Magnet	450	1535	450	1535	450	1535
Penetration Panel Cabinet (PEN)	Magnet	0	0	150	512	300	1024
Penetration Panel Cabinet (PEN)	Equipment	1568	5349	1568	5349	3135	10697
Secondary Penetration Wall (SPW)	Magnet/Equipment	0					
Main Disconnect Panel (MDP)	Equipment	132	450	132	450	264	901
Power, Gradient, RF Cabinet (PGR)	Equipment	2500	8530	3068	10470	6137	20940
Crycooler Compressor (CRY)	Equipment	500	1706	500	1706	500	1706
Heat Exchanger Cabinet (HEC)	Equipment	500	1706	500	1706	1000	3412
Magnet Monitor (MON)	Equipment	240	819	240	819	240	819
Operator Workspace equipment (OW)	Control	1450	4947	1450	4947	1450	4947
OPTIONS							
MR Elastography (MRE)	Equipment	141	480	141	480	141	480

MAGNET ROOM EXHAUST FAN SCHEMATIC



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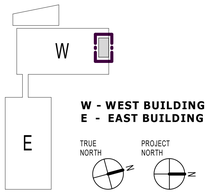
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-M2

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-118.00

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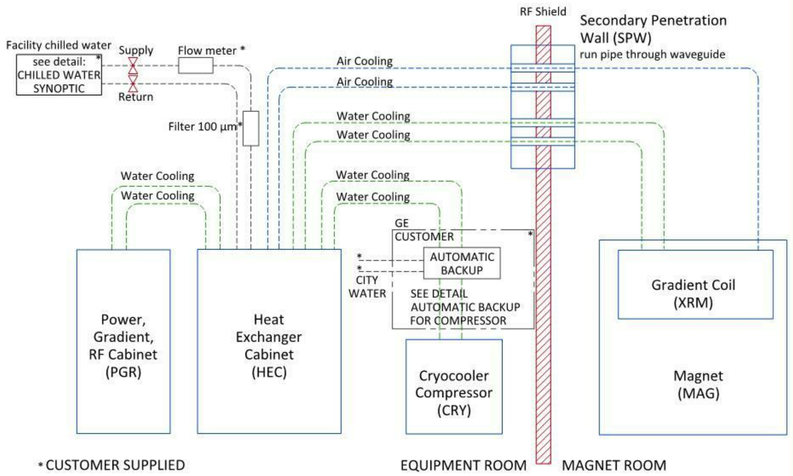
CHILLED WATER BLOCK DIAGRAM



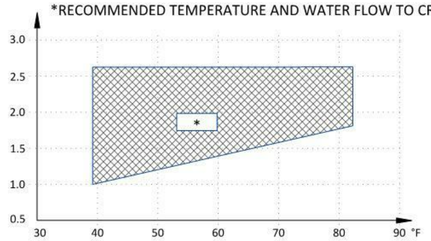
CHILLED WATER SPECIFICATIONS

PARAMETER		REQUIREMENTS	
Chiller size		Minimum 49 kW	
Inlet temperature		6 to 12°C [42.8 to 53.6°F] measured at the inlet to the HEC	
Hose connections to the HEC (supplied by customer)		1.5 inch (38.1 mm) male NPT	
		MINIMUM FLOW 114 l/min [30 gpm]	MAXIMUM FLOW 132 l/min [35 gpm]
PRESSURE DROP IN HEC CABINET	40% propylene glycol	2.4 bars [34.8 psi]	3.3 bars [47.8 psi]
Availability		Continuous	
Antifreeze		no more than 40% propylene glycol	
Temperature rise at minimum flow		6.8°C [12.2°F] with 40% propylene glycol-water 3730J/(kgK) specific heat, 1021kg/m³ density, 49kW heat	
Temperature rise at maximum flow		5.8°C [10.4°F] with 40% propylene glycol-water 3730J/(kgK) specific heat, 1021kg/m³ density, 49kW heat	
Maximum inlet pressure to HEC		6 bar [87 psi]	
Minimum continuous heat load		7.5 kW	
Hoses to be provided by customer		38.1 mm [1.5 in] minimum hose inside diameter	
pH level		6.5 to 8.2 at 25°C [77°F]	
Total hardness		Less than 200 ppm	
Suspended matter		Less than 10 ppm	
Particle size		Less than 100 micron	
Facility filter		100 micron or smaller with a field-changeable filter	
Condensation protection		Facility plumbing to the HEC must be properly routed and insulated to prevent equipment damage or safety hazards	

CITY WATER BACKUP SPECIFICATIONS FOR COMPRESSOR

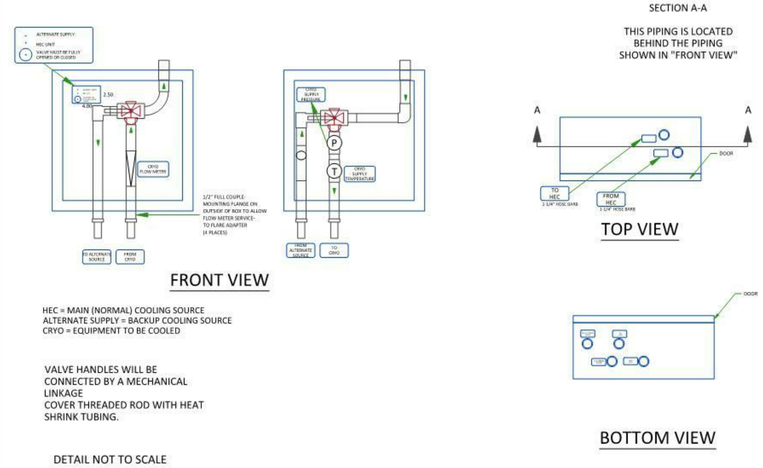
INLET WATER FLOW/TEMPERATURE FOR CRYOCOOLER COMPRESSOR

*RECOMMENDED TEMPERATURE AND WATER FLOW TO CRY ENTRY



	MIN	MAX
INLET TEMP	39.2°F (4°C)	82.4°F (28°C)
INLET FLOW	1.0 gpm (4 l/min)	2.6 gpm (10 l/min)
TEMP RISE	89.6°F at 1.0 gpm (32°C at 4 l/min flow)	53.6°F at 2.6 gpm (12°C at 10 l/min flow)
HEAT DISSIPATION (kW)	7.2 kW	
PRESSURE DROP	8.7 psi at 2.1 gpm flow (60 kPa at 8 l/min flow)	

MANUAL CITY WATER BACKUP SYSTEM (SAMPLE-DIMPLEX)



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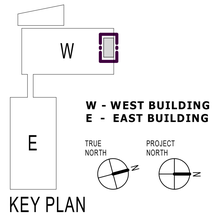

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SHEET TITLE:
GE MRI-M3

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-119.00

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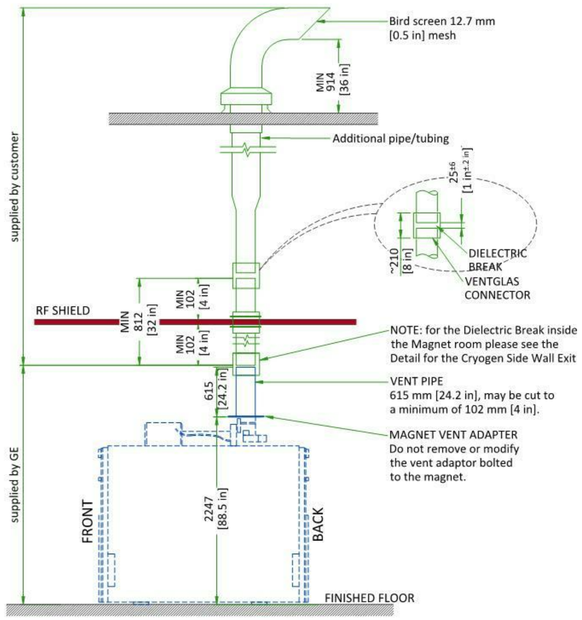
TYPICAL CRYOGENIC VENT PIPE DETAIL



Waveguide is contractor supplied. Minimum 812 mm [32 in]. Must extend at least 100 mm [4 in] on magnet room side of the wall/ceiling and 25±6 mm [1±0.25 in] from the GE supplied pipe below isolation joint.

1. The 203 mm [8 in] OD vent material must be one of the following materials with the wall thickness indicated:
a. SS 304: Minimum 0.89 mm [0.035 in]; Maximum 3.18 mm [0.125 in]
b. AL 6061-T6: Minimum 2.11 mm [0.083 in]; Maximum 3.18 mm [0.125 in]
c. CU DWV, M or L: Minimum 2.11 mm [0.083 in]; Maximum 3.56 mm [0.140 in]
2. Either tubes or pipes may be used and must be seamless or have welded seams

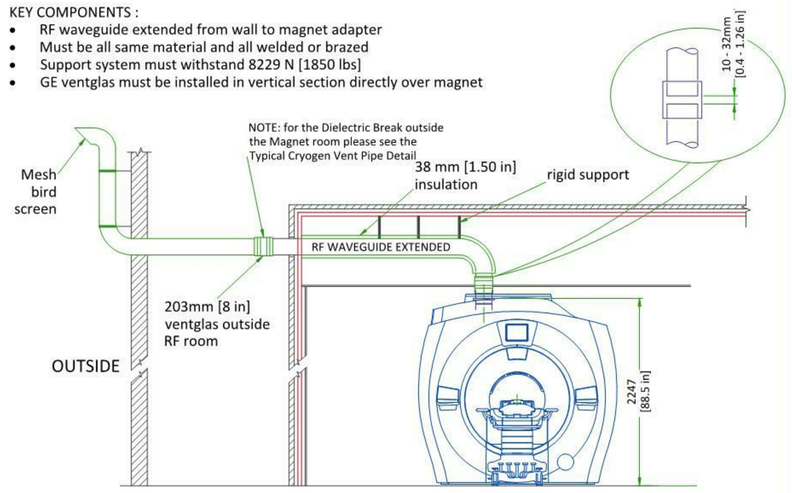
NOTE
All welds on the pipe must be ground down to a smooth 203 mm [8 in] diameter so that it can be clamped to the Ventglas with enough force.

3. Corrugated pipe or spiral duct must not be used
4. If required, bellows pipe less than 300 mm [12 in] in length may be used as a thermal expansion joint
5. The vent pipe must withstand the maximum pressure listed in the Pre-Installation Manual
6. Waveguide vent material must match the outside diameter of the magnet flanged vent adapter

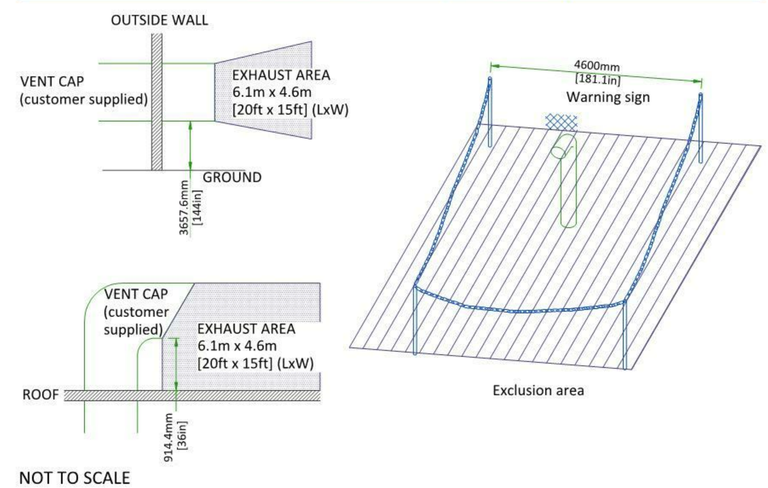
TYPICAL CRYOGEN SIDE WALL EXIT WITH LONG SWEEP ELBOW

KEY COMPONENTS :

- RF waveguide extended from wall to magnet adapter
- Must be all same material and all welded or brazed
- Support system must withstand 8229 N [1850 lbs]
- GE ventglas must be installed in vertical section directly over magnet



CRYOGENIC VENTING (EXTERIOR)



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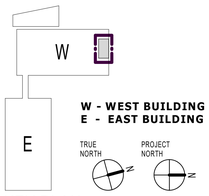

KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MRI-M4

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-120.00

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MAGNET CRYOGENIC VENT SYSTEM PRESSURE DROP MATRIX

Outer dia. of pipe (D)	Distance of vent system component from magnet		Pressure drop for straight pipe		Std sweep 45° elbow		Long sweep 45° elbow		Std sweep 90° elbow		Long sweep 90° elbow		90° miter	
	ft	m	psi/ft	kPa/m	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa
6 in. (Inside dia. ≥144mm)	10	3.048	0.146	3.311	0.804	5.544	0.536	3.696	1.507	10.394	1.005	6.93	3.014	20.789
	20	6.096	0.253	5.715	1.356	9.355	0.904	6.237	2.543	17.54	1.696	11.694	5.087	35.081
	30	9.144	0.374	8.451	1.845	12.727	1.23	8.485	3.46	23.864	2.307	15.909	6.92	47.727
	40	12.192	0.473	10.699	2.278	15.708	1.518	10.472	4.271	29.453	2.847	19.635	8.541	58.906
	50	15.24	0.554	12.534	2.66	18.342	1.773	12.228	4.987	34.392	3.325	22.928	9.974	68.783
	60	18.288	0.62	14.019	2.997	20.668	1.998	13.779	5.619	38.753	3.746	25.835	11.238	77.506
8 in. (Inside dia. ≥195mm)	10	3.048	0.025	0.564	0.188	1.294	0.125	0.862	0.352	2.426	0.234	1.617	0.703	4.851
	20	6.096	0.043	0.97	0.313	2.158	0.209	1.439	0.587	4.046	0.391	2.697	1.173	8.092
	30	9.144	0.064	1.45	0.427	2.944	0.285	1.963	0.8	5.52	0.534	3.68	1.601	11.04
	40	12.192	0.082	1.862	0.53	3.658	0.354	2.439	0.995	6.859	0.663	4.573	1.989	13.718
	50	15.24	0.098	2.215	0.624	4.307	0.416	2.871	1.171	8.075	0.781	5.383	2.342	16.15
	60	18.288	0.111	2.516	0.71	4.895	0.473	3.263	1.331	9.179	0.887	6.119	2.662	18.357
	80	24.384	0.132	2.987	0.857	5.914	0.572	3.942	1.608	11.088	1.072	7.392	3.216	22.176
	100	30.48	0.147	3.318	0.979	6.752	0.653	4.501	1.836	12.659	1.224	8.439	3.671	25.318
	120	36.576	0.157	3.545	1.079	7.44	0.719	4.96	2.023	13.95	1.3490	9.3	4.046	27.901
	140	42.672	0.163	3.693	1.161	8.006	0.774	5.338	2.177	15.012	1.451	10.008	4.353	30.024
	160	48.768	0.167	3.784	1.228	8.471	0.819	5.648	2.303	15.884	1.535	10.589	4.606	31.768
	180	54.864	0.169	3.833	1.2840	8.853	0.856	5.902	2.407	16.6	1.605	11.067	4.814	33.2
10 in. (Inside dia. ≥247mm)	20	6.096	0.011	0.241	0.099	0.683	0.066	0.455	0.186	1.28	0.124	0.854	0.371	2.561
	40	12.192	0.021	0.468	0.168	1.16	0.112	0.773	0.315	2.175	0.21	1.45	0.631	4.351
	60	18.288	0.029	0.645	0.227	1.568	0.152	1.045	0.426	2.94	0.284	1.96	0.853	5.88
	80	24.384	0.035	0.781	0.278	1.916	0.185	1.277	0.521	3.592	0.347	2.395	1.042	7.184
	100	30.48	0.039	0.884	0.321	2.212	0.214	1.474	0.601	4.147	0.401	2.765	1.203	8.294
	120	36.576	0.042	0.96	0.357	2.464	0.238	1.642	0.67	4.619	0.447	3.08	1.34	9.239
	140	42.672	0.045	1.016	0.388	2.678	0.259	1.785	0.728	5.021	0.485	3.348	1.456	10.043
	160	48.768	0.047	1.056	0.415	2.86	0.276	1.907	0.778	5.363	0.518	3.575	1.555	10.726
	180	54.864	0.048	1.083	0.437	3.015	0.291	2.01	0.82	5.653	0.547	3.769	1.64	11.307
	200	60.99	0.049	1.101	0.456	3.147	0.304	2.098	0.856	5.9	0.57	3.934	1.711	11.801
12 in. (Inside dia. ≥298mm)	20	6.096	0.004	0.08	0.04	0.277	0.027	0.184	0.075	0.519	0.05	0.346	0.15	1.037
	40	12.192	0.007	0.157	0.068	0.47	0.045	0.313	0.128	0.88	0.085	0.587	0.255	1.761
	60	18.288	0.01	0.22	0.093	0.638	0.062	0.425	0.174	1.197	0.116	0.798	0.347	2.393
	80	24.384	0.012	0.269	0.114	0.786	0.076	0.524	0.214	1.473	0.142	0.982	0.427	2.946
	100	30.48	0.014	0.309	0.133	0.914	0.088	0.609	0.248	1.714	0.166	1.142	0.497	3.427
	120	36.576	0.015	0.34	0.149	1.026	0.099	0.684	0.279	1.923	0.186	1.282	0.558	3.847
	140	42.672	0.016	0.364	0.163	1.123	0.109	0.749	0.305	2.106	0.204	1.404	0.611	4.212
	160	48.768	0.017	0.382	0.175	1.208	0.117	0.805	0.328	2.265	0.219	1.51	0.657	4.529
	180	54.864	0.018	0.396	0.186	1.282	0.124	0.854	0.348	2.403	0.232	1.602	0.697	4.806
	200	60.96	0.018	0.406	0.195	1.346	0.13	0.897	0.366	2.523	0.244	1.682	0.732	5.046

Outer dia. of pipe (D)	Distance of vent system component from magnet		Pressure drop for straight pipe		Std sweep 45° elbow		Long sweep 45° elbow		Std sweep 90° elbow		Long sweep 90° elbow		90° miter	
	ft	m	psi/ft	kPa/m	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa
14 in. (Inside dia. ≥348mm)	20	6.096	0.001	0.032	0.019	0.13	0.013	0.086	0.035	0.243	0.024	0.162	0.071	0.486
	40	12.192	0.003	0.063	0.032	0.219	0.021	0.146	0.06	0.411	0.04	0.274	0.119	0.823
	60	18.288	0.004	0.088	0.043	0.299	0.029	0.2	0.081	0.561	0.054	0.374	0.163	1.122
	80	24.384	0.005	0.11	0.054	0.37	0.036	0.247	0.101	0.694	0.067	0.463	0.201	1.389
	100	30.48	0.006	0.127	0.063	0.433	0.042	0.289	0.118	0.812	0.079	0.542	0.236	1.625
	120	36.576	0.006	0.141	0.071	0.489	0.047	0.326	0.133	0.917	0.089	0.611	0.266	1.834
	140	42.672	0.007	0.152	0.078	0.539	0.052	0.359	0.146	1.01	0.098	0.673	0.293	2.02
	160	48.768	0.007	0.161	0.084	0.582	0.056	0.388	0.158	1.092	0.106	0.728	0.317	2.184
	180	54.864	0.007	0.169	0.090	0.621	0.06	0.414	0.169	1.164	0.113	0.776	0.338	2.329
	200	60.96	0.008	0.174	0.095	0.655	0.063	0.437	0.178	1.229	0.119	0.819	0.356	2.457
16 in. (Inside dia. ≥399mm)	20	6.096	0.001	0.014	0.01	0.068	0.007	0.045	0.018	0.127	0.012	0.084	0.037	0.253
	40	12.192	0.001	0.028	0.017	0.114	0.011	0.076	0.0310	0.2130	0.021	0.142	0.062	0.427
	60	18.288	0.002	0.04	0.023	0.156	0.015	0.104	0.042	0.292	0.028	0.195	0.085	0.584
	80	24.384	0.002	0.05	0.028	0.193	0.019	0.129	0.053	0.362	0.035	0.242	0.105	0.725
	100	30.48	0.003	0.059	0.033	0.227	0.022	0.151	0.062	0.426	0.041	0.284	0.124	0.852
	120	36.576	0.003	0.066	0.037	0.258	0.025	0.172	0.07	0.483	0.047	0.322	0.14	0.966
	140	42.6720	0.003	0.072	0.041	0.285	0.028	0.19	0.077	0.534	0.052	0.356	0.155	1.069
	160	48.768	0.003	0.076	0.045	0.309	0.03	0.206	0.084	0.58	0.056	0.387	0.168	1.16
	180	54.864	0.004	0.08	0.048	0.331	0.032	0.221	0.09	0.621	0.06	0.414	0.18	1.243
	200	60.96	0.004	0.083	0.051	0.351	0.034	0.234	0.095	0.658	0.064	0.439	0.191	1.316

Notes
1. Elbows with angles greater than 90 deg must not be used
2. Data in Table is based on the following facts and assumptions:
   a. Initial flow conditions at magnet interface
   b. EM energy (13MJ) is dumped to He during quench and rises He temperature to 10 Kelvin
   c. Gas temperature starting at 10 Kelvin and increase with length determined by thermal energy balance
   d. 90% He is assumed to be evacuated within 30 sec. None left after quench.
   e. Absolute roughness is assumed to be 0.25 mm.
   f. R/D = 1.0 for standard sweep elbows, R/D = 1.5 for long sweep elbows where D = outer diameter of pipe; R = radius of bend
3. The total pressure drop of the entire cryogenic vent system must be less than 20 psi (137.9 kPa). The calculation starts at the magnet vent interface and ends at the termination point outside the building.

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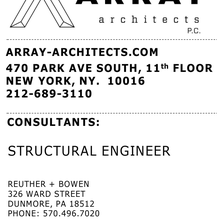
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
GE MRI-M5

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-121.00

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LIGHTING REQUIREMENTS

- All lighting fixtures and associated components must meet all RF shielded room and RF grounding requirements (e.g., track lighting is not recommended due to possible RF noise).
- All removable lighting fixtures and associated components must be non-magnetic.
- All lighting must use direct current (the DC must have less than 5% ripple).
- 300 lux must be provided at the front of the magnet for patient access and above the magnet for servicing.
- Fluorescent lighting must not be used in the magnet room.
- Lighting must be adjusted using a discrete switch or a variable DC lighting controller.
- SCR dimmers or rheostats must not be used.
- DC LED lighting may be used if the DC power converter and RF sources are all located outside the magnet room RF shield.

  NOTE: LED lighting could cause image quality issues due to RF interference. Make sure a MR-compatible LED lighting solution is chosen.
- Battery chargers (e.g., used for emergency lighting) must be located outside the magnet room.
- Short filament length bulbs are recommended.
- Linear lamps are not recommended due to the high burnout rate.

CONNECTIVITY REQUIREMENTS

Broadband Connections are necessary during the installation process and going forward to ensure full support from the Engineering Teams for the customers system. Maximum performance and availability for the customers system is maintained and closely monitored during the lifetime of the system. Proactive and reactive maintenance is available utilising the wide range of digital tools using the connectivity solutions listed below:

- Site-to-Site VPN/GE Solution
- Site-to-Site VPN/Customer Solution
- Connection through Dedicated Service Network
- Internet Access - connectivity for InSite 2.0

The requirements for these connectivity solutions are explained in the broadband solutions catalogue (separate document).

ELECTRICAL NOTES

1. All wires specified shall be copper stranded, flexible, thermo-plastic, color coded, cut 10 foot long at outlet boxes, duct termination points or stubbed conduit ends. All conductors, power, signal and ground, must be run in a conduit or duct system. Electrical contractor shall ring out and tag all wires at both ends. Wire runs must be continuous copper stranded and free from splices.

1.1. Aluminum or solid wires are not allowed.

2. Wire sizes given are for use of equipment. Larger sizes may be required by local codes.
3. It is recommended that all wires be color coded, as required in accordance with national and local electrical codes.
4. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or national codes.
5. Convenience outlets are not illustrated. Their number and location are to be specified by others. Locate at least one convenience outlet close to the system control, the power distritbution unit and one on each wall of the procedure room. Use hospital approved outlet or equivalent.
6. General room illumination is not illustrated. Caution should be taken to avoid excessive heat from overhead spotlights. Damage can occur to ceiling mounting components and wiring if high wattage bulbs are used. Recommend low wattage bulbs no higher than 75 watts and use dimmer controls (except MR). Do not mount lights directly above areas where ceiling mounted accessories will be parked.
7. Routing of cable ductwork, conduits, etc., must run direct as possible otherwise may result in the need for greater than standard cable lengths (refer to the interconnection diagram for maximum usable lengths point to point).
8. Conduit turns to have large, sweeping bends with minimum radius in accordance with national and local electrical codes.
9. A special grounding system is required in all procedure rooms by some national and local codes. It is recommended in areas where patients might be examined or treated under present, future, or emergency conditions. Consult the governing electrical code and confer with appropriate customer administrative personnel to determine the areas requiring this type of grounding system.
10. The maximum point to point distances illustrated on this drawing must not be exceeded.
11. Physical connection of primary power to GE equipment is to be made by customers electrical contractor with the supervision of a GE representative. The GE representative would be required to identify the physical connection location, and insure proper handling of GE equipment.
12. GEHC conducts power audits to verify quality of power being delivered to the system. The customer's electrical contractor is required to be available to support this activity.

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor.
- Conduit and duct runs shall have sweep radius bends
- Conduits and duct above ceiling or below finished floor must be installed as near to ceiling or floor as possible to reduce run length.
- Ceiling mounted junction boxes illustrated on this plan must be installed flush with finished ceiling.
- All ductwork must meet the following requirements:

  1.Ductwork shall be metal with dividers and have removable, accessible covers.
  2.Ductwork shall be certified/rated for electrical power purposes.
  3.Ductwork shall be electrically and mechanically bonded together in an approved manner.
  4.PVC as a substitute must be used in accordance with all local and national codes.
- All openings in raceway and access flooring are to be cut out and finished off with grommet material by the customers contractor.
- General contractor to insert pull cords for all cable run conduits between the equipment room and the operators control room.
- 10 foot pigtails at all junction points.
- Grounding is critical to equipment function and patient safety. Site must conform to wiring specifications shown on this plan.

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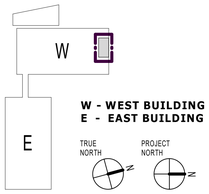
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-E1

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-122.00

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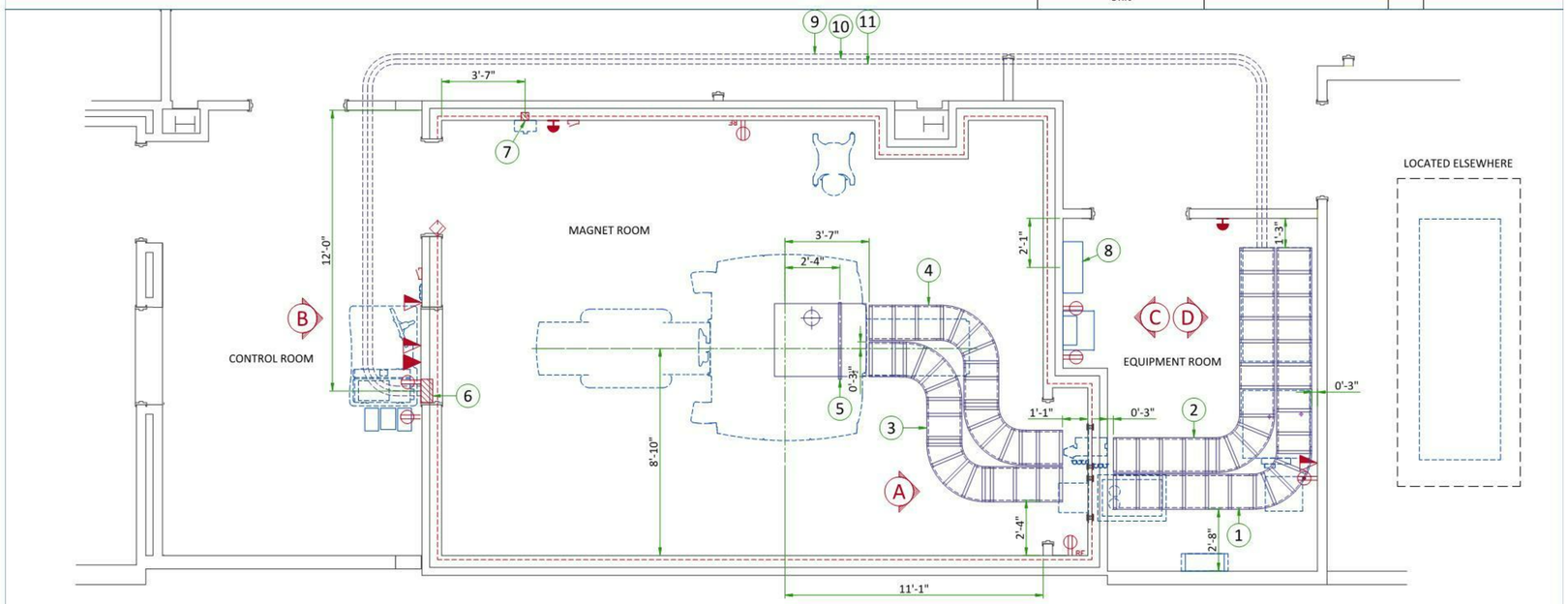
ITEM	DESCRIPTION (CONTRACTOR SUPPLIED & INSTALLED)
1	Cable ladder 450mm x 150mm [18" x 6"]
2	Cable ladder 450mm x 150mm [18" x 6"] for gradient cables
3	Non-ferrous cable ladder 450mm x 150mm [18" x 6"]
4	Non-ferrous cable ladder 450mm x 150mm [18" x 6"] for gradient cables
5	Non-ferrous unistrut cable support
6	300mm x 200mm x 150mm [12" x 8" x 6"] Junction box
7	100mm x 100mm x 50mm [4" x 4" x 2"] Junction box. At 5'-4" above finished floor, on center.
8	Main disconnect panel
9	50mm [2"] Conduit above RF screen
10	63mm [2-1/2"] Conduit above RF screen
11	75mm [3"] Conduit above RF screen

ITEM	Outlet Legend for GE Equipment
	System emergency off (SEO), (recommended height 1.2m [48"] above floor)
	Door interlock switch
	Emergency exhaust fan switch 1.2m [48"] height recommended)
	Duplex hospital grade, dedicated wall outlet 120-v, single phase power
	Network outlet
	Dedicated telephone lines/network connection
	Duplex hospital grade, dedicated outlet 120-v emergency, single phase power, 15a
RF	Duplex hospital grade, dedicated outlet 120-v, single phase outlet routed through RF filter

Additional Conduit Runs (Contractor Supplied and Installed)

From	To	Qty	Size (in)	Size (mm)
Main Disconnect Panel	Power, Gradient, RF cabinet	1	as Req'd	
	Heat Exchange Cabinet	1	as Req'd	
	System emergency off	1	1/2	16
System emergency off	Secondary Penetration Wall	1	1/2	16
Door Switch	Power, Gradient, RF cabinet	1	3/4	20
System emergency off	Secondary Penetration Wall	1	3/4	20
Magnet Rundown Unit	Magnet	1	1	25
	120-V 1Ø Power from RF filter	1	as Req'd	
RF filter	120-V 1Ø Power	1	as Req'd	
Room Light	RF filter	1	as Req'd	
RF filter	Facility emergency power	1	as Req'd	
Chiller	Remote graphic display	1	3/4	20
	Facility power	1	as Req'd	
Injector control unit	Waveguide or RF filter	1	2 1/2	70
Injector head		1	as Req'd	
Integrated Battery Charging Unit		1	as Req'd	



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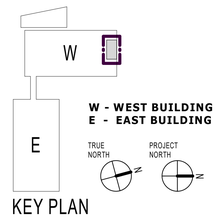

KEY PLAN

NO.	DESCRIPTION	DATE
	REVISIONS/ISSUES	

SHEET TITLE:
GE MR-E2

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-123.00

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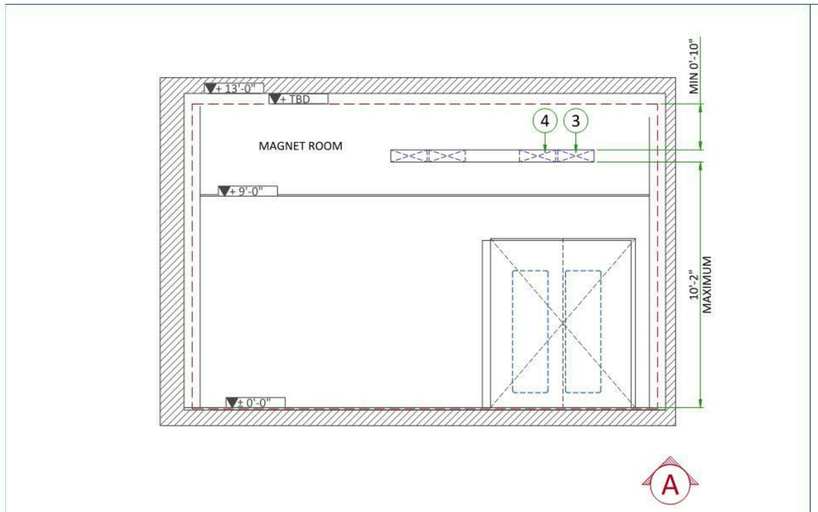

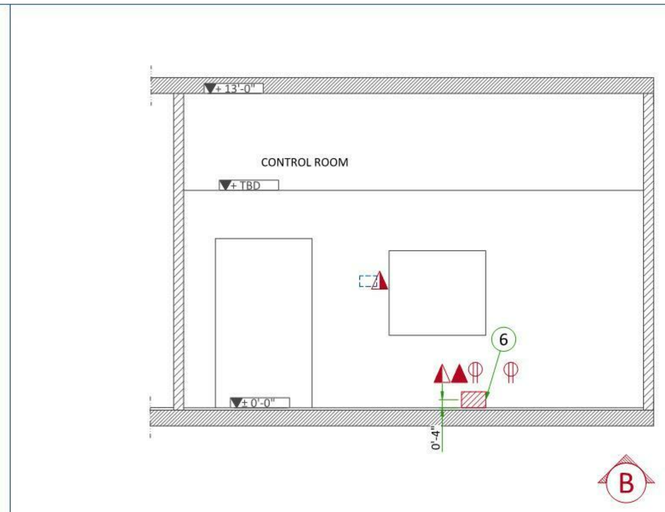

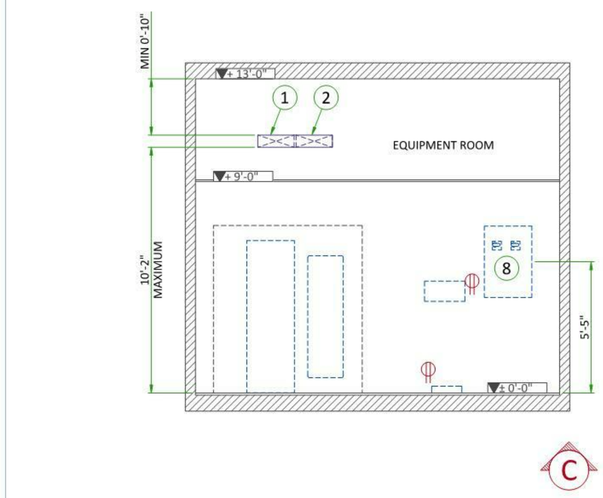

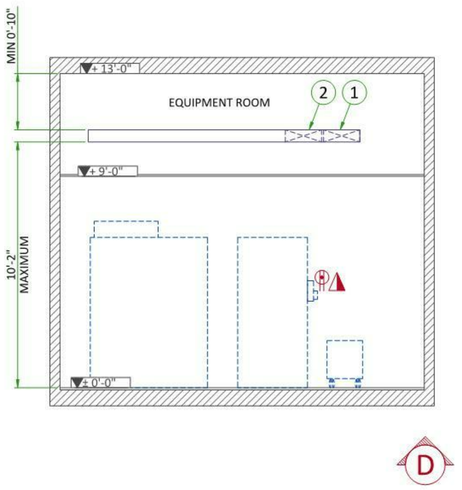

Columbia University Medical Center | SIGNA ARTIST | MRI-M221448-FIN-00.DWG |1/4"=1'-0"|Rev A|Date 30/JUL/2020 | C1 - Cover Sheet | 24/27

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NEW MRI

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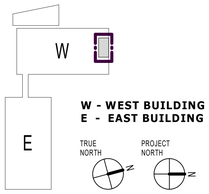

KEY PLAN

NO.	DESCRIPTION	DATE
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SHEET TITLE:
GE MRI-E3

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-124.00

DWG OF 47

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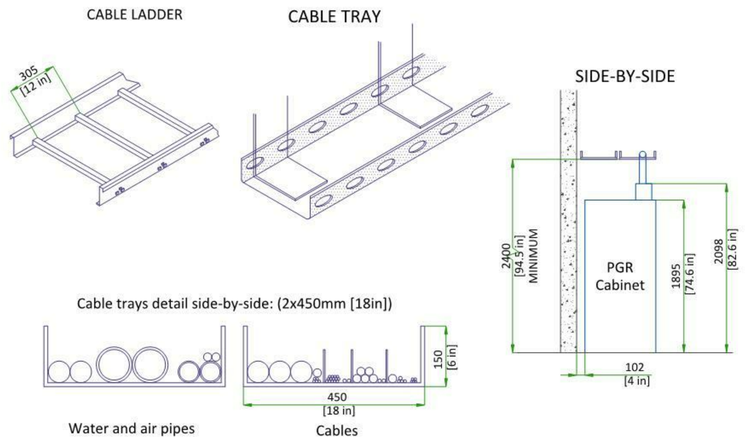
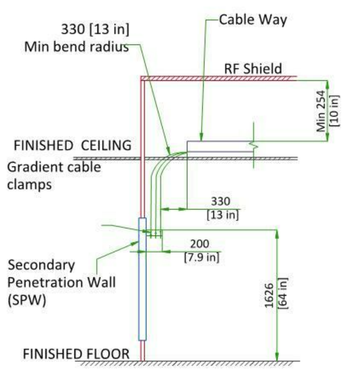
CABLE WAYS IN EQUIPMENT ROOM



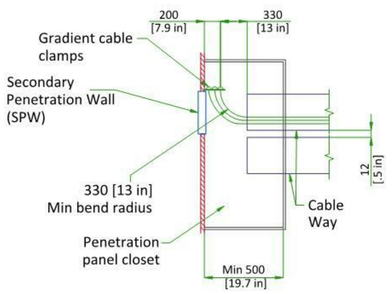
CABLE WAY TO PENETRATION PANEL

CABLE WAY TO PENETRATION PANEL REQUIREMENTS IN THE EXAM ROOM SIDE VIEW



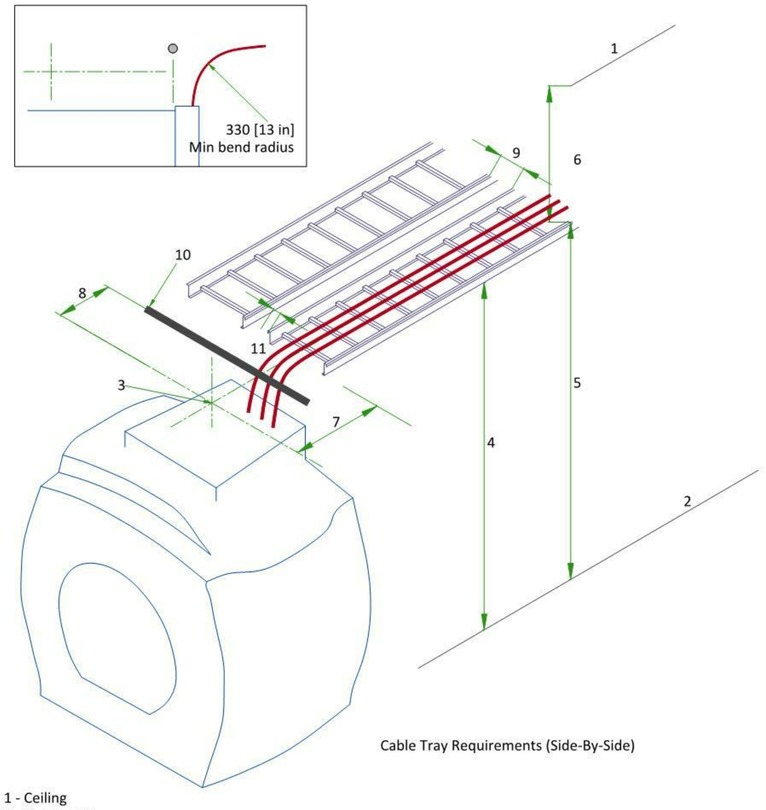
SIDE VIEW

The end of the cable way must be contained in the pen closet (cables must not rest directly on the wall opening)



TOP VIEW

CABLE TRAYS REQUIREMENTS IN MAGNET ROOM



Cable Tray Requirements (Side-By-Side)

1 - Ceiling
2 - Finished Floor
3 - Magnet isocenter. Gradient cables must be centered on magnet isocenter.
4 - Minimum cable tray height required at back of Magnet: 2578 mm [101.5 in].
Tray height may be lower at other points to avoid obstructions.
5 - Maximum height from floor to top of tray (anywhere in Magnet room): 3251 mm [128 in].
6 - Minimum distance from top of cable tray to ceiling or other obstruction: 254 mm [10 in].
7 - Tray end to isocenter: 1099 ±12 mm [43.25 ±0.5 in].
8 - Other cable termination to isocenter: 718 ±12 mm [28.25 ±0.5 in].
9 - Minimum distance between trays: 12 mm [0.5 in].
10 - Non-ferrous cable support

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COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:

NEW MRI

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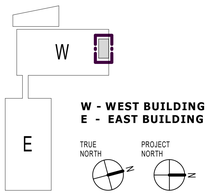
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
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SHEET TITLE:

GE MR-E4

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.

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POWER REQUIREMENTS

SPECIFICATIONS OF MAIN POWER INPUT

POWER SUPPLY	380/400/415/480V ±10%, THREE-PHASE + N + G
FREQUENCIES	50/60Hz ± 3Hz
POWER FACTOR	0.9
MAXIMUM INPUT POWER (5 sec MAX)	123kVA
INSTALLED LOAD	99kVA
STAND-BY POWER	< 17kVA

- Power input must be separated from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...).
- Total harmonic distortion less than 2.5%.
- Phase imbalance must not exceed 2%
- Lock-out/Tag-out: The Main Disconnect Panel (MDP) shall provide an external single point lock-out/tag-out feature for the entire system and a means to externally lock-out/tag-out each output breaker independently. Each lock-out/tag-out feature shall accommodate a standard sized lock hasp.

SPECIFICATIONS OF BACK-UP POWER SUPPLY

MAGNET MONITOR REQUIRES A 110/220 VAC, 50/60 HZ, 2.0 A FACILITY SUPPLIED OUTLET. POWER AT THE OUTLET MUST BE CONTINUOUSLY AVAILABLE.

FOR CRYOCOOLER COMPRESSOR	
POWER INPUT	380/400/415/480V, THREE-PHASE + G
POWER REQUIREMENT	MIN 9kVA
POWER CONSUMPTION	MAX 7.2kW / STEADY STATE 6.5kW at 50Hz MAX 8.3kW / STEADY STATE 7.5kW at 60Hz
FREQUENCY	50/60Hz ± 3Hz

CABLES

- Power and cable installation must comply with the distribution diagram.
- Size of the Main power input cable is determined by the customer, taking its length and admissible voltage drops into consideration.
- All cables must be isolated and flexible, cable color codes must comply with standards for electrical installation.
- The cables from signaling and remote control (Y,Emergency Off Buttons,L...) will go to Main Panel with a pigtail length of 1.5m [60in], and will be connected during installation.
- Each conductor will be identified and isolated (screw connector).

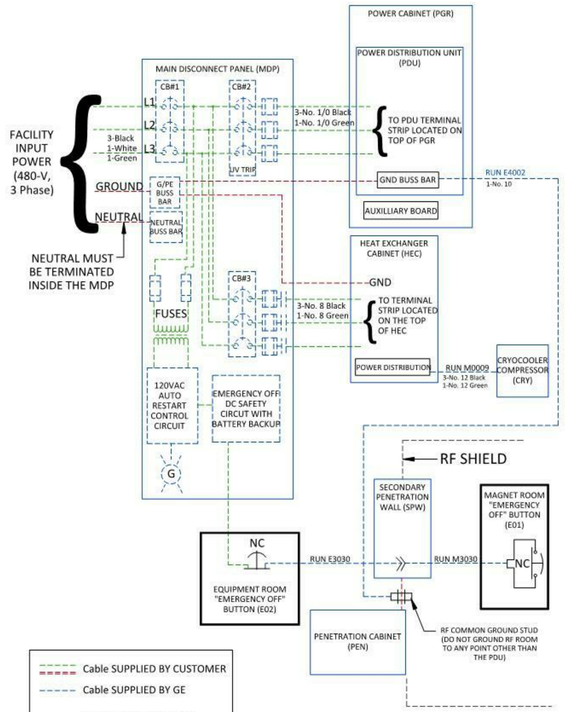
GROUND SYSTEM

- The equipotential link will be by means of an equipotential bar.
- The grounding point of MDP is directly connected to the building's ground by an isolated copper cable.
- The impedance of the earth bar should be less than or equal to 2 ohms.

GUIDANCE ON SLECTION OF FEEDER AND TRANSFORMER FOR MR SYSTEM			
	Direct feed from facility to MR system	MR system fed by dedicated facility distribution transformer	
Prerequisite Conditions			
MR System Incoming Voltage	480V 3-phase		
Minimum Source short-circuit kVA	7,900 kVA (at source of feeder to MDP)	8,325 kVA (at input to distribution transformer)	
Minimum No-Load Voltage	460V	475V (transformer secondary tapped accordingly)	
Feeder and Transformer Recommendations			
Dedicated Distribution Transformer Recommendations	N/A	Size: 225 kVA Impedance (Z): ≤5% K-Factor: ≥ K=20 200A overcurrent protection on secondary*	Size: 225 kVA Impedance (Z): ≤4% K-Factor: ≥ K=20 200A overcurrent protection on secondary*
Maximum Feeder Length*	280 ft	150 ft	240 ft
Feeder Size - 3-phase power conductors*	3/0 AWG Cu	3/0 AWG Cu	
Feeder Size - Ground (USA)*	6 AWG Cu (equipment grounding conductor)	4 AWG Cu (supply side bonding jumper) 6 AWG Cu (equipment grounding conductor)	
Feeder Size - Ground (Canada)*	6 AWG Cu (bonding conductor)	6 AWG Cu (bonding conductor)	

* NOTE: Recommendations shown apply only to cases defined exactly as shown in this table and when not in conflict with local electrical codes . For all other cases, refer to the local codes and the System Voltage Regulation Calculator located on the GE Healthcare Site Planning Website

POWER DISTRIBUTION



CB	MDP
1	200 AMPS
2	150 AMPS
3	50 AMPS

NOTE:

- THE HEAT EXCHANGER CABINET (HEC) PROVIDES POWER TO THE CRYOCOOLER COMPRESSOR (CRY) WHICH MUST OPERATE 24 HOURS PER DAY, 7 DAYS PER WEEK TO MAXIMIZE PROPER UNINTERRUPTED MAGNET OPERATION.
- RUNS E3030, M0009, M3030 AND E4002 ARE GE SUPPLIED CABLES. ALL OTHER WIRING IS CUSTOMER SUPPLIED.
- TWO REMOTE FLUSH WALL MOUNTED EMERGENCY OFF BUTTONS ARE SUPPLIED WITH THE MDP.
- MDP PROVIDES CIRCUIT BREAKERS FOR PDU (LOCATED IN THE POWER CABINET (PGR)) AND THE HEAT EXCHANGER CABINET (HEC).
- ALL MDP OUTPUT CIRCUITS DROP OUT ON LOSS OF POWER. THE HEC CIRCUIT WILL AUTOMATICALLY RESTART UPON RESTORATION OF POWER. EMERGENCY OFF LOCKS OUT ALL CONTRACTORS.
- GE MDP SHORT CIRCUIT CURRENT RATING IS 25,000 AMPERES AT 480 VAC.
- GE MDP IS UL AND cUL LABELED.
- ALL CIRCUITS REQUIRE GROUND WIRES.
- THE WIRE SIZE FOR THE EMERGENCY-OFF CIRCUIT IS 12-22 AWG CUSTOMER SUPPLIED

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SHEET NO.
V-126.00

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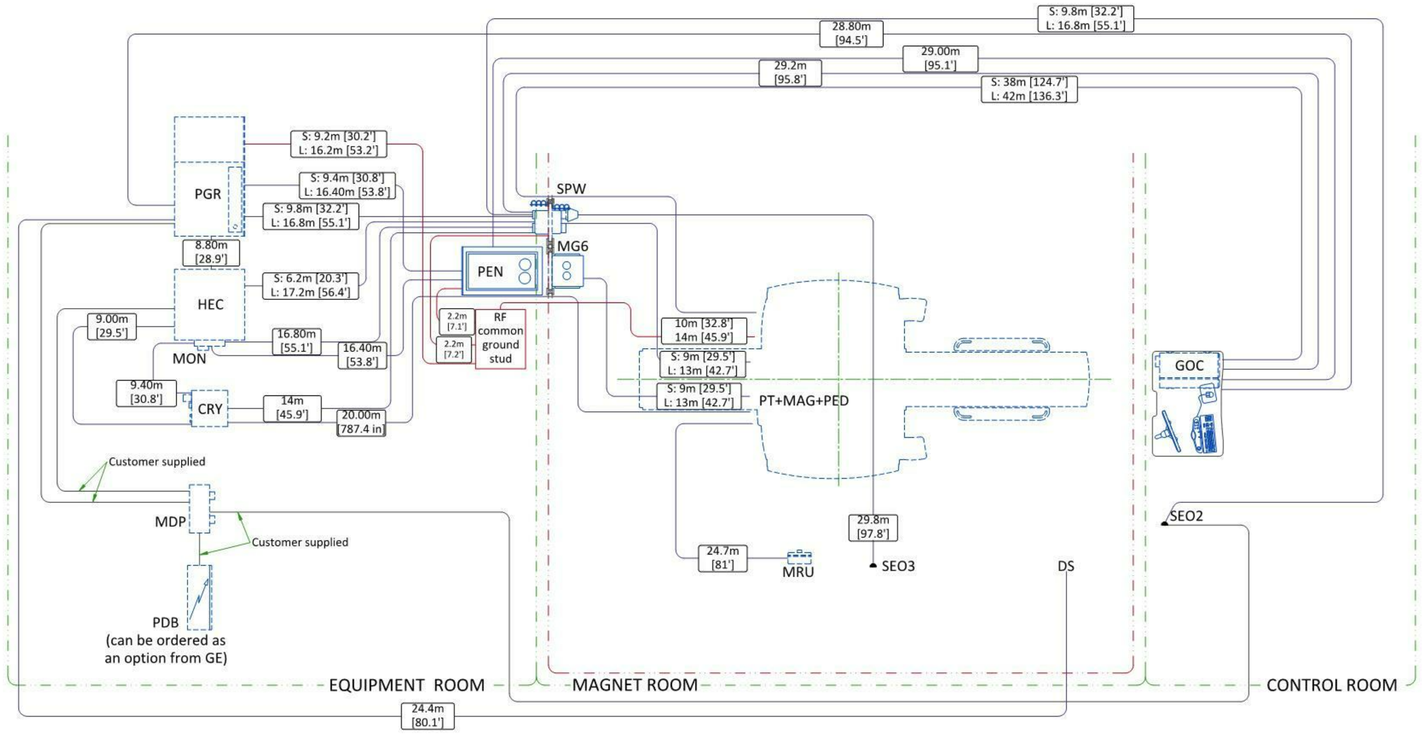
INTERCONNECTIONS



CABLES ROUTING FOR OPTIONS			
OPTION	**FROM**	**TO**	**CABLE LENGTH**
BW	PEN	Brainwave cabinet	18.3m [60']
MRE	MRE	Magnet Isocenter	Nominal: 7.3m [24'] Maximum: 10.1m [33']
	MRE	PEN cabinet	15.2m [50']
	MRE	Ethernet Hub in PGR	15.2m [50']
	MRE	Customer Supplied Outlet	60Hz: 6.1m [20'] 50Hz: 7.6m [25']

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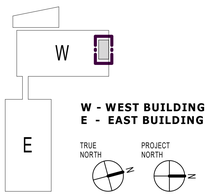
OWNER:
COLUMBIA DOCTOR'S TARRYTOWN

PROJECT:
NEW MRI

155 WHITE PLAINS ROAD
TARRYTOWN, NY 10591



KEY PLAN

NO.	DESCRIPTION	DATE
REVISIONS/ISSUES		

SHEET TITLE:
GE MR-E6

SEAL:

DATE: 06/18/2021
CON/REF No.
CONTRACT No.
SCALE: AS NOTED
PROJECT No. 6109
CHECKED: CH
DRAWN: KU

SHEET NO.
V-127.00

DWG OF 47